

# CHAPTER- 1

## INTRODUCTION

### 1.1 HISTORY OF BANKING

Bank is most important part of new era. Bank is an institution, which accept deposits from the public and in turn, advance loan to business and personal customers. Bank is the financial institution, which plays a very important role in economic development of the nation. Bank deals in receiving collecting, transforming, paying, lending, investing and enhancing the money both domestically and internationally, Hence a bank may be called the financial supermarket provides financial services to various segments of the society as well as it facilitates for the growth of trade & commerce, industry, and agriculture of the country .

“Concept of banking has been developed from the ancient history with the effort of ancient gold smith who developed the practice of storing people’s gold & valuables for safe custody & serving & a given receipt by the goldsmith, when ever the receipt was presented the depositors would get back their gold & valuables paying a small amount as fee for keeping and serving”<sup>1</sup>

The origin of commercial banking can be traceable in the early time of human history. The term “Bank” is originated from the French word “Banque” and Italian word “Benca”. The origin of traditional banking is traced back to the Babylonians as early as 2000B.C. but the first modern banks are traced back to Venice (1171A.D) the bank of Geneva (1320A.D) and the bank of Amsterdam (1609A.D).The traditional forms of banking were traced during the civilization of Greek, Rome & Mesopotamia .The ancestors of modern banking are merchants, goldsmith & Money lenders .Following is the brief description of the ancestors of modern banking.<sup>2</sup>

#### MERCHANTS

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

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<sup>1</sup> Samuelson , Paul A.E., "Economics", 9th Ed. New York, Graw Hill Book Company

<sup>2</sup> Hriday Bir Singh , "Banking and insurance 2nd addition Ktm. Asia Publication.

## GOLD SMITH

Gold smith had very sound credit standing in the society. They used to safe to keep valuables .Fear of theft & robbery led people to keep valuables in the custody of the gold smith Gold smiths used to charge commission s for the safe keeping and also to return the valuables on demand .The depositors had to visit them for part and full with drawl of valuables Gold and silver used to remain with the gold smith for relatively a long time but coins had to be withdrawn from time to time .In order to remove the in conveniences ,goldsmiths started issuing a receipt to the depositors with a notation .I owe u (IOU) ....”Which can be transferred to any person the depositor so wished .This gave birth to the bank note.

## MONEYLENDERS

The next stage of in the development of banking arose, when the goldsmith became money-lenders. Money lenders used to give loan to the needy public out of their own treasury .Later on, savers started depositing their deposits /savings with the money –lenders.

The goldsmiths & moneylenders experienced that all the moneys deposited with them were not withdrawn at a time. Some of the amount was kept as deposit while some was withdrawn but a large amount used to remain with them .Then they started offering interest on the deposits &started utilizing these funds to disburse the loans to the needy people .They used to keep fraction of total deposit in the form of cash to honors withdraw demands & rest was lent .This principle of fractional reserve is the foundation of modern banking enables banks to create credit.

All functions & activities performed by merchants, goldsmiths & moneylenders in the ancient time are being performed by the various types of banks in modern ways at the present time. In fact the main function of banks is to get engaged in the transaction of money however at present time banks perform several other functions , hence a bank can be defined as a ‘**financial department store**’ , which renders a host of financial service besides taking deposits & giving loans

## 1.2 EMERGENCE OF MODERN BANKS

The first modern bank of the world is the bank of Venice, set up in 1157 in Venice, Italy .Subsequently; bank of Barcelona in 1401 and bank of Genoa in 1407 were established.

The Lombard’s migrated to England & other parts of Europe from Italy are regarded for their role in the development and expansion of the modern banking , bank of Amsterdam set up in 1609 was very popular then .the banks of Hindustan established in 1770 is regarded as the first bank of India .Though bank of England was set in 1694 ,the growth of banks accelerated only after the introduction of

banking act in 1833 in united kingdom as it allows to open joint stock company banks .These modern banks gradually replaced goldsmiths & money lenders .

### **1.3 EMERGENCE OF BANKS IN NEPAL.**

Nepal is one of the least developed countries of the world. The investor support investment sectors by investing their funds and savings. The History of bank in Nepal is not so long. Within the shortest span of time, there has been tremendous growth of bank in Nepal. In the process of the development and economic liberalization policy of the Government in the countries, financial institution and commercial joint venture banks have been established. Whatever may be the type of investment, the major motto is to maximize the written with minimizing the risk involved there own.

Modern Banking system started in Nepal after the establishment of Nepal bank Ltd in 1994B.S. The existence of only Nepal bank Ltd was functioning in the field of business, hence there assumed a great significance to establish another bank and on this assumption. Rastriya Banijya Bank was established in Government sector in 2022 under . Rastriya Banijya Bank act 2021 according to the recommendation of Nepal Rastra Bank. Before 2040 there was no development of banking system in Nepal. No bank was opened during this period except extending the branches and sub branches of Bank which were established in this period. It is the process of exchanging the income during one period of time for an asset that is expected to produce earnings in future periods. Thus consumption in the current period is foregone in order to obtain a greater return in the future. The Banks began to offer their valuable services to the people through new technologies. And thus, NIBAL Bank Ltd. as the first joint venture commercial bank established in Nepal in 2041 under commercial bank act 2031. And thereafter, many other commercial banks also open in Nepal.

A Bank may be defined as a company which collects money from the public in the form of Deposits and lends the same to borrowers. According to the Banking Regulation Act 1949 “banking means the accepting, for the purpose of lending or investment of deposit of money from the public, repayable on demand or otherwise and withdrawal by cheque ,draft, order or otherwise.” These Banks are as follows:

#### **1 .NABIL Bank Limited**

It was established in the year 2041 B.S with a paid up equity of Rs. 30million. Now, It has the largest number of branches among private banks i.e. 26 branches .It has around 427 employees.

#### **2. Nepal investment Bank Limited**

It was formerly popular as Nepal Indosuez Bank Limited .It was established in 2042 B.S with a paid up capital of Rs.90 million .It has 17 branches across the country now a days. It has around 514 employees.

### **3. Standard Chartered Bank of Nepal**

SCBNL formerly known as Nepal Grindlays Bank Limited was established in 2043 B.S as a joint venture with ANZ Grindlays having Rs. 30 million as paid up capital. It has 12 branches across the country now a day

### **4. Himalayan Bank Limited**

HBL is a joint venture with Habib Bank of Pakistan ,which started operation in 2049 B.S with a paid up capital of Rs .60 million .It has 20 branches in the country .this bank is running with 80% share of Nepalese investor and 20% share Habib bank of Pakistan since 5 margh,2049B.S.

### **5. Nepal SBI Bank Limited**

It was established in 23 Ashad 2050 B.S with a joint venture of State Bank of India .Its initial paid up capital was Rs. 119.85 millions. It has 15 branches across the country now a day. It has around189 employees.

### **6. Nepal Bangladesh Bank Limited**

Nepal Bangladesh Bank Limited was established in 2050 B.S in technical collaboration with I.F.I .C Bank Ltd. Bangladesh. This bank is providing service to Nepalese people since 23 jetha 2051 .This bank has Rs 3599 lakhs paid up capital.

### **7 Everest Bank Limited**

Everest Bank Limited was established in 2051 B.S with joint venture of Punjab National Bank of India. . It has 22 branches across the country now a day. It has around 393 employees. In this more capital is invested by the Nepalese people.

### **8. Bank of Katmandu**

Bank of Katmandu was established in 28 falgun, 2051 B.S with a joint venture of Sillion commercial Bank of Thailand. But now this bank is fully owned by Nepalese people after purchase of 30% share of foreign investor .Now this bank has 18 branches.

### **9. Nepal Credit & Commerce Bank Limited**

This bank was earlier known as Nepal Bank of Cylon and was established in 2053 B.S .It was joint venture with one of the leading bank of Sri Lanka. This bank is providing service to Nepalese people through 11 Branches.

### **10. Lumbini Bank Limited**

Lumbini Bank Limited was established in 2055 B.S with having a Head Office in Narayangarh, being first bank to have its Head office out of the valley.

### **11. Nepal Industrial & Commercial Bank Limited:**

Nepal Industrial & Commercial Bank Limited was established in 2056B.S with having a Head Office in Biratnagar. This bank received the award “**Banker of the year 2007 Nepal**”. This bank is providing service to Nepalese people through 13 Branches.

### **12. Machhapuchhre Bank Limited:**

Machhapuchhre Bank Limited was established in 2057 B.S having its Head office in Pokhara. This bank is Provide service to people through 5 branches.

### **13. Kumari Bank Limited:**

It was established in 2056 B.S. with Head Office in Katmandu. The share capital of this bank is owned by Nepalese people. This bank is providing service to Nepalese people through 9 Branches.

### **14. Laxmi bank Limited:**

It was established in 2058 B.S having head office in Birgunj. It has 18 branches in the Country

### **15. Siddhartha Bank Limited:**

Siddhartha Bank Limited was established in 2058 B.S having head office in Katmandu. It has 5 branches in the country

### **16 .Global Bank Limited:**

It is established in 2063 B.S, having Head Office in Birgunj .It has the maximum paid up capital Rs. 200 million. It has one branch in KTM established on 1 magh 2063.

The above description presents the historical emergence of banks in Nepal .In Nepal at present, there are 18 commercial banks operating under the company act 2053 B.S.

Commercial banks are major financial institutions, which occupy a great important place in the framework of every economy because they provide capital fund for the development of industry ,business trade and other resource deficit sectors by investing the saving collected deposits. Commercial banks become the heart of financial system. The commercial bank of Nepal can be categorized into two types viz, public sector and private sector. Public sector bank includes two old banks, Nepal bank ltd. and Rastriya Banijya Bank. Private sector banks comprise of fifteen Banks. All the Nepalese commercial banks are established and operated under the rules, regulation and guidelines of Nepal Rastra Bank.

Although various commercial banks are operating in Nepal after HMG of Nepal adopted the open liberal and market economy, the financial sector so far has not been so successful in meeting the growing needs of the country as expected before. To find out the answer of this question, financial analysis is very important.

In fact, financial performance is a measurement of weakness and strength of the bank. A strong and well developed commercial bank can contribute to national economy and attract further foreign direct investment in these sectors. Therefore, financial statements should be fully examined to find out whether the banks are economically strong or not .Weakness and inefficiency can be brought out with the analysis of financial performance.

#### **1.4 GENERAL BACKGROUND OF THE STUDY.**

The word "Investment" has very popular among the people that everyone is talking about it. People always want to increase his earning so they sacrifice their present consumption. Thus, the investment is the sacrifice of present consumption for future income. It is a process of exchanging income during one period of time for an asset that is expected to produce earnings in future periods. Thus, consumption in the current period is foregone in order to obtain a great return in the future.

The word investments bring fourth visions of profit, risk, speculation, and wealth. It can be financially rewarding and exciting for the knowledgeable investors whereas it may result in disaster for uninformed. The investors make choice among the various available investment alternatives on the basis of their objectives and time horizon. They must consider the expected return and risk of the portfolio and must also develop an appropriate investment strategy.

"Investment promotes economic growth and contributes to a nation's wealth. When people deposit money in the account of the bank, the bank may invest by lending the funds to various business companies. These firms in return may invest the money in new factories and equipment to increase their production. In addition to borrowing from banks, most companies issue stock and bonds that they sell to investors to raise capital needed for business expansion. Government also issues bonds to obtain funds to invest in different projects, such as, the construction of dams, bridges, roads, schools and colleges. All such investment by individuals, businessman and groups involves a present sacrifice of income to get an expected future benefits. As a result of which investment raises a nation's standard living."

Investment is one of the source of economic growth in an enterprises it is require not only to increase the total capital stock of plant equipment and building but also to employ labor in productivity activity. Thus enterprises can be seen as a collection of investment project with expectation of receiving a return can be seen as a collection of investment project with expectation of receiving a return commensurate with the risk involve the essence of investment is to give up current resources in anticipation of generating a large quality of future resources. But all the investment are not made to meet legal and safety criteria while some are made for more public spirited motives such as investment in the art and in education most of the investment intended to have a financial inducement. The investor's aim will be to secure the maximum net cash after tax from the investment and this will be achieved only form investment having the highest rate of return.

Investment policy is the directs an investor's efforts towards goals without it, an investor is likely to pursue inefficient approaches that lead to unsatisfactory results. It is a combination of philosophy and planning as it expresses the investor's attitudes towards important investment management issues. It is the set of guidelines

and procedures that directs the long term management of the investor's assets. It delineates the investor's specific goals and how they expect to achieve them.

Investment policy is an important element of overall national economic development because it ensures efficient allocation of funds to achieve the material and economic well being of the society as a whole. In this regards, commercial banks investment policy is also a push drive to achieve priority of industries in the context of Nepal's economic development. Investment policy is one fact of the overall spectrum of policies that guide banks investment operation. A healthy development of any bank depends upon its investment policy. A sound and viable investment policy can be effective one for the economy to attain the economic objectives directed towards the acceleration of the pace of the development. A good investment policy attracts both borrowers and lenders, which help to increase the volume and quality of deposits, loans and investments. The loan provided by the commercial bank is guided by several principles such as length of time, their purpose, profitability, safety etc. These fundamental principles of commercial banks investment are considered while making investment policy.

### **1.5 FOCUS OF THE STUDY**

Banking plays pivotal role in the economic development of nation. Without banking, the development of the nation is a mere thought. It is regarded as the heart of financial system. People invest their earnings with a hope of getting good return on their investment. Never the less, due to certain circumstances they loose their hard earnings. Therefore, in order to make the right decision we need to have a sound investment policy. Hence this thesis mainly focuses on the investment policy of JVBs in Nepal with special reference to Standard charter Bank Nepal Ltd. The study focuses on evaluating the deposit utilization of the bank in terms of loans and advances and investment and its contribution in the profitability of the bank .It focuses on the contribution of off-balance sheet activities in the earnings Of the bank and on non-performing assets position of the bank.

### **1.6 OBJECTIVES OF THE STUDY**

The main objective of this study is to gain practical knowledge about the investment policy of the banks .This study is undertaken to analyze and present the prevailing condition of investment policy of banks the objectives of this study is to evaluate the investment policy of banks. The objectives of this study are to evaluate the investment policy of banks and to recommend corrective measures, if any, in order to improve its performance. The specific purpose can be described as follows.

- ⇒ To analyze deposit utilization and its relationship with total investment and net profit of the bank.
- ⇒ To determine the growth rate of bank in terms of deposits, loans and advances, investment and profitability of the bank.
- ⇒ To analyze the growth tend of them.
- ⇒ To evaluate earning and profitability position.

- ⇒ To evaluate assets management, activity and risks of the bank
- ⇒ To determine the proportion of loan loss provision to total loans and advances and to evaluate the non-performing assets position of the bank.
- ⇒ To determine the proportion of investment in risky and risk free assets and to evaluate the off-balance sheet operation of the bank.
- ⇒ To suggest measures to improve the investment policy of the bank.

## **1.7 STATEMENT OF PROBLEM**

In the modern days, especially in Nepal, Banks are being considered not as dealers of money transactions but are also dealers of investment in the country. All these banks have created a cutthroat competition in the country. Fluctuating and low interest rates on deposits, poor deposit mobilization etc has affected on the return of funds, total assets, total deposits, and shareholder's wealth position.

Nepal as an economically back pushed country, most of the resources of the country are remain unused due to the lack of financing. Due to in modernization of Nepal majority of population remain much below the poverty line. This inadequacy of financing can be removed by the participation of foreign investor in the commercial bank. With this view, the joint venture banks are welcomed in Nepal. Of course, they have put their contribution in making flow of funds within the country. Establishing joint venture commercial banks such country moves on the path of success very soon.

Economic development in the country is possible only through the establishment and sound operation of commercial banks. Commercial banks help in capital formation and its proper utilization. But the developing country like Nepal is suffering from such problem. Commercial banks are also not able to operate in full fledge. The development of the country is possible only if such commercial banks are able to invest in productive sector.

Commercial banks have not formulated their investment policy in so organized manner. They have limited consideration towards portfolio optimization. They do not have their own clear vision towards investment portfolio. There are various problem in resource mobilization by commercial banks in Nepal. The major one is poor investment climate due to heavy regulatory procedure. While making the investment, commercial banks have to think about the various risks, business risks etc. If such risks are ignored then there is high chance of losing their Principle. Thus unsecured loan and investment may cause liquidation of those institutions.

There have been various studies conducted on this topic. Most of earlier studies are concentrated only the investment pattern but failed to show their relationship among the investment sectors. This study attempt to fill the gap and will be helpful for the commercial banks. Thus, the study mainly focuses on analyzing the different aspects of the bank and finding the answers to questions such as.



- ❖ Is the bank able to utilize the available funds effectively?
- ❖ What is the proportion of risk free and risky investment made by the bank?
- ❖ What is the proportion of non-performing assets on total loans and advances of the bank?
- ❖ What is the proportion of Non-performing assets on total loans and advances of the bank?
- ❖ What is the relationship of total deposit on total investment and total investment on total net profit of the Bank?
- ❖ What steps should be taken to improve the investment policy of the Bank?
- ❖ Does the investment Portfolio affect the total earning of commercial Bank?

## **1.8 LIMITATION OF THE STUDY**

Every works have its own restriction and limitation due to the lack of time, resources and knowledge. Despite the enough efforts of researcher this thesis is not free from limitation. The study is presented just for the partial fulfillment of M.B.S. (Master's of Business Studies) degree. The researchers have come across many problems while presenting the thesis. Following are the major limitation of thesis.

- The whole study of investment policy is based upon the secondary data, so the accuracy of the data is based on the reliability of the sources.
- The study covers only five year data.
- It only examines the investment policy of the Banks and ignores other aspects for comparison.
- The data available in published annual report and into Net website is assumed to be correct and true.
- All the required Materials are not given by the banks as they want to keep their rewards secret.
- The study is simply the partial fulfillment of MBS program, the time assigned for it is limited i:e with in the speculative time, the report has to be completed which weakened the adequacy of the study.
- The sample of commercial banks has been taken.
- All the required materials are not given by the bank as they want to keep their rewards secret.
- This study is confined to evaluate only the investment policies of commercial banks.

## **1.9 RESEARCH METHODOLOGY:**

Research methodology is a way to systematically solve the research problem. In other words it describes the method & process applied in the entire aspects of the study. Research methodology comprises of methods, tools & technique to analyze the data for the comparison of dividend policies of joint venture banks. Following are the tools & techniques used to analyzed the data of dividend policies. The research methodology also focuses on the data collection methods, the research instruments utilized and the sampling plan to the followed.<sup>3</sup>

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<sup>3</sup> Howard. K. Woll and Prem raj pant” Social science research and thesis writing “ 3<sup>rd</sup> 2002 Buddha Academic Publisher Ktm. P 74

### **A. Sample:**

The sample taken for this study is NABIL BANK LIMITED, STANDARD CHARTER BANK NEPAL LIMITED, and NIC BANK

### **B. Method and sources of data**

The collection of data will be on the basis of secondary source. Various report and article such as balance sheet and financial statement, financial report, report journal published by the central office, annual statement and Bulletins, National planning commission, government policy towards joint ventures banks. Nepal stock exchange board statically year book, website of the concerned bank, other published and unpublished book, thesis, magazines, newspaper and booklet etc have been consulted for the required data.

### **C. Tools and techniques:**

Following financial and statistical tools are used to analyze the financial structure of Himalayan Bank Ltd, Nabil Bank Ltd, NIC Bank

1. FINANCIAL TOOLS:
2. STATISTICAL TOOLS:
3. TEST OF HYPOTHESIS:

## **1.10 ORGANIZATION OF THE STUDY:**

This study has been organized in five chapters each deals with some features and characters of dividend policy and practices of joint ventures Bank. These are

### **Chapter –I : Introduction**

It contains the introductory part and explains the major issues.

### **Chapter – II : Review of literature**

This chapter is directed towards the review of literature of related studies, it contain conceptual frame work, major studies in general & review of major studies in Nepal.

### **Chapter – III: Research Methodology**

This chapter describes the research methodology employed in the study. It includes research design Population & sample. This chapter also deals with the sources & collection of data and data analysis techniques.

### **Chapter – IV: Presentation and Analysis Data**

This chapter aims to achieve the predetermined objectives mentioned in the first chapter. This chapter consists presentation & analyses of secondary data related with different variables using both financial & statically tools as explained in research methodology.

### **Chapter – V : Summary, Conclusion & Recommendation**

It states Summary, Conclusion & recommendation of the study. This chapter states main findings, issues & gaps & suggestive frame work of study. Besides this chapter bibliography & appendices will be presented after the end of chapter V

## **CHAPTER - TWO**

### **REVIEW OF LITERATURE**

The word literature refers to writings on specific subject or printed information. It is an analytical expression on the concerned topic. Review of literature refers to the analyzing, assessing, reevaluating and reexamining the previously written works. So, This chapter is basically concerned with review of literature relevant to the investment policy of commercial banks. It is the way to discover what other research has uncovered in the area of our problem. Every research is based on previous knowledge. The past knowledge or the previous studies provide necessary information to the present study so that it cannot be ignored. The purpose of the literature review is to find out what other studies have been conducted in one's chosen field of study. It provides the foundation for developing a comprehensive theoretical framework from which hypothesis can be developed for testing. Thus, in the preparation of this thesis various books, articles, thesis etc. has been consulted and reviewed which are discussed below. This chapter is further divided into conceptual framework and related studies.

#### **2.1 CONCEPTUAL / THEORETICAL FRAMEWORK**

Commercial banks are major financial institution which occupy quite an important place in the frame work of every economy because "Commercial banks are the most important source of funds for business firms, in the aggregate. Banks acquire demand and time deposits from individuals, companies and government and in turn, make loan and investments."<sup>4</sup> Banks are such financial institutions, which mainly accept the deposit and create credit to outsiders. So, Commercial banks are major financial institution which occupy quite an important place in the framework of every economy because they provide capital for the development of industry, trade and business and other resources deficit sectors by investing the saving collected as deposit. In this way they contribute to the economic growth of the nation. Besides this, 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 the country.

“Investment refers to deploying the saving in a manner that ensures safety of our money and provides a sustained return to supplement our regular income”<sup>5</sup> Investment is concerned with the management of an investors wealth which are the sum of current income and the present value of all future income fund to be invested come from assets already owned borrowed money and saving consumption by forgoing today and investing the saving ,investors expects to enhance their future consumption by forgoing today and investing the saving investors expects to enhance their future consumption possibility. Some scholars have given the actual meaning of investment in their words which are as follows:

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<sup>4</sup> Delhi Stock *Exchange*, Jan.2002

<sup>5</sup> Van Horne and Wachowicz, 2001

“An investment may be defined as the current commitment of fund for a period of time to derive a future flow of funds that will compensate the investing unit for the funds are committed for the expected rate of inflation and also for the funds.”<sup>6</sup>

“Investment by individual, business and government involves a present sacrifice of income to get on expected future benefit as a result investment raises a nation’s standard of living.”<sup>7</sup>

“An investment is a commitment of money that is expected to generate additional money. Every investment entails some degree of risk it requires a present certain sacrifice for a future uncertain benefits.”<sup>8</sup>

“The investment objective is to increase systematically the individuals wealth, defined as assets minus liabilities the higher the level of desired wealth the higher the return must be received. As investors seeking higher return must be willing to take higher level of risk.”<sup>9</sup>

“Investment is any Vehicle into which funds can be placed with the expectation that will preserve or increase in value and generate positive return.”<sup>10</sup>

The above review commonly known fact that an investment is saving and utilization of funds today with expected additional return in future but the return sometime may be negative also. For doing investment, one should make an investment policy. Investment policy consists of the totality of investment plans, programs, environment, constraints, structures, opportunities, performances, alternatives etc. thus, investment policy related with management of investment made and invest to be made. Investment makers like banks are ever forced for the proper management of investment because, without investment, more deposit can't be collected and as well as collected deposits can't be utilized without efficient investment.

“A banker seeks optimum combination of earnings, liquidity and safety, while formulating investment policy”<sup>11</sup>

Management of commercial bank must balance the return and risk of the individual security and entire portfolio return refers to the total return over the anticipated holding period of security. The investment policy that stresses high total return most accepts relatively high risk. Conversely as investment policy that will tolerate only a small amount of risk must be willing to accept a relatively low return.

### **A. Return**

Any investor can anticipate the possibility of two types of return from holding a bond , interest return and capital gain. The rate of return can be calculated as;

$$R = \frac{P_t - P_{t-1} + I}{P_{t-1}}$$

Where, R = Rate of return

$P_{t-1}$  = Price of security in period t-1

$P_t$  = Price of security in period t

I = Interest Payment

<sup>6</sup> Frank K. Reilly “Investment” CBS publishing Japan.

<sup>7</sup> The world book encyclopedia(New York; Encyclopedia. American Corporation international world book-1976

<sup>8</sup> Jack Clark Francis, “Investment Analysis and management 5<sup>th</sup> edition” Mc.Graw Hill Book.

<sup>9</sup> John M. Cheney and Edward A. Moses “ Fundamental of Investment” USA- West publishing company 1992

<sup>10</sup> L.J. Gitman & Jochnk,” Fundamental of investment.” Harper & Row publishers New York.

<sup>11</sup> Chandler-1973

## **B. Risk**

The risk is the important factor that influences the financial institution investment strategy the commercial banks are exposed to following type of risk:

### **1. Credit risk “ Default risk ”**

Credit risk refers to the prospect that the issuer of a bond will be unable or unwilling to pay interest and repay principal as agreed. The majority of commercial banks are allocated as loans to consumers and business default risk is major concern customers that borrow from commercial bank usually exhibit a moderate degree of risk.

### **2. Liquidity risk**

Liquidity risk is the ability of the holder to sell or liquidate assets without substantial fluctuation in its price. Though the liquidity is a secondary consideration for the investment portfolio, nevertheless, liquidity risk is a factor that must be considered to managing the investment portfolio.

### **3. Interest Rate risk.**

The volatility of bond prices due to changing interest rates is referred to as interest rate risk. Manager of commercial banks wish to minimize interest rate risk that will hold a relatively short maturity portfolio and vice-versa. Market interest rates influence the value of assets and bank hence its return. If market interest rate rises, the value of assets will decrease. A higher interest rates means a higher discount rate means a higher discount rate and a higher discount rate causes a lower present value of any assets.

### **4. Purchasing Power Risk**

Purchasing power relates with monetary capacity. If variability in purchasing power occurs, the investor the banks are forced to do more investment for needy returns for their existence. Purchasing power risk is cause of inflation in market.

### **5. Management Risk**

The commercial bank has been facing management risk too, since by themselves as well as the management of policy-makers. Poor decision making leads such kinds of risk. Errors made by bad managers definitely affect investment policy.

Investment Policy is the guideline to satisfy the investment objective. The setting of policy begins with asset allocation decision. That is a decision must be made as to how the funds to be invested should be distributed among the major classes of assets. The assets allocation decisions are based properly on the understanding of the risk – return characteristics of the various assets classes and expected returns. The assets allocation will take into consideration any investment constraints or restrictions.<sup>8</sup>

In the development of investment policy the following factors must be consideration

#### **a) Client constraints.**

A client imposed constraints would be the restrictions that specify the types of securities in which a manager may invest and concentration limits on how

much or little may be invested in a particular asset class or in a particular issuer it may be in the form of a maximum on the level of the risk exposure or a permissible range for the risk measure relative to bench mark.

**b) Tax and accounting issues:**

Tax considerations are very important in investment. There are tax factors that must be incorporated into the investment policy. Those are some earnings form investment which may be taxed. Generally accepted accounting principles and regulatory accounting principles are important considerations in developing investment policy.

**c) Regulatory constraints:**

There are many types of regulatory constraints. These involve constraints on the assets classes that are permissible and concentration limits on investments. More over, in making the assets allocation decision concentration must be given to any risk based capital requirement. For depository institutions the amount of capital required is related to the quality of assets in which the institutions have invested.

**2.2 FEATURES OF SOUND LENDING AND INVESTMENT POLICY**

The income and profit of a bank largely depends upon its lending procedures policies and investment of its funds in different securities. There is always a positive relation between the credit and the profitability of the bank. The greater the credit created by the bank, the higher will be its profitability. A sound lending and investment policy is not only the prerequisite for banks profitability, but also crucial for the promotion of commercial savings of a backward country like ours. Some of the main characteristics for sound lending and investment policies that must be considered by commercial banks are:

**A ) Safety and Securities:**

A bank should always be cautions the safety and security of its investments. It should never invest its funds in those securities which are too volatile which are subject to too much depreciated and fluctuation because a little difference may cause a great loss. Similarly, it should not invest its fund into speculative businessperson who may earn millions or be insolvent in split of seconds. It should always have a proper security that has been pledged for making investments. Securities means adequate collateral having good value, which can be easily sold off if required at any point of time. The bank should accept those securities that are commercial durable and marketable having a fair market value for this purpose the bank should apply “MAST” in order to reach to a proper investment decision.

Where MAST stands for

- M = Marketability
- A = Ascertainability
- S = Stability
- T = Transferability

## **B) Liquidity**

Liquidity influences the investment policy of banks. Here, the liquidity with investment relates with timely diversion of a security against the lending, into current assets like cash. So, the bank must invest the funds in such securities or alternatives that deserve more liquidity. Similarly, the bank must not invest all collected fund to others, so that the depositors can withdraw their fund from a banks account, currently without late. The term liquid asset is used to describe money and assets that are readily convertible into money. Different assets may be said to exhibit different degrees of liquidity. Money itself is, by definition, the most liquid assets; other assets have varying degree of liquidity, depending on the ease with which they can be turned into cash. For assets other than money, liquidity has two dimensions.

## **C) Profitability:**

The commercial bank can maximize its volume of wealth through maximization of return on their investment and lending. Therefore they must be investing their funds where they gain maximum profit. The profit of commercial bank mainly depends on the interest rate. Volume of loan its time period and quarter of investment on different securities. The ambition of profit to commercial bank seems reasonable as the bank has to over all the expenses and making payment in the form of capital and interest to the depositors. For that the bank calculates the cost of funds likely return. If the spread is enough irrespective of the risk involved and absorbs its liquidity obligation, it will go ahead for investment. A good bank is one who invests maximum funds in different earning assets stoning safely from day to day requirement of the depositors.

## **D) Purpose of loan**

Why a customer needs of loan? This is very important question for any banker. If borrowed misuses the loan granted by these company will possess heavy bad debts. Detailed information about the scheme of project or activities should be examined before lending.

## **E) Diversification**

A bank should always bear in mind not to invest only in a particular sector. In fact, it should diversify its investments. Diversification helps to minimize risks and uncertainties. It is based on a popular saying “do not put all the eggs in the same basket.” this is because diversification of loans helps to sustains loss according to the law of average. If securities of a company are deprived, there may be appreciation in the securities of other companies, which will minimize and recover the loss from the former. Hence a good diversification theory advocates investment in various portfolios.

## **F) Legality**

Illegal security will bring out many problems for the investors. The commercial bank must be following the rules and regulations as well as different directions issued by Nepal Rastra Bank and other concerning bodies while mobilizing its funds.

**G) Tangibility:**

Though it may be considered that tangible property does not veil on income a part from direct satisfaction of possessions of property many times, intangible securities have lost their value due to price level inflation. A commercial bank should prefer tangible security to intangible one.

**H) National Interest:**

Every organization is driven with a selfish motive of its own profit maximization, which of course is not illicit but at the same time they should consider the national interest. Banks, though may not get maximum return from such investments should carry out its obligation towards the society and the country. They are required to invest on such sectors as per the government and Nepal Rastra Banks instructions. Thus banks are encouraged to invest in those sectors that will help to increase the national interest. Some example of investment in National interest is investments in government bonds, priority and deprived sector lending.

**2.3 SOME IMPORTANT TERMS****A) Deposits**

Deposit means the amount deposited in a current, saving and fixed account of bank or financial institution. Deposit is the major source of fund that a bank usually uses to generate the earnings. Therefore, the competence of the banks depends on its capability to attract deposits. Deposit being the rented amount from the depositors or from general public. It constitutes the liability of bank. The management of the bank is always influencing it through deliberate policy action. The deposits of a bank are affected by various factors.

**B) Loan and Advances**

Loan & advances and overdraft are the main source of income and most profitable assets to a bank, bank deposits can be crossed beyond a desired level but the level of loans and advances and overdraft will never cross it Every bank is always willing to lend as more as possible, since they constitute the larger part or revenue. But bank has to be more careful while providing loans and advances because they may not be realized at short period of time and sometimes they may turn into bad debts. Therefore, it is not sensible to take risk on them at the time of emergency for all banks a commercial bank hardly lends money for a long period of time.

**C) Investment on Government Securities**

This is the secondary sources of income to bank the commercial banks make investment on government securities shares and debentures and earn some interest and dividend.

**D) Investment on Other Companies Shares and Debentures**

Commercial banks also invest their excess funds to the shares and debentures of other company. They generally do so when there are excess funds than required and there is no alternative opportunity to make investment in the profitable sector. Now a day the



commercial banks of Nepal have purchased shares and debentures of regional development bank and other development bank etc.

#### **D) Bond**

A bond is the source of long term financing issued by an organization in written form under which the organization or the borrowers agree to pay principal and interest to the lenders or specific date. It may be secured i.e. mortgage bond with fixed assets pledged as securities unsecured like debenture bond.

#### **E) Securities**

These are the main source of long term financing. They consist of shares and debentures issued by government or any company. This may or may not be redeemable, with interest in future.

#### **F) Off Balance Sheet Activities**

Off balance sheet activities involve contracts for future purchase or sale of assets and all their activities are contingent obligations. These activities are not recognized as asset and liabilities balance sheet. They are LC guarantee, commission, bills for collection etc. These activities are very important, as they are the good source of profit to the bank, through they have risk. Now a day some economists and financial specialists to expand the modern transaction of a bank stressfully highlight such activities.

#### **G) Other Use of Funds**

Commercial bank should maintain the bank balance with the Nepal Rastra Bank as prescribed by the bank in Nepal. Similarly they have to maintain the cash balance in local currency in the vault of the bank. Again some part of the fund has to be used for the bank balance in foreign bank.

### **2.4 AN OVERVIEW ON NRB RULES REGARDING INVESTMENT OF A COMMERCIAL BANK**

Nepal Rastra Bank established in 2013 B.S is the central bank of Nepal. It's determining role in economic plans and implementation in the country is major. The main objective of the Nepal Rastra Bank is to manage the economic financial transaction over the country. Systematical allocation management and implementation of economic factors over the state is governed by Nepal Rastra Bank, as a central bank. All the economic plans, programs, policies, strategies, implementations, evaluation made by government are performed under the direction of NRB. So, NRB is bank of government, works for the welfare of nation. Similarly, NRB directs the banks and other financial institutions too. Plans, policies, direction rules, regulations from NRB are major subject to run the commercial banks. Every step of the commercial banks is always observed by NRB, as a representative of the Nepalese government. To allocate and mobilize the deposits collected by commercial banks in different sectors of the different areas of the nation, the NRB as a central bank, formulates fundamental rules, regulations, directives, policies etc. in fact, NRB controls

over the overall activities made by the commercial banks, as well as, establishment or operation or dissolution of banks. For so NRB has formulated commercial banks Act 2031 for the establishment and operation of commercial banks. Here, the directions, rules, regulations, directed by NRB in terms of investment by commercial banks are briefly mentioned below.

### **Investment on Priority Sector**

NRB has pointed priority sector as agriculture sector, cottage and small industry sector, service oriented sector, cooperative sector etc, in which the commercial bank must invest 12% of their total deposits. This provision is totally based on the objective for uplifting lifestyle of people in remote and village area.

### **Investment in Co-operative Sector (Deprived Sector)**

The co-operative institution, rural development banks, etc which are licensed by NRB, are also to be compulsory invested by commercial banks in certain ratio determined to each JVBs. As per such regulation, JVB have to invest 3% of total outstanding credit to for co-operative sectors.

**Table No. 1**  
**Investment in Deprived Sectors<sup>12</sup>**

S.N	Name of the Banks	Percentage of total outstanding loan to invest in deprived sector
1.	Nepal Bank Limited	3%
2.	Rastriya Banijya Bank	3%
3.	Nabil bank Limited	3%
4.	Nepal Investment Bank Limited	3%
5.	Standard Chartered Bank Nepal Limited	3%
6.	Himalayan Bank Limited	3%
7.	Nepal SBI Bank Limited	2.5%
8.	Nepal Bangladesh Bank Limited	2.5%
9.	Everest Bank Limited	2.5%
10.	Bank of Kathmandu Limited	2.5%
11.	Nepal Commercial & Credit Bank Limited	1.25%
12.	Lumbini Bank Limited	0.75%
13.	Nepal Investment & Commerce Bank	0.75%
14.	Macchapuchhre Bank Limited	0.25%
15.	Kumari Bank Limited	0.25%
16.	Laxmi Bank Limited	0.25%
17.	Siddhartha Bank Limited	0.25%

*Source: NRB Publication, 2061*

### **Establishment of New Commercial Bank**

NRB has enhanced liberal policy for establishing new commercial banks in Nepal. For such objectives, NRB has regulated the following directions:

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<sup>12</sup> Nepal Rastra bank rules 2061

- A minimum of Rs. 500 million of paid up capital is required for opening a new bank inside the Kathmandu valley.
- Similarly, as per the direction by NRB, Rs120 million necessary for starting banking business out of Katmandu.
- In the same way, Rs 50 million paid up capital are necessary for opening office of bank out of Katmandu.
- Commonly for establishing the commercial bank in rural areas, NRB has directed Rs 30 million as compulsory paid up capital.
- The investor can invest his/her, its fund up to 10% of the paid up capital of each and 15% of paid up capital of all banks in average.
- Basically the commercial bank can be invested maximum up to 70 % of total paid up capital, if the bank is promoted by domestic investors, and 30 % of paid up capital should be as liquidity margin for repayment for certain deposits.
- For joint venture banks, foreign investors can invest minimum 40% of paid up capital and 501% as maximum. Such bank should manage 30% of paid up capital as floatation for general public.
- Individual, firm or company or groups of company can invest up to 110% of paid up capital.
- Applications for the establishment of new banks are to be adopted within the stipulated time fixed by NRB.

### **Direction for Raising Fund**

The commercial banks are directed to raise the capital fund at minimum level of Rs 500 million. For this, commercial banks can include paid up capital and reserve deduction net loss for meeting such requirement.

### **Directive for Single Borrower Credit**

NRB has barred the single borrower credit limit as 35% in the case of fund based credit and 50 % in the case of non fund based credit, such as letter of credit, acceptance letter etc.

### **Directions for Extension Counter of Joint Venture Banks**

A) Commercial banks can't open extension in metropolitan and semi metropolitan area except during trade, fairs, festivals, ceremonies, celebrations etc, as directed by NRB. Such extensions must be converted as a branch within 2 years, otherwise, must be closed.

B) The extension opened can accept deposit and make payment as well as exchange Of foreign currencies after the permission from NRB.

C) If the extension is opened in the areas of royal palace, hospitals, foreign diplomatic offices, those extensions are not allowed to operate as a branch, as mentioned in (II).

### **Credit for Shareholders**

The individual or group who holds more than 1% of shares of the commercial bank, can't borrow from same bank, under the directions from NRB-2061/ B.S

### **Fluctuation in Interest**

The agreement can be made between bank and customers for making change in bank loan interest rate up to maximum limit of 0.5% is now cancelled by NRB, to be effective from 2061/62 B.S.

## **2.5 RISK AFFECTION ON INVESTMENT POLICY**

As already known that, every investment contains some how degree of risk in return of benefits. Sometimes the investor faces big volume of risk with high volume of loss. Risks are uncertainties, which make return from investment changed. Some noticeable risks are as follows.

### **I. Interest Rate Risk**

Interest is the return for certain amount borrowed presently but repaid in future. Interest rate risk is the potential fluctuations in return caused affect the market make the interest changed. This type of risk is depends upon demand and supply of investment in market.

### **II. Purchasing Power Risk**

Purchasing power relates with monetary capacity. It variability in purchasing power occurs, the investor the banks are forced to do more investment for needy returns for their existence. Purchasing power risk is cause of inflation in market.

### **III. Management Risk**

The commercial bank has been facing management risk too, since by themselves as well as the management of policy-makers. Poor decision making leads such kinds of risk. Errors made by bad managers definitely affect investment policy.

### **IV. Liquidity Risk**

Liquidity refers the discounts and commission given to other for converting the high priced assets ion lower price due to market factors. Basically the banks accept certain security for loan and the value of security also keeps changing time by time. This changing in the value of security as liquidity risk.

### **V. Default Risk**

Default risk is inevitable risk, which can't be ignored, whether the banks is in liquidation or in improvement position. This is the variability in return for investment made.

### **VI. Call ability Risk**

Bonds and preferred stock are one of alternatives of investment. Nepalese bank has also invested in these types of stocks, bonds. The call ability risk is concerned with the time of bonds and preferred stock with provision that allows the issues or investors or banks to call them in for repurchase. The banks some time repurchase the already sold stock using the fund from new issues. Such kind of transaction may lead call ability risk.

## **2.6 Concept of Commercial Bank**

Commercial banks are those financial institutions which deal in accepting of persons and institutions and give loans against securities. They provide working capital needs of trades industries and agriculture sector furthermore. Commercial banks also provide technical and administrative assistance to industries trade and business enterprises. The main purpose of priority sector investment scheme is to uplift the backward sector of economy.

Commercial bank is a corporation which accepts demand deposits subject to check and make short term loan to business enterprises regardless of the scope of its other services principally commercial banks accept deposit and provide loans primary to business firms, thereby facilitating the transfer of funds in the economy.

Under Nepal commercial Bank Act 2031 The Banks are those banks which provide short term and long term debt however necessary for trade and commerce. They accept deposit from public and grant in different forms. They buy and discount the bill of exchange, promissory note and exchange foreign currency.

## **2.7 FUNCTIONS OF COMMERCIAL BANK**

Generally, commercial banks have the two most essential functions i.e. borrowing and lending of money. They borrow money on various kinds of deposits: current and fixed. Under current deposits the banker incurs the obligations of paying legal tender on demand while on fixed deposits the banker incurs the obligation of paying legal tender after the expiry of a fixed period or to pay the customer an agreed rate of interest on it in return for the right to demand from him on agreed period of notice for withdrawal. “The American institution of banking has laid down four major functions of commercial bank s such as receiving and handling of deposits handling payment of its clients making loans and investments and creating money by extension of credit.”

Thus a commercial bank mobilizes the saving of the society through current or fixed deposit account. Then provide this money to those people which has need by loan or discount of bills of exchange. Hence the primary function of a commercial bank is that of a broker and a dealer in money. Apart from this it performs a profusion of function, which is grouped under two distinct categories namely, the agency services and the general utility services.

### **A ) Agency services**

Commercial banks provide a wide range of investment services. Customers can arrange for dividends to be sent to their bank and paid directly to their bank accounts. The bank’s brokers will also purchase or sell stocks on behalf of their customers and provides opinions on securities or list of securities. Similarly the bank will also send application for allotments of shares and obtain share certificates and other documents. Bank provides also service like payment of rent electricity, telephone charge collection of cheques. Most of these banks have an executor and trustee department with which various companies may have affiliation. Thus, they provide a complete range of trustee, executor or advisory services for a small charge.

### **B ) General utility Services**

The banker does not act as an agent for his customers, rather they provide services like issue of credit instruments like letter of credit and travelers cheques acceptance of bills of exchange, safe custody of valuable and documents, transactions of foreign exchange business. It also acts as a referee as to the respectability and financial standings of customers and provide specialized advisory services to its clients.

### **C ) Overseas Trading Services**

Due to growing trend of international trade, commercial banks have set up branches specializing in the finance of foreign trade in different countries. These banks provide a comprehensive network of services for foreign banking services through its subsidiary. They help in the settlement of debts between trades both at home and abroad for the goods buy and sell.

### **D ) Information and other services**

In present scenario, information plays a crucial role in the enlistment of the economy. Banks, one of the major sources of information on overseas trade, assist by providing regular bulletin on trade and economic conditions, special report on commodities and markets. Price and interest level fluctuation, rate of poverty and economic growth etc. on request banks obtain confidential opinions on financial aspects of the firm, Companies or individuals for its clients. They also provide legal information for the formation of company, tax requirements exchange control insurance and help to establish contact with local banking organization.

## **2.8 Review of Books.**

The banks are such types of institution which deal in money and substitute for money. They deal with deposits credit and credit instruments. Good circulation of credit is very much important for financial institution and banks. Unstudied and unevenly flow of credit harms the economy and the profitability commercial banks. Thus to collect fund and utility it in good investment is the prime objective of commercial banks. Investment and profitability of different authors of books and papers are summarized below.

**William F. Sharpe, Alexander J. Gordon & Jeffery V. Bailey** defined investment in this way "Investment means the sacrifice of current dollars for future dollars. Two different attributes are generally involved: time and risk. The sacrifice takes place in the present and is certain. The reward comes later, it at all and the magnitude is generally uncertain. In some cases the element of time predominates (for example, government bond). In other cases risk is the dominant attribute (for example, call option on common stock). In yet both time and risk are important."<sup>14</sup>

**Gitman and Joehank** express in his book that "Investment in any vehicle into which funds can be placed with the expectation that will preserve or increase in value and generate positive returns" It means that investment is the instrument which is essential for the banks to increase profitability.<sup>15</sup>

14. William F. Sharpe, Alexander J. Gordon & Jeffery V. Bailey, "Investments" 2002 (Prentice hall of India Pvt. Ltd. New Delhi)

**According to H. D. Crosse (1963)**, "Lending is the essence of commercial banking consequently the formulation and implementation of sound policies are among the most important responsibilities of bank directors and management will conceive lending policies and careful lending practice are essential. If a bank performs its credit creating function effectively and minimize the risk in any extension of credit."<sup>16</sup>

**John M. Cheney and Edward A. Moses** in their opinion, "The objective of investment is to increase the individual wealth, defined as asset minus liabilities. The higher level of desired wealth the higher must be received. If an investor wants higher return, he must be willing to face higher risk."<sup>17</sup>

**S.P. Singh and S. Singh** says that "The investment policies of banks are conditioned, to great extent by the national policy framework, every bankers has to apply his own judgment for arriving at credit policy also in mind." As per the above definition government and central bank have to make a sound policy about the investment policy of commercial banks.

They further states, "The fields of investment are more challenging as it offers relatively greater scope to bankers for judgment and direction in selecting their loan portfolio. But this higher degree of freedom in the field of credit management is also accompanied by greater risk."<sup>18</sup>

**Frank K. Reilly** has defined investment as "An investment may be defined as the current commitment of funds for a period of time to derived a future flow of fund that will compensate the investing unit for the rime fund are committed for the expected rate of inflation and also the uncertainty involved in the future flow of the fund."<sup>19</sup>

Investment policies include credit analysis and its principle is to determine the ability and willingness of a borrower to repay a requested loan in accordance with the terms of the loan contract. Factors considered in credit analysis are capacity to borrow, characters (honesty, integrity, industry, ability to create income, morality, ownership of assets, economic condition etc). Loans are the most important assets held by banks and banks lending provides the bulk of bank income. (Reed et. All 1980: p. 203, 235)

Reed et all (1980: p. 242) has stated that, "More and more banks have developed formal, written lending policies in recent years. They provide guidance for lending officers and thereby establish a greater degree of uniformity in lending practices. Since, lending is important both to the bank and to the community it serves, loan policies must be worked out carefully after considering various factors like

1. Risk and profitability of various types of loans.
2. Economic condition
3. Stability of deposits

15. Gitman and Joehank "Fundamentals of investment." (4<sup>th</sup> edition, Harper and Row ,N.Y.1990)

16. H. D. Crosse "Management policy of commercial bank" ( Englewood cliffs, Prentice Hall inc. 2<sup>nd</sup> edition 1963)

17. John M. Cheney and Edward A. Moses," Fundamentals of investment" ( St. Paul. USA- West publishing company-1992)

18. S.P. Singh and S. Singh financial analysis for Credit Management in Bank.( Vikas publishing house Ltd. New Delhi.1983)

19. Frank K. Reilly "Investment" the Dryden press ,CBS publishing Japan Ltd.

4. Influence of monetary and fiscal policy
5. Capital portion
6. Ability and experience of banks personnel
7. Credit need of the areas served

## **2.9 REVIEW OF ARTICLES AND RESEARCH PAPERS AND ARTICLES**

Many researchers have conducted their research on the field Commercial Banks especially on their financial performance, and fund mobilization policy, compliance with NRB directives etc. Besides this, there are some books, articles desertions and other relevant study concerned with the Lending and Investment. Some of the relevant studies, their objectives, findings and conclusions and other literature relating to the topic have been reviewed below.

### **2.9.1 REVIEW OF ARTICLES & RESEARCH PAPER**

This part of the study deals with the examination and reviewing of some related research papers, articles and journals published in difference magazines, Newspaper, World Bank discussion papers and economic journals and other related books and publications. However there is not much avenues for investment in difference sectors due to the current scenario of the country, the study and application of investment management is still in stage except for some joint venture commercial banks.

**Mr. Shiba Raj Shrestha (1998)**, deputy chief officer of NRB, banking operation department, has concluded some specific analysis on the report " portfolio management in commercial bank, theory-practice" Mr. Shrestha has emphasized on important of portfolio management with regards to investment behavior adopted by Nepalese banks and financial institutions. He further directs for the application and practice of portfolio management leads the economic up liftmen of banks as well as individuals. Some of his conclusion for the proper investment behavior given here:

- i. Higher return comparable with investment alternative opportunities available according to the risk class of investors.
- ii. Good liquidity with adequate safety of investment.
- iii. Certain capital gains.
- iv Flexible investments
- v. Maximum tax concession
- vi. Economic, efficient and effective investment mix.

According to Mr. Shrestha the above considerations are most useful for an effective decision. Similarly, for successful investments, he has concluded some strategies.

- i. Do not hold single security: do not relay on single investment alternative. Try to have a portfolio of different securities.
- ii. Have a diversified investment, make investment in different sectors.
- iii. Always select such combination or mix of investment alternatives, which



consist of minimum but maximum profit as well.

Like wise, the approaches to adopt for beneficial investment portfolio management, pointed by Mr. Shrestha are:

- i. Find the information's about the securities and analyzes them like age of security, physiologic condition, need, liquidity, maturity, fax aspects etc.
- ii. Analysis the altitude of investors about risks.
- iii. Identity the investment and risk from the investment

As the conclusion, he further points that, the application of modern concept of investment portfolio management is like bit preferred be Nepalese commercial banks. For the best operation of Nepalese banks he has determined some specific guidelines to adopt in his own words are:

- i. The survival of banks depends upon its own financial health and other activities
- ii. In order to develop and expand the portfolio management activated successfully the manager should practice the proper investment management methodology.
- iii. The operating banks in Nepal should adopt portfolio management activities for the increment of their income as well as to enrich the customer's life style for the overall development of nation.
- iv. For the proper management of investment portfolio, the banks should have capable as well as trained manpower for investment decision-making.

**Dr. Sunity Shrestha (1993)** in her research, "Investment planning of commercial banks in Nepal", has made remarkable efforts to examine the investment planning of commercial banks in Nepal. From the study, what she concluded is the bank portfolio (loans and investment) of commercial banks had been influenced by the various securities rates. Investment planning of commercial banks in Nepal is directly traced to fiscal policy of government and heavy regulatory procedure of the central bank. As a result investments are not made in a professional manner. Similarly, in investment planning and operation of commercial banks in Nepal have been found unsatisfactory in terms of safety, profitability, liquidity, productivity and social responsibility. To overcome this problem, she has suggested, "commercial banks should take their investment function with proper business attitude and should perform lending and investment operation effectively and efficiently with proper analysis of the projects."

**Mr. Bishowamber Pyakuryal (1987)** in his article, "Workshop on banking and national development" writes the present changing context of the economic calls for a substantial revitalization of the resources. How much they have gained over the years depends chiefly on how far they have been able to utilize their resource sin an efficient manner. There fore the task of utilization of resources is as much crucial as the mobilization. The under utilization of resources not only results not only results in loss of on come but also further to discourage the collection of deposits.

**Dr. Govind Bahadur Thapa (1994: 29-37)** is of the opinion that commercial banks include foreign joint venture banks seems to be doing pretty well in mobilizing

deposits. Similarly, loans and advances of these banks are also in an increasing trend. Nevertheless, compared to the high credit needs, particularly by the newly emerging industries, the banks still seem to lack adequate funds for investments. The banks are increasing their lending to non-traditional sectors along with the traditional sectors.

Among several commercial banks, Nepal Bank Ltd. and Rastriya Bank are the only two that are operating with a nominal profit and sometimes incurring losses. Due to non-recovery of accrued interest, the margin between interest and interest expenses is declining. These banks have not been able to increase their income from commission and discount through traditional off-balance sheet operations. On the other hand, they have heavy burden of personnel and administrative overheads. Similarly, profit position of these banks has been seriously affected due to excessive accumulation of overdue and defaulting loans. Contrary to this the foreign joint venture banks have been operating efficiently. They are making tremendous amount of profits and are distributing a large portion of it to its shareholder and employees as dividends and bonus. Because of their effective persuasion for loan recovery and management, overdue and defaulting loans have been limited resulting in high margins between interest income and interest expenses. Similarly, concentration of these banks in modern off-balance sheet activities and efficient personnel management has added to the maximization of their profits.

**Bodhi B. Bajaracharya** in his article “Monetary policy and mobilization in Nepal concludes that the mobilization of domestic saving is one of the prime objectives of the monetary policy in Nepal. These purpose commercial banks are the active financial intermediary for generating resources in the form of deposits of the private sector and providing credit to the investors in different sectors of the economy.

**Prof. Dr. Radhe Shyam Pradhan** has conducted on his research “financial management and particles in Nepal in 1992. The survey mainly dealt with financial function, sum and types of financing decisions involving debt, effect of change in takes on capital structure financial distress, dealing with banks and divided policy.

The major finding of the study connected with financial management is given as follows:

- \* The enterprises have a definite performance for bank loans at a lower level of debt.
- \* Banks and retained earning are the two most widely used financing sources.
- \* Most of enterprises do not borrow from one bank only and they do switch between banks which ever offer best interest rates.
- \* In general there is no definite time to borrow the issues stocks, that is majorities of respondents are unable to predict when interest rate will lower or go up or unable to predict when the stock will down or up.

**Mr. Bhagat Bista (2001)** in his research paper, " Nepal Adhunik Banking Byabastha: has made an attempt to highlight some of the important indicators, which have contributed to the efficiency and performance of Joint Venture Banks in the field of

commercial banks. At the end of the paper he has concluded that the establishment of Joint Venture Banks a decade ago marks beginning of modern banking era in Nepal. The joint venture banks have brought in many new banking techniques such as computerization, hypothecation, consortium finance and modern fee based activities into the economy. These are indeed significant milestone in the financial development process to the economy.

**Ramesh Lal shrestha** In his articles, a study on deposit and credit of commercial bank in Nepal concluded that the credit deposit ratio would be 31.30% other thing remaining the same in Nepal, which was the lowest under the period of review, therefore he had strongly recommended that the joint venture Bank should try to give more credit entering few field as far as possible, otherwise they might not be able to absorbed even the total expenses.

**F. Morris (1990)** in his discussion paper, "Latin Americas banking system in the 1980s" has concluded that most of the banks concentrated on compliance with central bank rules on reserve requirements, credit allocation and interest rates. While analyzing loan portfolio quality, operating efficiency and soundness of bank investment management has largely been overlooked. The huge losses now found in the banks portfolio in many developing countries are testimony to the poor quality of this oversight investment function.

He further adds that mismanagement in financial institutions has involved inadequate and over optimistic loan appraisal, tax loan recovery, high risk diversification of lending and investment, high risk concentration, connected and insider lending, loan mismatching. This has led many banks of developing countries to the failure in 1980s.

## **9.2 REVIEW OF DISSERTATIONS ‘OR’ THESIS**

While preparing this these many other Theses by previous students regarding various aspects of commercial Banks such as financial performance, lending policy, investment policy, interest rate, structure and resources mobilization and capital structure had been studied. Among them some of thesis is found to be relevant for these studies which are presented as below:

**Samiksha Thapa**, Has conducted a thesis work on “A Comparative study on Investment Policy of Nepal Bangladesh Bank Limited and other joint venture Banks (NABIL and NGBL).<sup>22</sup>

**The major objectives of the research study were as follow:**

- A) To evaluate the liquidity, assets management efficiency, profitability and risk position of N.B Bank in comparison to NABIL and NGBL.
- B) To analyze the relationship between loan and advances and total investment with other financial variables of NB Bank and compare with NABIL and NGBL.
- C) To examine the, fund mobilization and investment policy on NB Bank through off-balance sheet and on-balance sheet activities in comparison to the other two banks.

22. Samiksha Thapa, “A comparative study on investment policy of Nepal Bangladesh Bank Ltd. and other Joint Venture Bank (NABIL and NGBL)” An unpublished Master Degree Thesis -2001

- D) To study the various risks in investment of NB Bank in comparison to NABIL and NGBL.
- E) To analyze the deposit utilization trend and its projection for next five years of NB Bank and compare it with NABIL and NGBL.
- F) To provide suggestions for improving the investment policy of NB Bank.

**The major findings of the research were as follows:**

- A) NB Bank has good deposits collections, it has better liquidity position, it has made enough loan and advances but it has made the negligible amount of investment in government securities.
- B) The profitability position of NB bank is comparatively worse than that of NABIL and NGBL.
- C) The Credit risk ratio interest risk ratio and capital risk ratio are worse than NABIL and NGBL.
- D) The growth ratio of total deposit, loan and advances and net profit of NB bank is higher than NABIL and NGBL. While growth ratio of total investment of NB bank is comparatively worse than NABIL and NGBL. but there is no significant relationship
- E) There is significant relationship between deposit and loan and advance, outside assets and net profit on NB bank but there is no significant relationship between deposit and investment of NB bank.
- F) The position of NB banking regard to utilization of fund to earn profit is not better in comparisons to NABIL and NGBL.
- G) There is significant difference in mean ratios of loan and advances to total deposit ratio mean ratio of total off-balance sheet operation to loan and advance mean ratio of return on loan and advances and mean ratio of total interest earned to total outside of NB bank.

**Ms. Ruru Kusom Gautam** has presented in her study titled “**Investment Analysis of finance companies in context of Nepal** that finance companies are contributing on supply of credit timely. She found that overall performance of finance companies are contributing is satisfactory and Nepal Raster Bank has played more effective role to enhance the operation. Few aggressive and more conservative strategies is adopted by finance term loan. And the unhealthy interest rate competition was also prevailing.

**The major findings of the research were as follows:**

- \* Have to prove that they can rally contribute to national economy.
- \* Are efficient and viable agencies for mobilization of saving and its channel into Productive sectors.
- \* Are professionally managed and competent enough to ensure adequate rate of return on.
- \* Are strategically well planned to be competitive with bank and other agencies and are trust worthy.

**Kul Chandra Pandit** has conducted a thesis research on, “A study on the investment policy Analysis of standard chartered Bank Ltd. (In comparison to other commercial banks of Nepal.)”<sup>24</sup>

23. Ms. Ruru Kusom Gautam, Investment Analysis of finance companies in context of Nepal, unpublished Master thesis, Shankar Dev Campus.2001

24. Ms. Kul Chandra Pandit , “A study on the investment policy Analysis of standard chartered Bank Ltd. unpublished Master thesis

**The Basis objectives of this study were highlighted as follows:**

- A) To study the fund mobilization and investment policy with respect to off-balance sheet transaction and on-balance sheet transaction.
- B) To evaluate the liquidity efficiency of assets managed and profitability position.
- C) To evaluate the growth ratio of loan and advances and total investment with respective growth rate of total deposit and net profit.
- D) To evaluate the trends of deposit utilization towards total investment and loan and advances and its projection for next five years.
- E) To review the policy and procedure of collection.
- F) To provide suggestion and recommendation on the basis of the study.

**The major findings of the research were as follows:**

- A) The analysis of liquidity ratio from SCBNL has maintained successful liquidity than NABIL and NB bank consequently the consistency is also sound than the other two banks.
- B) From the analysis of asset management ratio of all three commercial banks, SCBNL had maintained comparatively average successful in its on-balance sheet operation. But in case of off-balance sheet operation, SCBNL is advance than NABIL and NB.
- C) From the finding of profitability ratio, the profitability position of SCBNL is higher than NABIL and NB Bank.
- D) The growth of total deposits of SCBNL is found very lower than NB Bank and slightly higher than NABIL Bank.
- E) The growth ratio of loan and advances of SCBNL is found slightly lower than NABIL and more lower than NB Bank.
- F) Coefficient correlation between deposits, loan and advances and total investment of SCBNL, NABIL and NB Bank are positive.
- G) In the case of loan and advances to total deposits ratio, decreasing trends are found but in the cases of total investment to total deposits ratio, all three banks have increasing trend.

**Mr. Upendra Tuladhar**, has conducted his study entitled “A study on investment policy of Nepal Grind Lays Banks Ltd. in comparison to other joint venture bank [NABIL and HBL].<sup>25</sup>

**The research’s main objective of study** was to evaluate liquidity assets management, efficiency, profitability and risk position of NGBL in comparison to NABIL and HBL and to examine the fund mobilization and investment policy of NGBL through off-balance sheet on-balance sheet activities in comparison to the other two banks.

**The major findings of the research were as follows:**

- A) NGBL has been successful to maintain in the best way both liquidity position and their consistency among three banks.
- B) NGBL has successfully maintained and manage assets towards different income generating activities.

25. Mr. Upendra Tuladhar “A study on investment policy of Nepal Grind Lays Banks Ltd. in comparison to other joint venture bank. unpublished Master thesis

C) Income from loans and advances and total investment is main income source of NGBL and it can affect the banks net profit.

D) Profitability position of NGBL is better than NABIL and HBL.

The research has concluded that JVBs of Nepal are not effective information to their clients. These banks have given first priority on education sectors while making investment. The poverty stricken and deprived sector are given second priority.

**Raju Ram khadka** has conducted a thesis research on, “A study on the investment policy of Nepal Arab Bank Ltd. in comparison to other joint venture bank of Nepal,”<sup>26</sup>

**The Basis objectives of this study were highlighted as follows:**

- To find out the relationship between deposit and total investment, deposit and loans and advances, and net profit and outside assets of NABIL in comparison to other JVBS.
- To evaluate the liquidity assets management efficiency and profitability position in related fund mobilization of NABIL in comparison to other JVBS.
- To evaluate the growth ratios of loans and advances and total investment with respective growth rate of total deposits and net profit of NABIL in comparison to other JVBS.
- To evaluate the trends of deposit utilization and its projection for the next five years of NABIL in comparison to other JVBS.
- To discuss fund mobilization and investment policy of NABIL in respect to its fee-based off -balance sheet transaction and fund based on-balance sheet transaction in comparison to other JVBS.
- To suggest and recommend some measures on the banks of comparative fund mobilization and investment policy of NABIL and other JVBS for the improvement of financial performance of NABIL in future.

**The major findings of the research were as follows:**

- The profitability position of NABIL is comparatively better than that of others JVBS .
- The trend values of loan and advance to total deposited of both NABIL and JVBs are in increasing trend. whereas, the trend values of total investment to total deposits of both NABIL and other JVBS are in increasing trend.
- The Liquidity position of NABIL is comparatively worse than that other of JVBS, NABIL has utilized more portions of current assets as loan and advance and less portion as investment in government securities.
- There is significant relationship between deposit and loans and advance as well as outside assets and net profit where as there is no significant relationship between deposit and total investment in case of NABIL and other JVBS too.
- NABIL seems to be more successful to increase source of funds and its mobilization.
- NABIL is comparatively less successful in on –balance sheet utilization as well as off-balance sheet operation than that of other JVBS which predicted that NABIL

26. Raju Ram khadka “A study on the investment policy of Nepal Arab Bank Ltd. in comparison to other joint venture bank of Nepal,” unpublished Master thesis, Shankar Dev Campus.1998

could not mobilize as efficiently as other JVBs and may lag behind in the comparative market of banking in the days to come.

**Ganga Ram Manadher** has conducted a thesis research on, “A Comparative study investment policies of finance companies in the context of Nepal.”<sup>27</sup>

**The Basis objectives of this study were highlighted as follows:**

- ⇒ Evaluate the trends of deposits utilization, and its projection for the next five years in case of these companies.
- ⇒ Evaluate the liquidity, assets management efficiency and profitability position in relation to fund mobilization of above listed companies.
- ⇒ Evaluate growth ratio of loan and advance and total investment with respective growth rate of total deposited and net profit of the companies.
- ⇒ Find out relationship between deposit and total investment, Deposit and loan and advance and net profit and outside asset of the listed companies.
- ⇒ Discuss the fund mobilization and investment policy of these companies in respect to its fee based off- balance sheet transaction and fund based on- balance sheet transaction.
- ⇒ To suggest and recommend some measures on the banks of comparative fund mobilization and investment policy of these companies for the improvement of financial performance in future.

**The major findings of the research were as follows:**

- ⇒ The liquidity position of national finance and NEFINSCO are comparatively better than that of others companies. Never the less, that of goodwill finance and union finance seems to be quite weaker.
- ⇒ Most of the finance companies are successful in on- balance sheet utilization as well as off-balance sheet operation. Among them, NEFINSCO and goodwill comes a head of all.
- ⇒ Profitability position of most of the companies is comparatively not better.
- ⇒ Most of finance companies are able to maintain the growth ratio among them. Nepal share markets seems to be more successful to increase their source of fund and mobilization as well as net profit
- ⇒ There is significant relationship between loan and Deposits and advance of all finance companies. Similarly, there is no significant relationship between deposits and total investment of all companies except NEFINSCO and goodwill finance Com. Ltd. There is also no significant relationship between outside assets and net profit of all companies except Union finance Co. and National Finance Co. and National Finance Co. Ltd. The trend value of total investment to total deposit ratio and loans and advance to total deposit ratio are in increasing trend.

**Rabindra Joshi** has conducted a thesis research on, “A comparatively study on investment policy of Standard Chartered Bank Nepal limited and Everest Bank Limited.”<sup>28</sup>

27. Ganga Ram Manadher “A Comparative study investment policies of finance companies in the context of Nepal.” . unpublished Master thesis

28. Rabindra Joshi, “A comparatively study on investment policy of Standard Chartered Bank Nepal limited and Everest Bank Limited.” . unpublished Master thesis

**The Basis objectives of this study were highlighted as follows:**

- To compare investment policy of concern bank and discuss the fund mobilization of the sample bank.
- Find out empirical relationship between total investment, Deposit and loan and advance, the net profit and outside assets and compare them.
- To analyze the deposit utilization and its projection for next five year of SCBNL and EBL.
- To evaluate comparatively the profit ability and risk position, liquidity assets management efficiency of SCBNL and EBL
- To provide a package of possible guidelines to improve investment policy, its problems and way to solve some problems and provide suggestions and recommendation on the basis of the study.

**The major findings of the research were as follows:**

- EBL has the highest cash and bank balance to total deposit, cash and bank to current ratio, this make the bank to be in good position to meet the daily cash requirement .EBL has fluctuating liquidity ratio, its shows that the bank has not properly formulated and stable policy. EBL has greater current ratio than SCBNL it means EBL is greater success to meets its current obligation.
- SCBNL has been successfully Maintained and manage its assets to wards different income generation activities. SCBNL has made high portion of total working fund in investment on
- SCBNL has been successfully maintained and managed its assets towards different income generation activities. SCBNL has made high portion of total working fund in investment on government on share and debentures of other comparatively.
- The profitability ratio of SCBNL is comparatively better than EBL. It indicates that SCBNL has maintain its high profit margin regarding profitability lower than EBL does not have a better position in comparison.
- The risk of SCBNL is comparatively lower than EBL regarding various aspects of banking function.
- The growth ratio of deposit, loan and advances and total investment is imperatively lower than EBL
- Coefficient of correlation between deposit and loan and advances of the both banks has significantly positive value.

**Gauri Shankar Gupta** has conducted a thesis research on, “A Comparative Study on Investment Policy of Joint Venture Banks in Nepal (Nabil Bank Limited in Comparison to Standard Chartered Bank Nepal Limited and Himalayan Bank Limited)<sup>29</sup>

**The Basis objectives of this study were highlighted as follows:**

- ❖ To evaluate the liquidity, assets management system, profitability and risk position of the commercial banks.
- ❖ To evaluate the trends of deposit utilization and its projection for future.
- ❖ To analyze the comparative study on fund mobilization and investment policies of two joint venture banks and their viability.

29. Gauri Shankar Gupta “A Comparative Study on Investment Policy of Joint Venture Banks in Nepal (Nabil Bank Limited in Comparison to Standard Chartered Bank Nepal Limited and Himalayan Bank Limited) unpublished Master thesis



- ❖ To analyze the relationship between total investment, deposits, loan and advances and net profit and their comparative study in between commercial banks.
- ❖ To provide the various suggestions and recommendations on the basis of findings for further growth of the organization.

**The major findings of the research were as follows:**

- ❖ The liquidity position of NABIL is comparatively better than SCBNL and HBL. NABIL has the highest current ratio and loan & advances to current assets ratio. In spite of cash and bank balance being the lowest among three banks, it has maintained moderate investment policy on investment on government securities.
- ❖ The assets management of NABIL is good enough as compared to that of SCBNL and HBL. It has the highest loan and advances, investment on shares and debentures of other companies. The total investment, investment on government securities and total OBS operation to loan and advances of NABIL is in between in comparison to other two banks. However, it has the lowest proportion of loan loss ratio as compared to other two banks. SCBNL seems to be stronger in invest in government securities.
- ❖ From analysis of profitability ratio, it can be concluded that NABIL is comparatively average or in between successful in comparison to other banks. The interest earned to total working fund and total outside assets ratio is the highest in NABIL among three banks. This shows the highest importance of lending business in NABIL. NABIL has maintained moderate investment policy in all other ratios. SCBNL has the highest return on loan & advances, total working fund and equity capital. HBL seems to be better in interest payment point of view.
- ❖ The degree of credit risk is highest in NABIL. It has moderate position in liquidity and capital risk

**Conclusion:**

Previous researchers have done their research in this topic of different commercial banks and joint venture banks. But they have not taken some of these banks (i.e. standard chartered, NABIL and Everest Bank) for comparative study under the topic of 'Investment Policy' in their research. Therefore, I have taken these commercial banks (i.e. SCBNL, NABIL and Everest Bank) in my research work to analyze the investment policy which are well established joint venture banks of Nepal. During the recent year they are earning profit rapidly.

The research is completely based on secondary data. The researchers have used current data upto F/Y-2005/06. The research will be tried to show the present investment of these banks. The research will have tried to analyze the deposit collection position, position of the fund mobilization, etc. comparatively.

# **CHAPTER - THREE**

## **RESEARCH METHODOLOGY**

### **Introduction:**

Research methodology is a composed by two word Research and methodology. Research is a systematic and organized effort to investigate a specific problem that needs a solution. While methodology is the research method used to test the hypothesis; therefore Research methodology is a way to systematically solve the research problem.

Research methodology means the methods, processes, tools and techniques, which are used in any of the research or investigation till the purpose is accomplished and the aim is achieved.

"Research methodology is a vital and absolutely indispensable part of social scientific and education research without methodological research, modern social scientific and educational research would still be in the dark age."<sup>30</sup>

The main objective of this study is to find out the relationship between investment and the other variables, which affect investment policy. The research methodology should be used to accomplish the research objectives, which is described in this unit. Research methodology refers to the various sequential steps adopted by a researcher in studying a problem with certain objectives in view. In other words research methodology describes methods and processes applied in the entire part of the study.

### **Research Design:**

The research design is the specification of methods and procedure for acquiring the information needed to structure or solve the problem. "Research design is the plan, structure & strategy of investigation conceived so as to obtain answers to research questions & to control actual variance"<sup>31</sup> Research design helps the research to control the experimental extraneous & error variance of the particular research problems under the study topic. It is invented to enable the researcher to answer research questions as variedly. Objectively, accurately & economically as possible. It set up the frame work to test the relation among variables.

Research design had been prepared keeping in mind the objectives of the study. The analysis of this study is based on that research design. The main objective of this study is to analyze the investment police of commercial bank. For this secondary data have been collected from different sources and the suitable financial and statistical tools were used term analyses and interpret those collected data.

### **3.3 POPULATION AND SAMPLE**

There are altogether 21 commercial banks, which are functioning all over the kingdom of Nepal. Most of their stocks are traded actively in the stock market. In commercial banks, there are 12 domestic's commercial Banks and 9 Joint Ventures bank functioning all over the country. In this study investment policy of NABIL is compared with two other commercial banks SCBNL and EBL which are selected population.

30. Kothari C.R. Research Methodology Method & Technique, wishwa Pakashan P. Ltd. New Delhi, p-2

31. Karlinger, Fred N 1986 Fundamental of Behavioral Research, New York Rinehart & Winston, p-275

**Samples are taken from total population, which are as follows.**

1. NABIL Bank Limited (NABIL)
2. Nepal investment Bank Limited (NIBL)
3. Standard Chartered Bank of Nepal (SCBNL)
4. Himalayan Bank Limited (HBL)
5. Nepal SBI Bank Limited (NSBIBL)
6. Nepal Bangladesh Bank Limited (NBBL)
7. Everest Bank Limited (EBL)
8. Bank of Katmandu (BOK)
9. Nepal Credit & Commerce Bank Limited (NCCBL)
10. Lumbini Bank Limited (LBL)
11. Nepal Industrial & Commercial Bank Limited (NICBL)
12. Machhapuchhre Bank Limited (MBL)
13. Kumari Bank Limited (KBL)
14. Laxmi Bank Limited (LBL)
15. Siddhartha Bank Limited (SBL)
16. Global Bank Limited (GBL)
17. Sunrise Bank Limited (SBL)
18. Bank of Asia (BOA)
19. Citizen Bank
20. Nepal Bank Ltd. (NBL)
21. Rastriya Banijaya Bank Ltd.(RBB)

From these populations, NABIL Bank Limited, Standard Chartered Bank Nepal Ltd, NIC bank Limited has been selected in sample for study. The Short introduction of these banks is as followings.



Nabil Bank Ltd is the first joint venture bank in Nepal was established in 12 July 1984, under company act 1964. NABIL was incorporated with the objectives of extending international standard modern banking services to the various sectors of society. The bank provides a full range of commercial banking services through its 19 points of representation across the country and over the 170 reputed correspondent banks across the globe. The highly qualified and experienced team is operating the bank including day-to-day operation and risk management. Bank is fully equipped with modern technologies, which include ATMs, credit cards and state of art, Internet banking system and other modern service using modern technologies. Other facilities are international trade, bank guarantee, safe deposit locker, western union money transfer, and automatic teller machine. Its equity configuration showed that Dubai Bank Ltd owned 50% equity partner, which was transferred to emirates bank international limited. Later on, Dubai sold its entire 50% holding to National Bank Ltd, Bangladesh.

# Standard Chartered

Standard Chartered  
Bank Nepal Limited



स्टैंडार्ड चार्टर्ड  
बैंक नेपाल लिमिटेड



**Standard Chartered Bank Nepal Ltd** has been in operation in Nepal since 1987 when it was initially registered as a joint-venture operation. Today the Bank is an integral part of Standard Chartered Group who has 75% ownership in the company with 25% shares owned by the Nepalese public. The Bank enjoys the status the largest international bank currently operating in Nepal. The Bank is a leading financial institution in the country. With 11 points of representation and 9 ATMs across the nation and with over 300 local staff, SCBNL is in a position to service its customers through a large domestic network. In addition to which the global network of Standard Chartered Group gives the Bank the unique opportunity to provide truly international banking in Nepal.

SCBNL offers a full range of banking products and services in Wholesale and Consumer banking, catering to a wide range of customers from individuals, to mid-market local corporate to multinationals and large public sector companies, as well as embassies, aid agencies, airlines, hotels and government corporations. It is the first Bank in Nepal that has implemented the Anti-Money Laundering policy and applied the 'Know Your Customer' procedure on all the customer accounts.



Nepal Industrial & Commercial Bank Limited (NIC Bank), which commenced its operation on 21 July 1998, is the first commercial Bank in the country to be capitalized at NPR 500 million. The Bank was promoted by some of the prominent business houses of the country. The current shareholding pattern of the Bank constitutes of promoters holding 65% of the shares while 35% is held by general public. NIC Bank is one of the most widely-held Banking companies in Nepal, with over 32,000 shareholders. The shares of the Bank are actively traded in Nepal Stock Exchange with current market capitalization of about NPR 6,270 million. This bank received the award “**Banker of the year 2007 Nepal**”. This bank is providing service to Nepalese people through 13 Branches.

### **3.4 DATA COLLECTION PROCEDURE**

The study mainly conducted on the basis of secondary data. Even though some primary data were collected through personal objective visit to the bankers responses from questionnaire distributed. The data required for analyses are directly obtained from profit & loss account and balance sheet of concerned bank's annual report. Supplementary data and information are collected from couple of institution and regulation authorities like NRB; Securities exchange board, Nepal stock exchange Ltd. ministry of finance budget speech of different fiscal years, economic survey and national planning commissions etc.

All secondary are compiled processed and tabulated in the time series as per need and objective. Formal & informal talks with the concerned authority. of the bank were also helpful to obtained the additional information of related problem

### **3.5 DATA ANALYSIS TOOLS**

In this study, only financial and statistical tools are used for the analysis of data that is already stated in the limitation of the study. The analyses of data will be done according to pattern of data available. Due to limit time and resources, simple analytical Statistical tool such as percentage graph, Karl person's coefficient, regression analysis the method of lest square and test of hypothesis are use. Likewise, some financial tools such as ratio analyses and trend analyses have also been used for financial analyses.

#### **3.5.1 Financial Tools**

Financial tools are used to examine the strength and weakness of financial resource of bank. In this study financial tools like ratio analyses and financial statement analyses have been used. There are various financial tools some of them are as follows:

##### **3.5.1.1 Ratio Analysis**

Ratio analyses are a part of the whole process of analyses of financial statement of any business or industrial concern especially to take output & credit decision. Thus, ratio analyses are used to compare of firms financial performance and status to that of other forms or it to over time. The quantitative judgment regarding financial performance of a bank can be done with the help of ratio analyses. Therefore, there are many ratios, only those ratios have been covered in this study which is related to the investment operation of bank. This study contains following ratio:

**A) Liquidity ratio:** Liquidity ratios are the ratios that provide the quick measure of the liquidity position or the ability of the firm to meet its current obligations. In other words, liquidity ratios are the indicator of short-term solvency or financial strength of the firm. It is the measurement of speed with which a banks asset can be converted into cash to meet deposit withdrawal and other current obligations.

##### **B) Current ratio:**

Current ratio shows the short term solvency and the relationship between current assets and current liabilities. Generally current Assets include cash and bank balance, loan and

advance, money at call of short notice, investment on government securities and other interest, overdraft, bill purchase and discount, receivable and miscellaneous current assets. Similarly current liability include deposit and other account , bills payable, short term loan, tax provision , staff bonus etc. current ratio can be computed as

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

**C) Cash & Bank balance to total deposit ratio:**

Cash 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 depositors. This ratio is computed by dividing cash & bank balance by total deposit. This can be presented as

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

Hence cash & bank balance includes cash on hand foreign cash on hand, balance with domestic’s bank and balance held in foreign bank. Total deposit encompasses current deposits, saving deposits fixed deposits money at call and short notice and other deposits.

**D) Cash and Bank Balance to Current Assets Ratio:**

Cash and bank balance are the most liquid current assets. This ratio measures the proportion of the most liquid assets i.e. cash and bank balance among the total current assets of bank higher ratio shows the banks ability to meet the demand for cash. This ratio is computed by dividing cash and bank balance by current assets.

$$\text{Cash and Bank Balance to Current Assets Ratio} = \frac{\text{Cash and Bank balance}}{\text{Current Assets}}$$

**E) Investment on Government securities to Current Assets Ratio:**

This ratio helps to find out the percentage of current assets invested on the government securities, Treasury bill and development bonds. This ratio can be computed by dividing investment on government securities by current assets. It is computed by dividing loan and advances by current assets. This ratio is computed by dividing Investment on government securities by total current assets.

$$\text{Investment on Government securities to C.A. Ratio} = \frac{\text{Investment on government Securities}}{\text{Total Current Assets}}$$

**F) Loan and advances to current assets ratio:**

Loan and advance are current assets which generate income for bank, loan & advances to current ratio shows the percentage of loan and advances to current assets. This ratio can

be computed by dividing loan and advances by current assets. This can be computed as

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

### **3.5.1.2 Assets Management Ratios (Activity Ratio)**

Assets management activity or turned ratios are used to measure how effectively the firm in managing its assets. These ratios are designed to answer the question such as does the total amount of each type of asset as reported on the balance sheet seem reasonable, too high or too low in view of current and projected operating level ? These are used measure the banks ability to utilize their available limited resources. Under Assets Management ratio following are used:

#### **A) Loan and Advances to Total Deposit Ratio**

This ratio is calculated to find out how the banks are utilizing successfully their total deposits on loan and advances for profit generating purpose. Greater ratio implies the better utilization of total deposits. This ratio can be computed by dividing loan and advances by total deposits.

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

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

This ratio shows how properly firm's deposits have been invested on government securities and share debenture of other companies and bank. It can be computed by dividing total deposit. It can be computed as

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

Where, the total investment includes investment on government securities, investment on debenture, share in other investment and other companies.

#### **C) Loan and Advances to Total Working Fund**

Loan and advances are the majors component of the total working fund, which indicate the ability of the banks and finance companies in term of high earning profit from loan and advance. It can be computed as

$$\text{Loan and Advances to Total Working Fund} = \frac{\text{Loan \& Advance}}{\text{Total Working fund}}$$

Where , total working fund includes all assets of on balance sheet items, i.e. current asset, net fixed assets, loan for development banks and other miscellaneous assets but excludes of balance sheet item i.e. letter of credit (LC), letter of guarantee etc.

#### **D) Investment on Government Securities to Total Working Fund Ratio:**

This ratio shows the banks investment on government securities in comparison to the total assets. This ratio is calculated by dividing investment on government securities by total working fund. This can be mentioned as:

$$\text{Investment on Gov. Securities to Total Working Fund Ratio} = \frac{\text{Investment on government securities}}{\text{Total working fund}}$$

#### **E) Investment on share and debenture to total working fund ratio:**

This ratio indicates the bank investment in share and debenture of the subsidiary and other companies. This can be computed by dividing investment on share and debenture by total working fund. It can be computed as.

$$\text{Investment on share and debenture to total working fund ratio} = \frac{\text{Investment on share and debenture}}{\text{Total working fund}}$$

#### **E) Loan Loss Ratio**

The loan loss ratio indicates the adequacy of allowance for loan and trend in the collection of loan and the performance in loan portfolio. It is obtained by the ratio of loan loss provision to the total loan. This ratio is defined as the measure of prospective losses that are envisioned by the bank management in relation to the banks overall loan and investment. The negative sign indicates that an increase in the value of the variables is indicative of weakness of the bank.

$$\text{Loan Loss Ratio} = \frac{\text{Total loss provision}}{\text{Total loan and advances}}$$

### **3.5.1.3 PROFITABILITY RATIOS**

The firm should earn profits to survive and grow over the long period of time but not at the cost of employees, customers and society. Obviously, if the firm is not able to make reasonable profits from its operation, it will not run for long time. Profitability ratios are used to measure the overall efficiency of the banks in terms of profit and finance position and performance of any institutions. For the better performance generally profitability ratios of the firms should be higher. The following ratios can be taken under this heading.

#### **A) Return on Loan and Advances Ratio**

The ratio indicates how efficiently the bank has utilized its resources to earn good return from provided loan and advances. It is calculated by dividing net profit (loss) by total loan and advance. It can be computed as,

$$\text{Return on Loan and Advances Ratio} = \frac{\text{Net Profit (Loss)}}{\text{Loan and Advances}}$$



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

This ratio shows the overall profitability of working fund. It is also known as return on assets (ROA). Higher ratio indicates the better performance of financial institution in the form of interest earning on its working fund. This ratio is calculated by dividing net profit (loss) by total working fund. Mathematically it can be stated as.

$$\text{Return on Total Working Fund Ratio} = \frac{\text{Net profit (Loss)}}{\text{Total Working Fund}}$$

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

This ratio shows the percentage of interest earned on total working fund. Higher ratio implies better performance of the bank its terms of interest earning on its total working fund. This ratio can calculate by dividing total interest earned by total working fund. This is expressed as

$$\text{Total Interest Earned to Total Working Fund Ratio} = \frac{\text{Total interest earned}}{\text{Total working fund}}$$

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

This ratio indicates the percentage of interest paid on liability with respect to total working fund. This ratio calculated by dividing total interest paid by total working fund. Mathematically it can be stated as.

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

### **E) Total Interest Earned to Total Operating Income Ratio**

This ratio is calculated to find out the position of interest income in total operating income of the bank. It indicates how efficient the bank mobilization of its resources (fund) in interest bearing assets i.e. loan and advances investment etc. this ratio is calculated by dividing interest earned by total operating income. This ratio can be expressed as

$$\text{Total Interest Earned to Total Operating Income Ratio} = \frac{\text{Total Interest Earned}}{\text{Total operating income}}$$

#### **3.5.1.4 Risk Ratio**

Risk is uncertainty, which lies in the Bank transaction of investment management. It increases effectiveness and profitability of the banks. This ratio indicates the amount of

risk associated with the various harming operations, which unlimitedly influence the bank investment policy. Generally the following ratio is used in this risk ratio.

#### **A) Liquidity Risk Ratio**

This 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 deposits demand for cash. Higher ratio indicates lower liquidity risk. This ratio is computed by dividing total cash and bank balance by total deposits. Mathematically it can be stated as

$$\text{Liquidity Risk Ratio} = \frac{\text{Total Cash and Bank Balance}}{\text{Total Deposit}}$$

#### **B) Credit Risk Ratio**

As the fund used in loans and advances increase the credit also increased and so does the returns. In Nepalese context, classification of high quality loans and medium quality loans are not made. According to definition, High quality loan means the loan that gives higher return. But now, Nepalese commercial banks are asked to classify their loans on the basis of direction issued by the central bank as satisfactory, not satisfactory or poor loans. But data based on types of classification is not available so far. The ratio can be computed as.

$$\text{Credit risk ratio} = \frac{\text{Total Loan \& Advance}}{\text{Total Loan}}$$

### **3.5.1.5 GROWTH RATIOS**

The emergence of foreign banks started a few years ago. Although these institutions were originally established to serve entirely trade and commercial sector of the economy, the government now wishes to involve them also in the areas where local banks have been involved. These foreign banks have ever since opened a few branches in some cities and area also planning to open branches in other parts of the country as well. The following growth ratios are calculated to examine and analyzed the expansion and growth of the banks business.

- a. Growth ratio of total deposits.
- b. Growth ratio of loan and advances.
- c. Growth ratio of total investment.
- d. Growth ratio of net profit.

### **3.5.2 STATISTICAL TOOLS**

Statistical tools are also very important tools for the analysis. Some important statistical tools are used in this study to achieve the objectives. Statistical tools such as standard

deviation, coefficient of variation, least square linear trend and hypothesis testing have been used. They are as follows.

### A. Arithmetic Mean

An average is a single value selected from a group of values to represent them in same way, which is supposed to stand for a whole group of which it is a part, as typical of all the values in the group. Out of various measures of statistical tools, arithmetic mean is one if the useful tools applicable here. It is easy to calculate and understand and based on all observations. Arithmetic mean of a given set of observations is their sum divided by the number of observations. In general, if  $X_1, X_2, \dots, X_n$  are the given observations. Then arithmetic mean usually denoted by  $\bar{X}$  is given by,

$$\bar{X} = \frac{\sum X_n}{n}$$

### Standard Deviation (u):

Karl Person introduces the standard deviation concept in 1923. It is most important and widely used measures of studying dispersion .The measurement of the scatter ness of the data from mass of figures in a series about an average in known as dispersion. The standard deviation measurer the absolute dispersion. The greater the amount of dispersion greater the standard deviation. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series & vice – versa. In this study, Standard deviation is calculated for dividend per share, earning per share, net profit after tax, market price per share & net worth.

$$\text{Standard deviation ( )} = \sqrt{\frac{\sum x^2}{N} - \left(\frac{\sum x}{N}\right)^2}$$

### Correlation of Coefficient Analysis

The correlation analyses are the statistical tool used to describe the degree to which one variable is linearly related to another. This coefficient of correlation measure the direction of relationship between two sets of figure. Correlation can either be negative or positive. If both variable changes the same direction than the correlation is said to be positive but when variation in two variables takes place in opposite direction, the correlation is said to be negative.

This analysis identifies and interprets the relationship between two or more variables. In case of highly correlation variable the effect on one variable may have effects on other correlated variable. Under this topic, Karl Person’s coefficient of correlation has been use to find out the relationship between the following variables:

- i. Correlation of coefficient between deposits and loan & advances.
- ii. Correlation of coefficient between total deposit and total investments.
- iii. Correlation of coefficient between deposit and net profit.
- iv. Correlation of coefficient between deposit and interest earned.

This tool analyses the relationship between these variables and help the bank to make appropriate policy regarding deposits collection, fund utilization and maximization of profit. The correlation coefficient is calculated as follows:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,  $r$  = Karl Pearson's coefficient of correlation

$$x = (X - \bar{X})$$

$$y = (Y - \bar{Y})$$

The result of coefficient of correlation is always between +1 or -1 when  $r = +1$ , it means there is significant relationship between two variables and when  $r = -1$ , it means there is no significant relationship between two variables.

### **Coefficient of Multiple Determinations ( $r^2$ )**

Coefficient of determination is measure of the degree of linear association or correlation between two variables. One of which happen to be independent & other being dependent variable. It measures the percentage total variation in dependent variable explained by independent variables. The coefficient of determination, Value can have ranging from zero to one. If the regression line is a perfect, estimator,  $r^2$  will be equal to +1. Thus the value of  $r^2$  is zero, when there is no correlation. In the study coefficient of determination is calculated to know the degree of correlation of dividend per share with earning per share, net profit, Market price per share & net worm.

$$r^2 = \frac{[n \sum xy - (\sum x)(\sum y)]^2}{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}$$

### **Trend Analysis:**

One of the most popular and mathematical methods of determining the trends of time series is the least square method. By using this method, we can estimate the future trend values of different variables. These analyses interpret or analyze the trend of deposits, loan and advances, investment and net profit of Standard Chartered Bank Ltd., Nabil Bank Ltd. and Nepal Industrial & Commercial Bank Ltd. from 2001/02 to 2005/06. And it helps to make forecasting for next five years up to 2010/11.

The following trend analysis has been used in this study, they are as follows:

- i. Trend analysis of total deposits.
- ii. Trend analysis of loan and advances.
- iii. Trend analysis of total investment.
- iv. Trend analysis of net profit.

### Test of hypothesis:

A hypothesis is a conjectural statement of relationship between two or more variables. The test of hypothesis disclose the fact whether the difference between the computed statistic and hypothetical parameter is significant or not. Thus the hypothesis statement should be able to show the relationship between variable and they should at the same time carry clear implication for testing the stated relation. The objective of this test is to test the significance regarding the parameter of population on the basis of sample drawn from the population. This test has been conducted on the various ratio related with the banking business.

- There is significant difference on loan and advances to total deposit ratio between SCBNL, NABIL and NIC Bank.
- There is significant difference on total investment to total deposits ratio between SCBNL, NABIL and NIC Bank.
- There is significant difference on return on loan and advance ratio between SCBNL, NABIL and NIC Bank.
- There is significant difference in investment on government securities to current assets ratio between SCBNL, NABIL and NIC Bank.

Test of significance for difference between two independent means can be calculated as follows.

$$r = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

$$\text{Where, } S^2 = \frac{1}{n_1 + n_2 - 2} \left[ \sum (x_1 - \bar{X}_1)^2 + \sum (x_2 - \bar{X}_2)^2 \right]$$

# **CHAPTER – FOUR**

## **DATA PRESENTATION AND ANALYSIS**

This is an analytical chapter, which primarily deals with the presentation and analyzation of data collected from various sources with the view to measure the various dimensions of the problem of the study that particularly affects the investment management and fund mobilization. There are many kinds of financial ratios are calculated and analyzed which are very important to evaluate the fund mobilization of commercial banks.

### **4.1 FINANCIAL TOOLS**

Financial analysis involves identifying the financial strength and weakness of the organization by presenting the relationship between items of balance sheet. Ratio analysis has been mainly used for the analysis of data to get the objectives. There are various financial ratios related to investment management and fund mobilization, have been presented and discussed in order to evaluate and analyze the performance of three commercial banks. The ratios are designed and calculated to highlight the relationship between financial items and figures. These calculations are based on financial statements of concerned commerce banks.

#### **4.1.1 Liquidity Ratios**

Liquidity ratio measures the firm's availability of funds, the solvency of the firm and the firm's ability to pay its obligations when balance is due. In fact, its measure the liquidity position of the firm. Similarly, it also measures the speed with which a bank's assets can be converted into cash to meet the deposit withdrawal and other current obligation. Thus, a bank must maintain a satisfactory liquidity position to satisfy the credit needs of the community, to meet demands for deposits withdrawal, pay maturity obligation and convert non-cash assets into cash to satisfy immediate needs without loss of the bank and consequent impact on the long run profitability of the bank.

##### **4.1.1.1 Cash and bank balance to total deposit ratio:**

This ratio measure the availability of banks highly liquid or immediate funds to meet its unanticipated calls on all type of deposits, money at calls and short term notice and other deposits. It can be calculated by dividing the amount of cash and balance by the total deposits and vice-versa .following table shows the cash and banks balance to total deposit ratio of SCBNL, NABIL and NIC bank

The cash and bank balance to total deposits ratio of NABIL, SCBNL and HBL are given below.

**Table No. 2**  
**Cash and Bank Balance to Total Deposit Ratio (%)**

<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC Bank</b>
2002/03	8.51	8.06	10.12
2003/04	6.87	9.56	6.20
2004/05	3.83	5.74	16.11
2005/06	3.26	5.53	8.55
2006/07	5.99	8.20	5.96
<b>Mean</b>	5.69	7.42	9.39
<b>S. D.</b>	1.94	1.55	3.70
<b>C.V.</b>	34.06	20.88	39.38

*Source: Appendix A*

The above table shows that the cash and bank balance to total deposits of NABIL, SCBNL and NIC Bank are in fluctuating trend. NABIL has the highest ratio of 8.51% in the F/Y 2002/03 and lowest ratio of 3.26% in the F/Y 2005/06. SCBNL has the highest of 9.56% in F/Y 2003/04 and the lowest of 5.53% in F/Y 2005/06. Similarly, NIC Bank has recorded highest ratio of 16.11% and lowest ratio of 5.96% in the F/Y 2004/05 and 2006/07 respectively. The average mean ratio of SCBNL is slightly higher than NABIL and lower than NIC Bank. The mean ratio of NABIL is lowest. This shows SCBNL readiness to meet customer requirement better than NABIL and worst than NIC Bank. In comparison of C.V, NIC Bank and NABIL seems to be less consistency because NIC Bank and NABIL has high C.V.

Although the above ratio implies a slightly better liquidity position of SCBNL, a high ratio of non-earning cash and bank balance indicates the banks unavailability to invest its fund in income generation areas that might have helped it to improve its profitability.

In conclusion we can say that NABIL is not good position in maintaining cash and bank balance. Though, it has invested more funds in other sector which is quite good to earn high income.

#### **4.1.1.2 Cash and Bank Balance to Current Assets Ratio**

This ratio examines the banks liquidity capacity on the basis if its most liquid assets i.e. cash and bank balance. This ratio reaches the ability of the banks to make the payment of its customer deposits. High ratio indicates the sound ability to meet their daily cash requirement of their customer deposit and vice versa. But higher ratio is not desirable as the bank has to pay interest on deposits and some earning may be lost. Similarly, lower ratio is also not preferable as the bank may fail to make the payment against the cheques presented by the customers. This ratio is calculated by dividing cash and bank balance by current assets. The cash and bank balance to current assets ratio are presented in the following table.

**Table No. 3**  
**Cash and Bank Balance to Current Assets Ratio (%)**

<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC Bank</b>
2002/03	6.88	7.17	8.14
2003/04	5.80	8.51	5.96
2004/05	3.29	5.03	14.55
2005/06	2.93	5.09	8.20
2006/07	5.23	7.23	5.22
<b>Mean</b>	4.826	6.612	8.414
<b>S. D.</b>	1.5	1.35	3.28
<b>C.V.</b>	31.1	20.42	39.00

*Source: Appendix B*

The above table shows that the cash and bank balance to current assets all three banks NABIL, SCBNL and NIC Bank are in fluctuating trend. NABIL has maintained the highest ratio of 6.88% in the F/Y 2002/03, and the lowest ratio of 2.93% in the F/Y 2005/06. Similarly, SCBNL has recorded the highest ratio of 8.51% in F/Y 2003/04 anticipating higher cash requirement depositors in this F/Y. It has recorded the lowest ratio of 5.03% in F/Y 2004/05. NIC Bank has maintained the highest ratio of 14.55% and the lowest ratio of 5.22% in the F/Y 2004/05 and 2006/07 respectively.

The averages mean ratio of NABIL is lower than SCBNL and NIC Bank. The C.V. of SCBNL is greater than the NABIL Bank but smaller than NIC Bank. It shows SCBNL ratio is less consistency than the of NABIL but higher consistency than the NIC Bank. All the banks have fared well in meeting their depositor's daily cash requirement and investing the surplus fund in other productive areas.

#### **4.1.1.3 Investment on government securities to current assets ratio:**

This ratio examines that portion of commercial bank is interested to invest their collected fund on government securities. More or less, each commercial bank is invest their collected fund on different securities issued by government securities are not as liquid as each and bank balance of a commercial bank, they can easily be sold in the market or they can be converted into cash in other ways. This ratio shows that out of total current assets, how much percentage of it has been occupied by the investment on Gov. Securities. The ratio is computed by dividing investment on government securities by total current assets.



**Table No. 4**  
**Investment on Government Securities to Current Assets Ratio (%)**

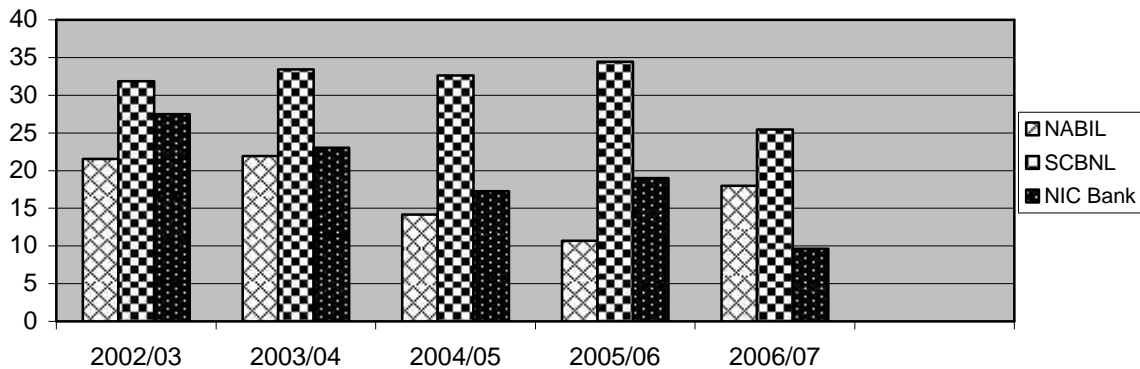
<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC Bank</b>
2002/03	21.56	31.86	27.50
2003/04	21.94	33.43	23.04
2004/05	14.17	32.61	17.28
2005/06	10.71	34.43	18.99
2006/07	17.97	25.44	9.62
<b>Mean</b>	17.27	31.55	19.286
<b>S. D.</b>	4.31	3.17	5.99
<b>C.V.</b>	25.01	10.06	31.03

*Source: Appendix C*

The above table shows that the investment on Government securities to current assets of NABIL, SCBNL and NIC Bank have in fluctuating trend. From the above five years picture, it is evident that the average mean ratio of SCBNL is higher than that of other two sample banks. This shows that the greater portion of current assets of SCBNL comprises on government securities. Also, SCBNL's investments on government securities to current assets have an increasing trend over the years. From the point of view of C.V. SCBNL's ratios have been more consistency and NIC Bank has less consistency and uniformity. From the above analysis it is clear that NABIL and NIC Bank has made lesser investment in government securities as it has injected more funds on other productive sectors. The reason behind SCBNL higher ratio could be attributed to more deposit collection and unavailability of other secured and profitable investment sectors.

In conclusion we can say that NABIL's liquidity position from investment on government securities is better than NIC Bank and poorer than SCBNL. Investment on government securities of NABIL, SCBNL and NIC Bank is graphically shown as follows:

**Figure No. 1**  
**Investment on Government Securities to Current Assets Ratio**



#### 4.1.1.4 Loan and Advances to Current Assets Ratio

Loan and advances current assets of commercial banks, which includes loan and advances, cash, credit, loan and foreign bills purchased, overdraft and discount. A commercial bank should not keep its all connected funds as cash and bank balanced but they should be invested as loan and advances to the customer, because they should earn high profit by mobilizing and investing fund for long life banking. They must pay interest on these deposit funds even they don't generate loan and advances may be harmful because they need sufficient liquidity. This can be competed by dividing loan and advanced to current assets.. The ratios are presented in the following table.

**Table No. 5**  
**Loan and Advances to Total Current Assets Ratio (%)**

<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC BANK</b>
2002/03	48.75	28.44	61.89
2003/04	51.06	28.15	66.42
2004/05	64.29	38.13	68.17
2005/06	60.09	35.63	72.82
2006/07	58.11	37.58	77.85
<b>Mean</b>	56.46	33.59	69.43
<b>S. D.</b>	5.76	4.40	5.47
<b>C.V.</b>	10.19	13.10	7.88

*Source: Appendix D*

The above table clearly shows favorable increasing trend of NABIL. The average mean ratio of NABIL is highest than SCBNL but Lower than NIC Bank. SCBNL has in fluctuating trend. NIC Bank has a fluctuating trend. NABIL has the highest ratio of 64.29% in the F/Y 2004/05 and the lowest ratio of 48.75% in F/Y 2002//03. Similarly SCBNL has experienced the highest ratio o 37.58% in F/Y 2006/07 and the lowest of 28.15% in the F/Y 2003/2004. Similarly, NIC Bank has maintained the highest ratio of 77.85% and the lowest of 61.89% in the F/Y 2006/07 and 2002/03 respectively. In the point of view C.V, NIC Bank seems to be more consistency and NABIL seems to be less consistency.

The above analysis reveals that NABIL has been more successful in identifying profitable investment sectors and increasing its earning. The same does not hold true for SCBNL, whose efforts seems to be more focused on investing in risk free assets, rather than increasing its loan and advances volume and subsequent earnings from it. NIC Bank also has made successful loan and advances.

#### 4.1.2 Assets Management Ratios (Activity Ratio)

Assets management activity or turned ratios are used to measure how effectively the firm in managing its assets. These ratios are designed to answer the question such as does the total amount of each type of asset as reported on the balance sheet seem reasonable, too high or too low in view of current and projected operating level ?

These are used measure the banks ability to utilize their available limited resources. Under Assets Management ratio following are used:

#### 4.1.2.1 Loan and Advances to Total Deposit Ratio

This ratio shows the relationship between loans and advances which are granted and the total deposit collected by the banks. This ratio actually measures the extent to which the banks are successful to mobilize their total deposits on loan and advances. This ratio is calculated by dividing loan and advances by total deposits.

**Table No. 6**  
**Loan and Advances to Total Deposit Ratio (%)**

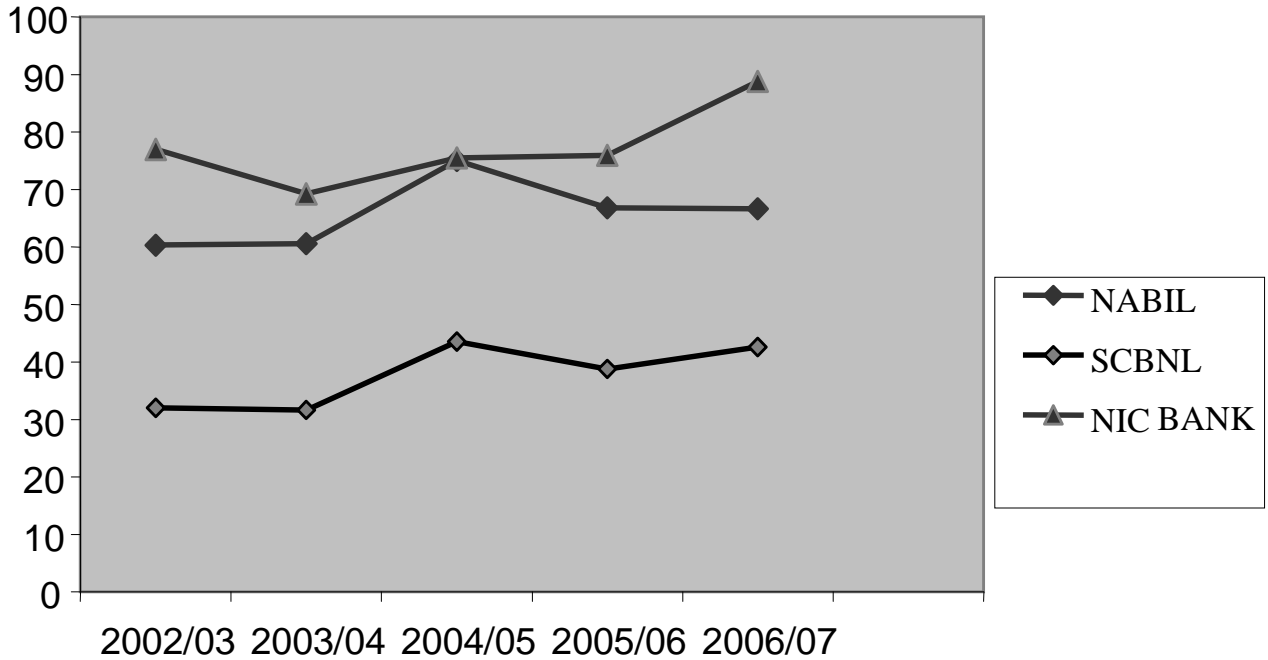
<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC BANK</b>
2002/03	60.34	32.00	76.95
2003/04	60.55	31.63	69.20
2004/05	75.05	43.55	75.49
2005/06	66.79	38.75	75.93
2006/07	66.60	42.62	88.81
<b>Mean</b>	65.87	37.71	77.28
<b>S. D.</b>	5.37	5.08	6.38
<b>C.V.</b>	8.16	13.46	8.25

*Source: Appendix E*

The above table shows that loan and advances to total deposit of all three banks have a fluctuating trend. NIC Bank has the highest ratio of 88.81% in the F/Y 2006/07 and the lowest ratio of 69.20 % in the F/Y 2003/04. Accordingly, SCBNL has the highest of 43.55% and the lowest of 31.63%. NIC Bank has the highest ratio of 88.81% in the F/Y 2006/07 and the lowest ratio of 69.20% in the F/Y 2003/04. The mean ratio of NABIL is higher than SCBNL and NIC Bank. NABIL seems to be strong in terms of mobilizing on its total deposits as loan and advances when compared to SCBNL and NIC Bank.

In terms of C.V. SCBNL seems to be less consistency but NABIL Bank has the lowest ratio of all so it seems to be more consistency. It can be concluded that, SCBNL has been more successful in mobilizing its total deposit as loan and advances. On the contrary, a high ratio should not be perceived as a better state of affairs from the point of view of liquidity, as loan and advances are not as liquid as cash and bank balance and other investment. In portfolio management of bank various factors such as availability of funds, liquidity requirements, central bank norms etc. needs to be taken into account.

**Figure No. 2**  
**Loan and Advances to Total Deposit Ratio**



#### 4.1.2.2 Total Investment to Total Deposit Ratio:

A commercial bank may mobilize its bank deposit by investing its fund in different securities issued by government and other financial and non financial companies. New efforts have been made to measure the extent to which the bank are successful in mobilizing the total deposit on investment.

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

**Table No. 7**  
**Total Investment to Total Deposit Ratio (%)**

F/Y	NABIL	SCBNL	NIC Bank
2002/03	44.85	55.22	36.68
2003/04	41.33	53.68	34.21
2004/05	29.25	50.18	25.20
2005/06	31.94	55.71	28.29
2006/07	38.32	54.99	15.89
<b>Mean</b>	37.14	53.96	28.05
<b>S.D.</b>	5.79	2.00	7.32
<b>C.V.</b>	15.59	3.71	26.09

*Source: Appendix F*

The above table shows a fluctuating trend in total investment to total deposit of NABIL and NIC Bank. But SCBNL has decreasing trend up to 2004/05 then fluctuating trend. NABIL has the highest ratio of 44.85% in F/Y 2002/03 and the lowest ratio of 29.25% in 2004/05. SCBNL, on the other hand has the highest ratio of 55.71% in F/Y 2005/06 and the lowest ratio of 50.18% in F/Y 2004/05 respectively. Similarly, NIC Bank has the highest ratio of 36.68 % in the F/Y 2002/03 and the lowest ratio of 15.89% in the F/Y 2006/07. SCBNL has higher mean ratio than NABIL and NIC Bank. From mean ratio perspective, SCBNL has been more successful in mobilization of deposit on various forms of investment. From above description of C.V, SCBNL is being better in terms of consistency than NABIL and NIC Bank. NABIL is in moderate position. The ratio of C.V. is higher than SCBNL and lower than NIC Bank.

In conclusion, we can say that SCBNL has been more successful in mobilizing its resources on various forms of investment.

#### **4.1.2.3 Loan and Advances to Total Working Fund Ratio**

The main purpose of this ratio is to examine how broad area the bank has covered to provide its service efficiently. Loan and advances are the main components of the working fund which reflects the ability of banks and finance companies in term of high earning profit from loan and advances. Higher ratio indicates better mobilization of fund as loan and advances and vice versa. This ratio can be calculated by dividing loan and advances by total working fund. The following table exhibits the ratio of loan and advances to total working fund.

**Table No. 8**  
**Loan and Advances to Total Working Fund Ratio (%)**

<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC Bank</b>
2002/03	48.67	28.17	59.93
2003/04	49.98	27.98	60.05
2004/05	62.39	37.98	62.76
2005/06	57.87	34.68	64.10
2006/07	57.04	36.73	76.56
<b>Mean</b>	55.19	33.108	64.68
<b>S.D.</b>	5.140	4.242	6.150
<b>C.V.</b>	9.313	12.815	9.509

*Source: Appendix G*

From the above table, the loan and advances to total working fund ratio of NABIL is increasing trend up to 2004/05 then decreasing trend. SCBNL have in fluctuating trend. and the ratio of NIC Bank is in fluctuating trend. NABIL has maintained the highest ratio of 62.39% in F/Y 2004/05 and the lowest ratio of 48.67% in F/Y 2002/03. Similarly, SCBNL has maintained the high ratio of 37.19% in the F/Y 2004/05 and the lowest ratio of 27.98 % in F/Y 2003/04. NIC Bank has the

highest ratio of 76.56 % and the lowest ratio of 59.93% in the F/Y 2006/07 and 2002/03 respectively.

If mean ratio is considered, NIC Bank has the highest ratio of loan and advances to total working fund than both banks. It reveals the strength of NIC Bank in mobilizing its total assets as loan and advances. According to view point of C.V, SCBNL is 12.815% which is lower than NABIL and NIC Bank. It proves that its ratios are more stable and consistent than NABIL and less stable and consistent than NIC Bank.

From above analysis, it can conclude that NIC Bank is in strong position in term of mobilizing the loans and advances with respect to total working fund in comparing to other banks.

#### **4.1.2.4 Investment in Government Securities to Total Working Fund Ratio**

Government securities are a safe medium of investment though it is not liquid as cash and bank balance. Therefore, a bank never used as its resources as loan and advances. It utilizes its funds by purchasing government securities, this ratio is very helpful to measure the extent on which the banks are successful in mobilizing their total working fund on different types of government securities to maximize the income. High ratio shows better mobilization of fund as investment on government securities and vice versa. This ratio is calculated by dividing investment in government securities to total working fund. The following table shows that ratios of concerned banks.

**Table No. 9**  
**Investment in Government Securities to Total Working Fund Ratio (%)**

<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC Bank</b>
2002/03	21.53	31.56	26.63
2003/04	21.47	33.22	20.83
2004/05	13.75	32.49	15.91
2005/06	17.36	33.51	16.72
2006/07	15.21	24.86	9.45
<b>Mean</b>	17.86	31.13	17.91
<b>S.D.</b>	3.18	3.21	5.68
<b>C.V.</b>	17.82	10.29	31.74

*Source: Appendix H*

The above table reveals that all three banks are in fluctuating trend. NABIL had the highest ratio 21.53 % in F/Y 2002/03 and the lowest ratio of 13.75% in F/Y 2004/05. Similarly, SCBNL has the highest ratio of 33.22% in F/Y 2003/04 and the lowest ratio of 24.86% in 2006/07. Similarly, NIC Bank has high ratio of 26.63 % and lowest ratio of 9.45 % in the year 2002/03 and 2006/07 respectively. If mean ratio is considered, SCBNL seems to be stronger than NABIL and NIC Bank in mobilizing of total assets as investment in Government securities. According to the view point of C.V, SCBNL

seems to be more consistency and NIC Bank seems to be less consistency because SCBNL has the lowest C.V. and NIC Bank has the highest C.V.

From the above analysis, we can conclude that SCBNL has invested large portion of working fund in government securities than NABIL and NIC Bank. The ratios also indicate that the banks have no certain investment policy with regards to what percentage of working fund to be invested in purchasing government securities. In this case NABIL is in moderate position.

#### 4.1.2.5 Investment on shares and debentures to total working fund ratio:

Commercial banks are investing into shares and debentures of other companies. Through the investment on government securities is relatively suffer than investment in debentures and shares of other bank. This ratio reflects to what extent the bank has successfully invested its asset on other companies or bank's debentures and shares. It can be computed by dividing investment on shares and debentures by total working fund.. These are as follows.

**Table No. 10**  
**Investment in Shares and Debentures to Total Working Fund Ratio (%)**

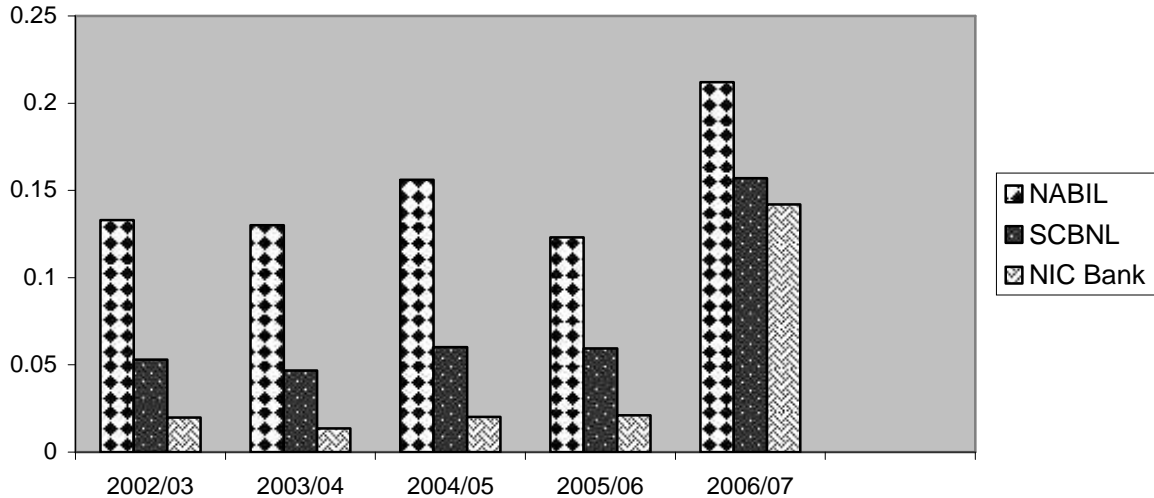
<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC Bank</b>
2002/03	0.133	0.0530	0.0198
2003/04	0.130	0.0468	0.0135
2004/05	0.156	0.0602	0.0201
2005/06	0.123	0.0595	0.0211
2006/07	0.212	0.157	0.142
<b>Mean</b>	0.15	0.075	0.043
<b>S.D.</b>	3.25	0.041	0.049
<b>C.V.</b>	21.58	54.63	114.14

*Source: Appendix I*

The above table clearly reveals that all three banks have invested miniscule percentage of total working fund in purchasing share and debentures of other companies. In either case the ratio percentage is less than 0.25%. In average, NABIL has invested slightly higher amount of total working fund on shares and debenture than other banks. The mean ratio is also higher. It indicates that NABIL has been more successful in mobilizing its fund as investment in shares and debenture. The above table shows NABIL has an fluctuation trend in investment on shares and debentures; where as SCBNL and NIC Bank has a fluctuating trend through out the period of study.

From the above analysis, it can be concluded that the ratios of NABIL with other two banks as shown in the table, it has maintained the highest ratio. It means it has comparatively higher percentage of its total asset into other company's shares and debentures. Investment on shares and debentures of NABIL, SCBNL and NIC Bank is graphically shown as follows:

**Figure No. 3**  
**Investment in Shares and Debentures to Total Working Fund Ratio**



#### 4.1.2.6 Returns on Loan and Advances Ratio

Return on loan and advances ratio measures the earning capacity of commercial banks its mobilized fund - based loan and advances. The high ratio indicates the high return and vice versa. This ratio is calculated by dividing net profit by loan and advances. The following table shows the return on loan and advances ratio of NABIL, SCBNL and HBL during the study period.

**Table No. 11**  
**Return on Loan and Advances Ratio (%)**

F/Y	NABIL	SCBNL	NIC Bank
2002/03	5.13	8.45	1.07
2003/04	5.33	8.02	1.92
2004/05	4.74	6.40	2.41
2005/06	4.92	7.37	1.45
2006/07	4.34	6.59	1.77
<b>Mean</b>	4.89	7.34	1.72
<b>S.D.</b>	0.39	0.79	0.45
<b>C.V.</b>	7.97	10.75	26.12

Source: Appendix-J

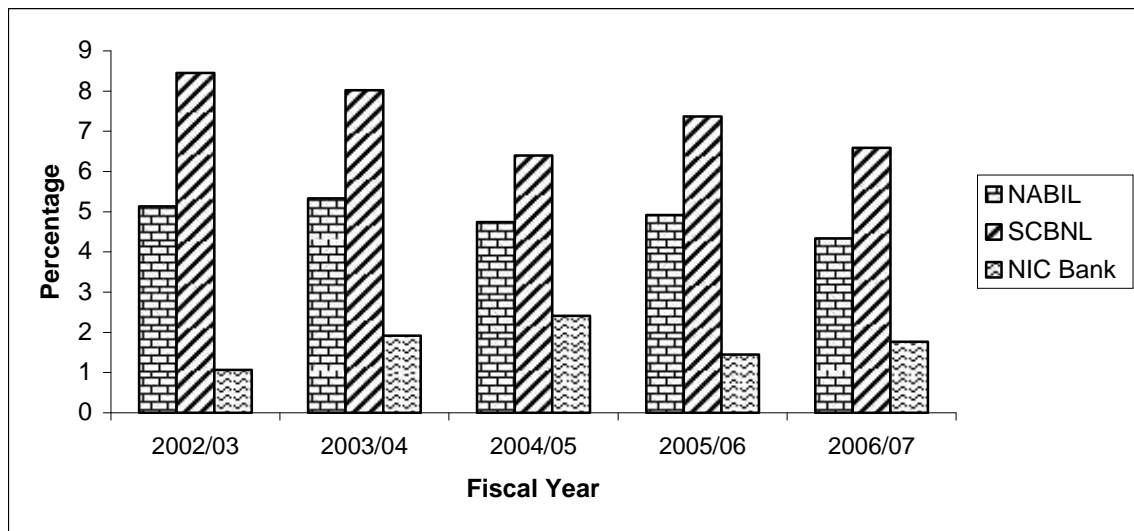
The above table shows that the ratio of return on loan and advances of SCBNL is better than NABIL and NIC Bank in the all fiscal years; through they have a fluctuating trend. NABIL has recorded the highest ratio of 5.33% in F/Y 2003/04, and the lowest ratio of 4.34% in F/Y 2006/07. SCBNL has recorded the highest of 8.45% in F/Y 2002/03 and the lowest of 6.40% in F/Y 2004/05. Similarly, NIC Bank has the



highest ratio of 2.41% and the lowest ratio of 1.07 % in the F/Y 2004/05 and 2002/03 respectively.

The comparison of mean ratio reveals that SCBNL has higher ratio than other banks. This shows that SCBNL has been more successful in maintaining its higher return on loan and advances. If C.V. is considered, NABIL is lower than other two sample banks. It proves that NABIL is less consistency than SCBNL and NIC Bank. Thus it can be concluded that NABIL has to earn higher return on loan and advances then SCBNL. NABIL's ratio on return on loan and advances is in moderate position among three banks. Returns on loan and advances ratio of NABIL, SCBNL and NIC Bank is graphically shown as follows:

**Figure No. 4**  
**Returns on Loan and Advances Ratio**



#### 4.1.2.7 Return on Total Working Fund Ratio

The Return on asset ratio, which is often called firms return on total assets. It measures the overall effectiveness of management in generating profit with its available assets. It measures the rate of return earned by the firm as a whole for all its investors. The higher the firms return on assets the better it is doing in operation and vice versa. This ratio is calculated by dividing net profit by total assets.

**Table No. 12**  
**Return on Total Working Fund Ratio (%)**

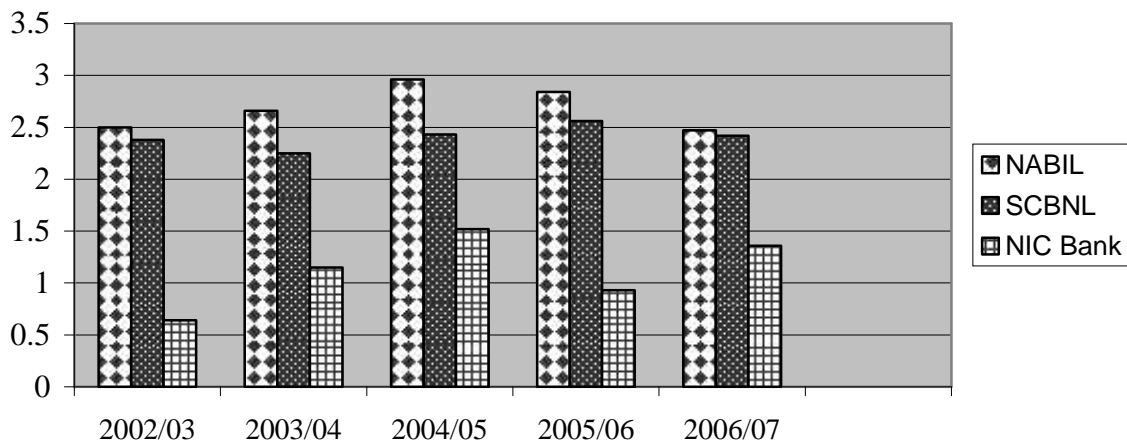
<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC Bank</b>
2002/03	2.50	2.38	0.64
2003/04	2.66	2.25	1.15
2004/05	2.96	2.43	1.52
2005/06	2.84	2.56	0.93
2006/07	2.47	2.42	1.36
<b>Mean</b>	2.68	2.42	1.12
<b>S.D.</b>	0.19	0.1	0.31
<b>C.V.</b>	7.07	4.2	27.81

*Source: Appendix K*

Form the above listed comparative table, it is found that the return on total working fund is in fluctuating trend in case of all three banks. NABIL has the highest ratio of 2.96% in the F/Y 2004/05 and the lowest ratio of 2.47% in the F/Y 2006/07. SCBNL has the highest ratio of 2.56% and the lowest ratio of 2.25% in the F/Y 2005/06 and 2003/04 respectively. Similarly, NIC Bank has recorded the highest ratio of 1.52% and the lowest ratio of 0.64% in the F/Y 2004/2005 and 2002/2003 respectively.

Among three banks, NABIL has slightly higher mean ratio than SCBINL and NIC Bank. It reveals that NABIL has been able to earn high profit on total working fund in comparison with other two banks. One point worth making here is that. NIC Bank has not managed its assets well because the return on total working fund is lower than other banks. From the viewpoint of C.V., SCBNL are more consistency than NABIL and NIC Bank. NABIL is also more consistency than NIC Bank. Returns on Total working fund ratio of NABIL, SCBNL and NIC Bank is graphically shown as follows:

**Figure No. 5**  
**Return on Total Working Fund Ratio**



### 4.3 Analysis of Risk Ratios

The possibilities of risk make banks investment a challenging task. Bank has to take risk to get return on its investment. The risk taken is compensated by the increase in profit. So that the banks opting for high profit have to accept the risk and manage of the level of risk that one has to bear while investing its funds. The following ratios are calculated to measure the risk.

#### 4.3.1 Liquidity Risk Ratio

The ratio of cash and bank balance are the most liquid assets and they are considered as banks liquidity sources and deposits as the liquidity needs. A higher liquidity indicates less risk and less profitable banks and vice versa. Liquidity risk is calculated by dividing cash and bank balance by total deposit. The following table shows the liquidity risk ratio of concerned banks.

**Table No. 13**  
**Liquidity Risk Ratio (%)**

<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC Bank</b>
2002/03	8.51	8.06	10.12
2003/04	6.87	9.56	6.20
2004/05	3.83	5.74	16.11
2005/06	3.26	5.53	8.55
2006/07	5.99	8.20	5.96
<b>Mean</b>	5.69	7.41	9.39
<b>S. D.</b>	0.19	1.54	0.369
<b>C.V.</b>	34.18	20.87	39.31

*Source: Appendix L*

The above table shows that the liquidity risk ratios of all the banks have fluctuating trend. NABIL has recorded the highest ratio of 8.51% in the fiscal year 2002/03 and the lowest ratio of 3.26 % in the fiscal year 2005/06. SCBNL has recorded the highest ratio of 9.56 % and the lowest ratio of 5.53% in the F/Y 2003/04 and 2005/06 respectively. Similarly, NIC Bank has recorded the highest ratio of 16.11 % in the fiscal year 2004/05 and the lowest ratio of 5.96% in the fiscal year 2006/07.

When mean ratios are taken it is found that NABIL liquidity risk is lower than that of SCBNL and NIC Bank. NABIL has more cash & bank balance to meet its current obligations. On the other hand, too much idle cash might have an adverse impact on profitability. A trade off between liquidity and profitability must be maintained at all times. In comparison of C.V. of the banks NIC Bank seems to be more stable and consistent. SCBNL seems to be less consistency. Thus, it can be concluded that NABIL is in moderate position among three banks.

### 4.3.2 Credit Risk Ratio

Bank utilizes its collected funds in providing credit to different sectors. There is risk of default or non-repayment of loan while making investment; bank examines the credit risk involved in the project. Generally credit risk ratio shows the proportion of non-performing assets in the total loan and advances of a bank. But, here, we presented the credit risk as the ratio of total loan and advances to total assets due to lack of relevant data.

**Table No. 14**  
**Credit Risk Ratio (%)**

<b>F/Y</b>	<b>NABIL</b>	<b>SCBNL</b>	<b>NIC Bank</b>
2002/03	48.67	28.17	59.93
2003/04	49.98	27.98	60.05
2004/05	62.39	37.98	62.76
2005/06	57.87	34.68	64.10
2006/07	57.04	36.73	76.56
<b>Mean</b>	55.19	33.11	64.68
<b>S.D.</b>	5.140	4.242	6.150
<b>C.V.</b>	9.313	12.815	9.509

*Source: Appendix M*

The above table shows that ratios of NABIL, SCBNL and NIC Bank have a fluctuating trend. NABIL has witnessed the highest ratio of 62.39% in the F/Y 2004/05 and the lowest ratio of 48.67% in the F/Y 2002/03. Similarly, SCBNL has the highest ratio of 37.98% in F/Y 2004/05 and the lowest ratio of 27.98% in F/Y 2003/04. NIC Bank has a high ratio of 76.56% in the F/Y 2006/07 and low ratio of 59.93 % in the F/Y 2002/03. The mean ratio of NIC Bank is higher than NABIL & SCBNL. This indicates that NIC Bank has more exposure to credit risk than its counterpart.

From the point of view of C.V., NABIL seems to be more consistency and uniformity because it has low C.V. SCBNL seems to be less consistency because it has high C.V.

### 4.1.5 GROWTH RATIOS

The emergence of foreign banks started a few years ago. Although these institutions were originally established to serve entirely trade and commercial sector of the economy, the government now wishes to involve them also in the areas where local banks have been involved. These foreign banks have ever since opened a few branches in some cities and area also planning to open branches in other parts of the country as well. The following growth ratios are calculated to examine and analyzed the expansion and growth of the banks business.

- a. Growth ratio of total deposits.
- b. Growth ratio of loan and advances.
- c. Growth ratio of total investment.
- d. Growth ratio of net profit.

The ratio can be calculated by dividing the last period figure by the first period figure there by referring to the compound interest tables. The high ratio generally indicates better performance of a bank and vice versa.

**Table No. 15**  
**Growth Ratio of Total Deposit (%) (Rs. In million)**

F/Y	NABIL		SCBNL		NIC Bank	
	Total Deposit	%	Total Deposit	%	Total Deposit	%
2002/03	13447.66	0	18755.63	0	3144.32	0
2003/04	14119.03	4.99	21161.44	12.83	5146.48	63.68
2004/05	14587.00	3.31	19335.09	-8.63	6241.38	21.28
2005/06	19347.40	32.63	23061.03	19.27	8765.95	40.45
2006/07	23342.29	20.65	24647.02	6.88	10068.23	14.86
Mean G. R.		12.38		6.07		28.05

After Analyses of table it shows that the deposit trend of NABIL is fluctuating and the deposit trend of SCBNL is in increasing up to the F/Y 2003/04 and then it decreased Again fluctuation Trend. Similarly, the deposit trend of NIC Bank is increasing. The growth ratio of NIC Bank is higher (i.e. 28.05%) than other banks. This indicates that NIC Bank has good performance in collecting more deposits. NABIL has growth ratio of 12.38% where as SCBNL has growth ratio of 5.80%.

Thus, NIC Bank has been successful in increasing its deposit year by year. This is a very good proof of its high quality service, security and credibility in the mind of depositors.

**Table No. 16**  
**Growth Ratio of Total Loan and Advances (Rs. In million)**

F/Y	NABIL		SCBNL		NIC Bank	
	Total Loan & Advance	%	Total Loan & Advance	%	Total Loan & Advance	%
2002/03	8113.68	0	6001.06	0	2419.52	0
2003/04	8548.66	5.36	6693.86	11.54	3561.14	47.18
2004/05	10947.03	28.05	8420.86	25.80	4711.71	32.31
2005/06	12922.54	18.04	8935.42	6.11	6655.96	41.26
2006/07	15545.78	20.30	10502.64	17.54	8941.40	34.34
Mean G. R.		14.35		12.20		31.02

The above table shows that the loan and advances pattern of NABIL, SCBNL & NIC Bank are fluctuation trend. The growth ratio of total loan and advances of NIC Bank is better than other two banks i.e. 31.02%. Among the three banks the growth ratio of SCBNL has the lowest i.e. 12.20% where as NABIL has ratio of 14.35%. Thus, it indicates that the performance of NIC Bank is better in compare to other banks year by year. The performance on loan and advances of SCBNL is poorer than other banks because it has lowest growth ratio.

**Table No. 17**  
**Growth Ratio of Total Investment (Rs. In million)**

F/Y	NABIL		SCBNL		NIC Bank	
	Total Loan & Advance	%	Total Loan & Advance	%	Total Loan & Advance	%
2002/03	6031.18	0	10357.68	0	1153.26	0
2003/04	5835.95	-3.24	11360.33	9.68	1760.72	52.67
2004/05	4267.23	-26.88	9702.5	-14.59	1572.90	-10.67
2005/06	6178.53	44.79	12847.54	32.41	2479.91	57.66
2006/07	8945.31	44.78	13553.23	5.49	1599.48	-35.50
Mean G. R.		11.89		6.60		12.83

From the above table, the investment pattern of all the banks is in fluctuating trend. All three banks investment pattern are decreasing most of F/Y. NIC Bank has the highest growth ratio of 12.83 % but in F/Y 2006/07 growth rate is badly effected. and NABIL has recorded the growth ratio of 11.89% Similarly SCBNL has record the growth ratio of 6.60%. Thus, we can conclude that the NIC Bank is better in investment pattern than other banks. The performance of SCBNL to invest in various sectors is worst in compared to other banks year by year.

**Table No. 18**  
**Growth Ratio of Net Profit (Rs. In million)**

F/Y	NABIL		SCBNL		NIC Bank	
	Net Profit	%	Net Profit	%	Net Profit	%
2002/03	416.24	0	506.93	0	25.94	0
2003/04	455.32	9.39	537.08	5.95	68.26	163.15
2004/05	519.16	14.02	539.20	0.39	113.76	66.65
2005/06	635.26	22.36	658.76	22.17	96.59	-15.09
2006/07	673.96	6.09	691.67	4.97	158.47	64.06
Mean G. R.		10.37		6.70		55.75

The above comparative table shows that the trend of net profit of NABIL is increasing from the F/Y 2005/06 and also the net profit pattern of SCBNL & NIC Bank has fluctuating trend. NIC Bank has recorded the highest growth ratio of

55.75%. The growth ratio of NABIL is 10.37%. Similarly, the SCBNL has lowest growth ratio of 2.07% among three banks.

Thus, it can conclude that NIC Bank is very successful to maintain growth ratio of net profit and SCBNL seems to be failure to maintain growth ratios.

## 4.2 Statistical Analysis

Some important statistical tools are used to analyze the data to achieve the objective of this study. The basic statistical tools related to this study are stated below:

### 4.2.1 Coefficient of correlation analysis

This statistical tool has been used to interpret and analyze the relationship between two or more variables. Under this topic Karl Pearson's coefficient of correlation is used to find out the relation between deposit and loan and advance, total deposit and total investment total outside assets and net profit, deposit and net profit, deposit and interest earned, loan and advance and interest paid as well as total working fund and net profit.

#### 4.2.1.1 Coefficient of correlation between Total deposit and loan and advance:

The coefficient of correlation between total deposit and loan and advances used to measure the degree of relationship between these two variables. The main purpose of calculating coefficient of correlation between deposit and loan and advance is to justify whether deposit are significantly used as loan and advance or not. In this analysis deposit is an independent variable (X) and loan and advance are dependent variable (Y).

The following table shows the value of 'r',  $r^2$ , P.Er and 6.P.Er. Between total deposits and loan & advances of NABIL, SCBNL and HBL during the study period.

**Table No. 19**  
**Correlation between Deposit and Loan and Advances**

Banks	Evaluation Criteria			
	r	$r^2$	P.Er.	6P.Er.
<b>NABIL</b>	0.96	0.9216	0.022	0.1320
<b>SCBNL</b>	0.81	0.6561	0.104	0.624
<b>NIC Bank</b>	0.98	0.9604	0.012	0.072

*Source: Appendix N1,N2,N3*

In the above table, the coefficient of correlation between total deposit and loan and advances in the case of NABIL is 0.96. it means that there is a positive relationship between total deposit and loan and advances. The calculated value of ( $r^2$ ) or coefficient of determination is 0.9216. This means 92.16 % of variation of the dependent variable (Loan and Advance) has been explain by the independent variable (Deposits). When the value of 'r' i.e. 0.96 is compared with six times the probably error or 6P.Er. i.e. 0.132, which means that the value of 'r' is highly significant

relationship between deposits and loan advances because 'r' is higher than six times P.Er. (i.e.  $0.96 > 0.1320$ ) The coefficient of correlation 'r' between total deposits and loan and advances incase of SCBNL is 0.81, which gives us an indication of a positive correlation between them. Similarly, the value of coefficient of determination ( $r^2$ ) is found to be 0.6561. This shows that 65.61 % variation of dependent variable (loan and advances) has been explained by the independent variable (deposits). The value of 'r' is higher than six times P. Er. which means that the value of 'r' is highly significant relationship between deposits and loan advances?

In the case of NIC Bank, the coefficient of correlation (r) is 0.98. This indicates the positive relationship between these two variables. The calculated value of determination ( $r^2$ ) is 0.9604. This means 96.04% of variation of dependent variables. The value of 'r' is higher than six times P.ER which means that the value of 'r' is highly significant relationship between deposits and loan advances.

From the above analyses, we can conclude that there is significant relationship between total deposit and loan advances. It means all three bank are successful in mobilization their deposits as loan and advances. NIC Bank has the higher value of 'r' which indicate the better position to mobilize the deposit as loan and advance in comparison to SCBNL and NABIL. SCBNL has the lowest value of 'r' among them.

#### 4.2.1.2 Coefficient of Correlation between Deposit and Investment:

Coefficient of correlation between deposit and investment measures the degree of relationship between these two variables. Here deposit is taken as independent variable (x) and total investment is dependent variable, which is denoted by (y). The purpose of computing correlation coefficient is to justify whether the deposit are significantly used in proper way or not and whether there is any relationship between these two variables.

The following table shows the value r,  $r^2$ , P.Er and 6P.Er of NABIL, SCBNL and NIC Bank during the study period.

**Table No. 20**  
**Correlation between Total Deposit and Total Investment**

Bank	Evaluation Criteria			
	r	$r^2$	P.Er.	6P.Er.
<b>NABIL</b>	0.8232	0.6776	0.097	0.5820
<b>SCBNL</b>	0.9719	0.9446	0.017	0.1020
<b>NIC Bank</b>	0.5919	0.3503	0.1960	1.1760

Source: Appendix O<sub>1</sub>, O<sub>2</sub>, O<sub>3</sub>

The coefficient of correlation 'r' between deposits and total investment in case of NABIL is 0.8232, which indicates a positive correlation between deposits and total investment. Coefficient of determination ( $r^2$ ) is 0.6776 this means 67.76 % of variation of the dependent variable has been explained by independent variable. When the value of 'r' i.e. 0.8232 is compared with six times the probably error or



6P.Er. i.e. 0.5820, which means that the value of 'r' is highly significant relationship between deposits and loan advances because 'r' is higher than six times P.Er? (i.e.  $0.8232 > 0.5820$ ) The value of 'r' is higher than six times P.Er. This states that there exists a insignificant relationship between deposits and total investment.

The coefficient of correlation 'r' between deposits and total investment in case of SCBNL is 0.9719, which indicates a positive relationship between the two variables. The coefficient of determination ( $r^2$ ) is 0.9446. This indicates that 94.46% of the variation of the dependent variable has been explained by independent variable. Moreover, 'r' is greater than six times P.Er, which further states that there is a significant relationship between deposits and total investment.

The coefficient of correlation 'r' incase of NIC Bank is 0.5919, which indicates positive relation between two variables. The coefficient of determination ( $r^2$ ) is 0.3503. This indicates that 35.03% of the variation of the dependent variable has been explained by independent variable Here, coefficient of correlation 'r' is less than six times P. Er. It means there is an exist significant relationship between two variables.

In conclusion, it can be said that in case of NABIL & SCBNL shows significant the relationship but NIC Bank is shows less significant relationship between total deposit and total investment.

#### 4.2.1.3 Coefficient of Correlation between Deposit and Net Profit

The coefficient of correlation between deposit and net profit used to measure the degree of relationship between these two variables. The purpose of computing 'r' between two variables is to find out whether deposits are significantly used to obtain return in a proper way or not. Here deposit is independent variable ( X ) and Net profit is dependent variable ( Y ) The following table shows the value r,  $r^2$ , P.Er and 6 P.Er of NABIL, SCBNL and NIC Bank during the study period.

**Table No. 21**  
**Correlation between Total Deposit and Net Profit**

Bank	Evaluation Criteria			
	r	$r^2$	P.Er.	6P.Er.
<b>NABIL</b>	0.9499	0.9023	0.0295	0.1770
<b>SCBNL</b>	0.9533	0.9088	0.0275	0.1650
<b>NIC Bank</b>	0.8985	0.8073	0.0581	0.3486

Source: Appendix P<sub>1</sub>, P<sub>2</sub>, P<sub>3</sub>

<sup>3</sup> The coefficient of correlation between deposits and net profit in case of NABIL is 0.9499, which indicates a positive relationship between deposits and net profit. The coefficient of determination ( $r^2$ ) is 0.9023, which indicates 90.23% of the variation of the dependent variable (net profit) has been explained by the independent variable (deposits). The value of 'r' is greater than 6P.Er i.e.  $0.9499 > 0.1770$ . This states that there exists an significant relationship between deposits and net profit.

The coefficient of correlation between deposits and net profit in case of SCBNL is 0.9533, which indicates a positive relationship between these variables. The value of coefficient of determination ( $r^2$ ) is 0.9088 indicates that 90.88 % of the variation of the dependent variable has been explained by the independent variable. The value of ( $r$ ) is greater than 6P.Er i.e.  $0.9533 > 0.1650$ , which further states that these exists a significant relationship between deposits and net profit.

In the case of NIC Bank, the value of 'r' is 0.8985. It means there is positive relationship between two variables. The value of coefficient of determination ( $r^2$ ) is 0.8073 i.e. 80.73 % indicates that the variation of the dependent variables has been explained by the independent variables. The value of 'r' is greater than 6P.Er. It indicates that there is insignificant relationship between these two variables.

From above analysis, we can conclude that NABIL and SCBNL & NIC Bank shows positive and significant relationship between deposits and net profit. The value of ( $r^2$ ) in case of NIC Bank shows lower percentage of dependency and the same in case of SCBNL shows higher percentage of dependency. The increase in net profit in case of SCBNL is due to effective mobilization of deposits and other factors have a lesser role to play in increase in net profit. SCBNL has been more successful in mobilization of its deposit to yield higher profits year after year.

#### 4.2.1.4 Coefficient of Correlation between Total Working Fund and Net Profit:

The coefficient of correlation between total working fund & Net profit measures the degree of relationship between them. In our analysis, total working fund is taken as independent variable (x) and net profit is taken as dependent variable (y). the main objective of calculating 'r' is to justify whether total working fund is significantly used to generate earnings or in other words whether total working fund and net profit are significantly correlated or not. The following table shows the value of r,  $r^2$ , P.Er, and 6P.Er between these two variables of NABIL, SCBNL and NIC Bank

**Table No. 22**  
**Correlation between Total Working Fund and Net Profit**

Bank	Evaluation Criteria			
	r	$r^2$	P.Er.	6 P.Er.
<b>NABIL</b>	0.9322	0.8690	0.0395	0.2370
<b>SCBNL</b>	0.9468	0.8964	0.0312	0.1872
<b>NIC Bank</b>	0.8929	0.7973	0.0611	0.3666

Source: Appendix  $Q^1, Q^2, Q^3$

The coefficient of correlating (r) between Total working fund and net profit in case of NABIL is 0.9322, which indicates a positive relationship between these variables. The coefficient of determination ( $r^2$ ) is 0.8690, which shows that 86.90 % of the variation of the dependent variable has been explained by independent variable. The value of

(r) is greater than 6Per i.e.  $0.9322 > 0.2370$ , which further states that there exists a significant relationship between Working fund and net profit.

In the case of SCBNL, the coefficient of correlation (r) between total working fund and net profit is 0.9468, which shows a positive relationship. The coefficient of determination ( $r^2$ ) is 0.8964, which indicates that 89.64% of the variation of the dependent variable has been explained by the independent variables. The value of 6P.Er is lower than (r), which states that there is significant relationship between these variables.

The coefficient of correlating (r) between total working fund and net profit in case of NIC Bank is 0.8929, which indicates a positive relationship between variables. The coefficient of determination ( $r^2$ ) is 0.7973, which shows that 79.73% of the variation of the dependent variable has been explained by independent variable. The value of (r) is greater than 6Per i.e.  $0.8929 > 0.3666$ , which further states that there exists a significant relationship between total working capital and net profit.

From above analysis, we can conclude that NABIL and SCBNL & NIC Bank shows positive and significant relationship between total working fund and net profit. The value of ( $r^2$ ) in case of NIC Bank shows lower percentage of dependency and the same in case of SCBNL shows higher percentage of dependency. The increase in net profit in case of SCBNL is due to effective mobilization of total working fund and other factors have a lesser role to play in increase in net profit. SCBNL has been more successful in mobilization of its deposit to yield higher profits year after year.

### **4.3 TREND ANALYSIS AND PROJECTION FOR NEXT FIVE YEARS**

This topic is to analyze trend of deposit collection, its utilization and net profit of NSCBL, NABIL & NIC Bank Ltd. to utilized deposit, a commercial bank may grant loan and advance and invest some of the funds in government securities and share and debenture of other companies. These topics analyzes the trend of deposits, loan and advances, total investment and net profit and its projection for next five years the basis of past performance and records available. The projection is based upon the following assumption.

The main assumption is that other things will remain unchanged.  
The forecast will be made only when the limitation of least square method is carried out.

The Bank will run in present stage.

Nepal Rastra Bank will not change its guidelines relating to commercial banks.

The economy will remain in the present stage

#### **4.3.1 Trend Analyses of Total Deposits.**

This analysis has been made to calculate the trend values of deposits of SCBNL, NABIL & NIC Bank for five years from 2002/03 to 2006/07 and forecasting for five year till 2012/13.

**Table No. 23**

**Trend values of Total Deposit of NABIL, SCBNL and NIC Bank** (Rs. in million)

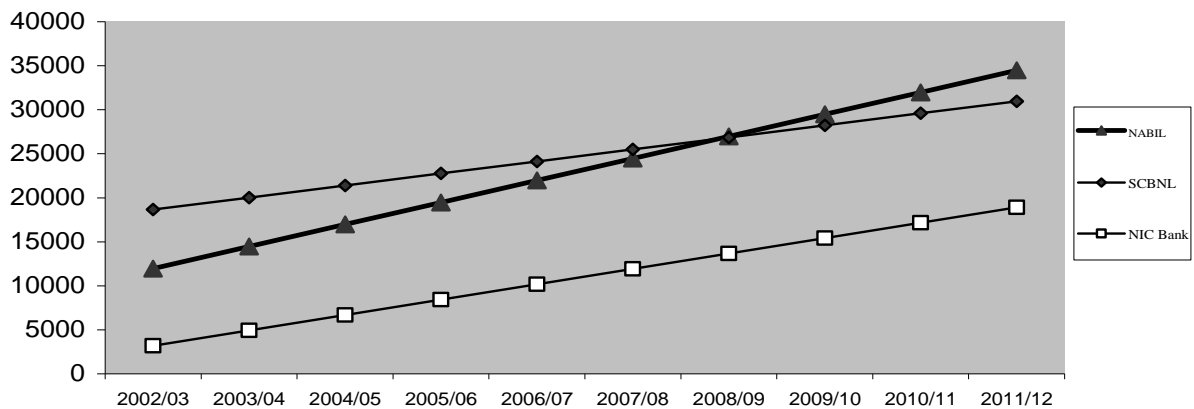
F/Y	NABIL	SCBNL	NIC Bank
2002/03	11965.15	18655.57	3179.81
2003/04	14466.90	20023.81	4926.54
2004/05	16968.68	21392.04	6673.27
2005/06	19470.44	22760.28	8420.00
2006/07	21972.20	24128.52	10166.73
2007/08	24473.97	25496.75	11913.459
2008/09	26975.73	26864.99	13660.188
2009/10	29477.49	28233.23	15406.917
2010/11	31979.25	29601.46	17153.646
2011/12	34481.02	30969.70	18900.375

Source: Appendix R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>

From the above comparative table it is clear that trend values of SCBNL, NABIL and NIC Bank are in increasing trend. If other things remain unchanged the total deposit of NABIL, SCBNL & NIC Bank prescribed to be Rs. 34481.02 million, 30969.70 million and 18900.375 million in the end of F/Y 2011/2012. From the above trend analysis, it is quite obvious that NIC Bank deposit collection is proportionately much better than NABIL but NABIL is better than SCBNL. The trend values of total deposit of NABIL, SCBNL and NIC Bank are fitted in the following figure.

**Figure No. 6**

**Trend values of Deposit of NABIL, SCBNL and NIC Bank**



### 4.3.2 Trend Analyses of Loan & Advances

This analysis has been made to calculate the trend values of loan & Advance of SCBNL, NABIL & NIC Bank for five years from 2002/03 to 2006/07 and forecasting for five year till 2012/13.

**Table No. 24**  
**Trend values of Loan & Advance of NABIL, SCBNL and NIC Bank** (Rs. in million)

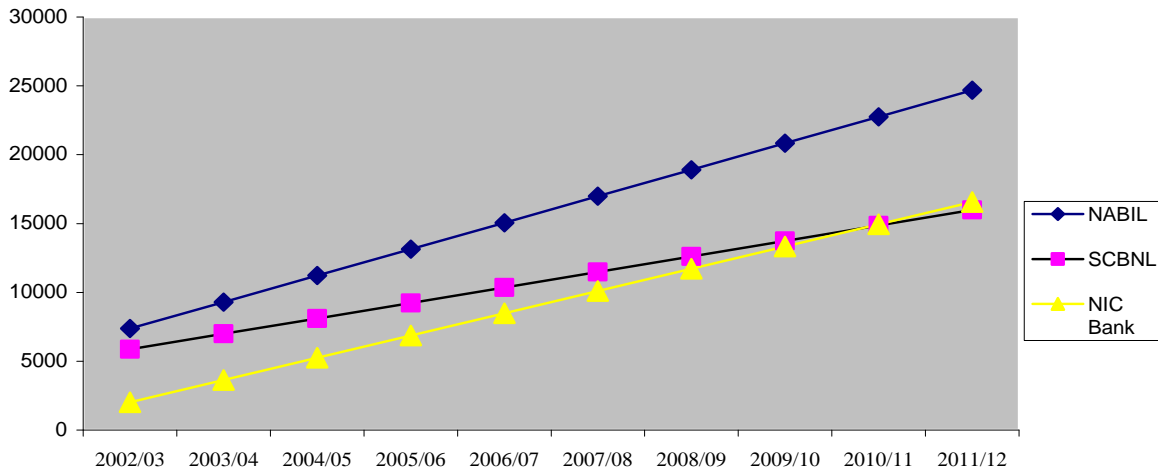
F/Y	NABIL	SCBNL	NIC Bank
2002/03	7367.92	5861.82	2030.23
2003/04	9291.73	6986.30	3644.09
2004/05	11215.54	8110.77	5257.95
2005/06	13139.35	9235.24	6871.80
2006/07	15063.15	10359.71	8485.66
2007/08	16986.96	11484.18	10099.52
2008/09	18910.77	12608.66	11713.38
2009/10	20834.58	13733.13	13327.24
2010/11	22758.39	14857.60	14941.09
2011/12	24682.19	15982.07	16554.95

Source: Appendix S<sup>1</sup>, S<sup>2</sup>, S<sup>3</sup>

From the above comparative table it is clear that trend values of SCBNL, NABIL and NIC Bank are in increasing trend. If other things remain the same the total Loan & Advance of NABIL, SCBNL & NIC Bank prescribed to be Rs. 24682.19 million, 15982.07 million and 16554.95 million in the end of F/Y 2011/2012. From the above trend analysis, it is quite obvious that NABIL is highest then the SCBNL & NIC Bank during the study period.

In Conclusion it is cleared that SCBINL utilization of deposits in terms of Loan & Advances is comparatively lower than these two bank.. The trend values of total Loan & Advance of NABIL, SCBNL and NIC Bank are fitted in the following figure.

**Figure No. 7**  
**Trend values of Loan & Advance of NABIL, SCBNL and NIC Bank**



4

### 4.3.3 Trend Analyses Of Total Investment

This analysis has been made to calculate the trend values of total investment of SCBNL, NABIL & NIC Bank for five years from 2002/03 to 2006/07 and forecasting for five year till 2012/13.

**Table No. 25**

**Trend values of Total Investment of NABIL, SCBNL and NIC Bank (Rs. in million)**

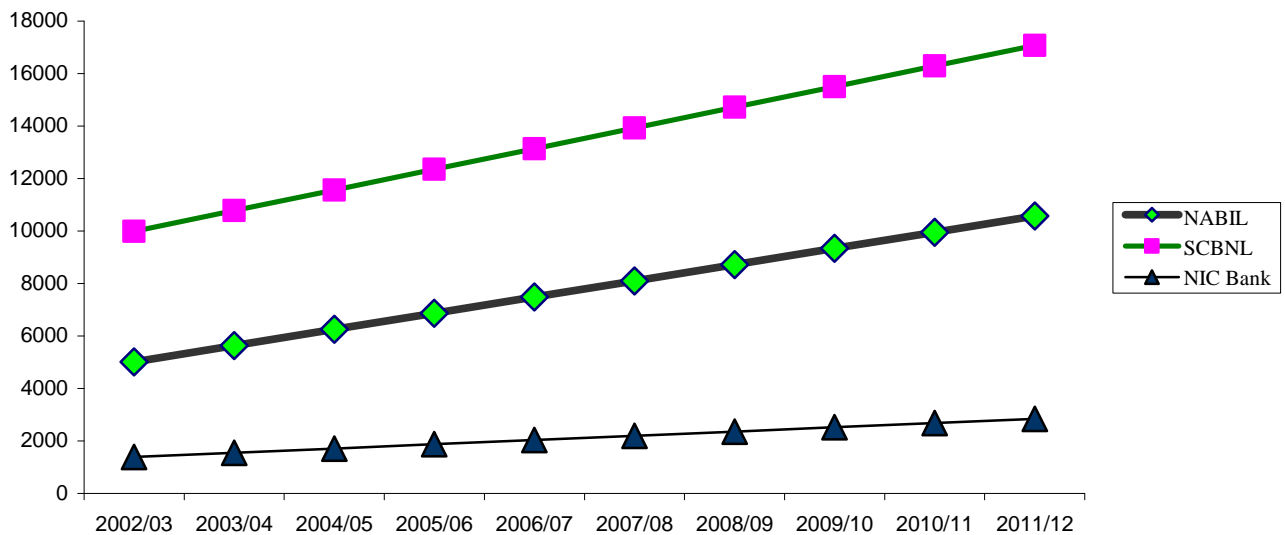
F/Y	NABIL	SCBNL	NIC Bank
2002/03	5017.47	9988.59	1390.93
2003/04	5634.56	10776.43	1552.09
2004/05	6251.64	11564.26	1713.25
2005/06	6868.72	12352.09	1874.42
2006/07	7485.81	13139.92	2035.58
2007/08	8102.89	13927.75	2196.74
2008/09	8719.98	14715.58	2357.90
2009/10	9337.06	15503.41	2519.07
2010/11	9954.14	16291.24	2680.23
2011/12	10571.23	17079.07	2841.39

Source: Appendix  $T^1, T^2, T^3$

From the above comparative table it is clear that trend values of SCBNL, NABIL and NIC Bank are in increasing trend. If other things remain the same the total investment of NABIL, SCBNL & NIC Bank prescribed to be Rs. 10571.23 million, 17079.07 million and 2841.39 million in the end of F/Y 2011/2012. From the above trend analysis, it is quite obvious that SCBNL is highest then the NABIL & NIC Bank during the study period.

The above table reveals that SCBNL total investment is higher than that of NABIL and NIC Bank through out the trend projection period. It can be said that all the three banks have followed the policy of maximizing their investment. The above calculated trend values are fitted in the trend line given in following figure.

**Figure No. 8**  
**Trend values of investment of NABIL, SCBNL and NIC Bank**



#### 4.3.4 Trend Analyses of Net Profit

Under this topic effort has been made to analyses the net profit of NABIL,SCBNL & NIC Bank for five year from 2002 to 2007and forecast of same for the next five year till to 2011/12.

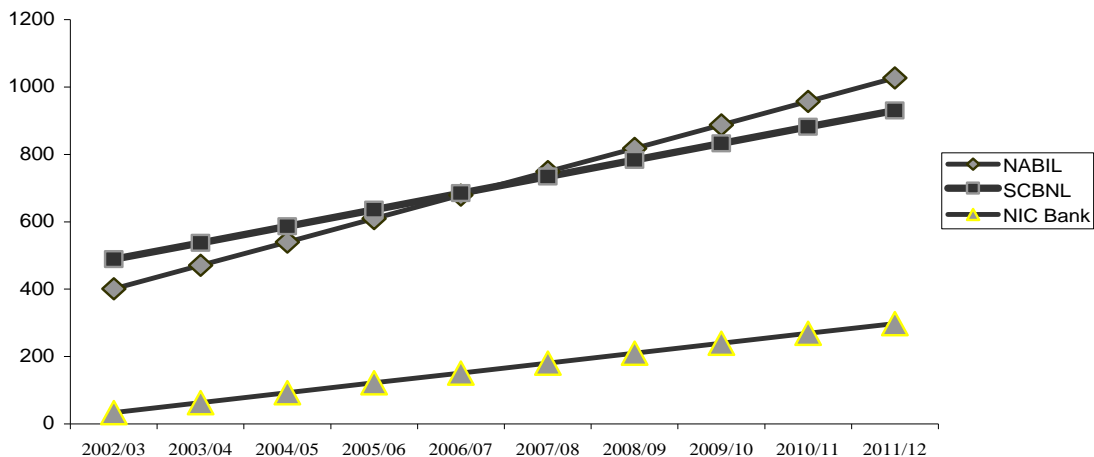
**Table No. 26**  
**Trend Values of Net Profit of NABIL, SCBNL and NIC Bank** (Rs. in million)

F/Y	NABIL	SCBNL	NIC Bank
2002/03	400.91	488.50	33.93
2003/04	470.45	537.61	63.27
2004/05	539.99	586.73	92.60
2005/06	609.53	635.84	121.94
2006/07	679.06	684.96	151.28
2007/08	748.60	734.08	180.62
2008/09	818.14	783.19	209.96
2009/10	887.68	832.31	239.30
2010/11	957.22	881.42	268.64
2011/12	1026.75	930.54	297.98

Source: Appendix  $U^1, U^2, U^3$

From the above table it is clear that the trend value of the banks are in increasing trend. It means all the banks expected profits are increase. Other things remaining the same the trend value of the banks are in increasing trend. The trend value of NABIL will be highest in F/Y 2011/012 i.e. Rs 1026.75 million. In case of SCBNL net profit will be Rs 930.54 million. Similarly, NIC net profit will be Rs297.98 in the F/Y 2011/012. NABIL's net profit is higher than that of SCBNL and NIC Bank through the review period. It can be said that all the banks have followed the policy of maximizing their net profit. The above calculated trend values are fitted in the trend line given in following figure.

**Figure No. 9**



#### 4.1.2.4 Test of Hypothesis:

The main objective of this test is to test the significant difference regarding the parameter of the population on the basis of sample drawn from the population. This test actually has been conducted on the various relations related with the banking business. There are two types of hypotheses

- Null Hypothesis:- It says that there is no significant difference between population parameter sample statistics. It is also known as hypothesis of difference. It is denoted by  $H_0$ .
- Alternative Hypothesis:- It says that there is significance difference between parameter and sample statistics. It is denoted by  $H_1$ .

#### Process of hypothesis testing:

- ⇒ Formulating hypothesis
  - Null Hypothesis
  - Alternative Hypothesis
- ⇒ Computing the test statistic
- ⇒ Fixing the level of significance
- ⇒ Deciding the two tail or one tail test
- ⇒ Making decision

#### T-test

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

#### Assumptions:

- I. The population from which the sample is drawn is normally distributed.
- II. The given sample is drawn by random sampling method.
- III. The population standard deviation is not known.

- **t-test of significance difference on loan and advances to total deposit ratio between NABIL, SCBL and NIC Bank.**

Let, loan and advances to total deposit ratio of NABIL, SCBL and NIC can be represented by  $X_1, X_2$  and  $X_3$  respectively.

#### a. Test of significance of difference between NABIL and SCBL

**Hypothesis  $H_0$  :**  $X_1 = X_3$

There is no significance difference between mean of loan and advances to total deposit of NABIL and SCBL.

**Hypothesis  $H_1$  :**  $X_1 \neq X_3$

There is significance difference between mean of loan and advances to total deposit of NABIL and SCBL.



### Testing of hypothesis

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2 \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

$$s^2 = 34.18$$

$$t_{\text{cal}} = \frac{65.86 - 37.71}{\sqrt{34.18 \left[ \frac{1}{5} + \frac{1}{5} \right]}} = 7.613$$

Tabulated value of t at 5% level of significance for  $(n_1 + n_2 - 2) = 8$  d.f. is 2.306

### Decision

Since the calculated value of test is greater than the tabulated value so null hypothesis is rejected that is alternative hypothesis is accepted. This means there is a significant difference between these two banks.

### b. Test of significance of difference between NABIL and NIC bank

**Hypothesis  $H_0$  :**  $X_1 = X_3$

There is no significant difference between mean of loan and advances to total deposit of NABIL and SCBL.

**Hypothesis  $H_1$  :**  $X_1 \neq X_3$

There is a significant difference between mean of loan and advances to total deposit of NABIL and SCBL.

### Testing of hypothesis

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2 \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

$$s^2 = 43.49$$

$$t_{\text{cal}} = \frac{65.86 - 77.27}{\sqrt{43.49 \left[ \frac{1}{5} + \frac{1}{5} \right]}} = -2.736$$

Tabulated value of t at 5% level of significance for  $(n_1 + n_2 - 2) = 8$  d.f. is 2.306

### Decision

Since the calculated value of test is smaller than the tabulated value so null hypothesis is accepted. This means there is no significant difference between these two banks.

➤ **t-test of significance difference on total investment to total deposit ratio between NABIL, SCBL and NIC Bank .**

Let, total investment to total deposit ratio of NABIL, SCBL and NIC can be represented by  $X_1$ ,  $X_2$  and  $X_3$  respectively.

**a. Test of significance of difference between NABIL and SCBL**

**Hypothesis  $H_0$  :**  $X_1 = X_3$

There is no significance difference between mean of total investment to total deposit of NABIL and SCBL.

**Hypothesis  $H_1$  :**  $X_1 \neq X_3$

There is significance difference between mean of total investment to total deposit of NABIL and SCBL.

**Testing of hypothesis**

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2 \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

$$s^2 = 23.47$$

$$t_{\text{cal}} = \frac{37.14 - 53.96}{\sqrt{23.47 \left[ \frac{1}{5} + \frac{1}{5} \right]}} = -5.489$$

Tabulated value of t at 5% level of significance for  $(n_1 + n_2 - 2) = 8$  d.f. is 2.306

**Decision**

Since the calculated value of test is smaller than the tabulated value so null hypothesis is accepted. This mean there is no significance difference between NABIL and SCBL bank.

**b. Test of significance of difference between NABIL and NIC bank**

**Hypothesis  $H_0$  :**  $X_1 = X_3$

There is no significance difference between mean of total investment to total deposit of NABIL and SCBL.

**Hypothesis  $H_1$  :**  $X_1 \neq X_3$

There is significance difference between mean of total investment to total deposit of NABIL and SCBL.

**Testing of hypothesis**

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2 \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

$$s^2 = 54.52$$

$$t_{\text{cal}} = \frac{37.14 - 28.05}{\sqrt{54.52 \left[ \frac{1}{5} + \frac{1}{5} \right]}} = 1.946$$

Tabulated value of t at 5% level of significance for  $(n_1 + n_2 - 2) = 8$  d.f. is 2.306

**Decision**

Since the calculated value of test is smaller than the tabulated value so null hypothesis is accepted. This mean there is no significance difference between these two banks.

➤ **t-test of significance difference on return on loan and advances between NABIL, SCBL and NIC.**

Let, return on loan and advances of NABIL, SCBL and NIC can be represented by  $X_1$ ,  $X_2$  and  $X_3$  respectively.

**a. Test of significance of difference between NABIL and SCBL**

**Hypothesis  $H_0$  :**  $X_1 = X_3$

There is no significance difference between mean of return on loan and advances of NABIL and SCBL.

**Hypothesis  $H_1$  :**  $X_1 \neq X_3$

There is significance difference between mean of return on loan and advances of NABIL and SCBL.

**Testing of hypothesis**

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2 \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

$$s^2 = 0.47$$

$$t_{\text{cal}} = \frac{4.89 - 7.37}{\sqrt{0.47 \left[ \frac{1}{5} + \frac{1}{5} \right]}} = -5.719$$

Tabulated value of t at 5% level of significance for  $(n_1 + n_2 - 2) = 8$  d.f. is 2.306

**Decision**

Since the calculated value of test is smaller than the tabulated value so null hypothesis is accepted. This mean there is no significance difference between NABIL and SCBL bank.

**b. Test of significance of difference between NABIL and NIC bank**

**Hypothesis  $H_0$  :**  $X_1 = X_3$

There is no significance difference between mean of return on loan and advances of NABIL and SCBL.

**Hypothesis  $H_1$  :**  $X_1 \neq X_3$

There is significance difference between mean of return on loan and advances of NABIL and SCBL.

### Testing of hypothesis

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2 \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

$$s^2 = 0.19$$

$$t_{\text{cal}} = \frac{4.89 - 1.72}{\sqrt{0.19 \left[ \frac{1}{5} + \frac{1}{5} \right]}} = 11.498$$

Tabulated value of t at 5% level of significance for  $(n_1 + n_2 - 2) = 8$  d.f. is 2.306

### Decision

Since the calculated value of test is greater than the tabulated value so null hypothesis is rejected and alternative hypothesis is accepted. This means there is a significant difference between NABIL and NIC banks.

### ➤ t-test of significance difference on investment to government securities to current assets ratio between NABIL, SCBL and NIC.

Let investment to government securities to current assets ratio of NABIL, SCBL and NIC can be represented by  $X_1$ ,  $X_2$  and  $X_3$  respectively.

#### a. Test of significance of difference between NABIL and SCBL

**Hypothesis  $H_0$  :**  $X_1 = X_3$

There is no significant difference between mean of investment to government securities to current assets ratio of NABIL and SCBL.

**Hypothesis  $H_1$  :**  $X_1 \neq X_3$

There is a significant difference between mean of investment to government securities to current assets ratio of NABIL and SCBL.

### Testing of hypothesis

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2 \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

$$s^2 = 17.97$$

$$t_{\text{cal}} = \frac{17.27 - 31.55}{\sqrt{17.97 \left[ \frac{1}{5} + \frac{1}{5} \right]}} = -5.326$$

Tabulated value of t at 5% level of significance for  $(n_1 + n_2 - 2) = 8$  d.f. is 2.306

### Decision

Since the calculated value of test is smaller than the tabulated value so null hypothesis is accepted. This means there is no significant difference between NABIL and SCBL bank.

**b. Test of significance of difference between NABIL and NIC bank**

**Hypothesis  $H_0$  :**  $X_1 = X_3$

There is no significance difference between mean of investment to government securities to current assets ratio of NABIL and SCBL.

**Hypothesis  $H_1$  :**  $X_1 \neq X_3$

There is significance difference between mean of investment to government securities to current assets ratio of NABIL and SCBL.

**Testing of hypothesis**

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2 \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

$$s^2 = 34.05$$

$$t_{\text{cal}} = \frac{17.27 - 19.29}{\sqrt{34.05 \left[ \frac{1}{5} + \frac{1}{5} \right]}} = -0.547$$

Tabulated value of t at 5% level of significance for  $(n_1 + n_2 - 2) = 8$  d.f. is 2.306

**Decision**

Since the calculated value of test is smaller than the tabulated value so null hypothesis is accepted. This mean there is no significance difference between NABIL and NIC banks.

## CHAPTER V

### MAJOR FINDING, SUMMARY, CONCLUSIONS & RECOMMENDATIONS

The preceding chapters have discussed and explored the facts and matters required for the various parts of the study analytical parts, which is the heart of the study, make a comparative analyses of various aspects of investment of commercial bank by using same important financial as well as statistical tools.

#### MAJOR FINDINGS OF THE STUDY

The basic analysis required for this study having completed. The final and most important task of the researcher is to enlist the findings. This will give meaning to the desired result. A comprehensive summary of the major findings of this study as presented below.

The main findings of the study derived from the analysis of financial data of NABIL in comparison to SCBNL and NIC Bank are given below.

#### I. Liquidity Ratio

The liquidity position of NABIL, SCBNL and NIC Bank reveals that:

The mean ratio of cash of bank balance to total deposits. NIC Bank is higher than NABIL and SCBNL. It states that the liquidity position of NIC Bank is better in this regard because of high percentage of liquid assets.

The mean ratio of cash and bank balance to current asset of NIC Bank is higher than NABIL and SCBNL. It states that the liquidity position of NIC Bank is better in this regard. And the ratio of NIC Bank is more variable than that of other two compared banks. The ratio of SCBNL is less consistency.

The mean ratio of investment on government securities to current asset of NABIL's liquidity position from investment on government Securities are better than NIC Bank and poorer than SCBNL. It reveals that it has invested more of its fund on government securities. The ratios of SCBNL are more consistency.

The mean ratio of loan and advances to current assets of NIC bank is highest. The variability of ratios of NABIL is slightly greater than other two banks. NIC Bank seems to be more consistency and NABIL seems to be less consistency.

The above result shows that the liquidity positions of all three banks are satisfactory. NIC has the highest current ratio which justifies that it is capable enough to meet its current obligations and also it has highest loan and advances to current assets ratio. It means NIC Bank is very successful in mobilizing its funds as loan and advances. The investment policy is better than other banks. In case of SCBNL, it has highest investment on government securities. It means SCBNL has invested more of

its funds in government securities but has maintained moderate investment policy on loan and advances. NIC bank has highest cash and bank balance to total deposit and current assets ratio. It indicates that it has lower investment policy on loan and advances and government securities.

## **II. Assets Management Ratio (Activity Ratio):**

The assets management ratio of NABIL, SCBNL and NIC Bank reveals that:

- The mean ratio of loan and advances to total deposit of NIC Bank is highest. SCBNL is lowest. In terms of consistency, NABIL seems to be less consistency.
- The mean ratio of total investment to total deposit of NABIL is slightly higher than NIC Bank and lower than SCBNL. The ratio of SCBNL is more consistency and the ratio of NIC bank is less consistency.
- In case of loan and advances to working fund ratio, the mean ratio of NIC bank is highest. The ratio of NIC Bank is more consistent than that of NABIL and SCBNL.
- The mean ratio of investment on government securities to total working fund of SCBNL is greater than other banks. NABIL has lower mean ratio. NABIL is in moderate position. SCBNL seems to be more consistency and NIC Bank seems to be less consistency.
- The mean ratio of investment on shares and debentures to total working fund of NABIL is significantly higher than SCBNL and NIC bank. The ratio of NIC bank is less consistency and ratio of NABIL is more consistency.

From the above findings, it helps to conclude that NABIL has been more successful in mobilization of its total deposits and working fund as loan & advances, investment in shares and debentures. On the other hand, SCBNL appears to be stronger in mobilization of total deposit as investment in risk free government securities. The investment policy of NABIL has better than other two banks towards loan and advances and in other companies shares and debentures. NABIL has successfully managed their assets towards different income generation activities.

## **III. Profitability Ratio**

The profitability ratios of NABIL, SCBNL and NIC Bank reveal that:

- The mean ratio of return on loan and advances of SCBNL has been found to be significantly greater than other two banks. The ratios of SCBNL are fewer variables and more consistency.
- The mean ratio of return on total working fund of NABIL is higher than SCBNL and NIC Bank.. It reveals that NABIL has been able to earn high profit on total working fund in comparison with other two banks. On the

other hand, the ratio of SCBNL is more consistency and fewer variables in compared to other banks.

#### **IV. Risk Ratio**

The Risk ratio of NABIL, SCBNL and NIC Bank reveals that,

- The mean ratio of liquidity risk of NABIL is lower than SCBNL and NIC Bank. NABIL has more cash & bank balance to meet its current obligations
- The mean ratio of credit risk of NIC Bank is higher than NABIL & SCBNL. This indicates that NIC Bank has more exposure to credit risk than its counterpart.

#### **V. Growth Ratio**

The growth ratio of NABIL, SCBNL and HBL reveals that,

- The growth ratio of deposits of NIC Bank has been successful in increasing its deposit year by year. This is a very good proof of its high quality service, security and credibility in the mind of depositors.
- The growth ratio of total loan and advances of of NIC Bank is better in compare to other banks year by year. The performance on loan and advances of SCBNL is poorer than other banks because it has lowest growth ratio.
- The growth ratio of total investment of NIC Bank is better in investment pattern than other banks. The performance of SCBNL to invest in various sectors is worst in compared to other banks year by year.
- The growth ratio of net profit of NIC Bank is very successful to maintain growth ratio of net profit and SCBNL seems to be failure to maintain growth ratios.

Based on the above findings, we can conclude that, NIC Bank has been more successful in increasing its deposits, loan & advances and investment during the study period, whereas, NIC Bank has been more efficient in terms of increasing its net profit. Among three banks, NABIL'S strategy of shedding deposits seems to be off the tune. NABIL needs to seriously rethink about its strategy.

### **SUMMARY AND CONCLUSION**

Commercial banks are the pillars of a nation's economy commercial banks collect and mobilize the funds for investment in the country. Only through such capital investment the rate of economic growth in the country is possible. After the adoption of liberalization policy by the government there has been tremendous growth in commercial banks. Their main objective is to collected the deposit from public and



invest them in different sectors. For protecting such deposit, NRB has issued some directives under which they have to operate. Investment is the only factor which helps the commercial banks to survive. So they have to give keen importance to their investment policy.

This study mainly focuses on whether commercial banks are adopting the appropriate policies for investing their collected funds for this secondary data are collected from different sources for the period of 2002/03 to 2006/07. These collected data are analyzed on the basis of financial tools and statistical tools to know the investment pattern of commercial banks. The analysis shows that the commercial banks are performing well in investment. The performance of commercial banks is satisfactory.

The development of any country largely depends upon its economic development. Economic development demands transformation of savings into the actual investments. Capital formation is the prerequisite in setting the overall pace of the economic development of a country. It is financial institutions that transfer funds from surplus spending unit to deficit units.

In the study, the word investment conceptualized spending or setting aside money for future financial gain. Investment might include the purchase of financial assets such as stocks, bonds, mutual fund or life insurance. The term investment covers a wide range of activities. It is only possible when there is adequate savings. Investment promotes economic growth to the nation's wealth. People deposit money in the bank. The bank may invest them in various business companies. As a result of which investment raises a nation's standard living.

In viewpoint of shareholders, investment is very important factor. For this commercial banks have to pay due considerations while formulating investment policy. A healthy development of any commercial banks depends upon its investment policy. A good investment policy attracts both borrowers and lenders, which helps to increase the volume and quality of deposits, loan and investment. The major source of income of a bank is interest income from investments & loans and fee based income. As loan and advance dominates the assets side of the balance sheet of any bank. Similarly, earnings from such loan and advances occupy a major space in income statement of the bank.

## **RECOMMENDATIONS**

This recommendation is the final out put of the whole study. Generally it helps to convey correct and good information of the improvement of concern banks in future. Several analyses have been accrued to reach in this topic. The following recommendation and suggestion have been mentioned to overcome weakness,

inefficiency and improvement of present fund mobilization and investment policy of NABIL, SCBL and NIC.

### **Liberal lending policy**

To achieve success in this competitive banking environment, every bank must utilize their loan and advances. The loan and advances is the main item of banks in assets side. If it is medicated, then it could be the main reason of liquidity crisis and bankrupt. From the analyses, it has been. Found that loan and advances to total deposit ratio of NABIL is lower than NIC and Higher than SCBNL. So NABIL is strongly recommended to follow liberal landing policy, to invest more total deposit in loan and advances and maintain more stability on investment policy.

### **Expand investment on government securities**

From the analysis, it has been found that NABIL and NIC are not investing their amount on government securities in comparison to SCBNL. Investment on those securities issued by government are free of risk and highly liquid such as securities yields the low interest rate of particular maturity lower risk in future it is more better in regard to safety that other means investment. So NABIL and NIC are strongly recommended to given more emphasis it invests on government securities.

### **Increase investment**

A commercial bank should utilize its fund in different sectors like to purchase share and debenture of other financial and non financial companies. From the analysis, it has been found that NABIL investments on total deposit ratio are lower. So NABIL is strongly recommended to invest its more funds on different companies.

### **Services to rural areas and lower level people**

As we know that most of the banks have provided their services only to Katmandu valley. They should extend their service toward rural areas and preserve the banking and saving habits of the lower level people of kingdom. So all three banks are suggested not to be surrounded and limited with the interest and staff of big clients but extended their product and services in every nook and comer of the country.

### **Innovative marketing system**

In these competitive banking sectors, a well marketing system plays tremendous role in development of banks. Every bank should be customer oriented. Marketing is the one of the best and effective tool to attract the customers. So it has to be sound and effective. Different marketing methods like advertisement through newspapers, magazine, audio-visual, websites, documentary etc. not only these but to draw attentions of customers through new technology like E-banking, internet banking service, SMS banking, ATM, debit card etc.

### **Expansion of branches**

Economic growth of a country depends upon the high growth of the banks. If the product and services of banks expands all over the nation, the idle money from different areas can be collected and utilize for income generation purpose. So commercial banks should expand their branches not only urban area of the nation. But here commercial banks are centralized in the capital. NABIL has succeeded more branched office in comparison to SCBL and NIC. So all banks are recommended to expand their branches and provide effective banking product and service.

### **Suggestions to further researchers**

Here, the researcher has used 5 years of secondary data, so further researcher are suggested to use more than 5 fiscal year and to use not only secondary data. The researcher has used only selected commercial banks (i.e. NABIL, SCBNL and NIC Bank) and limited financial and statistical tools in this study. But the further researchers are recommended to study more than three banks and apply more useful financial and statistical tools.

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**Appendix-A**  
**NABIL Bank**

**Cash & bank balance to Total Deposit Ratio** (Rs. in million)

Fiscal Year	Cash & Bank Balance	Total Deposits	Ratio
2002/03	1144.77	13447.66	8.51
2003/04	970.49	14119.03	6.87
2004/05	559.38	14587.00	3.83
2005/06	630.24	19347.40	3.26
2006/07	1399.83	23342.29	5.99

**STANDER CHARTERED BANK**

**Cash & bank balance to Total Deposit Ratio** (Rs. in million)

Fiscal Year	Cash & Bank Balance	Total Deposits	Ratio
2002/03	1512.30	18755.63	8.06
2003/04	2023.13	21161.44	9.56
2004/05	1111.11	19335.09	5.74
2005/06	1276.24	23061.03	5.53
2006/07	2021.02	24647.02	8.20

**NIC BANK**

**Cash & bank balance to Total Deposit Ratio** (Rs. in million)

Fiscal Year	Cash & Bank Balance	Total Deposits	Ratio
2002/03	318.06	3144.32	10.12
2003/04	319.31	5146.48	6.20
2004/05	1005.55	6241.38	16.11
2005/06	749.14	8765.95	8.55
2006/07	599.76	10068.23	5.96

**Appendix-B**  
**NABIL BANK**

**Cash and Bank Balance to Current Assets Ratio** (Rs. in million)

Fiscal Year	Cash & Bank Balance	Current Assets	Ratio
2002/03	1144.77	16644.97	6.88
2003/04	970.49	16742.67	5.80
2004/05	559.38	17027.75	3.29

2005/06	630.24	21504.68	2.93
2006/07	1399.83	26754.53	5.23

**STANDER CHARTERED BANK**

**Cash and Bank Balance to Current Assets Ratio** (Rs. in million)

Fiscal Year	Cash & Bank Balance	Current Assets	Ratio
2002/03	1512.30	21101.94	7.17
2003/04	2023.13	23778.25	8.51
2004/05	1111.11	22086.48	5.03
2005/06	1276.24	25079.58	5.09
2006/07	2021.02	27944.92	7.23

**NIC BANK**

**Cash and Bank Balance to Current Assets Ratio** (Rs. in million)

Fiscal Year	Cash & Bank Balance	Current Assets	Ratio
2002/03	318.06	3909.23	8.14
2003/04	319.31	5361.33	5.96
2004/05	1005.55	6911.58	14.55
2005/06	749.14	9141.04	8.20
2006/07	599.76	11485.85	5.22

**Appendix-C**  
**NABIL BANK**

**Investment on government security to Current Assets** (Rs. in million)

Fiscal Year	Investment on government security	Current Assets	Ratio
2002/03	3588.77	16644.97	21.56
2003/04	3672.63	16742.67	21.94
2004/05	2413.01	17027.75	14.17
2005/06	2301.46	21504.68	10.71
2006/07	4808.35	26754.53	17.97

**STANDER CHARTERED BANK**

**Investment on government security to Current Assets** (Rs. in million)

Fiscal Year	Investment on government security	Current Assets	Ratio
2002/03	6722.83	21101.94	31.86
2003/04	7948.22	23778.25	33.43



2004/05	7203.06	22086.48	32.61
2005/06	8635.88	25079.58	34.43
2006/07	7107.94	27944.92	25.44

**NIC BANK**

**Investment on government security to Current Assets** (Rs. in million)

Fiscal Year	Investment on government security	Current Assets	Ratio
2002/03	1075.19	3909.23	27.50
2003/04	1235.28	5361.33	23.04
2004/05	1194.31	6911.58	17.28
2005/06	1735.94	9141.04	18.99
2006/07	1104.06	11485.85	9.62

**Appendix-D**

**NABIL BANK**

**Loan and Advances to Current Assets** (Rs. in million)

Fiscal Year	Loan and Advances	Current Assets	Ratio
2002/03	8113.68	16644.97	48.75
2003/04	8548.66	16742.67	51.06
2004/05	10947.03	17027.75	64.29
2005/06	12922.54	21504.68	60.09
2006/07	15545.78	26754.53	58.11

**STANDER CHARTERED BANK**

**Loan and Advances to Current Assets** (Rs. in million)

Fiscal Year	Loan and Advances	Current Assets	Ratio
2002/03	6001.06	21101.94	28.44
2003/04	6693.86	23778.25	28.15
2004/05	8420.86	22086.48	38.13
2005/06	8935.42	25079.58	35.63
2006/07	10502.64	27944.92	37.58

**NIC BANK**

**Loan and Advances to Current Assets** (Rs. in million)

Fiscal Year	Loan and Advances	Current Assets	Ratio
2002/03	2419.52	3909.23	61.89

2003/04	3561.14	5361.33	66.42
2004/05	4711.71	6911.58	68.17
2005/06	6655.96	9141.04	72.82
2006/07	8941.40	11485.85	77.85

**Appendix-E  
NABIL BANK**

**Loan and Advances to Total Deposit Ratio**

Fiscal Year	Loan and Advances	Total Deposit	Ratio
2002/03	8113.68	13447.66	60.34
2003/04	8548.66	14119.03	60.55
2004/05	10947.03	14587.01	75.05
2005/06	12922.54	19347.40	66.79
2006/07	15545.78	23342.29	66.60

**STANDER CHARTERED BANK**

**Loan and Advances to Total Deposit Ratio**

Fiscal Year	Loan and Advances	Total Deposit	Ratio
2002/03	6001.06	18755.63	32.00
2003/04	6693.86	21161.44	31.63
2004/05	8420.86	19335.09	43.55
2005/06	8935.42	23061.03	38.75
2006/07	10502.64	24647.02	42.62

**NIC BANK**

**Loan and Advances to Total Deposit Ratio**

Fiscal Year	Loan and Advances	Total Deposit	Ratio
2002/03	2419.52	3144.32	76.95
2003/04	3561.14	5146.48	69.20
2004/05	4711.71	6241.38	75.49
2005/06	6655.96	8765.95	75.93
2006/07	8941.40	10068.23	88.81

**Appendix-F  
NABIL BANK**

**Total Investment To Total Deposit Ratio**

Fiscal Year	Total Investment	Total Deposit	Ratio
2002/03	6031.18	13447.66	44.85
2003/04	5835.95	14119.03	41.33

2004/05	4267.23	14587.01	29.25
2005/06	6178.53	19347.40	31.94
2006/07	8945.31	23342.29	38.32

**STANDER CHARTERED BANK**  
**Total Investment To Total Deposit Ratio**

Fiscal Year	Total Investment	Total Deposit	Ratio
2002/03	10357.68	18755.63	55.22
2003/04	11360.33	21161.44	53.68
2004/05	9702.5	19335.09	50.18
2005/06	12847.54	23061.03	55.71
2006/07	13553.23	24647.02	54.99

**NIC BANK**  
**Total Investment To Total Deposit Ratio**

Fiscal Year	Total Investment	Total Deposit	Ratio
2002/03	1153.26	3144.32	36.68
2003/04	1760.72	5146.48	34.21
2004/05	1572.90	6241.38	25.20
2005/06	2479.91	8765.95	28.29
2006/07	1599.48	10068.23	15.89

**Appendix- G**  
**NABIL BANK**

**Loan and Advances to Total Working Fund Ratio**

Fiscal Year	Loan and Advances	Total Working Fund Ratio	Ratio
2002/03	8113.68	16668.44	48.67
2003/04	8548.66	17104.27	49.98
2004/05	10947.03	17546.89	62.39
2005/06	12922.54	22329.97	57.87
2006/07	15545.78	27253.40	57.04

**STANDER CHARTERED BANK**  
**Loan and Advances to Total Working Fund Ratio**

Fiscal Year	Loan and Advances	Total Working Fund Ratio	Ratio
2002/03	6001.06	21304.84	28.17

2003/04	6693.86	23925.68	27.98
2004/05	8420.86	22171.24	37.98
2005/06	8935.42	25767.35	34.68
2006/07	10502.64	28596.69	36.73

**NIC BANK**

**Loan and Advances to Total Working Fund Ratio**

Fiscal Year	Loan and Advances	Total Working Fund Ratio	Ratio
2002/03	2419.52	4037.52	59.93
2003/04	3561.14	5930.07	60.05
2004/05	4711.71	7508.07	62.76
2005/06	6655.96	10383.60	64.10
2006/07	8941.40	11678.83	76.56

**Appendix- H**

**NABIL BANK**

**Investment in Government Securities to Total Working Fund Ratio**

Fiscal Year	Investment in Government Securities	Total Working Fund Ratio	Ratio
2002/03	3588.77	16668.44	21.53
2003/04	3672.63	17104.27	21.47
2004/05	2413.01	17546.89	13.75
2005/06	1201.24	22329.97	17.36
2006/07	4808.35	27253.40	17.64

**STANDER CHARTERED BANK**

**Investment in Government Securities to Total Working Fund Ratio**

Fiscal Year	Investment in Government Securities	Total Working Fund Ratio	Ratio
2002/03	6722.83	21304.84	31.56
2003/04	7948.22	23925.68	33.22
2004/05	7203.06	22171.24	32.49
2005/06	8635.88	25767.35	33.51
2006/07	7107.94	28596.69	24.86

**NIC BANK**

**Investment in Government Securities to Total Working Fund Ratio**

Fiscal Year	Investment in Government Securities	Total Working Fund Ratio	Ratio
-------------	-------------------------------------	--------------------------	-------

2002/03	1075.19	4037.52	26.63
2003/04	1235.28	5930.07	20.83
2004/05	1194.31	7508.07	15.91
2005/06	1735.94	10383.60	16.72
2006/07	1104.06	11678.83	9.45

**Appendix- I  
NABIL BANK**

**Investment in Shares and Debentures to Total Working Fund Ratio**

Fiscal Year	Investment in Shares and Debentures	Total Working Fund	Ratio
2002/03	22.22	16668.44	0.133
2003/04	22.22	17104.27	0.130
2004/05	27.36	17546.89	0.156
2005/06	27.56	22329.97	0.123
2006/07	57.85	27253.40	0.212

**STANDER CHARTERED BANK**

**Investment in Shares and Debentures to Total Working Fund Ratio**

Fiscal Year	Investment in Government Securities	Total Working Fund	Ratio
2002/03	11.195	21304.84	0.0530
2003/04	11.195	23925.68	0.0468
2004/05	13.348	22171.24	0.0602
2005/06	15.343	25767.35	0.0595
2006/07	44.943	28596.69	0.157

**NIC BANK**

**Investment in Shares and Debentures to Total Working Fund Ratio**

Fiscal Year	Investment in Government Securities	Total Working Fund	Ratio
2002/03	0.8	4037.52	0.0198
2003/04	0.8	5930.07	0.0135
2004/05	1.507	7508.07	0.0201
2005/06	2.190	10383.60	0.0211
2006/07	16.594	11678.83	0.142

**Appendix- j  
NABIL BANK**

**Returns on Loan and Advances Ratio**

Fiscal Year	Net Profit	Loan and Advances	Ratio
2002/03	416.24	8113.68	5.13
2003/04	455.32	8548.66	5.33
2004/05	519.16	10947.03	4.74
2005/06	635.26	12922.54	4.92
2006/07	673.96	15545.78	4.34

**STANDER CHARTERED BANK  
Returns on Loan and Advances Ratio**

Fiscal Year	Net Profit	Loan and Advances	Ratio
2002/03	506.93	6001.06	8.45
2003/04	537.08	6693.86	8.02
2004/05	539.20	8420.86	6.40
2005/06	658.76	8935.42	7.37
2006/07	691.67	10502.64	6.59

**NIC BANK  
Returns on Loan and Advances Ratio**

Fiscal Year	Net Profit	Loan and Advances	Ratio
2002/03	25.94	2419.52	1.07
2003/04	68.26	3561.14	1.92
2004/05	113.76	4711.71	2.41
2005/06	96.59	6655.96	1.45
2006/07	158.47	8941.40	1.77

**Appendix- K  
NABIL BANK**

**Return on Total Working Fund Ratio**

Fiscal Year	Net Profit	Total Working Fund	Ratio
2002/03	416.24	16668.44	2.50

2003/04	455.32	17104.27	2.66
2004/05	519.16	17546.89	2.96
2005/06	635.26	22329.97	2.84
2006/07	673.96	27253.40	2.47

**STANDER CHARTERED BANK**  
**Return on Total Working Fund Ratio**

Fiscal Year	Net Profit	Total Working Fund	Ratio
2002/03	506.93	21304.84	2.38
2003/04	537.08	23925.68	2.25
2004/05	539.20	22171.24	2.43
2005/06	658.76	25767.35	2.56
2006/07	691.67	28596.69	2.42

**NIC BANK**  
**Return on Total Working Fund Ratio**

Fiscal Year	Net Profit	Total Working Fund	Ratio
2002/03	25.94	4037.52	0.64
2003/04	68.26	5930.07	1.15
2004/05	113.76	7508.07	1.52
2005/06	96.59	10383.60	0.93
2006/07	158.47	11678.83	1.36

**Appendix- K**

**NABIL BANK**  
**Return on Total Working Fund Ratio**

Fiscal Year	Net Profit	Total Working Fund	Ratio
2002/03	416.24	16668.44	2.50
2003/04	455.32	17104.27	2.66
2004/05	519.16	17546.89	2.96
2005/06	635.26	22329.97	2.84
2006/07	673.96	27253.40	2.47

**STANDER CHARTERED BANK**  
**Return on Total Working Fund Ratio**

Fiscal Year	Net Profit	Total Working Fund	Ratio
2002/03	506.93	21304.84	2.38

2003/04	537.08	23925.68	2.25
2004/05	539.20	22171.24	2.43
2005/06	658.76	25767.35	2.56
2006/07	691.67	28596.69	2.42

**NIC BANK**

**Return on Total Working Fund Ratio**

Fiscal Year	Net Profit	Total Working Fund	Ratio
2002/03	25.94	4037.52	0.64
2003/04	68.26	5930.07	1.15
2004/05	113.76	7508.07	1.52
2005/06	96.59	10383.60	0.93
2006/07	158.47	11678.83	1.36

Appendix-L

**NABIL Bank**

**Cash & bank balance to Total Deposit Ratio (Rs. in million)**

Fiscal Year	Cash & Bank Balance	Total Deposits	Ratio
2002/03	1144.77	13447.66	8.51
2003/04	970.49	14119.03	6.87
2004/05	559.38	14587.00	3.83
2005/06	630.24	19347.40	3.26
2006/07	1399.83	23342.29	5.99

**STANDER CHARTERED BANK**

**Cash & bank balance to Total Deposit Ratio (Rs. in million)**

Fiscal Year	Cash & Bank Balance	Total Deposits	Ratio
2002/03	1512.30	18755.63	8.06
2003/04	2023.13	21161.44	9.56
2004/05	1111.11	19335.09	5.74
2005/06	1276.24	23061.03	5.53
2006/07	2021.02	24647.02	8.20

**NIC BANK**

**Cash & bank balance to Total Deposit Ratio (Rs. in million)**

Fiscal Year	Cash & Bank Balance	Total Deposits	Ratio
2002/03	318.06	3144.32	10.12
2003/04	319.31	5146.48	6.20
2004/05	1005.55	6241.38	16.11



2005/06	749.14	8765.95	8.55
2006/07	599.76	10068.23	5.96

**Appendix- M  
NABIL BANK**

**Loan and Advances to Total Working Fund Ratio**

Fiscal Year	Loan and Advances	Total Assets	Ratio
2002/03	8113.68	16668.44	48.67
2003/04	8548.66	17104.27	49.98
2004/05	10947.03	17546.89	62.39
2005/06	12922.54	22329.97	57.87
2006/07	15545.78	27253.40	57.04

**STANDER CHARTERED BANK**

**Loan and Advances to Total Working Fund Ratio**

Fiscal Year	Loan and Advances	Total Assets	Ratio
2002/03	6001.06	21304.84	28.17
2003/04	6693.86	23925.68	27.98
2004/05	8420.86	22171.24	37.98
2005/06	8935.42	25767.35	34.68
2006/07	10502.64	28596.69	36.73

**NIC BANK**

**Loan and Advances to Total Working Fund Ratio**

Fiscal Year	Loan and Advances	Total Assets	Ratio
2002/03	2419.52	4037.52	59.93
2003/04	3561.14	5930.07	60.05
2004/05	4711.71	7508.07	62.76
2005/06	6655.96	10383.60	64.10
2006/07	8941.40	11678.83	76.56

**Appendix- N1**

**Correlation of coefficient between deposits and loan & advances Of NABIL**

F/Y	X	Y	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2002/03	13447.66	8113.68	-3521.02	-3101.86	12397553.67	9621523.05	10921691.65
2003/04	14119.03	8548.66	-2849.65	-2666.88	8120482.32	7112238.27	7599658.22
2004/05	14587.00	10947.03	-2381.68	-268.51	5672380.56	72096.55	639499.06
2005/06	19347.40	12922.54	2378.72	1707.02	5658327.86	2913855.83	4060486.63

2006/07	23342.29	15545.78	6373.614	4330.242	40622955.42	18750995.78	27599291.03
	X= 84843.38	Y=56077.69			<b>x<sup>2</sup> = 72471699.86</b>	<b>y<sup>2</sup> = 38470709.47</b>	<b>xy = 50820626.59</b>

Where,

- x = Deposit
- y = Loan & Advance
- n = Number of year

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X_n}{n} \\ &= \frac{84843.38}{5} \\ &= 16968.64 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{\sum Y_n}{n} \\ &= \frac{56077.69}{5} \\ &= 11215.54 \end{aligned}$$

### Calculation of Coefficient of correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where, r = Karl Pearson's coefficient of correlation  $x = (X - \bar{X})$   $y = (Y - \bar{Y})$

$$\begin{aligned} r &= \frac{50820619.14}{\sqrt{72471652.22} \sqrt{38470709.47}} \\ &= 0.96 \end{aligned}$$

### Calculation of Coefficient of determination

$$\begin{aligned} \text{Coefficient of determination } (r^2) &= r \times r \\ &= 0.96 \times 0.96 = 0.9216 \end{aligned}$$

### Calculation Probable error.

We have,

$$\text{P. E.} = 0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.96)^2}{5} = 0.6745 \times \frac{1 - 0.9216}{2.236} = 0.022$$

**Appendix- N2**  
**Correlation of coefficient between Total deposits and loan & advances Of SCBNL**

F/Y	X	Y	x= X - $\bar{X}$	y= Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2002/03	18755.63	6001.06	-2636.41	-2109.71	6950668.23	4450867.85	5562059.49
2003/04	21161.44	6693.86	-230.60	-1416.91	53177.28	2007628.28	326741.82
2004/05	19335.09	8420.86	-2056.95	310.09	4231051.53	96157.05	-637844.36
2005/06	23061.03	8935.42	1668.99	824.65	2785520.94	680050.92	1376334.29
2006/07	24647.02	10502.64	3254.98	2391.87	10594881.78	5721051.66	7785490.74
	X= 106960.20	Y=40553.85			x <sup>2</sup> = <b>24615299.77</b>	y <sup>2</sup> = <b>12955755.75</b>	xy = <b>14412781.98</b>

Where,

x = Deposit

y = Loan & Advance

n = Number of year

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X_n}{n} \\ &= \frac{106960.21}{5} \\ &= 21392.04 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{\sum Y_n}{n} \\ &= \frac{40553.85}{5} \\ &= 8110.77 \end{aligned}$$

**Calculation of Coefficient of correlation**

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where, r = Karl Pearson's coefficient of correlation    x = (X -  $\bar{X}$ )    y = (Y -  $\bar{Y}$ )

$$r = \frac{14412781.98}{\sqrt{24615299.77} \sqrt{12955755.75}}$$

$$= 0.81$$

**Calculation of Coefficient of determination**

Coefficient of determination ( $r^2$ ) =  $r \times r$   
 =  $0.81 \times 0.81 = 0.6561$

**Calculation Probable error.**

We have,  
 P. E. =  $0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.81)^2}{5} = 0.6745 \times \frac{1 - 0.6561}{2.236} = 0.104$

**Appendix- N3**

**Correlation of coefficient between Total deposits and loan and advance Of NIC**

F/Y	X	Y	x= X - $\bar{X}$	y= Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2002/03	3144.32	2419.52	-3528.95	-2838.43	12453502.22	8056662.16	10016669.11
2003/04	5146.48	3561.14	-1526.79	-1696.81	2331093.81	2879150.60	2590669.83
2004/05	6241.38	4711.71	-431.89	-546.24	186530.70	298373.77	235914.96
2005/06	8765.95	6655.96	2092.68	1398.01	4379301.21	1954443.14	2925593.14
2006/07	10068.23	8941.40	3394.96	3683.45	11525739.82	13567833.37	12505171.62
	X=33366.36	Y=26289.73			x <sup>2</sup> =30876167.76	y <sup>2</sup> =26756463.04	xy =28274018.66

Where,

- x = Total Deposit
- y = Net profit
- n = Number of year

$$\text{Mean } (\bar{X}) = \frac{\sum X_n}{n}$$

$$= \frac{33366.36}{5}$$

$$= 6673.272$$

$$\text{Mean } (\bar{Y}) = \frac{\sum Y_n}{n}$$

$$= \frac{26289.73}{5}$$

$$= 5257.946$$

**Calculation of Coefficient of correlation**

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,  $r$  = Karl Pearson's coefficient of correlation  $x = (X - \bar{X})$   $y = (Y - \bar{Y})$

$$r = \frac{28274018.66}{\sqrt{30876167.76} \sqrt{26756463.04}}$$

$$= 0.98$$

**Calculation of Coefficient of determination**

Coefficient of determination ( $r^2$ ) =  $r \times r$   
 =  $0.98 \times 0.98 = 0.9604$

**Calculation Probable error.**

We have,  
 P. E. =  $0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.98)^2}{5} = 0.6745 \times \frac{1 - 0.9604}{2.236} = 0.012$

**Appendix- 01**

**Correlation of coefficient between Total deposits and Total Investment Of NABIL**

F/Y	X	Y	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2002/03	13447.66	6031.18	-3521.02	-220.46	12397553.67	48602.61	776243.19
2003/04	14119.03	5835.95	-2849.65	-415.69	8120482.32	172798.18	1184569.35
2004/05	14587.00	4267.23	-2381.68	-1984.41	5672380.56	3937883.05	4726221.67
2005/06	19347.40	6178.53	2378.72	-73.11	5658327.86	5345.07	-173908.51
2006/07	23342.29	8945.31	6373.614	2693.67	40622955.42	7255858.07	17168412.82
	X= 84843.38	Y=31258.20			$x^2 =$ <b>72471699.86</b>	$y^2 =$ <b>11420486.98</b>	<b>xy =</b> <b>23681538.52</b>

Where,

- x = Deposit
- y = Total Investment
- n = Number of year

$$\text{Mean } (\bar{X}) = \frac{\sum X_n}{n}$$

$$= \frac{84843.38}{5}$$

$$= 16968.64$$

$$\text{Mean } (\bar{Y}) = \frac{\sum Y_n}{n}$$

$$= \frac{31258.20}{5}$$

$$= 6251.64$$

**Calculation of Coefficient of correlation**

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,  $r$  = Karl Pearson's coefficient of correlation  $x = (X - \bar{X})$   $y = (Y - \bar{Y})$

$$r = \frac{23681538.52}{\sqrt{72471652.22} \sqrt{11420486.98}} = 0.8232$$

### Calculation of Coefficient of determination

$$\begin{aligned} \text{Coefficient of determination } (r^2) &= r \times r \\ &= 0.8232 \times 0.8232 = 0.6776 \end{aligned}$$

### Calculation Probable error.

We have,

$$P. E. = 0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.8232)^2}{5} = 0.6745 \times \frac{1 - 0.6776}{2.236} = 0.097$$

### **Appendix- O2**

#### **Correlation of coefficient between Total deposits and Total Investment Of SCBNL**

F/Y	X	Y	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2002/03	18755.63	10357.68	-2636.41	-1206.58	6950668.23	1455825.64	3181031.45
2003/04	21161.44	11360.33	-230.60	-203.93	53177.28	41585.81	47025.74
2004/05	19335.09	9702.5	-2056.95	-1861.76	4231051.53	3466135.40	3829542.73
2005/06	23061.03	12847.54	1668.99	1283.28	2785520.94	1646817.82	2141785.60
2006/07	24647.02	13553.23	3254.98	1988.97	10594881.78	3956017.57	6474066.61
	$\bar{X} =$ 106960.20	$\bar{Y} =$ 57821.28			$\sum x^2 =$ <b>24615299.77</b>	$\sum y^2 =$ <b>10566382.26</b>	$\sum xy =$ <b>15673452.13</b>

Where,

- $x$  = Total Deposit
- $y$  = Total Investment
- $n$  = Number of year

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X_n}{n} \\ &= \frac{106960.21}{5} \\ &= 21392.04 \end{aligned}$$

$$\begin{aligned}\text{Mean } (\bar{Y}) &= \frac{\sum Y_n}{n} \\ &= \frac{57821.28}{5} \\ &= 11564.26\end{aligned}$$

### Calculation of Coefficient of correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,  $r$  = Karl Pearson's coefficient of correlation  $x = (X - \bar{X})$   $y = (Y - \bar{Y})$

$$\begin{aligned}r &= \frac{15673452.13}{\sqrt{24615299.77} \sqrt{10566382.26}} \\ &= 0.9719\end{aligned}$$

### Calculation of Coefficient of determination

$$\begin{aligned}\text{Coefficient of determination } (r^2) &= r \times r \\ &= 0.9719 \times 0.9719 = 0.9446\end{aligned}$$

### Calculation Probable error.

We have,

$$\text{P. E.} = 0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.9719)^2}{5} = 0.6745 \times \frac{1 - 0.9446}{2.236} = 0.017$$

## Appendix- O3

### Correlation of coefficient between Total deposits and Total Investment Of NIC Bank

F/Y	X	Y	x= X - $\bar{X}$	y= Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2002/03	3144.32	1153.26	-3528.95	-559.99	12453502.22	313593.28	1976191.95
2003/04	5146.48	1760.72	-1526.79	47.47	2331093.81	2253.02	-72470.71
2004/05	6241.38	1572.90	-431.89	-140.35	186530.70	19699.25	60617.77
2005/06	8765.95	2479.91	2092.68	766.66	4379301.21	587761.42	1604364.14
2006/07	10068.23	1599.48	3394.96	-113.77	11525739.82	12944.52	-386257.95
	X=33366.36	Y=8566.27			<b>x<sup>2</sup></b> <b>=30876167.76</b>	<b>y<sup>2</sup></b> <b>=936251.49</b>	<b>xy</b> <b>=3182445.20</b>

Where,

- x = Total Deposit
- y = Net profit
- n = Number of year

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X_n}{n} \\ &= \frac{33366.36}{5} \\ &= 6673.27\end{aligned}$$

$$\begin{aligned}\text{Mean } (\bar{Y}) &= \frac{\sum Y_n}{n} \\ &= \frac{8566.27}{5} \\ &= 1713.25\end{aligned}$$

### Calculation of Coefficient of correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,  $r$  = Karl Pearson's coefficient of correlation  $x = (X - \bar{X})$   $y = (Y - \bar{Y})$

$$\begin{aligned}r &= \frac{3182445.20}{\sqrt{30876167.76} \sqrt{936251.49}} \\ &= 0.5919\end{aligned}$$

### Calculation of Coefficient of determination

$$\begin{aligned}\text{Coefficient of determination } (r^2) &= r \times r \\ &= 0.5919 \times 0.5919 = 0.3503\end{aligned}$$

### Calculation Probable error.

$$\begin{aligned}\text{We have,} \\ \text{P. E.} &= 0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.5919)^2}{5} = 0.6745 \times \frac{1 - 0.3503}{2.236} = 0.1960\end{aligned}$$

## Appendix- P1

### Correlation of coefficient between Total deposits and Net Profit Of NABIL

F/Y	X	Y	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2002/03	13447.66	416.24	-3521.02	-123.75	12397553.67	15313.57	435718.69
2003/04	14119.03	455.32	-2849.65	-84.67	8120482.32	7168.67	241273.83
2004/05	14587.00	519.16	-2381.68	-20.83	5672380.56	433.81	49605.55
2005/06	19347.40	635.26	2378.72	95.27	5658327.86	9076.75	226625.79



2006/07	23342.29	673.96	6373.614	133.97	40622955.42	17948.50	853885.81
	X= 84843.38	Y=2699.94			<b>x<sup>2</sup> = 72471699.86</b>	<b>y<sup>2</sup> = 49941.29</b>	<b>xy = 1807109.67</b>

Where,

x = Deposit

y = Net Profit

n = Number of year

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X_n}{n} \\ &= \frac{84843.38}{5} \\ &= 16968.64\end{aligned}$$

$$\begin{aligned}\text{Mean } (\bar{Y}) &= \frac{\sum Y_n}{n} \\ &= \frac{2699.95}{5} \\ &= 539.99\end{aligned}$$

### Calculation of Coefficient of correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where, r = Karl Pearson's coefficient of correlation  $x = (X - \bar{X})$   $y = (Y - \bar{Y})$

$$\begin{aligned}r &= \frac{1807109.67}{\sqrt{72471652.22} \sqrt{49941.29}} \\ &= 0.9499\end{aligned}$$

### Calculation of Coefficient of determination

$$\begin{aligned}\text{Coefficient of determination } (r^2) &= r \times r \\ &= 0.9499 \times 0.9499 = 0.9023\end{aligned}$$

### Calculation Probable error.

We have,

$$\text{P. E.} = 0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.9499)^2}{5} = 0.6745 \times \frac{1 - 0.9023}{2.236} = 0.02946$$

**Appendix- P2**  
**Correlation of coefficient between deposits and net profit Of SCBNL**

F/Y	X	Y	x= X - $\bar{X}$	y= Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2002/03	18755.63	506.93	-2636.41	-79.80	6950668.23	6367.72	210380.40
2003/04	21161.44	537.08	-230.60	-49.65	53177.28	2464.92	11448.93
2004/05	19335.09	539.20	-2056.95	-47.53	4231051.53	2258.91	97762.81
2005/06	23061.03	658.76	1668.99	72.03	2785520.94	5188.61	120220.54
2006/07	24647.02	691.67	3254.98	104.94	10594881.78	11012.82	341583.90
	X= 106960.21	Y=29933.64			x <sup>2</sup> = 24615299.77	y <sup>2</sup> = 27292.99	xy = 781396.59

Where,

- x = Deposit
- y = Net profit
- n = Number of year

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X_n}{n} \\ &= \frac{106960.21}{5} \\ &= 21392.04 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{\sum Y_n}{n} \\ &= \frac{2933.64}{5} \\ &= 586.73 \end{aligned}$$

**Calculation of Coefficient of correlation**

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where, r = Karl Pearson's coefficient of correlation    x = (X -  $\bar{X}$ )    y = (Y -  $\bar{Y}$ )

$$r = \frac{781396.59}{\sqrt{24615299.77} \sqrt{27292.99}}$$

$$= 0.9533$$

**Calculation of Coefficient of determination**

Coefficient of determination ( $r^2$ ) =  $r \times r$   
 $= 0.9533 \times 0.9533 = 0.9088$

**Calculation Probable error.**

We have,  
P. E . =  $0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.9533)^2}{5} = 0.6745 \times \frac{1 - 0.9088}{2.236} = 0.0275$

**Appendix- P3**  
**Correlation of coefficient between deposits and net profit Of NIC**

F/Y	X	Y	x= X - $\bar{X}$	y= Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2002/03	3144.32	25.94	-3528.95	-66.66	12453502.22	4444.09	235254.06
2003/04	5146.48	68.26	-1526.79	-24.34	2331093.81	592.63	37168.22
2004/05	6241.38	113.76	-431.89	21.16	186530.70	447.58	-9137.11
2005/06	8765.95	96.59	2092.68	3.99	4379301.21	15.89	8341.41
2006/07	10068.23	158.47	3394.96	65.87	11525739.82	4338.33	223612.30
	X=33366.36	Y=463.02			<b>x<sup>2</sup>= 30876167.76</b>	<b>y<sup>2</sup> = 9838.51</b>	<b>xy = 495238.89</b>

Where,

- x = Deposit
- y = Net profit
- n = Number of year

$$\text{Mean } (\bar{X}) = \frac{\sum X_n}{n}$$

$$= \frac{33366.36}{5}$$

$$= 6673.272$$

$$\text{Mean } (\bar{Y}) = \frac{\sum Y_n}{n}$$

$$= \frac{463.02}{5}$$

$$= 92.604$$

### Calculation of Coefficient of correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,  $r$  = Karl Pearson's coefficient of correlation  $x = (X - \bar{X})$   $y = (Y - \bar{Y})$

$$r = \frac{495238.89}{\sqrt{30876167.76} \sqrt{9838.51}}$$

$$= 0.8985$$

### Calculation of Coefficient of determination

Coefficient of determination ( $r^2$ ) =  $r \times r$   
 $= 0.8985 \times 0.8985 = 0.8073$

### Calculation Probable error.

We have,  
 P. E. =  $0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.8985)^2}{5} = 0.6745 \times \frac{1 - 0.8073}{2.236} = 0.0581$

## Appendix- Q1

### Correlation of coefficient between Total working fund and Net profit Of NABIL

F/Y	X	Y	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2002/03	16668.44	416.24	-3521.02	-123.75	12397553.67	15313.57	435718.69
2003/04	17104.27	455.32	-2849.65	-84.67	8120482.32	7168.67	241273.83
2004/05	17546.89	519.16	-2381.68	-20.83	5672380.56	433.81	49605.55
2005/06	22329.97	635.26	2378.72	95.27	5658327.86	9076.75	226625.79
2006/07	27253.40	673.96	6373.614	133.97	40622955.42	17948.50	853885.81
	X= 100902.97	Y=2699.94			$x^2 =$ 83379793.74	$y^2 =$ 49941.29	$xy =$ 1902276.34

Where,

- x = Total Working Fund
- y = Net Profit
- n = Number of year

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X_n}{n} \\ &= \frac{100902.97}{5} \\ &= 20180.59 \\ \text{Mean } (\bar{Y}) &= \frac{\sum Y_n}{n} \\ &= \frac{2699.95}{5} \\ &= 539.99 \end{aligned}$$

### Calculation of Coefficient of correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,  $r$  = Karl Pearson's coefficient of correlation  $x = (X - \bar{X})$   $y = (Y - \bar{Y})$

$$\begin{aligned} r &= \frac{1902276.34}{\sqrt{83379793.74} \sqrt{49941.29}} \\ &= 0.9322 \end{aligned}$$

### Calculation of Coefficient of determination

$$\begin{aligned} \text{Coefficient of determination } (r^2) &= r \times r \\ &= 0.9322 \times 0.9322 = 0.8690 \end{aligned}$$

### Calculation Probable error.

$$\begin{aligned} \text{We have,} \\ \text{P. E.} &= 0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.9322)^2}{5} = 0.6745 \times \frac{1 - 0.8690}{2.236} = 0.0395 \end{aligned}$$

## **Appendix- Q2**

### **Correlation of coefficient between Total working fund and Net profit Of SCBNL**

F/Y	X	Y	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2002/03	21304.84	506.93	-3048.32	-79.80	9292254.82	6367.72	243249.84
2003/04	23925.68	537.08	-427.48	-49.65	182739.15	2464.92	21223.53
2004/05	22171.24	539.20	-2181.92	-47.53	4760774.89	2258.91	103702.29
2005/06	25767.35	658.76	1414.19	72.03	1999933.36	5188.61	101866.93

2006/07	28596.69	691.67	4243.53	104.94	18007546.86	11012.82	445324.53
	X= 121765.80	Y= 2933.64			<b>x<sup>2</sup> = 34243249.08</b>	<b>y<sup>2</sup> = 27292.99</b>	<b>xy = 915367.12</b>

Where,

x = Total Working Fund

y = Net Profit

n = Number of year

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X_n}{n} \\ &= \frac{121765.80}{5} \\ &= 24353.16\end{aligned}$$

$$\begin{aligned}\text{Mean } (\bar{Y}) &= \frac{\sum Y_n}{n} \\ &= \frac{2933.64}{5} \\ &= 586.73\end{aligned}$$

### Calculation of Coefficient of correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where, r = Karl Pearson's coefficient of correlation  $x = (X - \bar{X})$   $y = (Y - \bar{Y})$

$$\begin{aligned}r &= \frac{915367.12}{\sqrt{34243249.08} \sqrt{27292.99}} \\ &= 0.9468\end{aligned}$$

### Calculation of Coefficient of determination

$$\begin{aligned}\text{Coefficient of determination } (r^2) &= r \times r \\ &= 0.9468 \times 0.9468 = 0.8964\end{aligned}$$

### Calculation Probable error.

$$\begin{aligned}\text{We have,} \\ \text{P. E.} &= 0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.9468)^2}{5} = 0.6745 \times \frac{1 - 0.8964}{2.236} = 0.0312\end{aligned}$$

### Appendix- Q3

#### Correlation of coefficient between total working fund and net profit Of NIC Bank

F/Y	X	Y	x= X - $\bar{X}$	y= Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2002/03	4037.52	25.94	-3870.10	-66.66	14977658.53	4444.09	257996.21
2003/04	5930.07	68.26	-1977.55	-24.34	3910696.09	592.63	48141.43
2004/05	7508.07	113.76	-399.55	21.16	159638.60	447.58	-8452.84
2005/06	10383.60	96.59	2475.98	3.99	6130486.86	15.89	9869.26
2006/07	11678.83	158.47	3771.21	65.87	14222039.95	4338.33	248394.65
	X=39538.09	Y=463.02			<b>x<sup>2</sup> = 39400520.04</b>	<b>y<sup>2</sup> = 9838.51</b>	<b>xy = 555948.72</b>

Where,

x = Total working fund

y = Net profit

n = Number of year

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X_n}{n} \\ &= \frac{39538.09}{5} \\ &= 7907.62 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{\sum Y_n}{n} \\ &= \frac{463.02}{5} \\ &= 92.604 \end{aligned}$$

#### Calculation of Coefficient of correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where, r = Karl Pearson's coefficient of correlation    x = (X -  $\bar{X}$ )    y = (Y -  $\bar{Y}$ )

$$r = \frac{555948.72}{\sqrt{39400520.04} \sqrt{9838.51}} = 0.8929$$

**Calculation of Coefficient of determination**

Coefficient of determination ( $r^2$ ) =  $r \times r$   
 =  $0.8929 \times 0.8929 = 0.7973$

**Calculation Probable error.**

We have,  
 P. E. =  $0.6745 \times \frac{1 - r^2}{n} = 0.6745 \times \frac{1 - (0.8929)^2}{5} = 0.6745 \times \frac{1 - 0.7973}{2.236} = 0.0611$

**Appendix- R(1)**  
**Trend value total deposit of NABIL**

Year X	Total deposit [Y]	x=(X-3)	x <sup>2</sup>	xy	Yc= a+bx
2002/03 1	13447.66	-2	4	-26895.32	11965.15
2003/04 2	14119.03	-1	1	-14119.03	14466.90
2004/05 3	14587.00	0	0	0.00	16968.68
2005/06 4	19347.40	1	1	19347.40	19470.44
2006/07 5	23342.29	2	4	46684.58	21972.20
	$\sum Y=84843.38$		$\sum x^2=10$	$\sum xy=25017.63$	

$$a = \frac{\sum Y}{n} = \frac{84843.38}{5} = 16968.68$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{25017.63}{10} = 2501.76$$

**Trend Value of total deposit of NABIL.**

Year	x =[t-3]	Trend Value Yc= 16968.68+27954.78x
2007/08 [6]	3	24473.97
2008/09 [7]	4	26975.73
2009/10[8]	5	29477.49
2010/11[9]	6	31979.25
2011/12[10]	7	34481.02

**Appendix- R(2)**  
**Trend value total deposit of SCBNL**

Year X	Total deposit y	x=(X-3)	x <sup>2</sup>	xy	Y= a + bx
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2002/03	1	18755.63	-2	4	-37511.26	18655.57
2003/04	2	21161.44	-1	1	-21161.44	20023.81
2004/05	3	19335.09	0	0	0.00	21392.04
2005/06	4	23061.03	1	1	23061.03	22760.28
2006/07	5	24647.02	2	4	49294.04	24128.52
		$\sum y=106960.21$		$\sum x^2=10$	$\sum xy= 13682.37$	

$$a = \frac{\sum Y}{n} = \frac{106960.21}{5} = 21392.04$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{13682.37}{10} = 1368.24$$

**Trend Value of total deposit of SCBNL.**

Year	x =[t-3]	Trend Value $Y_c= 21392.04+1368.24x$
2007/08 [6]	3	25496.75
2008/09 [7]	4	26864.99
2009/10[8]	5	28233.23
2010/11[9]	6	29601.46
2011/12[10]	7	30969.70

**Appendix- R(3)**

**Trend value total deposit of NIC**

Year X	Total deposit [Y]	x=(X-3)	$x^2$	xy	$Y_c= a+bx$	
2002/03	1	3144.32	-2	4	-6288.64	3179.81
2003/04	2	5146.48	-1	1	-5146.48	4926.54
2004/05	3	6241.38	0	0	0.00	6673.27
2005/06	4	8765.95	1	1	8765.95	8420.00
2006/07	5	10068.23	2	4	20136.46	10166.73
		$\sum Y=33366.36$		$\sum x^2=10$	$\sum xy=17467.29$	

$$a = \frac{\sum Y}{n} = \frac{33366.36}{5} = 6673.27$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{17467.29}{10} = 1746.73$$

**Trend Value of total deposit of NIC.**

Year	x =[t-3]	Trend Value $Y_c= 6673.27+1746.73x$
2007/08 [6]	3	11913.459
2008/09 [7]	4	13660.188
2009/10[8]	5	15406.917
2010/11[9]	6	17153.646

2011/12[10]	7	18900.375
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**Appendix- S(1)**  
**Trend value loan and advance of NABIL**

Year X	Total deposit [Y]	x=(X-3)	x <sup>2</sup>	xy	Yc= a+bx
2002/03 1	8113.68	-2	4	-16227.36	7367.92
2003/04 2	8548.66	-1	1	-8548.66	9291.73
2004/05 3	10947.03	0	0	0.00	11215.54
2005/06 4	12922.54	1	1	12922.54	13139.35
2006/07 5	15545.78	2	4	31091.56	15063.15
	∑ Y=56077.69		∑ x <sup>2</sup> =10	∑ xy=19238.08	

$$a = \frac{\sum Y}{n} = \frac{56077.69}{5} = 11215.54$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{19238.08}{10} = 1923.80$$

**Trend Value of loan and advance of NABIL.**

Year	x =[t-3]	Trend Value Yc= 11215.54 +1923.80x
2007/08 [6]	3	16986.96
2008/09 [7]	4	18910.77
2009/10[8]	5	20834.58
2010/11[9]	6	22758.39
2011/12[10]	7	24682.19

**Appendix- S(2)**  
**Trend value loan and advance of SCBL**

Year X	Total deposit [Y]	x=(X-3)	x <sup>2</sup>	xy	Yc= a+bx
2002/03 1	6001.06	-2	4	-12002.12	5861.82
2003/04 2	6693.86	-1	1	-6693.86	6986.30
2004/05 3	8420.86	0	0	0.00	8110.77
2005/06 4	8935.42	1	1	8935.42	9235.24
2006/07 5	10502.64	2	4	21005.28	10359.71
	∑ Y=40553.84		∑ x <sup>2</sup> =10	∑ xy=11244.72	

$$a = \frac{\sum Y}{n} = \frac{40553.84}{5} = 8110.77$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{11244.72}{10} = 1124.47$$

**Trend Value of loan and advance of SCBL**

Year	x =[t-3]	Trend Value Yc= 8110.77 +1124.47x
2007/08 [6]	3	11484.18
2008/09 [7]	4	12608.66
2009/10[8]	5	13733.13
2010/11[9]	6	14857.60
2011/12[10]	7	15982.07

**Appendix- S(3)**

**Trend value loan and advance of NIC**

Year X	Total deposit [Y]	x=(X-3)	x <sup>2</sup>	xy	Yc= a+bx
2002/03 1	2419.52	-2	4	-4839.04	2030.23
2003/04 2	3561.14	-1	1	-3561.14	3644.09
2004/05 3	4711.71	0	0	0.00	5257.95
2005/06 4	6655.96	1	1	6655.96	6871.80
2006/07 5	8941.40	2	4	17882.80	8485.66
	∑ Y=26289.73		∑ x <sup>2</sup> =10	∑ xy=16138.58	

$$a = \frac{\sum Y}{n} = \frac{26289.73}{5} = 5257.95$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{16138.58}{10} = 1613.86$$

**Trend Value of loan and advance of NIC.**

Year	x =[t-3]	Trend Value Yc= 5257.95+1613.86x
2007/08 [6]	3	10099.52
2008/09 [7]	4	11713.38
2009/10[8]	5	13327.24
2010/11[9]	6	14941.09
2011/12[10]	7	16554.95

**Appendix- T(1)**

**Trend value total investment of NABIL**

Year X	Total deposit [Y]	x=(X-3)	x <sup>2</sup>	xy	Yc= a+bx
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2002/03	1	6031.18	-2	4	-12062.36	5017.47
2003/04	2	5835.95	-1	1	-5835.95	5634.56
2004/05	3	4267.23	0	0	0.00	6251.64
2005/06	4	6178.53	1	1	6178.53	6868.72
2006/07	5	8945.31	2	4	17890.62	7485.81
		$\sum Y=31258.2$		$\sum x^2=10$	$\sum xy=6170.84$	

$$a = \frac{\sum Y}{n} = \frac{31258.2}{5} = 6251.64$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{6170.84}{10} = 617.084$$

**Trend Value of total investment of NABIL.**

Year	x =[t-3]	Trend Value $Y_c= 6251.64+617.084x$
2007/08 [6]	3	8102.89
2008/09 [7]	4	8719.98
2009/10[8]	5	9337.06
2010/11[9]	6	9954.14
2011/12[10]	7	10571.23

**Appendix- T(2)**

**Trend value total investment of SCBL**

Year X	Total deposit [Y]	x=(X-3)	$x^2$	xy	$Y_c= a+bx$	
2002/03	1	10357.68	-2	4	-20715.36	9988.59
2003/04	2	11360.33	-1	1	-11360.33	10776.43
2004/05	3	9702.5	0	0	0.00	11564.26
2005/06	4	12847.54	1	1	12847.54	12352.09
2006/07	5	13553.23	2	4	27106.46	13139.92
		$\sum Y=57821.28$		$\sum x^2=10$	$\sum xy=7878.31$	

$$a = \frac{\sum Y}{n} = \frac{57821.28}{5} = 11564.256$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{7878.31}{10} = 787.831$$

**Trend Value of total investment of SCBL.**

Year	x =[t-3]	Trend Value $Y_c= 11215.54 +787.831x$
2007/08 [6]	3	13927.75
2008/09 [7]	4	14715.58
2009/10[8]	5	15503.41

2010/11[9]	6	16291.24
2011/12[10]	7	17079.07

### Appendix- T(3)

#### Trend value total investment of NIC

Year X	Total deposit [Y]	x=(X-3)	x <sup>2</sup>	xy	Yc= a+bx
2002/03 1	1153.26	-2	4	-2306.52	1390.93
2003/04 2	1760.72	-1	1	-1760.72	1552.09
2004/05 3	1572.90	0	0	0.00	1713.25
2005/06 4	2479.91	1	1	2479.91	1874.42
2006/07 5	1599.48	2	4	3198.96	2035.58
	∑ Y=8566.27		∑ x <sup>2</sup> =10	∑ xy=1611.63	

$$a = \frac{\sum Y}{n} = \frac{8566.27}{5} = 1713.25$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{1611.63}{10} = 161.16$$

#### Trend Value of total investment of NIC.

Year	x =[t-3]	Trend Value Yc= 1713.25+161.16x
2007/08 [6]	3	2196.74
2008/09 [7]	4	2357.90
2009/10[8]	5	2519.07
2010/11[9]	6	2680.23
2011/12[10]	7	2841.39

### Appendix- U(1)

#### Trend value net profit of NABIL

Year X	Total deposit [Y]	x=(X-3)	x <sup>2</sup>	xy	Yc= a+bx
(2002/2003)1	416.24	-2	4	-832.48	400.91
(2003/2004)2	455.32	-1	1	-455.32	470.45
(2004/2005)3	519.16	0	0	0.00	539.99
(2005/2006)4	635.26	1	1	635.26	609.53
(2006/2007)5	673.96	2	4	1347.92	679.06
	∑ Y=2699.94		∑ x <sup>2</sup> =10	∑ xy=695.38	

$$a = \frac{\sum Y}{n} = \frac{2699.94}{5} = 539.988$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{695.38}{10} = 69.538$$

**Trend Value of net profit of NABIL.**

Year	x =[t-3]	Trend Value $Y_c = 539.988 + 69.538x$
2007/08 [6]	3	748.60
2008/09 [7]	4	818.14
2009/10[8]	5	887.68
2010/11[9]	6	957.22
2011/12[10]	7	1026.75

### Appendix- U (2)

**Trend value net profit of SCBL**

Year X	Total deposit [Y]	x= (X-3)	$x^2$	xy	$Y_c = a + bx$
(2002/2003)1	506.93	-2	4	-1013.86	488.50
(2003/2004)2	537.08	-1	1	-537.08	537.61
(2004/2005)3	539.20	0	0	0.00	586.73
(2005/2006)4	658.76	1	1	658.76	635.84
(2006/2007)5	691.67	2	4	1383.34	684.96
	$\sum Y = 2933.64$		$\sum x^2 = 10$	$\sum xy = 491.16$	

$$a = \frac{\sum Y}{n} = \frac{2933.64}{5} = 586.73$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{491.16}{10} = 49.12$$

**Trend Value of net profit of SCBL.**

Year	x =[t-3]	Trend Value $Y_c = 586.73 + 49.12x$
2007/08 [6]	3	734.08
2008/09 [7]	4	783.19
2009/10[8]	5	832.31
2010/11[9]	6	881.42
2011/12[10]	7	930.54

### Appendix- U(3)

**Trend value net profit of NIC**

Year X	Total deposit	x= (X-3)	$x^2$	xy	$Y_c = a + bx$
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	[Y]				
(2002/2003)1	25.94	-2	4	-51.88	33.93
(2003/2004)2	68.26	-1	1	-68.26	63.27
(2004/2005)3	113.76	0	0	0.00	92.60
(2005/2006)4	96.59	1	1	96.59	121.94
(2006/2007)5	158.47	2	4	316.94	151.28
	$\sum Y=463.02$		$\sum x^2=10$	$\sum xy=293.39$	

$$a = \frac{\sum Y}{n} = \frac{463.02}{5} = 92.60$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{293.39}{10} = 29.34$$

**Trend Value of net profit of NIC.**

Year	x =[t-3]	Trend Value $Y_c=92.60 +29.34 x$
2007/08 [6]	3	180.62
2008/09 [7]	4	209.96
2009/10[8]	5	239.30
2010/11[9]	6	268.64
2011/12[10]	7	297.98

**Appendix- V**

Test of significance of difference on loan and advance to total deposit ratio between SCBNL, NABIL AND NIC

F/Y	NABIL		SCBNL		NIC	
	$X_1$	$(X_1 - \bar{X}_1)^2$	$X_2$	$(X_2 - \bar{X}_2)^2$	$X_3$	$(X_3 - \bar{X}_3)^2$
2002/03	60.34	30.54	32.00	32.60	76.95	0.11
2003/04	60.55	28.26	31.63	36.97	69.20	65.22
2004/05	75.05	84.35	43.55	34.11	75.49	3.19
2005/06	66.79	0.85	38.75	1.08	75.93	1.81
2006/07	66.60	0.54	42.62	24.11	88.81	133.03
	$\sum X_1=329.33$	144.53	$\sum X_2=188.55$	128.87	$\sum X_3=386.38$	203.36

$$X_1 = \frac{\sum X_1}{n}$$

$$X_2 = \frac{\sum X_2}{n}$$

$$X_3 = \frac{\sum X_3}{n}$$

$$\begin{aligned} &= \frac{329.33}{5} \\ &= 65.86 \end{aligned}$$

$$\begin{aligned} &= \frac{188.55}{5} \\ &= 37.71 \end{aligned}$$

$$\begin{aligned} &= \frac{386.38}{5} \\ &= 77.27 \end{aligned}$$

$$S^2 = \frac{1}{n_1 + n_2 - 2} \left[ \sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2 \right]$$

$$= \frac{1}{5 + 5 - 2} [144.53 + 128.87] = 34.176$$

$$S^2 = \frac{1}{n_1 + n_2 - 2} \left[ \sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2 \right]$$

$$= \frac{1}{5 + 5 - 2} [144.53 + 203.36] = 43.486$$

### Appendix- W

Test of significance of difference on **Total Investment to Total Deposit Ratio**  
Between SCBNL, NABIL AND NIC

F/Y	NABIL		SCBNL		NIC	
	X <sub>1</sub>	(X <sub>1</sub> - $\bar{X}_1$ ) <sup>2</sup>	X <sub>2</sub>	(X <sub>2</sub> - $\bar{X}_2$ ) <sup>2</sup>	X <sub>3</sub>	(X <sub>3</sub> - $\bar{X}_3$ ) <sup>2</sup>
2002/03	44.85	59.47	55.22	1.60	36.68	74.41
2003/04	41.33	17.57	53.68	0.08	34.21	37.90
2004/05	29.25	62.22	50.18	14.26	25.20	8.15
2005/06	31.94	27.02	55.71	3.08	28.29	0.06
2006/07	38.32	1.40	54.99	1.07	15.89	147.96
	$\sum X_1 = 185.69$	167.68	$\sum X_2 = 269.78$	20.08	$\sum X_3 = 140.27$	268.47

$$\begin{aligned} X_1 &= \frac{\sum X_1}{n} \\ &= \frac{185.69}{5} \\ &= 37.14 \end{aligned}$$

$$\begin{aligned} X_2 &= \frac{\sum X_2}{n} \\ &= \frac{269.78}{5} \\ &= 53.96 \end{aligned}$$

$$\begin{aligned} X_3 &= \frac{\sum X_3}{n} \\ &= \frac{140.27}{5} \\ &= 28.05 \end{aligned}$$

$$S^2 = \frac{1}{n_1 + n_2 - 2} \left[ \sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2 \right]$$

$$= \frac{1}{5 + 5 - 2} [167.68 + 20.08] = 23.47$$



$$S^2 = \frac{1}{n_1 + n_2 - 2} \left[ \sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2 \right]$$

$$= \frac{1}{5 + 5 - 2} [167.68 + 268.47] = 54.519$$

### Appendix- X

Test of significance of difference on Returns on Loan and Advances Ratio  
Between SCBNL, NABIL AND NIC

F/Y	NABIL		SCBNL		NIC	
	X <sub>1</sub>	(X <sub>1</sub> - $\bar{X}_1$ ) <sup>2</sup>	X <sub>2</sub>	(X <sub>2</sub> - $\bar{X}_2$ ) <sup>2</sup>	X <sub>3</sub>	(X <sub>3</sub> - $\bar{X}_3$ ) <sup>2</sup>
2002/03	5.13	0.06	8.45	1.18	1.07	0.43
2003/04	5.33	0.19	8.02	0.43	1.92	0.04
2004/05	4.74	0.02	6.40	0.93	2.41	0.47
2005/06	4.92	0.00	7.37	0.00	1.45	0.08
2006/07	4.34	0.30	6.59	0.60	1.77	0.00
	ΣX <sub>1</sub> = 24.46	0.58	Σ X <sub>2</sub> = 36.83	3.14	Σ X <sub>3</sub> = 8.62	1.01

$$X_1 = \frac{\sum X_1}{n}$$

$$= \frac{24.46}{5}$$

$$= 4.89$$

$$X_2 = \frac{\sum X_2}{n}$$

$$= \frac{36.83}{5}$$

$$= 7.37$$

$$X_3 = \frac{\sum x_3}{n}$$

$$= \frac{8.62}{5}$$

$$= 1.72$$

$$S^2 = \frac{1}{n_1 + n_2 - 2} \left[ \sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2 \right]$$

$$= \frac{1}{5 + 5 - 2} [0.58 + 3.14] = 0.465$$

$$S^2 = \frac{1}{n_1 + n_2 - 2} \left[ \sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2 \right]$$

$$= \frac{1}{5 + 5 - 2} [0.58 + 1.01] = 0.199$$

### Appendix- Y

Test of significance of difference on Investment in government security to  
current assets ratio between SCBNL, NABIL AND NIC Bank

F/Y	NABIL		SCBNL		NIC	
	X <sub>1</sub>	(X <sub>1</sub> - $\bar{X}_1$ ) <sup>2</sup>	X <sub>2</sub>	(X <sub>2</sub> - $\bar{X}_2$ ) <sup>2</sup>	X <sub>3</sub>	(X <sub>3</sub> - $\bar{X}_3$ ) <sup>2</sup>

2002/03	21.56	18.40	31.86	0.09	27.50	67.47
2003/04	21.94	21.81	33.43	3.52	23.04	14.09
2004/05	14.17	9.61	32.61	1.12	17.28	4.02
2005/06	10.71	43.03	34.43	8.27	18.99	0.09
2006/07	17.97	0.49	25.44	37.38	9.62	93.43
	$\sum X_1 = 86.35$	93.35	$\sum X_2 = 157.77$	50.38	$\sum X_3 = 96.43$	179.11

$$\begin{aligned} \bar{X}_1 &= \frac{\sum X_1}{n} \\ &= \frac{86.35}{5} \\ &= 17.27 \end{aligned}$$

$$\begin{aligned} \bar{X}_2 &= \frac{\sum X_2}{n} \\ &= \frac{157.77}{5} \\ &= 31.55 \end{aligned}$$

$$\begin{aligned} \bar{X}_3 &= \frac{\sum x_3}{n} \\ &= \frac{96.43}{5} \\ &= 19.29 \end{aligned}$$

$$\begin{aligned} S^2 &= \frac{1}{n_1 + n_2 - 2} \left[ \sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2 \right] \\ &= \frac{1}{5 + 5 - 2} [93.35 + 50.38] = 17.966 \end{aligned}$$

$$\begin{aligned} S^2 &= \frac{1}{n_1 + n_2 - 2} \left[ \sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2 \right] \\ &= \frac{1}{5 + 5 - 2} [93.35 + 179.11] = 34.058 \end{aligned}$$