

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

The development of any country largely depends upon its economic health and conditions. The mobilization of the domestic resources is one of the key factors in the economic development of the country. Nowadays, the financial institutions are viewed as catalyst in the process of the economic growth. Commercial banks and other financial institutions collect immobilized money in the form of deposits from every corner and parts of the country. This will be provided capital for industrial development, trade and business promotion and other resources utilization sectors. Commercial banks formulate sensible investment policies to make it more effective, which eventually contribute to the economic development of the country. Formulation of sound investment policies and coordinated and planned efforts push forward the forces of economic growth.

To overcome this economic situation, government has to formulate and implement strategies focusing overall industrialization of the nation and development of a sound banking system necessary for the rapid industrial development. “Financial infrastructure of an economy consists of financial intermediation, financial institution and financial market” (Shrestha, 1990:2). Financial institution, in this economy plays a role of catalyst in the process of economic growth of the country. In this context, a bank is a financial institution, which plays a significance role in the development opportunities to people such that economy of the country secures proper growth. In this way, it is clear that a sound banking system is highly essential for the industrial development and it generates employment and investment opportunities to the people. A bank is a business organization that receives and holds deposits of fund from other, makes loans or extends credit and transfer funds by written order of depositors. Banks have always been the most important and the targets of the financial intermediaries almost everywhere. It

plays significant role in the development of a country intermediating between the savings and investment; essentially the banks and financial systems are channel through which money is mobilized and distributed throughout the economy. Any bank must maintain adequate cash and bank balance to meet its day-to-day management of cash resources for remote contingencies. To achieve this sound investment policy is required for the economic growth and development of any banking institution.

Commercial banks are among the most important financial institutions in the country's economy and are a highly essential business in the several local towns and cities. Definitely, the banks must be recognized with their functions, services and roles they perform in the economy of the society. At the moment, the functions of banks and their principal competitors are changing. The competitors like financial institution including security dealers, brokerage firm and insurance companies are trying to be similar as soon as possible in the services they offer.

The under-developing countries including Nepal are suffering from the problem of improper mobilization of the financial, physical and human resources. One of the efforts applied to mobilize both internal and external financial resources is to set up banking organization and institutionalize them. The commercial banks should therefore come forward at this for developing the economic condition of county. Therefore, commercial bank plays a vital role in the economic and financial life of the country. Economic developments done by the banking organizations should focus on development of the leading sectors of the economy like agriculture, industry, trade and commerce etc. the sustainable development of these sectors requires a regular delivery of sound banking system.

Financial sector consists of two major components. The commercial banks are the major components of financial sector, which are basically known as the banking sector component. The other component, on-banking sector, includes co-operatives, Gramin

Bikas Banks, Development Banks, financial companies and Non- Government Organizations.

Bank's role has been considered to be the predominant in under-developed economy in various ways as they enhance capital formation by developing banking habit of people and collection saving. Thus, their role in the economic development is to eliminate the deficiency of capital by stimulating saving and investment activities.

Financial institution can be considered as the catalyst to the economic growth of a country. The development process of a country involves the mobilization and developed of resources. Development of trade, commerce and industry are the prime requisite for the attainment of the economic political and social goals. To fulfill the purpose of planning, financial functions more often dominate the other functions. "There is always lack of finance in underdeveloped economy because natural resources are either underutilized or unutilized in productive sectors or even other purpose i.e. social welfare and so on. Likewise, underdeveloped countries are not deficient in land, water, mineral, forest or power resources, though they may be untapped; constitution for the rapid development of the economic, there should be proper mobilization of resources. Due to various difficulties or even ignorance of the people, such resources have not been properly utilized. Hoarding could be one of the reasons for this. So, banks and other financial institutions play a vital role to encourage thrift and discourage hoardings by mobilizing the resources and removing the habit among the people, collecting the small-scattered resources in one bulk and utilizing them in further productive purposes and rendering other valuable services to the country. Thus, this gives the individuals an opportunity to borrow funds against future income, which may improve the economic well being of the borrower.

Nepal is basically an agricultural country. Agriculture provides employment to over 80% of labor force and contributes about 40% of gross domestic product. Agricultural production technologies are primitive and the production system is subsistence based.

Today, foreign employment and other industrial development are the major sources of income besides agriculture. In the economic development of a country financial institution can be considered as the catalyst. The development process of a country involves the mobilization and deployment of resources. Development of trade, commerce and industry are the prime requisite for the attainment of the economic, political and social goals. To fulfill the purpose of planning, financial functions more often dominate the other functions.

“There is always lack of finance in underdeveloped economy because natural resources are either underutilized or unutilized in productive sectors or even other purpose i.e. social welfare and so on. Likewise, underdeveloped countries are not deficient in land, water, mineral, forest or power resources, though they may be untapped; constituting only potential resources.” (Dewett, 1995: 454). And in the underdeveloped countries like Nepal there is always lack of financial resources not only because of its real absence but because of the available resources are not properly mobilized and are not fully utilized for the productive purposes. Even, though, the process of economic development depends upon various factors. However, economists are now convinced that capital formation and its proper utilization play a paramount role for the rapid economic development. So, for the rapid economic development in the underdeveloped countries like Nepal there should be proper utilization of resources. So, financial institutions play a vital role to encourage thrift and discourage hoardings by mobilizing the resources and removing the habit of hoarding. They pursue rapid economic growth, developing the banking habit among the people, collecting the small-scattered resources in one bulk and utilizing them in further productive purposes and rendering other valuable services to the country. Thus, this gives the individuals an opportunity to borrow funds against future income, which may improve the economic well being of the borrower. In this course the banks play the most important role in economic organization.

Today each and every managerial decision is based on financial analysis. It covers the acquisition, utilization, control and administration of fund. Finance is concerned with the conversion of capital funds to meet the financial need of business organization. Financial management led to the decision making most skillfully. In a short period, the field of finance has developed considerably; securities raise funds in capital markets that certainly help to expand the national economy. The network of a well-organized financial system of the country has great bearing in capital formation. It collects scattered financial resources from the mass and invests them among those engaged in commercial and economic activities of the country. To develop well established economic activities of any country can hardly be carried forward without the assistance and support of financial institution.

Bank is the main financial institution, which plays an important role in the economic development of the nation. Its principal operations are concerned with the accumulation of temporary idle money of the public for advancing others for expenditure. Banks accept deposits and make loans and derive a profit from the difference in the interest rates paid and charged, respectively. Depositors may be either individual or institutions. These deposits may be current, saving or fixed and the tenure depends upon the mutual agreements between the bank and depositors. Similarly, the borrowers who borrow this money from the bank may be either an individual or institutions. The tenure or the loan may vary as per the demand, criteria and the usefulness of the loan.

A commercial banker is a dealer in money and in substitutes for money, such as checks or bills of exchange. The banker also provides a variety of other financial services. The banker makes profit by borrowing at one rate of interest and lending at a higher rate and by charging commissions for services rendered. They also provide an opportunity in the development of individual industries, trade and business organization by investing savings and collected deposits. By investing the savings and collected deposits in the productive sectors, they help in the formation of capital. Besides they also render numerous services to its customers in a view of providing facilities to their economic

and social life in the community. All the economic activities are greatly influenced by the commercial banking business of that county. Thus, commercial banks have become the heart of financial system. Mobilization and utilization of domestic resources is the key factor in the economic development of the country that can be achieved through the help of commercial banks. To make the role of commercial banks more effective and efficient government and respective organization should come up with sound investment policy, which will lead quality and quantity of investment and eventually will contribute to the economic growth of country.

Nepal became full-fledged member of WTO on 23 April 2004. Similarly Nepal is now a member of two regional trading arrangements; South Asian Free Trade Agreement (SAFTA) and BIMST-EC. The signing of SAFTA framework treaty in 6 January 1, 2004 and BIMST-EC free trade area on 8 February, 2004 has been a landmark in the economic history of Nepal as these would help to integrate the Nepalese trade and economy at the regional and trans-regional level, ( FNCCI, 2060/2061).

Nepali economy that had around 6% growth rate in the second half of 1990s happened to get negative growth rate in the year 2001 with -0.44 growth rate. Nonetheless, the succeeding years are recovering the horrible down turn in Nepal economy with 2.7 % growth rate in the subsequent fiscal year 2005/06. This growth rate is now projected to be 4.5% in the fiscal year 2007/08.

The economic survey 2006/07 paints a mixed picture. Although there are signs of economic revival, there also are signs of stagnation in social indicators. The annual socio-economic indicators document of the country projects the Gross Domestic Products growth rate for 2003/04 to be 3.6%. Although lower than the government's budgetary target of 4.5%, it is better than that of the last fiscal year, which was only 2.7%. The growth, coupled with over 6% appreciation of the Nepali currency against the greenback, has significantly raised the per capita income of the Nepalese in terms of dollars. It has increased to US \$ 269 compared to last year's US \$ 242. Despite a lean

export earnings, the foreign currency reserves have shot up to Rs.125.39 billion, enough to cover imports for 11 months – thanks to strong remittance inflow. The per capita foreign debt burden of Nepalese has also increased by over 5% to reach Rs.9.911. This is over half of the GDP per capita at current prices. The social sector development, on the other hand, did not fare well in the current fiscal year as well, indicating that the government’s “development within conflict” strategy is yet to make any impact.

The law and order situation of the country did not improve in this year too. However, some improvement in certain economic indicators has been pointed out in the economic survey. “The Nepalese economic growth rate in the fiscal year 2002/03 was initially estimated to be 2.3%. However, this has been revised and it is now estimated to be 3.1%. Fiscal year 2003/04 from the security view point has been a turbulent year however, compared to the fiscal year 2002/03 the economic indicators like gross national income, savings, investment and consumption have shown improving trend and it have been estimated that the economic growth rate has reached 3.7%. (Security Board, 2003/04).

## **1.2 Profit of Sample Banks**

### **Everest Bank Limited (EBL)**

Everest bank limited, a joint venture bank with Punjab national bank, was registered under the company act 1964 in 19<sup>th</sup> November 1993 and started banking transaction in 16<sup>th</sup> October 1994. The main purpose of E.B.L is to extend professional banking services to various sectors of the society in the kingdom of Nepal. On equity holding P.N.B has 20% equity participation in its total shareholding, Nepalese promoter holding 50% and general public holding 30%.

Authorized equity capital	Rs.750 million
Issued equity capital	Rs.466.88 million
Paid up equity capital	Rs.455 million

## **Nepal Investment Bank Limited (NIBL)**

Nepal Investment Bank Limited (NIBL), previously Nepal Indosuez Bank Limited, was established on 21<sup>st</sup> January 1986 as a second commercial joint venture bank with an agreement between Nepalese and French partners under the company act 1964. Initially Banque Indosuez pares managed the bank in accordance with joint venture and technical services. With the decision of credit agricole Indosuez to divest, a group of company's comprising of bankers, professionals, industrialists and businessmen of Nepal, has acquired on 25<sup>th</sup> April 2002 the 50% shareholding of Credit Agricole Indosuez in Nepal Indosuez Bank Limited. The name of the bank has been changed to Nepal Investment Bank Limited ( SBI) upon approval of bank's 15<sup>th</sup> Annual General Meeting, Nepal Rastra Bank and Company Registrar's office on 31<sup>st</sup> May 2002. The present shareholding pattern of SBI is as follows:

A Group of Companies	50%
Rastriya Banijya Bank	15%
Rastriya Beema Sansthan	15%
General Public	20%
Authorized Capital	Rs.590,000,000.00
Issued Capital	Rs.295,293,000.00
Paid-Up Capital	Rs.295,293,000.00

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

Nepal SBI Bank Ltd was registered under the company Act, 1964. This is the joint venture of state Bank of India and Nepal promoters. The bank is managed by state bank of India under the joint venture and technical service agreement signed between it and



Nepal promoters via employees provided fund and agriculture development banks Nepal. The state bank of India is holding its 50% by Nepalese promoters.

Present capital structure of the bank

Authorized capital	Rs.1000 million
Issued capital	Rs.650 million
Paid up capital	Rs.431.86 million

Present capital structure of the bank

Authorized capital	Rs.500 million
Issued capital	Rs.491.65 million
Paid up capital	Rs.491.65 million

### **1.3 Statement of the problem**

Working capital management on bank is also difficult as that of manufacturing and non-manufacturing business organization. Commercial banks are great monetary institutions, which are playing important role to the general welfare of the economy. The responsibilities they must be ready to pay on demand a good share of their liabilities without warning or notice. Bank collects fund form different types of deposits for providing loan and advances to different sector. To get higher return, banks must try to increase funds from deposits as well as their investment. The first motive of banking business is to borrow public saving and lend to needy people. But commercial banks always face the problem for utilizing more deposits as investment fully and productively. The gap between collection of deposits and disbursement of liabilities on its deposits demand without notice. But large amount of idle cash balance also decrease profitability of banks.

Under and over allocation of working capital is harmful to an enterprise to achieve its primary objectives. Therefore, maintaining optimal level of working capital is the crux of the problem as it is strongly related to the trade off between risk and return. But, it is difficult to point out as to how much working capital needed by a particular business organization. An organization which is not willing to take more financial risk can go for more short-term liquidity. The more of short-term liquidity means more of current assets and less of current liabilities. The less current liabilities implies less short-term financing heading to the lower returns resulting from the use of more high cost long-term financing. So it is very essential to analyze and find out problems and its solutions to make efficient use of funds for minimizing the risk of loss to attain profit objective. Inadequate investment in working capital threatens the solvency of enterprise as well as affects its growth. On the other hand, excessive investment in working capital yields nothing. Therefore, working capital should be determined in such a way that total cost i.e. cost of liquidity and cost of non-liquidity is minimum. Hence, the goal of working capital management is to manage the firm's current assets and current liabilities in such a way that it should maintain satisfactory level. Working capital management of banks is more difficult than that of manufacturing and non-manufacturing business organizations. Commercial banks are great monetary institutions which are playing important role to general welfare of the economy. To get higher return, banks must try to increase funds from deposits as well as their investment. The first motive is banking business is to borrow public saving and lend to needy people. But commercial banks always face the problem for utilizing more deposits as investment fully and productively. The gap between collection of deposits and disbursement of loans increase the cash balance on bank, which require paying its large amount of liabilities on its depositors demand without notice. But large amount of idle cash balance also decrease profitability of banks.

SBI, NIBL and EBL were seen well in comparison to other joint venture banks on the account of their performance and profitability as well. It is the question of the study that whether there is any relationship of working capital management with regard to their performance and profitability among these banks.

So, following are the major problems that have been identified for the purpose of this study:

- Which of current assets are more problematic in SBI,EBL and NIBL?
- What lending pattern of loan and advances and other investment will be profitable?
- What is the management attitude towards risk?
- How to build the image of Bank through working capital management?
- What are the components of working capital, which affect the operating income of sample banks?

#### **1.4 Objective of the Study**

The main objective of this study is to highlight and examine the management of working capital in Nepal SBI Bank, Nepal Investment Bank and Everest Bank Limited.

The specific objectives of this study are as follows:

- To analyze the comparative study of working capital management of sample banks.
- To analyze and evaluate composition of working capital, Assets utilization and profitability.
- To examine and evaluate the position of current assets and current liabilities their impact on liquidity position and profitability.
- To analyze the liquidity, assets utilization, long-term solvency and profitability position of sample banks.
- To suggest and recommend on the basis of major findings.

#### **1.5 Significance of the Study**

Working capital is regarded as the life blood and nerve of a business concern and is essential to accommodate the smooth operations of any organizations. Under and over

allocation of working capital is harmful to an enterprise to achieve its primary objectives. Inadequate investment in working capital threatens the solvency of enterprise as well as affects its growth. On the other hand, excessive investment in working capital yields nothing.

The study has multidimensional significance, which can be divided into four broader headings.

- Its significance to the management: the study might be helpful to go deep into the matters as to why working capital management of their banks is better (or worse) than their competitors.
- Its significance to the outsiders: among outsiders mainly the customers, financing agencies, stock exchanges and stock traders are interested in the performance of banks and the customers (both depositors and debtors) can identify to which bank they should go. The financial agencies can understand where is more secured and, stock exchange, stockbroker's and stock traders can find out the relative worth the stocks of each bank.
- Its significance to shareholders: the study might be helpful to aware the shareholders regarding the working capital management, i.e. liquidity and profitability of their banks. The comparison will help to identify the productivity of their funds in each of these three banks.
- Its significance to the policy makers: policy makers here refer to the government and Nepal Rastra Bank. The study will be helpful to them while formulating the policy regarding commercial banks.

Therefore, considering all these facts, the study of working capital management of SBI, EBL and NIBL is considerably important.

## **1.6 Limitations of the Study**

This study has been made for the partial fulfillment of the requirement for the Master's Degree in Business Studies (M.B.S) but not a comprehensive study. The study has been

conducted with certain limitations. The time is the one factor of limitations. Besides it, the scope of the study is limited within the bank. Some more limitations are follows:

- The study is mainly based on secondary data. It is done mostly on the basis of the published financial documents, like balance sheet, profit and loss account and other related journals, magazines and books etc.
- The study follows with specific tools such as ratio analysis, mean, CV, correlation, and hypothesis.
- The truth of research is based upon the available data from the banks
- This study has been confined to only three of the joint venture banks, namely SBI, EBL and NIBL.
- Although there are various aspects of financial management, this study is mainly concerned with the working capital aspect of the sample banks.
- The study is limited form the point of view of submission on partial fulfillment for the master degree in business study.
- The whole study is based on the five years ( F/Y 2004/05 to F/Y 2008/09) data and conclusion drawn confines only to the above period.

## **1.7 Organization of the Study**

The whole study is divided into following five chapters:

Chapter 1: Introduction

Chapter 2: Review of Literature

Chapter 3: Research Methodology

Chapter 4: Data Presentation and Analysis

Chapter 5: Summary, Conclusion and Recommendation

The first chapter deals with introduction. This includes introduction, background of the study, profile of the sample companies, statement of the problem, objective of the study,

focuses and significance of the study, limitation of the study and organization of the study.

Second chapter deals with the review of available literature. It takes in review of related books, journals, articles and previous unpublished Master Degree Dissertation etc.

Third chapter explains the research methodology used in the study. It includes research design, population and sampling, source of data, method of data analysis and research variables etc.

The fourth chapter the important chapter of the study will be the presentation and analysis of data as well as major findings of the study.

The fifth and last chapter covers the summary of the study, the main conclusion that flows from the study and offers some recommendations as well as suggestions for further improvement.

## **CHAPTER TWO**

### **REVIEW OF LITERATURE**

Literatures are the main sources of information related with the study. The chapter deals with review of literature react to the working capital of the commercial banks. This chapter has been divided into two main sections. The first section of the chapter implies with the conceptual framework of the study which second implies the review of previous studies.

#### **2.1 Conceptual Framework**

There is an important role of banks in the economic growth and development of a country. To achieve an ideal economic growth and development, the banks should have strong and well-managed organization of banking system. When banking is appropriately organized, it aids and facilitates the growth of trade and industry and hence of national economy. In the modern economy, banks are considered not as dealer in money but as the leaders of development. Banks are not just the storehouse of the country's wealth but are the reservoirs of necessary for economic development.

Banking plays a significant role in the economic development of a country. Bank is a resource for the economic development, which maintains the self-confidence of various sectors of society and extends credit to the people. So, commercial banks are those financial institutions mainly dealing with activities of the trade, commerce, industry and agriculture that seed regular financial and other helps from them for growing and flourishing. The objective of commercial banks is to mobilize idle resources into the most profitable sectors after collecting them from scattered sources. Commercial bank contributes significantly in the formation and mobilization of internal capital and development effort.

### **2.1.1 Meaning of Banks**

Banks are very important financial intermediaries in financial market. “Financial intermediaries not only transfer money and securities between users and savers but also they create new financial products. They gain economics of scale in analysis of credit worthiness of potential borrowers, in processing and collecting loan, and minimize cost of information and make easy flow of transactions.” (Rose, 1999:4).

Banks are the principal source of credit to household: individuals and family, business: all forms and local units of government. Furthermore, they are the source of financial information, planning and controlling. “Banking institution is inevitable for resource mobilization and all-round development of the country. It is resource for economic development; it maintains economic confidence of various segments and extends credit to people.” ( Grywishki, 1993:87). Banks deal with money by accepting various types of deposits, disbursing loans and investing in productive sectors and rendering other financial services as the primary function.

Banks are channels between saving surplus and saving deficit people and thus, they are the bridge of utilized scatter fund to productive sectors. Hence, they represent a vital role in the transmission of government economic policies (especially monetary policies) to the economy. When bank credit is expensive, the investment slows down and unemployment rises. Bank deposit represents the most significant component of the money supply used by the public. Commercial banks play an important role for economic development of the country as they provide capital for the development of industry, trade and business by investing the saving collected as deposits from public. They render various services to their customers facilitating their economic and social life.



### **2.1.2 Meaning of Commercial Banks**

It is difficult to give concise and accurate definition of bank. It is so because a modern bank renders various functions. It is difficult to include all those functions in a single and concise definition. Even though, it can be said that a bank is an institution whose business is to trade in money. Trading in money relates to activities such as taking deposit, granting loans, discounting bills, issuing cheques to be drawn upon and other various functions on behalf of customers. Any institution will be known as bank if it renders all or some of these functions. It is quite impossible to discharge all these functions by a single bank. So they specialize in certain set of functions. Banks are classified on the basis of their functions, which are as follows:

1. Central Bank
2. Commercial Bank
3. Agriculture Bank
4. Industrial Bank
5. Exchange Bank
6. Saving Bank etc.

American institute of banking defines commercial bank as “ Commercial Bank is a corporation which accepts demand deposits subject to cheques and makes short-term loans to business enterprises, regardless of the scope of its other services” ( American Institute of Banking USA 1972:345). The institution also aid down the four functions of commercial bank as receiving and handling deposits ( Deposit Function), handling payments of money ( Payment Function), making loans, and investments ( Loan function) and creating money by extension of credit ( Money Function).

In today’s concern the operating function of the commercial banks are, (a) to collect working capital (b) to utilize the working capital in various purposes (c) by utilizing the working capita, it earns profit and (d) part of the profit is distributed as dividend and part of the profit is retained for the expansion of banking transactions ( Garg, 1977:271).

Commercial Bank Act, 2031 BS of Nepal has defined it as a commercial bank is one which exchanges money, deposits money, accepts deposits, grants loans and performs commercial banking functions and which is not a bank meant for co-operative agriculture, industries or for such specific purpose. The commercial bank act 2031 also pointed the functions of commercial banks commercial banks provide short- term debts necessary for trade and commerce. They take deposits from the public and grants loans in different forms. They purchase and discount bills of exchange, promissory note, and exchange foreign currency. They discharge various functions on behalf of their customers provided that they are paid for their services, Commercial Bank Act, 2031.

### **2.1.3 Meaning of Joint Venture Banks**

“A Joint Venture is forming of two forces between two or more enterprises for the purpose of carrying out of specific operation (industrial or commercial investments, production trade)”, ( Gupta, 1984:15-25). Joint Venture Banks are the commercial banks formed by joining a two or more enterprises, for the purpose of carrying out of specific operation such as investment in trade, business and industry as well as in the form of negotiation between various groups of industries or traders to achieve mutual exchange of goods and services.

### **2.1.4 Meaning of Working Capital**

A bank must always have cash balances in hand in order to pay its depositors upon demand or when the amounts credited to them become due. It must also keep a proportion of its assets in forms that can readily be converted into cash. Only in this way can confidence in the banking system be maintained. Working capital is regarded as the life blood and nerve of a business concern and is essential to accommodate the smooth operations of any organizations. To sustain the belief of the people and customer, the organization should always get ready to meet the obligations.

According to I.M, Pandey, there are two concepts of working capital gross concept and net concept. The gross working capital, simply called as working capital, refers to the firm's investment in current assets. Current assets are the assets which can be converted into cash within an accounting year ( or operating cycle) and include cash, short-term securities, debtors, bill receivable and stocks. The term net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within an accounting year and include creditors, bills payable, bank overdraft and outstanding expenses or accrued income. A positive net working capital will arise when current assets exceed current liabilities and a negative net working capital occurs when current liabilities are in excess of current assets. Net working capital concept also covers the question of judicious mix of long-term and short-term funds for financing current assets (Pandey, 1992:796-797).

Working capital refers to the resources of the firm that are used to conduct day-to-day operation that makes business successful. Without cash, bills cannot be paid, without receivable the firm can not allow timing difference between delivering goods to services and collecting the money to pay for them, without inventories the firm cannot engage in production nor can it stock goods to provide immediate deliveries. As a result of the critical nature of current assets the management of working capital is one of the most important areas in determining whether a firm will be successful. Need of working capital is directly related to firm's growth. The term working capital refers to the current assets of the firm's those items that can be converted into cash within the year. Net working capital is defined as the difference between current assets and current liabilities (Hampton and Wagner, 1989:34).

“Working capital maybe defined as the funds deployed by the company in the form of cash, stock, sundry debtors and other current assets. The total sum of fund deployed in such assets is termed as gross working capital. Net working capital is defined as the difference between gross working capital and current liabilities. The term working capital

generally means net working capital. The liquidity position of a company is dependent of the investment in the working capital.” (Mahat, Volume 2, Number 2, P.22).

### **2.1.5 Issue of working Capital**

In the management of working Capital, the most posing questions are how much working capital to maintain? What type of financing to use? How to adjust the working capital when there is change in the level of business activities? In particular, they face the following issues with respect to the management of working capital, (Pradhan, 1992:148).

- Size of working capital to maintain size of each type of current assets
- Size of permanent and seasonal working capital investment
- Sources of financing: short-term or long-term financing
- Cost of financing: cost of short-term vs. long-term financing
- Risk associate with types of financing: trade- off between cost and risk
- Maintenance of current ratio: minimizing the risk of cash flow problem

### **2.1.6 Objectives of Working Capital in Banks**

- A bank undertakes many transactions daily. Sometimes, customers deposit large quantity and sometimes customers withdraw from their deposits in high quantity. Investment fund of bank is covered by deposit collections of different types of account holder. A bank should have to pay the money to depositors when they want to withdraw. For daily operation of office and to meet the administrative expenses, a bank should have certain level of working capital. Working capital is required to run the business smoothly and efficiently in the context of the set objectives. It is no doubt that no company can achieve its goals without proper use of working capital. Therefore, it can compare as lifeblood to the organization. The main objectives of arranging capital are as follows:
  - To pay to depositors,
  - To maintain cash reserve ratio (CRR) and statutory liquidity ratio (SLR),

- To satisfy the customers by granting loans promptly and increase the attraction of business etc.
- To meet the administrative expenses, perform the task as per objective of business and run the business smoothly,
- To fulfill the present need of business as well as get ready for risk and economic fluctuation in future.

### **2.1.7 Determinants of Working Capital of Banks**

working capital in banks is basically concerned with the liquidity management. Thus, the working capital of banks is synonymous to liquidity of banks. Many factors affect the liquidity or working capital of banks. They are;

#### **a. External Factor:**

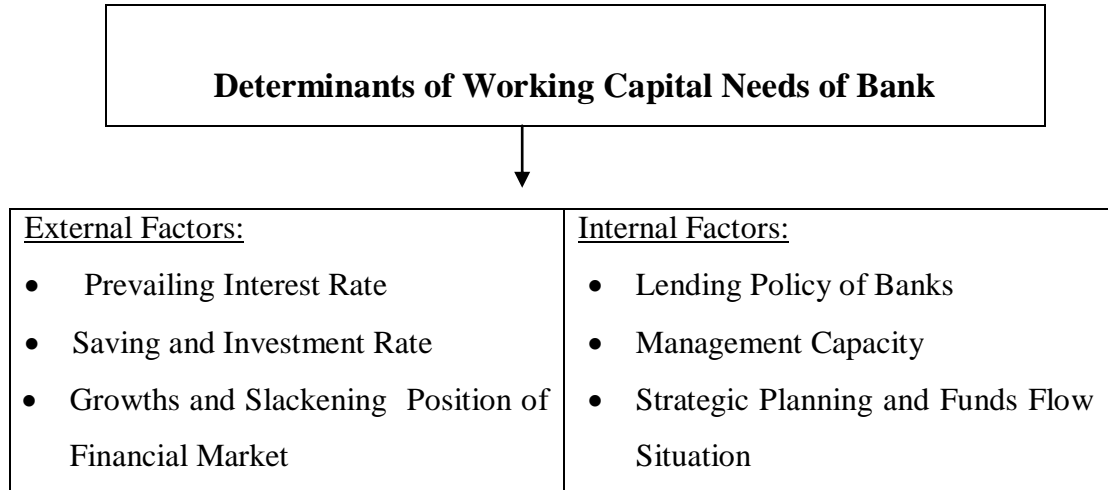
- Prevailing interest rate of bank: If interest rate is high cash demand is low and liquidity need is low.
- Saving and investment situation: If income and saving scale of people is high, low liquidity. If investment in commercial field is high, high liquidity.
- Growth and scheming position of the financial market: If financial market of bank is in growth and prosperity, then low liquidity and if opposite, high liquidity.

#### **b. Internal Factor:**

- Lending policy of bank: Great quantity for long-term investment needs high liquidity and if short-term loan policy, low liquidity.
- Management capacity: If management is efficient and ready to bear risk, low liquidity.
- Strategic planning and funds flow situation: Liquidity depend upon planning, and strategy. Current A/C needs high liquidity and payment. On the other hand fixed deposit needs low liquidity.

**Figure 2.1**

**Determinants of Working Capital Needs of Bank**



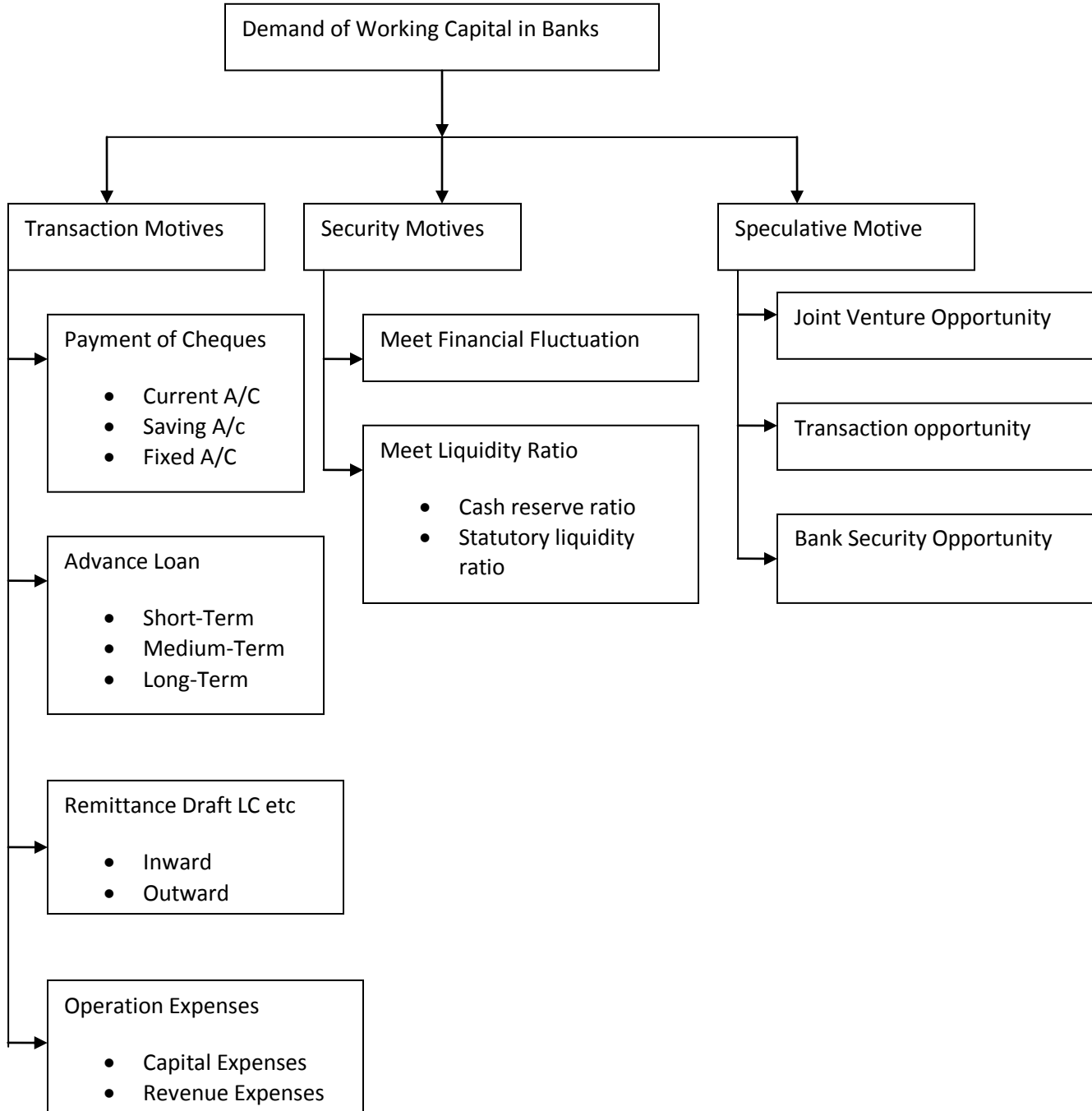
**2.1.8 Demand of Working Capital in Banks**

Working capital is maintained at bank by current saving and fixed deposit collection. Specially, to grant loan and to pay cheques, creditors and account holders demand the liquidity. Generally, banks need liquidity for maintaining following goals.

- Transaction motive
- Security motive
- Speculative motive

**Figure 2.2**

**Demand of Working Capital in Banks**



### **2.1.9 An Overview of Working Capital Management**

Working capital management refers to the administration of all aspects of current assets, namely cash, marketable securities, stock and current liabilities. It is the functional area of finance that covers all the current accounts of the firm. It is concerned with the adequacy of current assets as well as the level of risk posed by current liabilities. It is a discipline that seeks proper policies for managing current assets by current liabilities and practical technique for maximizing the benefits from managing working capital.

In the words of K.V.Smith, the term working capital management closely relates with short-term financing; it is concerned with collection and allocation of resources. Working capital management relates to problems that arise in attempting to manage the current assets, the current liabilities and interrelationships that exist between them (Smith, 1974:5).

Working capital management is the crucial aspect of the financial management. It is the life blood and controlling nerve center for any types or business organization because without the proper control upon it no business can run smoothly. The management of current assets and current liabilities is necessary for daily operations of any organizations. Thus, it plays the vital role in the success and failure of the organizations as it deals with the part of assets, which are transformed from one form to another form during the course of manufacturing cycle. Therefore, the role of working capital management is more significant for every business organization irrespective to their nature.

By the definition of various experts of working capital management, we conclude that, all institution, whether private or public, financial institution, manufacturing or non-manufacturing that need just adequate working capital to compete with competitive market. It is because over or under adequacy of working capital is dangerous from the firms objective points of view. Over investment on working capital affects the firm's

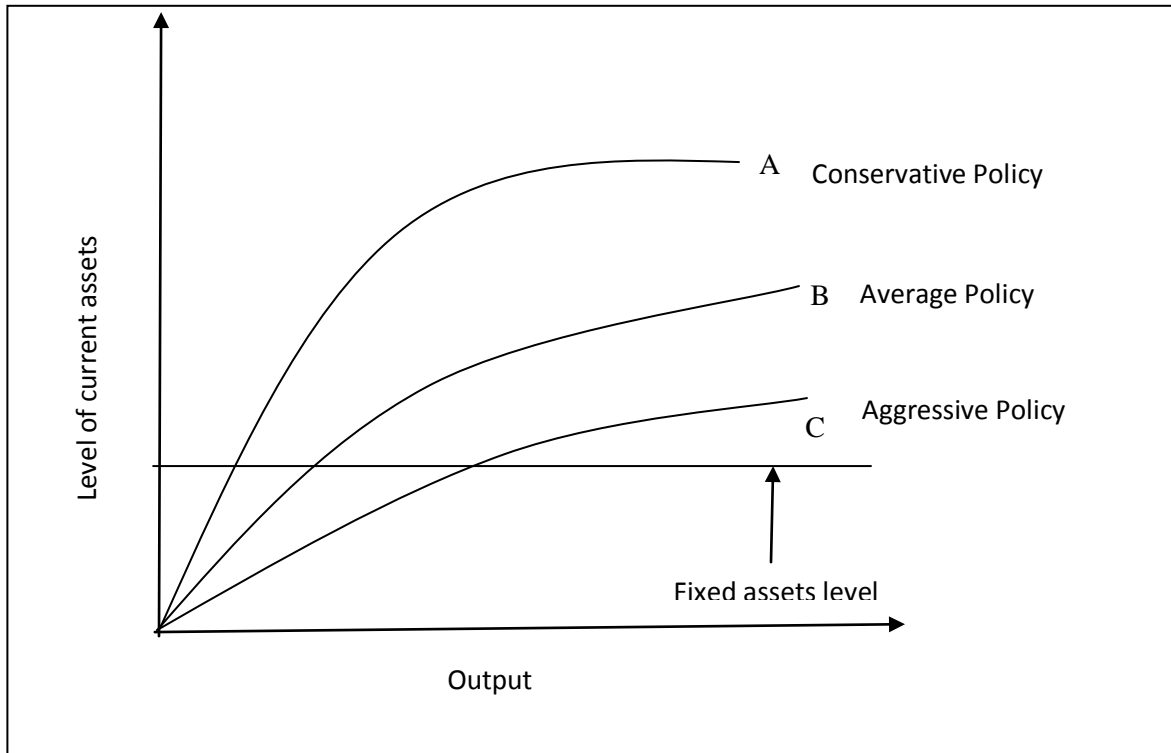


profitability just as idle investment. On the other hand, under investment on working capital affects the liquidity position of the firm and causes to financial hindrance and failure of the company. It is therefore, a recognized fact that any mistake made in management of working capital can cause to adverse effects in business and reduces the liquidity, turnover and profitability and increases the cost of financing of the organization.

Need of working capital is directly related to firms growth. A firm can have different level of current assets to support the same level of output. The level of current assets can be measured by relating current assets to fixed assets. Its proportion upon the fixed assets of the firm indicates the working capital policy of the firm namely conservative and aggressive in two extreme ends. Dividing current assets by fixed assets gives current assets to fixed assets (CA/FA) ratio. Assuming a constant level of fixed assets, a higher CA/FA ratio indicates a conservative's current assets policy and a lower CA/FA ratio means an aggressive current assets policy assuming other factors to be constant. A conservative policy implies greater liquidity or lower risk, while an aggressive policy indicates higher risk and poor liquidity, (Pandey, 1992:822). Higher level of current assets implies greater liquidity and solvency of the firm. There isles risk of technical insolvency, but a considerable amount of funds will be tied up in current assets, which causes to lower the profitability. On their other side, to have a higher profitability, a firm can take as aggressive current assets policy maintaining lower lever of current assets, which will lower the solvency of the firm and the level of risk in the same manner. Thus the reasonable approach is to balance the cost of maintaining current assets and risk associated in such a way that the trade off between risk and return is minimized.

**Figure 2.3**

**Alternative Current Assets Policies**



Source: I.M. Panday, *Financial Management*, New Delhi: Vikash Publishing House, 1992, P.822

When the firm follows the matching policy or average policy long-term financing will be used to finance fixed assets and permanent current assets and short-term financing to finance temporary or variable current assets (Pandey, 1992:828).

The financing policy of the firm is said to be conservative when it depends more on long-term funds for financing needs. Under a conservative plan, the firm finances its permanent assets and a part of temporary current assets with long-term financing (Pandey, 1992:828).

An aggressive policy is said to be followed by the firm when it uses more short-term financing than warranted by the matching plan. Under an aggressive policy, the firm

finances a part of its permanent current assets with short-term financing (Pandey, 1992:828).

Proper management of working capital must ensure, adequate amount of working capital as per need of business firms. It should be in good health and efficiently circulated. To have adequate healthy and efficient circulation of working capital it is necessary that working capital be properly determined and allocated to its various segments, effectively controlled and regularly reviewed.

The objective of managing working capitals to aid in the value maximization of the firm by minimizing the cost of working capital. The level of working capital also differs by the types and nature of the business. The cost of maintaining the working capital depends on the source of finance used. The short-term source generally cost less than the long-term sources, but they are riskier, (Pradhan, 1992:148).

## **2.2 Review of Related Study**

### **2.2.1 Review of Books**

The well known professors, *Weston and Brigham, (1984)*. in their book “**Managerial Finance**” have given theoretical insights into working capital management. The bond conceptual findings of their study provide sound knowledge and guidance for the further study in the field of management of working capital of any enterprise and naturally to this study as well. They explain, in the beginning, the importance of working capital, concept of working capital, financing of working capital, the use of short-term versus long-term debt, relationship of current assets to fixed assets. They have dealt with the various components of working capitals and their effective management techniques. The components of working capital they have examining the various aspects of working capital in their book were:

- To conduct risk return analysis of liquidity of working capital position.

- To assess the short term financial liquidity position of the enterprises.
- To assess the structure and utilization of working capital and its various components.
- To estimate the transaction demand functions of working capital and its various components.

**In their book they have mentioned the following findings.**

- It was found that most of the selected enterprises have been activating a trade off between risk and return thereby following neither an aggressive nor a conservative approach.
- It has showed a poor liquidity position of most of the enterprises. This poor liquidity position has been noticed as the enterprises have either negative cash flows or negative earnings before tax or they have excessive net current debts which cannot be paid within a year.
- The Nepalese manufacturing public enterprises have on an average half of their total assets in the form of current assets. Of all the different components of current assets, on an average, the share of inventories in total assets is the largest followed by receivable and cash in most of the selected enterprises.
- The economics of scale have been highest for inventories followed by cash and gross working capital, receivable and net working capital.
- The regressions results also show that the level of working capital and its components and enterprise desires to hold depend not only on sales but on holding costs also.

The book is concerned with interrelationship that exists between managing current assets and current liabilities. The book has employed ratio analysis, discriminate analysis and econometric models for its analysis.

### **2.2.2 Review of Nepalese Studies**

**Shrestha.** (ISDOC Bulletin, Vol.8, No. 1-4, July 1982), in his study “**Working capital management in public enterprises**”, based on ten selected public enterprises, states

that manager often lacks basic knowledge of working capital and its overall impact on the operative efficiency and financial viability of public enterprises. The sample public enterprises are Birgunj Sugar Factory, Janakpur Cigarette Factory, Raghupati Jute Mills, Dairy Development Corporation, National Trading Ltd., Royal Drugs Ltd., National Construction Company of Nepal, Harisiddhi Brick and Tile Factory, Nepal Cheuri Ghee Industry Ltd., and Chandeswori Textile Ltd. Specially, his study is focused on the liquidity turnover and profitability position of those enterprises. In this analysis, he found that four public enterprises have maintained adequate liquidity position, two public enterprises have excessive and remaining others public enterprises had failed to maintain desirable liquidity position. On the turn over side, two public enterprises had negative turnover, four had adequate turnover, and one had higher turnover on net working capital. He had also found that out of ten public enterprises six were operating in loss while only four were setting some percentage of profit. With the reference of his findings, he has pointed certain policy flaws such as deficient financial planning, negligence of working capital management, deviation between liquidity and turnover of assets and liability to show the positive relationship between turnover and return on net working capital. At the end he has made some suggestive measures to overcome from the above policy issues. These are identification of management information system, positive attitude towards risk and profit and determination of right combination of short-term and long-term sources of funds to finance working capital needs.

**Acharya.** (ISDOC Bulletin, Vol. 10, No.3, Jan-Mar 1985), has published an article relating on working capital management. He has defined the two major problem i.e. operational problems and organizational problems, regarding the working capital management in Nepalese public enterprises. The operational problems; he found were increase of current liabilities than current assets, not allowing the current ratio 2:1 and slow turnover of inventories. Similarly, change in working capital in relation to fixed capital had very low impacts over the profitability, than transmutation of working capital employed to sales, absent of apathetic management information system. Break-even analysis, funds flow analysis and ratio analysis were either undone or ineffective

for performance evaluation. Finally, monitoring of the proper functioning of working capital management has never been considered as managerial job.

In the second part, he has listed the organizational problems in the public enterprises. In most of the public enterprises, there is lack of regular internal and external audit system as well as evaluation of financial results. Similarly very few public enterprises have been able to present their capital requirement functioning of finance department is not satisfactory and some public enterprises are even facing the under utilization of capacity.

**Pradhan.** (Vol.8, No.1, 1988), has published another article relating to working capital management. He studied on ‘**The Demand for Working Capital by Nepalese Corporation**’. He analyzed the selected nine manufacturing public corporation with the 12 years data from 1973-1984. Regression equation has been adopted for the analysis. His study has summarized that the earlier studies concerning about the demand for cash and inventories by business firm did not report unanimous findings. A lot of controversies exist in respect to the presence of economics of scale, roles of capital cost, capacity utilization rates and the speed with which actual cash and inventories adjusted to describe cash and inventories respectively. To pooled regression, result shows the presence of economics of scale with respect to the demand for working capital and its various components. The regression results suggest strongly that the demand for working capital and its components is function of both sales and their capital cost. The estimated results show that the inclusion of capacity utilization variable in model seems to have contributed to the demand function cash and net working capital only. The effect of capacity utilization on the demand for inventories, receivables and gross working capital is doubtful.

**Mahat.** (VI. XII, No. 98, May 26, 2004), also has published article relating to spontaneous resources working capital management. He has defined the three major sources of working capital i.e. equity financing, debt financing and spontaneous sources

of financing, regarding the working capital management. Debt financing include short-term bank financing such as bank overdraft, cash credit, bills purchase and discounting, letter of credit etc. whereas spontaneous sources of working capital include trade credit, provisions and accrues expenses.

**Shrestha.** (1998) conducted an analytical study of “**working capital management in Public sector brick factory**”. In his study he tried to make a comparative assessment of working capital management of public sector brick factories in Nepal. He has analyzed various components of working capital like cash, inventory, receivable and current liabilities, The study is based on two government brick factories; Harisiddhi and Bhaktapur brick factory. He found that there is no proper relation between liquidity turnover and profitability of two brick factories. There is no combination between fixed capital and working capital. The analysis indicates that the working capital portion is totally neglected. He has suggested using financial tools to forecast the working capital. The factories have to keep the record up to date according to standard format. The management must have to be serious regarding working capital management.

**Bhandari.** (2043), in his thesis entitled “**Working Capital Management (A case study of Nepal Bank Limited)**”, has done research work for the ten years period, 2034 to 2043 BS. The major findings he has drawn from his study are as follows. The bank has heavy liquid assets that reflect the improper utilization of the banks fund due to heavy growth in deposit and other borrowed capital, the volume of share capital became insufficient. Rate of return on shareholders investment is considered insufficient; the bank could not fully utilize its fund and not paid attention to the portfolio management in investment.

**Amatya.** (1993), in his thesis entitled “**An Appraisal of financial position of Nepal Bank Limited**” has analyzed, examined and interpreted the financial position of the bank from FY 1980/81. The major findings of his appraisal are as follows:

- Regarding the liquidity management, the bank is in a better position. But the bank has been following a traditional credit policy to finance current assets.
- The bank is successful in deposit collection but it has always adopted conservative and traditional credit policy.
- The trade and commerce advances are playing major role in the credit composition of the bank. Although, the reserve of the bank is increasing gradually, the reserve plays a nominal role in the credit expansion control.
- The major portion of investment of the bank is in HMG's securities. And the volume of transaction is high in all respects but the bank does not show higher ratio of profit or it shows a decreasing trend of profit.

**Shrestha.** (2049), has carried out a study on “**working capital management of Dairy Development Corporation Nepal (DDC)**”. He has analyzed the financial statement of DDC for five fiscal years 1985-1989. He has focused on the working capital management with respect to cash, credit and inventory, and analyzed the relationship between sales and different variables of working capital. For the purposes of the analysis, he has used ratio analysis and t-test as the major tools of his study.

He found the high level of current assets. Inventory has held the major share of current assets followed by cash and receivable respectively. He found the high liquidity positions and low-level of working capital turnover of DDC. Finally he found no functional relationship between total assets and current assets, current assets and cash, and current assets and receivable. There was proper relationship between current assets and share of inventory. He also found that DDC has followed the conservative working capital policy.

**Pathak.** (1994), has carried out another study relating to working capital management. He has tried to make an evaluation of working capital management of Nepal Lube Oil Ltd. He analyzed the working capital management of the Oil Ltd. for five fiscal years from 2043/44 to 2047/48. He has focused on the working capital management with respect to cash credit and inventory management, and relationship between sales and



different variable of working capital. He has used ratio analysis; Karl Pearson's coefficient of correlation (r) and t-test.

Major findings of his study were high portion of current assets, unfavorable liquidity position and very low level of cash,. Inventories have occupied the major portion of current assets, but the share of finished goods stock is very low. Receivable has the second place in current assets and it is continuously growing. Finally he concluded that this company had adopted the moderate financing policy.\

**Poudel.** (1997), in his thesis entitled “**A Comparative Analysis of Financial Performance between Nepal Bank Ltd. (NBL) and Nepal Grindlays Bank Ltd. (NGBL).**” has drawn some major findings. Although the liquidity position of NBL is better than NGBL but on the whole the current assets of these banks are adequate to meet the current liabilities. NGBL has better credit position than NBL, in terms of short-term investment. It also found that NBL has better turnover and highly levered than NGBL. Joint-venture banks such as NGBL are rapidly growing, the overall profitability are higher but government owned commercial banks such as NBL has higher expenditure and the profit making capacity is lower and gradually decreasing.

**K.C.** (2000), in his thesis entitled “**Comparative Study of Working Capital Management of NBL and SBI**”, aims to examine the management of working capital in NBL and SBI. The specific objectives undertaken in his study are:

- To study the current assets and current liabilities and their impact and relationship to each other of NBL and SBI.
- To analyze the comparative study of working capital management of NBL and SBI.
- Recommendation & Suggestions for the improvement of working capital management NBL & SBI in the future.

In his study he has mentioned the following findings:

- The average cash & bank balance and loan & advance are higher on SBI than NBL. Management of loan and advances is more problematic in NBL than SBI.\
- Interest income of NBL is better than SBI
- Liquidity management policies of these two banks are significantly different.
- SBI has the better utilization of deposits in income generating activity than NBL. It also shows that SBI has better investment efficiency in loan and advances.
- Due to more conservative working capital policy, risk of insolvency is lesser but cost of fund is higher on NBL than SBI.
- Profitability position of SBI is far better although, NBL earned higher interest than SBI.

**Lamsal.** (2004), had undertaken a study entitled “**A Comparative Study of Working Capital Management of SBI and Standard Chartered Bank Nepal Limited.**” The main objective of his study was to study the current assets and current liabilities and their impact on liquidity and profitability as well as to analyze the liquidity, assets utilization, long-term solvency and profitability position of selected banks.

He had analyzed five years published data from 2054/55 to 2004/05 of selected banks and mostly used statistical and financial tools to analyze them in order to achieve these objectives.

After analyzing the secondary data of SBI and EBL, Mr. Lamsal summarized his findings as “SBI and EBL had maintained Current Ratio of 1.55 and 1.31 in an average respectively. Trend values of current ratios were negative. The average quick ratio of SBI and EBL were 0.64 and 0.75 respectively. Liquidity of EBL was always better than SBI during study period.”

Furthermore, EBL had more short term and less costly resources of fund than SBI. SBI had better investment efficiency on loans and advances. Both banks follow conservative working capital policy though SBI has more. EBL has better profitability than SBI.

From the review of above mentioned bunch of research works, it is clear that there are very few research work on comparative study of working capital management of commercial banks, especially between joint venture banks. And this study of working capital management of SBI Bank Limited, Nepal Investment Bank Limited and Standard Chartered Bank Nepal Limited has been carried out with a view to fulfill that gap.

### **2.3 Research Gap**

Many research studies have been conducted by the different students, experts and researchers about working capital management. There have been found numerous research studies on financial companies and public enterprises regarding working capital. Some studies are related to a case study of single company and some other are comparative in nature. But the comparative study of working capital management between three financial companies can be hardly found from the review of related studies. No one study have been found (working capital management) as a comparative study in the context of NABIL, SBI and EBL banks. The financial and statistical tools used by the most of the researchers were ratio analysis, test of hypothesis and regression analysis. This research includes different tools like ratio analysis, correlation analysis and trend analysis as a specific tools.

The study made on working capital management of commercial banks will be an effort to analyze on detail working capital management of three banks as a comparative study in present situation with the help of various related financial as well as statistical tool and techniques. This study can be beneficial to all the concern parties like investors, policy makers and student to carry on further studies.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

This chapter is related to the research methodology applied in the entire aspect of the study. Research methodology is a research tool, which is used to test the hypothesis and to come to a factual conclusion. It refers to the logical sequence of various steps to be adopted by a researcher in studying problems with certain objectives. In others words, research methodology describes the method and process applied in the entire subject of the study. The chapter includes research design, population of sample, Nature and sources of data, analysis of data and tools for analysis.

#### **3.1 Research Design**

Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and control variance. Research design specifies an outline of plant to be carried out concerning with the proposed research work. The design is simple form but it covers the main comprehension of the study. The research design show the working capital situation of the banks are derived from using five year data from internally generated accounting records maintained by Nepal State Bank of India, Nepal Investment Bank and Everest Bank Limited. To accomplish this study, the applied design is descriptive and core perspective because the secondary data have been mainly applied for analysis.

#### **3.2 Population and Sample**

Population covers the whole or total of the observation that have selected for the study sample is the part of population which represents population with regards to the study. There are 26 commercial banks functioning all over the kingdom and most of their stock are actively traded in stock market. In this study three banks namely Nepal State Bank of India, Nepal Investment Bank Limited and Everest Bank Limited are to be

taken as sample for this research work. These banks are selected as sample for the study based on their date of establishment.

### **3.3 Nature and Sources of Data**

Generally this study is based on secondary data. Secondary data are collected from Annual report of the concerned firm; supporting data and information are collected from the office of the concerned firm and another institution. Documents, books, other publishes or unpublished material, thesis, newspapers are the important data and informal quires, with the authorities of the concerned firm is primary source in nature.

### **3.4 Data Collecting Procedures**

Almost secondary data has been taken in this study. The data needed are collected from Balance Sheet, Profit & Loss Account, other related bookds of account of the concerned bank, stock exchange board and Nepal Rastra Bank. The annual reports of the concerned finances were obtained from their head office and their websites. The main source of data are annual report of concern financial institute. NRB publication, such as Banking and Financial Statistics Economic Reports, Annual Reports of NRB etc. has been collected from the personal visit of concerned department of NRB.

### **3.5 Tools and Techniques of Analysis**

Under this study, financial as well as statistical tools have been used to analyzed the gathered data and information.

#### **3.5.1 Financial Tools**

The measuring instrument, which can be used in financial analysis, is known as financial tools. It helps to calculate the relationship between two financial variables on ratio and percentage basis.

## A. Composition of Working Capital

Working Capital refers to the resources of the firm that are used to conduct day to day operation that makes business successful. Simply, working capital refers to the current assets of the firms that can be converted into cash within a year. The main components are cash and balance, money at call or short notice, loan and advances and government securities.

Composition of working capital is analyzed by calculating the following ratios.

- i. Current Assets to Total Assets Ratio

$$\text{Current Assets Ratio} = \frac{\text{Current Assets}}{\text{Total Assets}} \times 100\%$$

It measures what portion of total assets used in the current assets. Lower ratio shows the risk and profitability will increase and vice-versa.

- ii. Current Assets to Fixed Assets Ratio

$$\text{Current Assets to Fixed Assets Ratio} = \frac{\text{Current Assets}}{\text{Fixed Assets}} \times 100\%$$

The relation between current assets and fixed assets is shown by this ratio. Higher ratio of this means the company has sound working capital position and vice-versa.

- iii. Cash and Bank Balance to Current Assets Ratio

$$\text{Cash and Bank Balance to Current Assets Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Current Assets}} \times 100\%$$

What percent of current assets cover cash & bank balance is shown by this ratio. Lower the ratio means higher will be risk, profitability, and vice-versa.

## B. Liquidity Position

Liquidity position of a company is identified with the help of liquidity ratio, which measures the company's ability to pay its current obligations. It is employed to determine the short-term solvency position of the company. In other words, this ratio provides insight into the present cash solvency in the event of adverse financial condition. This ratio is used to measure the company's short-term obligations with short-term resources available at a given point of time. Therefore, it plays an important role in the company.

### i. Current Ratio

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \times 100\%$$

This ratio measures the short-term solvency, i.e. its ability to meet short-term obligations. Current ratio is calculated by dividing the current assets by current liabilities.

### ii. Quick/Acid Test Ratio

$$\text{Quick/Acid Test Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} \times 100\%$$

Quick ratio is the ratio of quick/liquid assets to current liabilities. It establishes a relationship between quick/liquid assets and current liabilities. An asset is quick/liquid if it can be converted into cash immediately or reasonably soon without a loss of value. It is computed by deducting inventory and prepaid expenses from current assets.

### iii. Cash and Bank Balance to Total Deposit Ratio (Excluding fixed deposit)

$$\text{Cash and Bank Balance to Total Deposit Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposit (Excluding Fixed Deposit)}} \times 100\%$$

This ratio is employed to measure whether cash and bank balance is sufficient to cover its current calls margin including deposits. It is calculated by dividing cash and bank balance by saving margin and current deposits (excluding fixed deposits).

iv. Saving Deposit to Total Deposit Ratio

$$\text{SavingDeposittoTotalDepositRatio} = \frac{\text{SavingDeposit}}{\text{TotalDeposit}} 100\%$$

Saving deposit is interest bearing short-term deposit. The ratio is developed in order to find out the proportion of saving deposit, which is interest bearing and short-term in nature. It is find out by dividing the total amount of saving deposits by the amount of total deposit.

### C. Activity or Turnover Position

Turnover Position/Activity Position shows the efficiency in assets management as well as effectiveness of the investment of resources in the company. These ratios are intended to measure the effectiveness of the employment of the resources in a business concern. Though these ratios, it is known whether the funds employed have been used effectively in the business activities or not.

i. Loan and Advances to Total Deposit Ratio

$$\text{LoanandAdvancesTotalDepositRatio} = \frac{\text{LoanandAdvances}}{\text{TotalDeposit}} 100\%$$

This ratio assesses to what extent, the banks are able to utilized the depositor's funds to earn profit by providing loans and advances. It is computed dividing the total amount of loans and advances by total deposited funds. High ratio is the symptom of higher/proper utilization of funds and low ratio is the signal of balance remained unutilized or idle.

ii. Loan and Advances to Fixed Deposit Ratio



$$\text{Loan and Advances to Fixed Deposit Ratio} = \frac{\text{Loan and Advances}}{\text{Fixed Deposit}} \times 100\%$$

This ratio examines that how many times the funds is used in loans and advances against fixed deposits. For commercial banks, fixed deposits are long-term interest bearing obligations, whereas investment in loans and advances are the main sources of earning. This ratio is computed dividing loans and advances by fixed deposit as under. A low ratio indicates idle cash balance. It means total funds not properly utilized. This ratio examines to what extent the fixed deposits are utilized for income earning purpose.

iii. Loan and Advances to Saving Deposit Ratio

$$\text{iv. Loan and Advances to Saving Deposits Ratio} = \frac{\text{Loan and Advances}}{\text{Saving Deposits}} \times 100\%$$

This ratio assesses, how many times the fund is used to loans and advances against saving deposits. Saving deposits are interests bearing short-term obligation and the major sources of investment in loan and advances for income generation and the major sources of investment in loan and advances for income generating purpose by CBs. This ratio indicates how many times the short-term interest bearing deposits are utilized for generating the income. It is calculated by dividing the amount of loan and advances by total deposit in saving account.

## **D. Profitability Position**

Profitability Position indicates the degree of success in achieving desired profit. It helps to find the efficiency of the organization. Various profitability ratios are calculated to measure the operating efficiency of business enterprises. Through profitability ratios the lender and investors want to decide whether to invest in a particular business or not. Some of the important profitability ratios used is as follows:

i. Interest Earned to Total Assets Ratio

$$\text{Interest Earned to Total Assets Ratio} = \frac{\text{Interest Earned}}{\text{Total Assets}} \times 100\%$$

It is the ratio, which is formed to find out the percentage of the interest to total assets. This is derived by dividing the amount of interest earned by the total assets of the firms.

ii. Net Profit to Total Assets Ratio

$$\text{Net Profit to Total Assets Ratio} = \frac{\text{Net Profit After Tax}}{\text{Total Assets}} \times 100\%$$

This ratio is very much crucial for measuring the profitability of funds invested in the banks assets. This ratio is commonly known as return on assets (ROA). It measures the return on assets. It is computed dividing the net profit after tax by total assets.

iii. Net Profit to Shareholders' Equity Ratio

$$\text{Net Profit to Shareholders' Ratio} = \frac{\text{Net Profit}}{\text{Net Worth}} \times 100\%$$

This ratio is calculated to see the profitability of owners' investment. In other words it tells us the earning power on shareholders' book investment and is frequently used in comparing two or more firms in an industry. This ratio is commonly known as return on equity (ROE). The return on equity is net profit divided by net worth.

iv. Net Profit to Total Deposit Ratio

$$\text{Net Profit to Total Deposit Ratio} = \frac{\text{Net Profit}}{\text{Total Deposit}} \times 100\%$$

This ratio is used for measuring the internal rate of return from deposits. It is computed dividing the net profit by total deposits. Higher ratio indicates the return from investment on loans and advances are desirable and lower ratio indicates the funds are not properly mobilizing.

v. Cost of Services to Total Assets Ratio

$$\text{Cost of Services to Total Assets Ratio} = \frac{\text{Cost of Services}}{\text{Total Assets}} \times 100\%$$

## E. Capital Structure or Leverage Position

Leverage refers to the ratio of debt to equity in the capital structure of the firm. Debt and equity are long-term obligation and remaining parts in the liability side of the balance sheet are termed as short-term obligations. Both types of obligations are required in forming the capital structure of the firm. The long-term financial position of the firm is determined by the leverage or capital structure. The different leverage ratios are maintained to measure the financial risk or proportion of outsiders fund and owners' capital used by the firm.

- i. Long-term Debt to Net worth Ratio

$$\text{Long-term Debt to Net worth Ratio} = \frac{\text{Long-term Debt}}{\text{Net worth}} \times 100\%$$

Long-term debt refers to the amount of fixed deposits and loans of the banks. The ratio measures the proportion of outsiders and owners fund employed in the capitalization of banks. It is calculated by dividing the fixed obligations of the banks by owners claim.

- ii. Net Fixed Assets to Long-term Debt Ratio

$$\text{Net Fixed Assets to Long-term Debt Ratio} = \frac{\text{Net Fixed Assets}}{\text{Long-term Debt}} \times 100\%$$

Net fixed assets are applied to both physical and financial assets. This ratio is calculated to find out how many times net fixed assets are compared to the fixed liabilities. It is computed dividing net fixed assets by long-term debt.

### 3.5.2 Statistical Tools

In this research study some statistical tools are also used for analysis to support the objective of the research work. The tools are as follows.

## **A. Trend Analysis**

The tools that are used to show grandly increase or decrease of variables over a period of time is known as trend analysis. With the help of trend analysis the tendency of variables over the period can be seen clearly.

## **B. Correlation Analysis**

Correlation is the statistical tools that we can use to describe the degree to which one variable is linearly related to another (1991, P. 505). The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Person's method is applied in the study. The result of co-efficient of correlation is always between +1 and -1, when  $r$  is +1 it means there is perfect relationship between variables and vice versa. When  $r$  is 0, it means there is no relationship between two variables. In this study, simple coefficient of correlation is used to examine the relationship of different factors with working capital and other variables. Under this study following co-efficient of correlation are calculated.

- Co-efficient of correlation between Investment on Government Security and Total Deposits.
- Co-efficient of correlation between Loan and Advances and Total Deposits.
- Co-efficient of correlation between Loan and Advances and Net Profit.
- Co-efficient of correlation between Cash and Bank Balance and Current Liabilities.

## **C. Hypothesis Test**

Hypothesis test is one of the important applications of statistical interference in decision making. In hypothesis test, an assumption is made about the population parameter. To test whether the assumption or hypothesis is right or not, a sample is selected from the population and the sample statistic is obtained. The main goal of hypothesis test is to

test the characteristics of hypothesized population parameter based on sample static is significant or not. Smaller the difference, the sample mean is close to the hypothesized value and, large the difference the hypothesized value has low chance to be correct.

Generally, two complementary are set up at one time i.e. a) Null Hypothesis ( $H_0$ ) and b) Alternative Hypothesis ( $H_1$ ). A statistical hypothesis or assumption made about the population parameter to testing its validity for the purpose of possible acceptance is called null hypothesis and a complementary hypothesis to the null hypothesis is called alternative hypothesis. Among these two hypotheses if one is accepted, then the other hypothesis is rejected and vice versa.

In this study following three hypothesis sets are set:

- There is no significant difference in composition of working capital among SBI, NIBL and EBL.
- There is no significant difference in liquidity position among SBI, NIBL and EBL.
- There is no significant difference in profitability position among SBI, NIBL and EBL.

## **CHAPTER FOUR**

### **DATA PRESENTATION AND ANALYSIS**

The chapter is related to the presentation and analysis of data collected from various secondary sources. This chapter has been divided into main two sections. The first section of the chapter deals with the analysis of secondary data and second section deals with major findings of the study.

#### **4.1 Composition of Working Capital**

A bank must always have cash balances on hand in order to pay its depositors upon demand or when the amounts credited to them become due. It must also keep a proportion of its assets in forms that can readily be converted into cash. Only in this way can confidence in the banking system is maintained. To sustain the belief of the people & customer, the bank should always get ready to meet the current obligations. Working Capital refers to the resources of the firm that are used to conduct day to day operation that makes business successful.

##### **4.1.1 Current Assets Components of Different Banks**

A bank needs different kinds of current assets to conduct day-to-day operation. The major components of current assets of the sample banks viz. SBI, NIBL and EBL are cash and bank balance, money at call or short notice, loan and advances and government securities. Miscellaneous current asset is also a component of current assets. Prepaid expenses, outstanding income like interest receivable and other current assets included in miscellaneous currents assets. The following table shows the amount of cash and bank balance, money at call or short notice, loan and advances and government securities and miscellaneous current assets of SBI, NIBL and EBL respectively of the study period.

**Tablev4.1**

<b>Current Assets Component of SBI</b>						(Rs. In Million)
<b>Fiscal Year</b>	<b>Cash and Bank Balance</b>	<b>Money at Call or Short Notice</b>	<b>Loan and Advances</b>	<b>Government Securities</b>	<b>Misc. Current Assets</b>	<b>Total Current Assets</b>
2004/05	1088.75	4631.83	7334.76	1233.82	499.75	14788.91
2005/06	812.90	522.55	8324.44	2732.96	768.83	13161.68
2006/07	1051.82	31.37	7437.90	4120.29	672.02	13313.40
2007/08	1144.77	670.20	7755.95	3588.77	708.61	13868.30
2008/09	970.49	918.73	8189.99	3672.63	492.20	14244.04

**Table 4.2**

<b>Current Assets Component of NIBL</b>						(Rs. In Million)
<b>Fiscal Year</b>	<b>Cash and Bank Balance</b>	<b>Money at Call or Short Notice</b>	<b>Loan and Advances</b>	<b>Government Securities</b>	<b>Misc. Current Assets</b>	<b>Total Current Assets</b>
2004/05	362.92	1170.72	2070.68	0.00	139.77	37444.09
2005/06	522.86	0.00	2429.03	300.00	171.22	3423.11
2006/07	338.92	0.00	2564.43	224.40	212.50	3340.25
2007/08	926.53	40.00	5772.14	400.00	379.22	7517.89
2008/09	1226.92	310.00	7130.13	2001.10	476..18	11144.33

**Table 4.3**

<b>Current Assets Component of EBL</b>						(Rs. In Million)
<b>Fiscal Year</b>	<b>Cash and Bank Balance</b>	<b>Money at Call or Short Notice</b>	<b>Loan and Advances</b>	<b>Government Securities</b>	<b>Misc. Current Assets</b>	<b>Total Current Assets</b>
2004/05	1020.46	7243.16	4857.17	3338.67	190.86	16650.32
2005/06	961.05	2612.00	5763.13	4811.01	5076.99	19224.18
2006/07	825.26	2061.96	5364.00	5784.72	4294.88	18330.82
2007/08	1512.30	1657.91	5695.82	6722.83	5208.74	20797.60
2008/09	2023.17	2218.60	6410.24	7948.22	4894.43	23494.66

**Source: Appendix 1, 2 and 3**

From the above tables total amount of current assets components of EBL is higher than both SBI and NIBL in all five years period. NIBL shows the lowest among them. The lowest among all is 3340.25 of NIBL in FY 2006/07 and the highest is 23494.66 of EBL in FY 2008/09.

#### **4.1.2 Percentage Combination of Current Assets**

The percentage composition of current assets to total current assets i.e. cash and bank balance, money at call or short notice, loan and advances, investment in government securities and miscellaneous current assets are as follows.



**Table 4.4**

<b>Percentage Composition Current Assets of SBI</b>						(Rs. In Million)
<b>Fiscal Year</b>	<b>Cash and Bank Balance</b>	<b>Money at Call or Short Notice</b>	<b>Loan and Advances</b>	<b>Government Securities</b>	<b>Misc. Current Assets</b>	<b>Total Current Assets</b>
2004/05	7.36	31.32	49.60	8.34	3.38	100.00
2005/06	6.18	3.97	63.25	20.76	5.84	100.00
2006/07	7.90	0.24	55.87	30.95	5.05	100.00
2007/08	8.25	4.83	55.93	25.88	5.11	100.00
2008/09	6.81	6.45	57.50	25.78	3.46	100.00
<b>Average</b>	<b>7.30</b>	<b>9.36</b>	<b>56.43</b>	<b>222.34</b>	<b>4.57</b>	

**Table 4.5**

<b>Percentage Composition of Current Assets of NIBL</b>						(Rs. In Million)
<b>Fiscal Year</b>	<b>Cash and Bank Balance</b>	<b>Money at Call or Short Notice</b>	<b>Loan and Advances</b>	<b>Government Securities</b>	<b>Misc. Current Assets</b>	<b>Total Current Assets</b>
2004/05	9.69	31.27	55.31	0.00	3.73	100.00
2005/06	15.27	0.00	70.96	8.76	5.00	100.00
2006/07	10.15	0.00	76.77	6.72	6.36	100.00
2007/08	12.32	0.53	76.78	5.32	5.04	100.00
2008/09	11.01	2.78	63.98	17.96	4.27	100.00
<b>Average</b>	<b>11.69</b>	<b>6.92</b>	<b>68.76</b>	<b>7.75</b>	<b>4.88</b>	

**Table 4.6**

<b>Percentage Composition of Current Assets of EBL</b>						(Rs. In Million)
<b>Fiscal Year</b>	<b>Cash and Bank Balance</b>	<b>Money at Call or Short Notice</b>	<b>Loan and Advances</b>	<b>Government Securities</b>	<b>Misc. Current Assets</b>	<b>Total Current Assets</b>
2004/05	6.13	43.50	29.17	20.05	1.15	100.00
2005/06	5.00	13.59	29.98	25.03	26.41	100.00
2006/07	4.50	11.25	29.26	31.56	23.43	100.00
2007/08	7.27	7.97	27.39	32.33	25.04	100.00
2008/09	8.61	9.44	27.28	33.83	20.83	100.00
<b>Average</b>	<b>6.30</b>	<b>17.15</b>	<b>28.62</b>	<b>28.56</b>	<b>19.37</b>	

Source: Appendix 1,2 and 3

#### **4.1.2.1 Cash and Bank Balance Percentage**

From the above tables it can be seen that cash and bank balance percentage of all three banks are fluctuating during the study period. Cash and bank balance percentage of SBI decreased in FY 2005/06 from 7.36% to 6.18% and increased for two years up to 7.90% then to 8.50% in FY 2006/07 and 2008/09 respectively. It again decreased to 6.81% in FY 2008/09. NIBL shows increasing and decreasing trend alternatively. It increased from 9.69% to 15.27% in FY 2005/06 then decreased to 10.25% in FY 2006/07. Similarly it increased to 12.32% in FY 2007/08 then decreased to 11.01% in FY 2008/09. Cash and bank balance percentage of EBL decreased for two years from 6.13 to 5.00% then to 4.50% in FY 2005/06 and FY 2006/07 respectively. It then increased for two years to 7.27% in FY 2007/08 and to 8.61% in FY 2008/09.

The average cash and bank balance percentage of SBL, NIBL and EBL are 7.30%, 11.69% and 6.30% respectively.

#### **4.1.2.2 Money at Call or Short Notice Percentage**

Money at call or short notice percentage of SBI is highest in FY 2004/05. It then decreased down to 3.97% and to 0.24% in FY 2005/06 and 2006/07 respectively. It then increased to 4.83% in FY 2007/08 and to 6.45% in FY 2008/09. NIBL shows highest in FY 2004/05 i.e. 31.27% and it shows 0.00% for following two years FY 2005/06 and FY 2006/07. Then it shows slight increase to 0.53% and to 2.78% respectively in FY 2007/08 and FY 2008/09. Similarly, EBL also shows highest in FY 2004/05 i.e. 43.50%. It decreased down to 13.59%, then to 11.25% and to 7.97% in FY 2005/06, FY 2006/07 and FY 2007/08 respectively. In the last year of the study period i.e. FY 2008/09 it increased up to 9.44%. The average money at call or short notice percentage of SBI, NIBL and EBL are 9.36%, 6.92% and 17.15% respectively.

#### **4.1.2.3 Loan and Advances Percentage**

Loan and advances percentage of SBI increased from 49.60% to 63.25% in FY 2005/06. It then decreased to 55.87% in FY 2006/07 and increased slightly to 55.93%, and to 57.50% in FY 2007/08 and FY 2008/09. Similarly in FY 2005/06 loan and advances percentage of NIBL also increased from 55.31% to 70.96%. It also increased to 76.77% in FY 2006/07 and 76.78% in FY 2007/08. Then it decreased to 63.98% in FY 2008/09. In case of EBL, it increased from 29.17% to 29.98% in FY 2005/06 and decreased slightly to 29.26% in FY 2006/07. It again decreased to 27.39% and to 27.28% respectively in FY 2007/08 and 2008/09. The average loan and advances percentage of SBI, NIBL and EBL are 56.43%, 68.76% and 27.62% respectively.

#### **4.1.2.4 Government Securities Percentage**

Government securities percentage of SBI increased greatly in FY 2005/06 from 8.34% to 20.76%. It again increased up to 30.95% and recorded to highest in the study period. It then decreased for two years down to 25.88% and to 25.78% respectively in FY 2007/08 and 2008/09. In FY 2004/05 NIBL did not invest on government securities as it

shows 0.00% in that fiscal year. Later in FY 2005/06 it made an investment on government securities which accounted 8.76% of total current assets. It then decreased for two years down to 6.72% and to 5.32% in FY 2006/07 and FY 2007/08 respectively. In the FY 2008/09 it increased with great percentage up to 17.96 and noticed to be the highest. Government securities percentage of EBL continuously increased from 20.05% to 25.03% in FY 2005/06, 31.56% in FY 2006/07, 32.33% in FY 2007/08 and 33.83% in FY 2008/09. The average government securities percentage of SBI, NIBL and EBL are 22.34% 7.75% and 28.56% respectively.

#### **4.1.2.5 Miscellaneous Current Assets Percentage**

Miscellaneous current assets percentage of SBI in the FY 2005/06 increased from 3.38% to 5.84% and noticed to be the highest in the study period. It then decreased to 5.05% in FY 2006/07. In FY 2007/08 it again increased slightly up to 5.11% then decreased to 3.46% in FY 2008/09. Likewise, miscellaneous current assets percentage of NIBL also increased in FY 2005/06 from 3.72% to 5.00% and to 4.27 respectively in FY 2007/08 and 2008/09. In case of EBL, in FY 2005/06 it increased with great percentage from 1.15% to 26.41% and recorded to be the highest in the study period. It then decreased in FY 2006/07 down to 23.43 and once again it increased up to 25.04% in FY 2007/08. In FY 2008/09 it again decreased down to 20.83%. EBL showed the highest percentage of miscellaneous current assets among the three sample banks for last four fiscal years. The average miscellaneous current assets percentage of SBI, NIBL and EBL are 4.57%, 4.88% and 19.37% respectively.

From the overall analysis of composition of working capital, NIBL and SBI have better utilized their funds on loan and advances to earn interest. EBL has invested very low percentage of total current assets on loan and advances but has invested more of its funds on money at call or short notice and government securities. So it can be concluded that the working capital composition pattern of these sample differs from each other.

## 4.2 Liquidity Position

Liquidity of any organization is directly related with the working capital or current assets and current liabilities of that organization. Liquidity is one of the main objectives of working capital management. In case of banks working capital management is mainly concerned with the liquidity management. And a bank is not able to operate its function without sound liquidity. Liquidity is a prerequisite for avoidance of technical insolvency and ultimately for very survival of the banks. However, it is the critical factor to maintain proper level of liquidity. To measure the bank's solvency position or ability to meet its short-term obligations, various liquidity ratios are calculated.

### 4.2.1 Current Ratio

The current ratio measures the short-term solvency position of a bank, i.e. ability to meet its current obligations. Higher current ratio indicates better liquidity position. In other words, current ratio represents a margin of safety, i.e. a 'cushion' of protection for creditors and higher the current ratio, grater the margin of safety, larger the amount of current assets in relation to current liabilities and more the bank's ability to meet its current obligations. It is calculated as follows:

$$\text{CurrentRatio} = \frac{\text{CurrentAsæts(CA)}}{\text{CurrentLiðilitie(CB)}}$$

The table 4.7 shows the current ratio of SBI, NABIL and EBL.

**Table 4.7**

**Current Ratio**

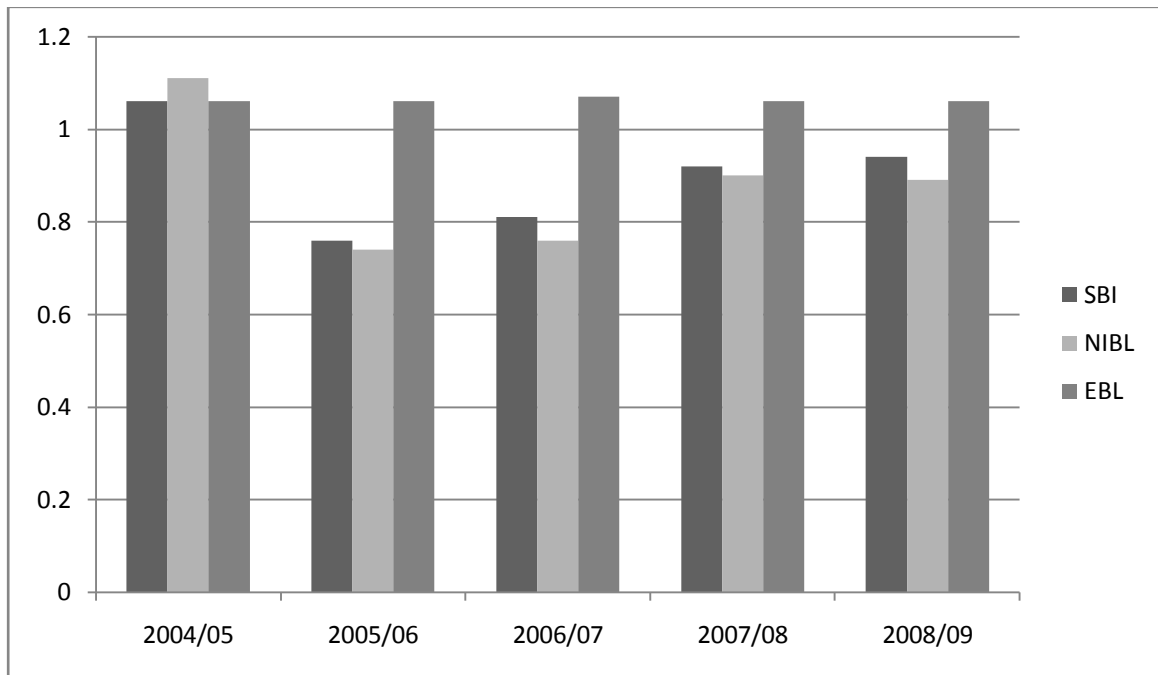
(Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	CA	CL	Ratio	CA	CL	Ratio	CA	CL	Ratio
2004/05	14788.91	13977.29	1.06	3744.09	3362.44	1.11	16650.32	15781.19	1.06
2005/06	13161.68	17226.21	0.76	3423.11	4629.02	0.74	19224.18	18196.01	1.06
2006/07	13313.40	16384.73	0.81	3340.25	4410.21	0.76	18330.82	17150.05	1.07
2007/08	13868.60	15135.42	0.92	7517.89	8359.46	0.90	20797.60	19569.38	1.06
2008/09	14244.04	15153.00	0.94	11144.33	12506.95	0.89	23494.66	22086.19	1.06
<b>Average</b>			<b>0.90</b>			<b>0.88</b>			<b>1.06</b>
<b>Total Average of three sample banks</b>				<b>0.95</b>					

Sources: Appendix 1, 2 and 3

**Figure No. 4.1**

**Current Ratio**



The table 4.7 and figure 4.1 shows that the current assets of SBI decreased in FY2005/06 then gradually increased for last three years of study periods. Current liabilities of SBI increased in FY 2005/06 but decreased for following two fiscal years

and again increased in FY2008/9. In NIBL, current assets gradually decreased for first two fiscal years and then increased for last two fiscal years of the study period. Current liabilities of NIBL increased in FY2005/06 and then decreased in the following fiscal year. Then it gradually for last two fiscal years in EBL, current asserts increased for last two fiscal year. Similarly, current liabilities of EBL also increased in FY2005/06, then decreased in the following fiscal year and increased for last two fiscal years. NIBL recorded both the highest and lowest ratios of all, highest 1.11 in FY2004/05 and lowest 0.74 in AY 2005/06 and lowest 0.74 in FY2005/06. The average ratio of EBL is also higher than that of SBI and NIBL.  $1.06 > 0.90 > 0.88$ . the average of EBL is also higher than the total average of three sample banks.

#### 4.2.2 Quick Ratio

Quick ratio stabilities a relationship between quick or liquid asserts and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably or reasonably soon without a loss of original value. Cash is a most liquid asset. Other assets, which are considered to be relatively liquid and include in quick assets, are book debt and marketable securities. Under this study cash and bank balance, money at call or short notice and government securities are include in quick assets. This quick is calculated by dividing the quick assets by current liabilities.

$$\text{Quick/ AcidTestRatio} = \frac{\text{QuickAssets}}{\text{QuickLiabilitie}}$$

The table 4.8 shows the quick ratios of three sample banks.

**Table 4.8**

**Quick Ratio**

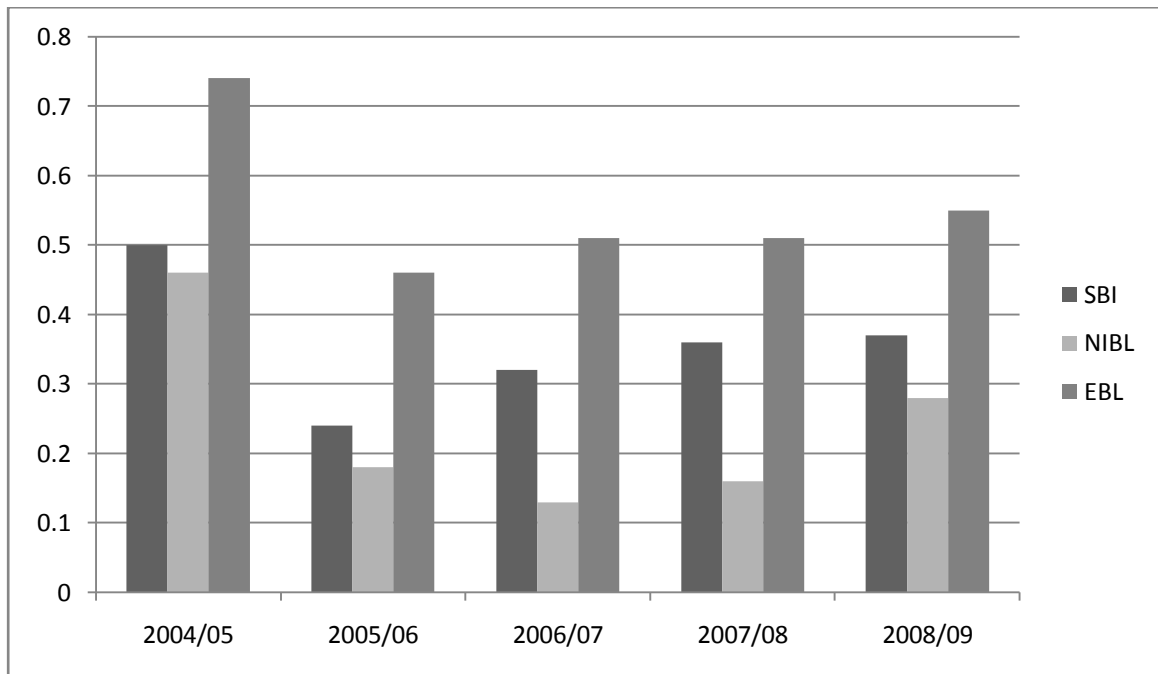
(Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	QA	CL	Ratio	QA	CL	Ratio	QA	CL	Ratio
2004/05	6954.40	13977.29	0.50	1533.64	3362.44	0.46	11602.29	15781.19	0.74
2005/06	4068.41	17226.21	0.24	822.86	4629.02	0.18	8384.06	18196.01	0.46
2006/07	5203.48	16384.73	0.32	563.32	4410.21	0.13	8671.94	17150.05	0.51
2007/08	5403.74	15135.42	0.36	1366.53	8359.46	0.16	9893.04	19569.38	0.51
2008/09	5561.85	15153.00	0.37	3538.02	12506.95	0.28	12189.99	22086.19	0.55
<b>Average</b>			<b>0.36</b>			<b>0.24</b>			<b>0.55</b>
<b>Total Average of three sample banks</b>				<b>0.38</b>					

Sources: Appendix 1, 2 and 3

**Figure 4.2**

**Quick Ratio**



The above table and figure depicts that the quick ratio of SBI are always fluctuating over the study period. The ratio is highest in FY 2004/05 i.e. 0.5 and lowest in FY



2005/06 i.e. 0.24.in NIBL, The highest ratio is 0.46 in FY 2004/05 and lowest is 0.13 FY 2006/07 which is also the lowest among all ratios. In EBL, the highest is 0.74 in FY 2004/05. It is also the highest among all and its lowest is 0.46 in FY 2005/06. The average ratio of EBL is grater than that of SBI and NIBL i.e. 0.55>0.36>0.24. The average of EBL is also higher than the total average of three sample banks.

### 4.2.3 Cash and Bank Balance to Total Deposit Ratio (Excluding Fixed Deposit)

The ratios shows the ability of bank's immediate funds to cover its (current, margin, call and saving) deposits. It can be calculated by dividing cash and bank balance by total deposits (excluding fixed deposits).

$$\text{CashandBankBalance to Total Deposit Ratio} = \frac{\text{CashandBankBalance}}{\text{TotalDeposit(ExcludingFixedDeposit)}} \times 100\%$$

The table 5 shows the ratios of SBI, NIBL and EBL.

**Table 4.9**

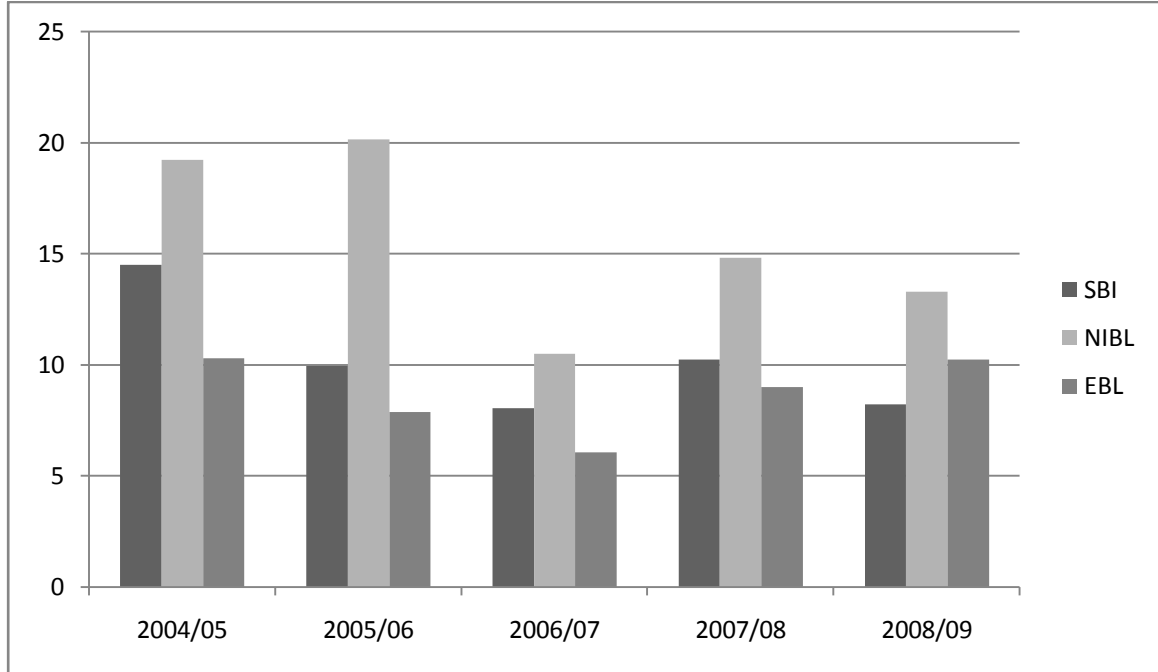
#### **Cash and Bank Balance to Total Deposit Ratio** (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	C&BB	TD	Ratio	C&BB	TD	Ratio	C&BB	TD	Ratio
2004/05	1088.75	7501.24	14.51	362.92	1889.63	19.21	1020.46	9916.84	10.29
2005/06	812.90	8171.47	9.95	522.86	2597.55	20.13	961.05	12194.02	7.88
2006/07	1051.82	13059.59	8.05	338.92	3228.83	10.50	825.26	13570.98	6.08
2007/08	1144.77	11195.11	10.23	926.53	6249.93	14.82	1512.30	16807.04	9.00
2008/09	970.49	11808.46	8.22	1226.92	9230.00	13.29	2023.17	19132.95	10.25
<b>Average</b>			<b>10.19</b>			<b>15.59</b>			<b>8.70</b>
<b>Total Average of three sample banks</b>				<b>11.49</b>					

Sources: Appendix 1, 2 and 3

**Figure 4.3**

**Cash and Bank Balance to Total Deposit Ratio**



The Table 4.9 and Figure 4.3 depicts that the ratios of SBI decreased for first two fiscal years FY 2005/06 and FY 2006/07 and then increase3d in next fiscal year and then again decreased in FY 2008/09. The highest ratio is 14.51% in FY 2004/05 and the lowest in FY 2006/07. In NIBL, the highest ratio is 20.13% in FY 2005/06 which is also the highest among all ratios and the lowest is 10.50% in FY 2006/07. In EBL, the highest is 10.29% in FY 2004/05 and the lowest which is lowest among all is 6.08% in FY 2006/07. The average ratio of NIBL is higher than that of SBI and EBL i.e. 38.10>10.19>8.70. Its average ratio is also higher than the total average of three sample banks.

From the overall analysis of liquidity position of the three sample banks, it can be concluded that EBL has better liquidity position than SBI and NIBL. NIBL is found

very weak in the liquidity management, although it has higher cash and bank balance to total deposit ratio than EBL and SBI.

#### 4.2.4 Saving Deposit to Total Deposit Ratio

Saving deposit is interest bearing short-term deposit. The ratio is developed in order to find out the proportion of saving deposit, which is interest bearing and short-term in nature. It is find out by dividing the total amount of saving deposit by the amount of total deposit, which is given as follows.

$$\text{SavingDeposittoTotalDepositRatio} = \frac{\text{SavingDeposit}}{\text{TotalDeposit}} \times 100\%$$

The table 6 shows the ratios of SBI, NIBL and EBL

**Table 4.10**

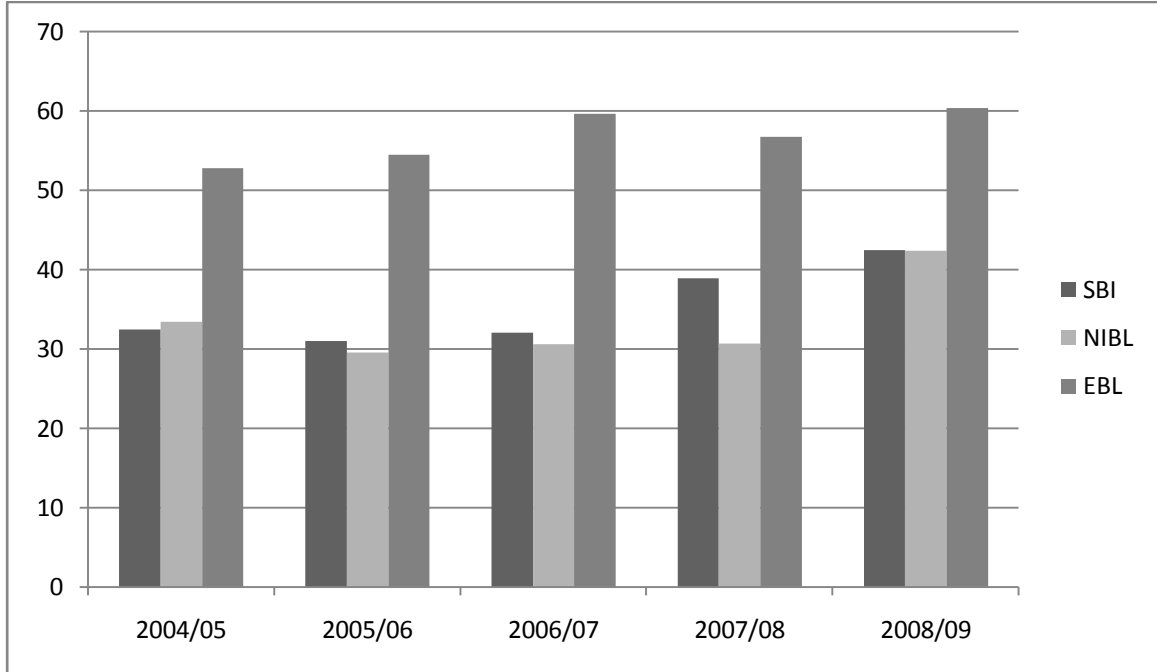
**Saving Deposit to Total Deposit Ratio** (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	SD	TD	Ratio	SD	TD	Ratio	SD	TD	Ratio
2004/05	4150.19	12779.51	32.48	997.48	2983.28	33.44	6632.70	12568.49	52.77
2005/06	4917.14	15839.01	31.04	1259.57	4256.21	29.59	8404.61	15430.05	54.47
2006/07	4972.06	15506.44	32.06	1278.79	4174.76	30.63	9441.91	15835.75	59.62
2007/08	5229.72	13447.65	38.89	2434.05	7922.75	30.72	10633.16	18755.64	56.69
2008/09	5994.12	14119.03	42.45	4886.10	11524.68	42.40	12771.83	21161.44	60.35
<b>Average</b>			<b>35.39</b>			<b>33.36</b>			<b>56.78</b>
<b>Total Average of three sample banks</b>				<b>41.84</b>					

Sources: Appendix 1, 2 and 3

**Figure No. 4.4**

**Saving Deposit to Total Deposit Ratio**



The above Table and Figure depicts that the ratios of SBI first decreased then increased for last three fiscal years. The highest is 42.45% in FY2008/09 and the lowest is 31.04% in 2005/06. Similarly, in NIBL it decreased first then increased for last three years. The highest is 42.40% in FY 2008/09 and the lowest which is also the lowest of amount all is 20.59% in FY 2005/06. In EBL it decreased only in FY 2007/08. The highest which is also the highest among all is 60.35% in FY 2008/09 and the lowest is 52.77% in FY 2004/05. The average ratio of EBL is grater than that of SBI and NIBL i.e.  $56.78 > 35.39 > 33.36$ . Its average ratio is also higher than the total average of three sample banks.

**4.3 Activity or Turnover Position**

Turnover ratios help to analyze the behavior of working capital utilization and improvement. These ratios are used to evaluate with which the firm manages and

utilizes its assets. These ratios are also employed to evaluate the speed with which assets are being converted and turnover. It has had direct impact on the efficiency of the company. There is no standard of ideal management though a greater turnover is regarded as efficient utilization of the assets. These ratios moreover, help in measuring the banks ability to utilize their available resources.

### 4.3.1 Loan and Advances to Total Deposit Ratio

This ratio measures the extent to which banks are successful in utilizing the outsiders' funds for the profit generating purpose. In other words how quickly collected total deposits are converted into loan and advances given to the client to earn income. It is calculated as follows:

$$\text{Loan and Advances to Total Deposit Ratio} = \frac{\text{Loan and Advances}}{\text{Total Deposits}} \times 100\%$$

The table 4.11 shows the effectiveness in utilization of total deposits of sample banks.

**Table 4.11**

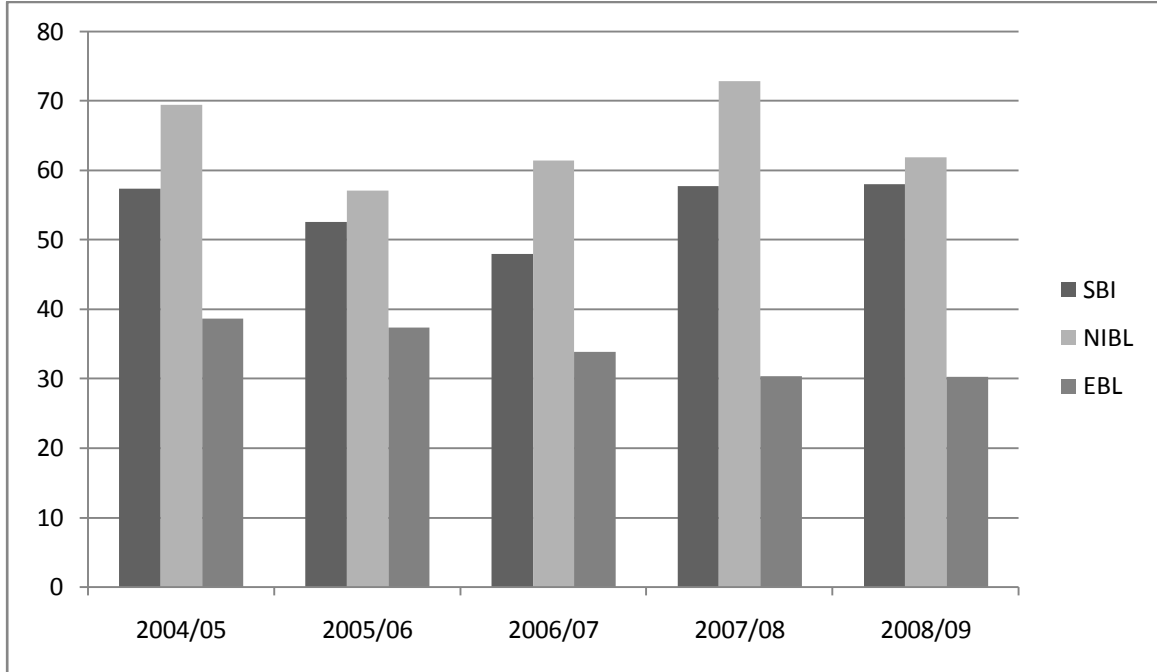
#### **Loan and Advances to Total Deposit Ratio** (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	L&A	TD	Ratio	L&A	TD	Ratio	L&A	TD	Ratio
2004/05	7434.76	12779.51	57.39	2070.68	2983.28	69.41	4857.17	12568.49	38.65
2005/06	8324.44	15839.01	52.56	2429.03	4256.31	57.07	5763.13	15430.03	37.35
2006/07	7437.90	15506.44	47.97	2564.43	4174.76	61.43	5364.00	15835.75	33.87
2007/08	7755.95	13447.65	57.68	5772.14	7922.75	72.86	5695.82	18755.64	30.37
2008/09	8189.99	14119.03	58.01	7130.13	11524.68	61.87	6410.24	21161.44	30.29
<b>Average</b>			<b>54.72</b>			<b>64.53</b>			<b>34.11</b>
<b>Total Average of three sample banks</b>				<b>51.12</b>					

Sources: Appendix 1, 2 and 3

**Figure 4.5**

**Loan and Advances to Total Deposit Ratio**



The above Table 4.11 and Figure 4.5 show that the ratios of SBI is decreased for first two fiscal years and then increased for last two fiscal years. The highest is 58.01% in FY 2008/09 and the lowest is 47.97% in FY 2006/07. In NIBL, it first decreased then increased for two fiscal years and once again decreased in last fiscal year. The highest which is also the highest among all is 72.86% in FY 2007/08 and the lowest is 57.07% in FY 2005/06. In EBL it continuously decreased from the first to last fiscal year. The highest 39.65% in FY 2004/05 and the lowest which is the lowest among all is 30.29% in FY 2008/09. The average ratio of NIBL is higher than that of SBI and EBL i.e.  $64.53 > 54.72 > 34.11$ . The average ratio of two banks NIBL and SBI are higher than the total average of three sample banks.

The above analysis helps to conclude that the loan and advances to total deposit ratio or total deposit turnover ratio of NIBL is better than that of SBI and EBL. Because of the lower amount of total deposit, the ratio becomes higher of NIBL than SBI and EBL. NIBL is employing the funds more efficiently for the profit generating purpose on loan

and advances than two other sample banks. SBI has also employed its fund quite satisfactorily but EBL is very weak in this respect.

### 4.3.2 Loan and Advances to Fixed Deposit

This ratio examines that how many times the funds is used in loan and advances against fixed deposit. Fixed deposits are interest bearing long-term obligation where as loan and advances are the major sources of investment in generating income for commercial banks. It is calculated as follows:

$$\text{Loan and Advances to Fixed Deposit Ratio} = \frac{\text{Loan and Advances}}{\text{Fixed Deposits}} \times 100\%$$

The table 4.12 shows the ratios of SBI, NIBL and EBL

**Table 4.12**

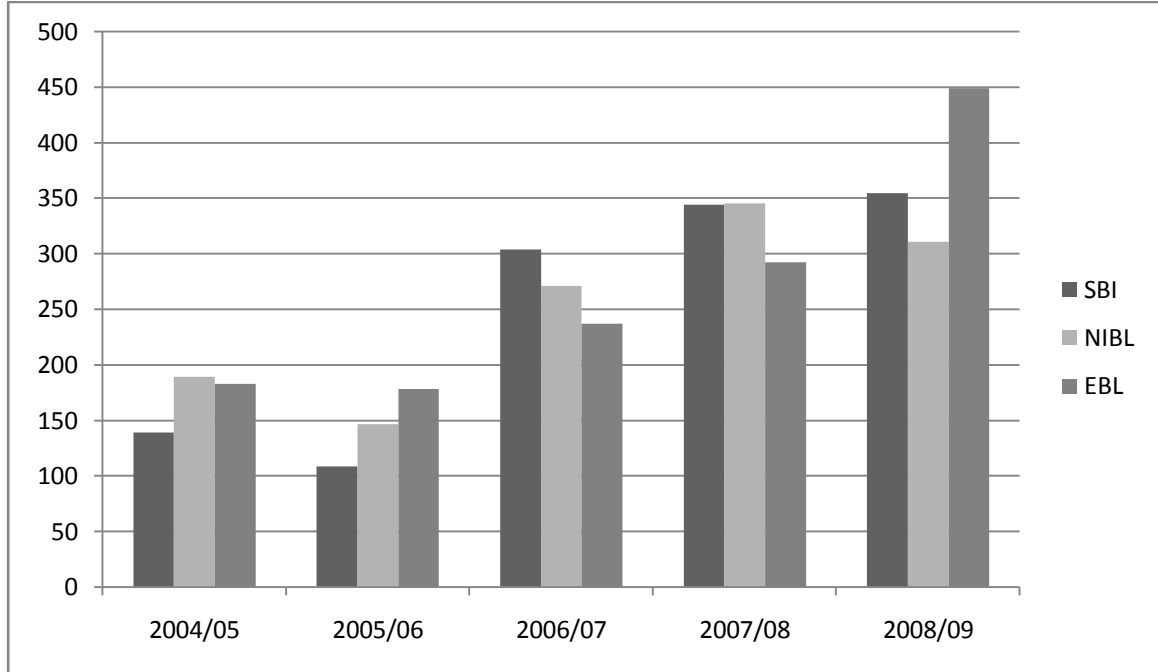
**Loan and Advances to Fixed Deposit** (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	L&A	FD	Ratio	L&A	FD	Ratio	L&A	FD	Ratio
2004/05	7334.76	5278.27	138.96	2070.68	1093.65	189.34	4857.17	2651.65	183.18
2005/06	8324.44	7667.54	108.57	2429.03	1658.66	146.45	5763.13	3236.03	178.09
2006/07	7437.90	2446.85	303.98	2564.43	945.93	271.10	5364.00	2264.77	236.85
2007/08	7755.95	2252.54	344.32	5772.14	1672.82	345.05	5695.82	1948.60	289.30
2008/09	8189.99	2310.57	354.46	7130.13	2294.68	310.72	6410.24	1428.49	448.74
<b>Average</b>			<b>250.06</b>			<b>252.53</b>			<b>267.83</b>
<b>Total Average of three sample banks</b>				<b>256.81</b>					

Sources: Appendix 1, 2 and 3

**Figure 4.6**

**Loan and Advances to Fixed Deposit**



The Table 4.12 and Figure 4.6 show that the ratios of SBI decreased in the first fiscal year and then gradually increased for last three fiscal years. It is highest in FY 2008/09 i.e. 354.46% and lowest in FY 2005/06 i.e. 108.57%, which is also the lowest among all ratios. NIBL always shows fluctuating ratios. First it decreased, then increased for two fiscal years and once again it decreased in the last fiscal year of the study period. It is highest in FY 2007/08 i.e. 345.05% and lowest in FY 2005/06 i.e. 146.45%. In EBL similar to SBI it first decreased and then gradually increased for last three fiscal years. It is highest in FY 2008/09 i.e. 448.74% and also the highest among all and lowest in FY 2005/06 i.e. 178.09%. The average of EBL is greater than NIBL and SBI i.e. 267.8>252.23>250.06. Its average is also greater than the total average of three sample banks.

The above analysis helps to conclude that the loan and advances to fixed deposit ratio of EBL is better than that of SBI and NIBL. This ratio implies that EBL is utilizing its fixed deposit in loan and advances more efficiently than two other sample banks.



### 4.3.3 Loan and Advances to Saving Deposit Ratio

This ratio is also employed for the purpose of measuring the utilization of saving deposits in generating revenue by giving loan and advances to the client i.e. to what extent collected saving deposits amount is deployed in providing loan and advances to generate income. Saving deposits are interest bearing obligation for short-term purpose whereas loan and advances are the short-term investment for revenue income. This ratio indicates how many times short-term interest bearing deposits are utilized for income generating purpose. It is calculated as follows:

$$\text{Loan and Advances to Saving Deposit Ratio} = \frac{\text{Loan and Advances}}{\text{Saving Deposits}} \times 100\%$$

The table 9 shows ratios of three sample banks.

**Table 4.13**

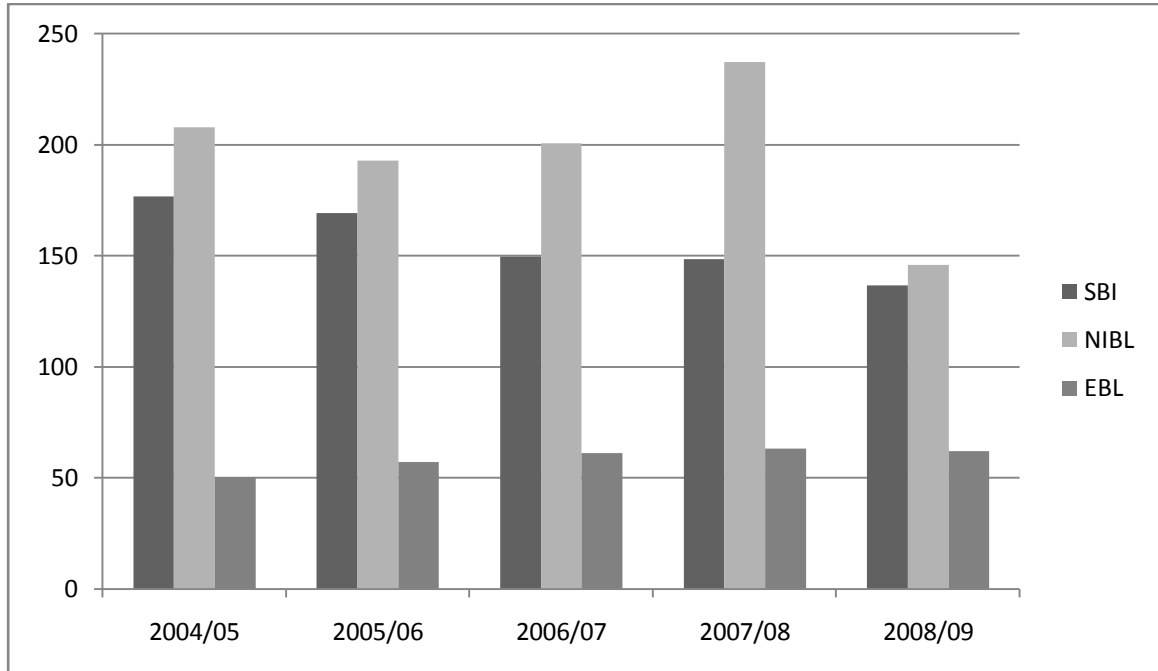
**Loan and Advances to Saving Deposit Ratio** (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	L&A	SD	Ratio	L&A	SD	Ratio	L&A	SD	Ratio
2004/05	7334.76	4150.19	176.73	2070.68	997.48	207.59	3338.67	6632.70	50.34
2005/06	8324.44	4917.14	169.29	2429.03	1259.57	192.85	4811.01	8404.61	57.24
2006/07	7437.90	4972.06	149.59	2564.43	1278.79	200.54	5784.72	9441.91	61.27
2007/08	77755.95	5229.72	148.31	5772.14	2434.05	237.14	6722.38	10633.16	63.23
2008/09	8189.99	5994.12	136.63	7130.13	4886.10	145.93	7948.22	12771.83	62.23
<b>Average</b>			<b>156.11</b>			<b>196.81</b>			<b>58.86</b>
<b>Total Average of three sample banks</b>				<b>137.26</b>					

Sources: Appendix 1, 2 and 3

**Figure 4.7**

**Loan and Advances to Saving Deposit Ratio**



The Table and Figure depicts that the loan and advances to saving deposit ratio of SBI continuously decreased till the last fiscal year of the study period and recorded to be the lowest i.e. 136.63%. The highest is 176.73% in FY 2004/05. In NIBL it first decreased, then increased for two fiscal years and once again it decreased in the last fiscal year of the study period. It is highest in FY 2007/08 i.e. 237.14%, which is also the highest among all and lowest in FY 2008/09 i.e. 145.93%. In EBL, it gradually increased for first three fiscal years and then decreased in last fiscal year. It is highest in FY 2007/08 i.e. 63.23% and lowest in FY 2004/05 i.e. 50.34% and also the lowest among all. The average of NIBL is greater than SBI and EBL i.e.  $196.81 > 156.11 > 58.86$ . The average of NIBL and SBI is higher than the total average of three sample banks.

From the above analysis it can be concluded that the ratio of NIBL is better than two other banks. It implies that NIBL is utilizing short-term fund of outsider more effectively than SBI and EBL. SBI is also good in utilizing short-term funds but EBL is very weak in utilizing short-term fund.

## 4.4 Profitability Position

Profit is an important factor that determines the firms' expansion and diversification. A required level of profit is necessary for the firms' growth and survival in the competitive environment. Under this study various profitability ratios are developed upon the profit under different circumstances to measure the operating efficiency of these three sample banks.

### 4.4.1 Interest Earned to Total Assets Ratio

It is the ratio which is developed to find out the percentage of the investment earned to total assets. This is derived by dividing the amount of interest earned by the total assets of the firm.

$$\text{Interest Earned to Total Assets Ratio} = \frac{\text{Interest Earned}}{\text{Total Assets}} \times 100\%$$

The table 4.14 shows the ratios for SBI, NIBL and EBL

**Table 4.14**

#### Interest Earned to Total Assets Ratio (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	IE	TA	Ratio	IE	TA	Ratio	IE	TA	Ratio
2004/05	1047.03	15024.20	6.97	279.86	3796.70	7.37	1052.36	16832.23	6.25
2005/06	1266.70	18367.15	6.90	349.75	5127.36	6.82	1242.00	19357.18	6.42
2006/07	1120.18	17629.25	6.35	326.22	4973.90	6.56	1013.64	18443.07	5.50
2007/08	1017.87	16562.61	6.15	459.51	9014.24	5.10	1001.36	21000.50	4.77
2008/09	1001.62	16754.49	5.98	731.40	13255.50	5.52	1042.18	23642.06	4.41
<b>Average</b>			<b>6.47</b>			<b>6.27</b>			<b>5.47</b>
<b>Total Average of three sample banks</b>				<b>6.07</b>					

Sources: Appendix 1, 2,3,4,5 and 6

The Table 4.14 depicts that the interest earnings of all three banks are fluctuating. The ratios of SBI are gradually decreasing in all fiscal years of study period. It is highest in FY 2004/05 i.e. 6.97% and lowest in FY 2008/09 i.e. 5.98% in NIBL, it decreased for three years till FY 2007/08 then increased in FY 2008/09. The highest is 7.37% in FY 2004/05 and also the highest among all and the lowest 5.10% in FY 2007/08. In EBL, it increased for the first fiscal year then decreased till FY 2008/09. The highest is 6.42% in FY 2005/06 and the lowest is 4.41% in FY 2008/09 and also the lowest among all. The average of SBI is greater than NIBL and EBL i.e. 6.47>6.275.47. The average of SBI and NIBL is greater than total average of three sample banks.

From the above analysis it can be concluded that the interest earned to total assets ratio of SBI is better than NIBL and EBL. This implies that SBI is efficiently using its total assets to earn interest income. NIBL has also used its total assets quite satisfactorily but EBL is poor in utilizing its total assets to earn interest income.

#### **4.4.2 Net Profit to Total Assets Ratio**

This ratio is useful in measuring the profitability of all financial resources invested in the bank's assets. The return on assets (ROA) or profit to assets ratio is calculated by dividing the amount of net profit by the amount of total assets employed.

$$\text{Net Profit to Total Assets Ratio} = \frac{\text{Net Profit After Tax}}{\text{Total Assets}} \times 100\%$$

The table 4.15 shows the net profit to total assets ratio of three sample banks.

**Table 4.15****Net Profit to total assets ratio of three sample banks** (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	NP	TA	Ratio	NP	TA	Ratio	NP	TA	Ratio
2004/05	329.12	15024.20	2.19	72.66	3796.70	1.91	392.59	16832.23	2.33
2005/06	291.37	18367.15	1.59	56.39	5127.36	1.10	430.83	19357.18	2.23
2006/07	271.63	17629.25	1.54	57.09	4973.90	1.15	479.21	18443.07	2.60
2007/08	416.25	16562.61	2.51	116.82	9014.24	1.30	506.95	21000.50	2.41
2008/09	455.31	16745.49	2.72	152.67	13255.60	1.15	537.80	23642.06	2.27
<b>Average</b>			<b>2.11</b>			<b>1.32</b>			<b>2.37</b>
<b>Total Average of three sample banks</b>				<b>1.93</b>					

Sources: Appendix 1, 2, 3,4,5 and 6

The table 4.15 depicts that the net profit of all three banks are fluctuating. The overall profitability i.e. net profit to total assets of SBI decreased for two fiscal years and then increased for two years. It is highest in FY 2008/09 i.e. 2.72%, also the highest among all and lowest in FY 2006/07 i.e. 1.54%. In NIBL, it first decreased then increased for two fiscal years and once again it decreased in the last fiscal year of the study period. The highest is 1.91% in FY 2004/05 and the lowest 1.10% in FY 2005/06 and also the lowest among all. Similarly, in EBL it first decreased then increased for two fiscal years and once again it decreased in the last fiscal year of the study period. The highest is 2.60% in FY 2006/07 and the lowest is 2.23% in FY 2005/06. The average of EBL is greater than SBI and NIBL i.e.  $2.37 > 2.11 > 1.32$ . The average of EBL and SBI are higher than the total average of three sample banks.

The above analysis helps to conclude that overall profitability of EBL is better than SBI and NIBL. It implies that EBL is more efficiently using its working fund of assets to earn higher rate of profit. SBI has also used its working fund of assets quite satisfactory but NIBL is weak in utilizing its working funds of assets.

### 4.4.3 Net Profit to Shareholders' Equity Ratio

This ratio tells us the earning power on shareholders' book investment and is frequently used in comparing two or more firms in an industry. The return on equity (ROE) or net profit to shareholders' equity ratio is calculated by dividing the amount of net profit by the amount of net worth.

$$\text{Net Profit to Shareholders' Equity Ratio} = \frac{\text{Net Profit After Tax}}{\text{Net Worth}} \times 100\%$$

The table 4.16 shows the net profit to shareholders' equity ratio of three sample banks.

**Table 4.16**

**Net Profit to Shareholders' Equity Ratio** (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	NP	NW	Ratio	NP	NW	Ratio	NP	NW	Ratio
2004/05	329.12	984.07	33.44	72.66	410.24	17.71	392.59	1014.85	38.68
2005/06	291.37	1062.83	27.41	56.39	469.08	12.02	430.83	1112.02	38.74
2006/07	271.63	1146.42	23.69	57.09	523.46	10.91	479.21	1235.49	38.79
2007/08	416.25	1314.18	31.67	116.82	638.53	18.30	506.95	1368.91	37.30
2008/09	455.31	1481.69	30.73	152.67	729.05	20.94	537.80	1495.75	35.96
<b>Average</b>			<b>29.39</b>			<b>15.98</b>			<b>37.84</b>
<b>Total Average of three sample banks</b>				<b>27.74</b>					

Sources: Appendix 1, 2, 3, 4, 5 and 6

The table 4.16 depicts that the ratios of SBI decreased for two fiscal years and increased in the following fiscal year then decreased once again in the last fiscal year. It is highest in FY 2004/05 i.e. 33.44% and lowest in FY 2006/07 i.e. 23.69%. In NIBL, it first decreased for two fiscal years then increased for last two fiscal years of the study period. The highest is 20.94% in FY 2008/09 and the lowest 10.91% in FY 2006/07 and also the lowest among all. In EBL, it first increased for two fiscal years and then decreased for last two fiscal years. The highest is 38.79% in FY 2006/07, also the

highest among all and the lowest is 35.96% in FY 2008/09. The average of EBL is greater than SBI and NIBL i.e.  $37.84 > 29.39 > 15.98$ . The two banks EBL and SBI have greater average than the average of three sample banks.

The above analysis helps to conclude that return on equity of EBL is better than SBI and NIBL. It implies that EBL is more efficiently using its working fund to earn higher rate return on equity. SBI is also using its working fund satisfactorily in comparison to NIBL. NIBL is very weak in that respect.

#### 4.4.4 Net Profit to Total Deposit Ratio

Deposits are mobilized for investment, loan and advances to public in generating revenue. Mobilization of outsiders' fund is important to earn profit for commercial banks. This ratio is used for measuring the internal rate of return from deposits. It measures the percentage of profit earned from the utilization of the total deposits. It is computed dividing the net profit by total deposits.

The following table shows the net profit to total assets ratio of three sample banks.

**Table 4.17**

**Net Profit to Total Deposit Ratio** (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	NP	TD	Ratio	NP	TD	Ratio	NP	TD	Ratio
2004/05	329.12	12779.51	2.58	72.66	2983.28	2.44	392.59	12568.49	3.12
2005/06	291.37	15839.01	1.84	56.39	4256.21	1.32	430.83	15430.05	2.79
2006/07	271.63	15506.44	1.75	57.09	4174.76	1.37	479.21	15835.75	3.03
2007/08	416.25	13447.65	3.10	116.82	7922.75	1.47	506.95	18755.64	2.70
2008/09	455.31	14119.03	3.22	152.67	11524.68	1.32	537.80	21161.44	2.54
<b>Average</b>			<b>2.50</b>			<b>1.59</b>			<b>2.84</b>
<b>Total Average of three sample banks</b>				<b>2.31</b>					

Sources: Appendix 1, 2, 3, 4, 5 and 6

The above Table 4.17 depicts that the ratios of SBI decreased for two fiscal years and then increased for two years. It is highest in FY 2008/09 i.e. 3.22%, also the highest among all and lowest in FY 2006/07 i.e. 1.75%. In NIBL, it first decreased then increased for two fiscal years and once again it decreased in the last fiscal year of the study period. The highest is 2.44% in FY 2004/05 and the lowest 1.32% in two years FY 2005/06 and FY 2008/09 and also the lowest among all. In EBL it first decreased then increased in following fiscal year and once again it decreased for last two fiscal years of the study period. The highest is 3.12% in FY 2004/05 and the lowest is 2.54% in FY 2008/09. The average of EBL is greater than SBI and NIBL i.e. 2.84>2.50>1.59. The average of EBL and SBI are higher than the total average of three sample banks.

From the above analysis it can be conclude that net profit to total deposit of EBL is better than SBI and NIBL. It implies that EBL has better performance on mobilization of total deposits. SBI also shows satisfactory performance on the mobilization of total deposits but NIBL is very weak in that respect.

#### **4.4.5 Cost of Services to Total Assets Ratio**

This ratio is used to measure the assets utilization with cost of services. This ratio is computed dividing the cost of services by total assets.

$$\text{CostofServicestoTotdAssetsRatio} = \frac{\text{CostofServices}}{\text{TotalAssets}} \times 100\%$$

The following table shows the cost of services to total assets ratio of sample banks.



**Table 4.18****Cost of Services to Total Assets Ratio** (Rs. In million)

Fiscal Year	SBI			NIBL			EBL		
	CS	TA	Ratio	CS	TA	Ratio	CS	TA	Ratio
2004/05	530.93	15024.20	3.53	138.98	3796.70	3.66	513.48	16832.23	3.05
2005/06	724.22	18367.15	3.94	194.25	5127.36	3.79	574.49	19357.18	2.97
2006/07	606.96	17629.25	3.44	172.16	4973.90	3.46	424.87	18443.07	2.30
2007/08	527.93	16562.61	3.19	250.50	9014.24	2.78	383.46	21000.50	1.83
2008/09	463.78	16745.49	2.77	415.95	13255.60	3.14	406.92	23642.06	1.72
<b>Average</b>			<b>3.38</b>			<b>3.37</b>			<b>2.37</b>
<b>Total Average of three sample banks</b>				<b>3.04</b>					

Sources: Appendix 1, 2, 3, 4, 5 and 6

The above Table 4.18 depicts that the cost of services are fluctuating over the study period for all three sample banks. The ratios of SBI increased in first fiscal year and decreased for last three fiscal years. It is highest in FY 2005/06 i.e. 3.94% , also the highest among all and lowest in FY 2008/09 i.e. 2.77%. In NIBL, it first increased then decreased for two fiscal years and once again it increased in the last fiscal year of the study period. The highest is 3.79% in FY 2005/06 and lowest 2.78% in FY 2007/08. In EBL, it gradually decreased for the whole study period. The highest is 3.05% in FY 2004/05 and the lowest is 1.72% in FY 2008/09 and also the lowest among all. The average of SBI is higher than NIBL and EBL i.e. 3.38>3.37>2.37. The average of SBI and NIBL are higher than the total average of three sample banks.

The above analysis helps to conclude that cost of services to total assets ratio of SBI and NIBL are better than EBL. It shows that the profitability position of SBI and NIBL are quite satisfactory than EBL.

## 4.5 Capital Structure of Leverage Ratio

Leverage refers to the ratio of debt to equity in the capital structure of the firm. Debt and equities are long-term obligations and remaining parts in the liability side of the balance sheet are termed as short-term obligations. Both types of obligations are required in forming the capital structure of the firm. The appropriation mix of all types of securities in capital structure results sound position of the firm. Therefore a firm has a storing short-term liquidity as well as long-term financial position. The long-term financial position or the firm is determined by the leverage or capital structure. The difference leverage ratios are mentioned to measure the financial risk or proportion of outsiders fund and owner capital used by the firm

### 4.5.1 Long-term Debt to Net worth Ratio

This ratio measures the proportion of outsiders and owners' fund employed in the capitalization of banks. Here, long-term debt refers to the amount fixed deposits and loans of the banks. This ratio is calculated by dividing the fixed obligations of the banks by owners claim.

$$\text{Long-term Debt to Net worth Ratio} = \frac{\text{Long-term Debt}}{\text{Net Worth}} \times 100\%$$

The following table shows the long-term debt to net worth ratio of three sample banks.

**Table 4.19****Long-term Debt to Net worth Ratio** (Rs. In million)

<b>Fiscal Year</b>	<b>SBI</b>			<b>NIBL</b>			<b>EBL</b>		
	<b>LTD</b>	<b>NW</b>	<b>Ratio</b>	<b>LTD</b>	<b>NW</b>	<b>Ratio</b>	<b>LTD</b>	<b>NW</b>	<b>Ratio</b>
2004/05	5341.11	984.07	542.76	1117.67	410.24	272.44	2687.86	1014.85	264.85
2005/06	7745.64	1062.83	728.78	1687.91	469.08	359.83	3285.20	1112.02	295.43
2006/07	2544.95	1146.42	221.99	986.15	523.46	188.39	2322.35	1235.49	187.97
2007/08	2365.55	1314.18	180.00	1689.07	638.53	264.52	2010.81	1368.91	146.89
2008/09	2421.37	1481.69	163.42	2314.18	729.05	317.42	1488.61	1495.75	99.52
<b>Average</b>			<b>367.39</b>			<b>280.52</b>			<b>198.93</b>
<b>Total Average of three sample banks</b>				<b>282.28</b>					

Sources: Appendix 1, 2, 3, 4, 5 and 6

The above Table 4.19 depicts that the long-term debt of SBI is fluctuating and the net worth are gradually increasing all over the study period. So the yearly ratio of SBI are also fluctuating. The highest is 728.78% in FY 2005/06 and also the highest among all and the lowest is 163.42% in FY 2008/09. Similarly, the long-term debt of NIBL is also fluctuating and the net worth gradually increasing. The highest ratio is 359.83% in FY 2005/06 and lowest is 188.39% in FY 2006/07. In the same way, the net worth of EBL is gradually increasing over the study period. The highest is 295.43% in FY 2005/06 and the lowest that is also the lowest among all is 99.52% in FY2008/09. The average of EBL is less than NIBL and SBI i.e.  $198.93 < 280.53 < 367.39$ . Its average is also higher than the total average of three sample banks.

The above analysis helps to conclude that the long-term debt to net worth ratios of SBI was better than NIBL and SNCBL in first three years but in last two year NIBL showed better than SBI and EBL. This implies that the proportion of outside' claim in total capitalization is higher in SBI and NIBL have more risky and aggressive capital structure than EBL.

#### 4.5.2 Net fixed Assets to Long-term Debt Ratio

This ratio is calculated to find out how many times net fixed assets are, in comparison to the fixed liabilities. Here, net fixed assets are applied to both physical and financial assets. This ratio calculated as follows:

$$\text{NetFixedAsetstoLong-termDebtRatio} = \frac{\text{NetFixedRatio}}{\text{Long-termDebt}} \times 100\%$$

The following table shows the net fixed assets to long-term debt ratio of three sample banks.

**Table 4.20**

#### Net Fixed Assets to Long-term Ratio

Net Fixed Assets to Long-term Debt Ratio (%)									
(Rs. In million)									
Fiscal Year	SBI			NIBL			EBL		
	NFA	LTD	Ratio	NFA	LTD	Ratio	NFA	LTD	Ratio
2004/05	219.17	5341.11	4.10	39.92	1117.67	3.57	170.72	2687.86	6.35
2005/06	235.12	7745.64	3.04	33.98	1687.91	2.01	121.81	3285.20	3.71
2006/07	237.63	2544.95	9.34	35.89	986.15	3.64	101.06	2322.35	4.35
2007/08	251.91	2365.55	10.65	191.11	1689.07	11.31	191.71	2010.81	9.53
2008/09	338.13	2421.37	13.96	249.79	2314.18	10.79	136.23	1488.61	9.15
<b>Average</b>			<b>8.22</b>			<b>6.27</b>			<b>6.62</b>
<b>Total Average of three sample banks</b>				<b>7.03</b>					

Sources: Appendix 1, 2, 3, 4, 5 and 6

The above Table 4.20 depicts that the ratio of SBI first decreased and then gradually increased for last three fiscal years. It is highest in FY 2008/09 i.e. 13.96% and is also the highest among all and lowest is in FY 2005/06 i.e. 3.04%. In NIBL, it first decreased then increased for two fiscal years and once again decreased in the last fiscal year of the study period. The highest is 11.31% in FY 2007/08 and the lowest also the lowest among all is 2.01% in FY 2005/06. Similarly, in EBL it first decreased then

increased for to fiscal years and once again decreased in the last fiscal year of the study period. The highest is 9.53% in FY 2007/08 and the lowest also the lowest among all is 3.71% in FY 2005/06. The average of SBI is greater then EBL and NIBL i.e. 8.22>6.62>6.27. It average is also greater than the total average of three simple banks

From the above analysis it can be concluded that net fixed assets covers very low portion of long-term debt in these three simple banks. In other words, large portion of long-term debt is used in current asset of these banks.

## 4.6 Trend Analysis

Trend analysis is a part of time series analysis. For a long period desired to indicate whether the present data is increasing or decreasing. Trend analysis is also attempted to find out growth factor. The trend analysis projects the rate of change so that budgeting and planning can he made easier. Therefore, trend analysis is taken as a tool to find out future behavior of the data. For the purpose of the study Least Square Method of trend analysis is used.

### 4.6.1 Cash and Bank Balance Percentage

From the calculation of cash and bank balance percentage trend as per Appendix 7, the value of constant a and b of respective banks are as follows:

<b>SBI</b>	<b>NIBL</b>	<b>EBL</b>
<b>a = 7.30</b>	<b>a = 11.69</b>	<b>a = 6.30</b>
<b>b = 0.10</b>	<b>b = -0.03</b>	<b>b = 0.72</b>

The rate of change in cash and bank balance percentage b is positive in SBI and EBL but negative in NIBL. It implies the decreasing cash and bank balance percentage to total current assets in NIB. The negative value of b of NIBL indicates the better utilization of cash in income generating sources.

#### 4.6.2 Money at Call or short Notice

From the calculation of money at call or short notice percentage trend as per Appendix 8, the value of constant a and b of respective banks are as follows:

<b>SBI</b>	<b>NIBL</b>	<b>EBL</b>
<b>a = 9.36</b>	<b>a = 6.92</b>	<b>a = 17.15</b>
<b>b = -4.89</b>	<b>b = -5.64</b>	<b>b = -7.37</b>

The rate of change on money at call or short notice percentage b is negative in these three sample banks. It implies the decreasing money at call or short notice percentage to total current assets in these banks. The higher negative value of b of EBL shows speedy decreasing in money at call or short notice percentage.

#### 4.6.3 Loan and Advances Percentage

From the calculation of loan and advances percentage trend as per Appendix 9, the value of constant a and b of respective banks are as follows:

<b>SBI</b>	<b>NIBL</b>	<b>EBL</b>
<b>a = 56.43</b>	<b>a = 68.76</b>	<b>a = 28.62</b>
<b>b = 0.85</b>	<b>b = 2.32</b>	<b>b = -0.64</b>

The rate of change on loan and advances percentage b is negative in EBL but positive in SBI and NIBL. It implies that the loan and advances percentage to total current assets of are decreasing in EBL but increasing in SBI and NIBL.

#### 4.6.4 Government Securities

From the calculation of government securities percentage trend as per Appendix 10, the value of constant a and b of respective banks are as follows:

<b>SBI</b>	<b>NIBL</b>	<b>EBL</b>
<b>a = 22.34</b>	<b>a = 7.75</b>	<b>a = 28.56</b>
<b>b = 4.00</b>	<b>b = 3.25</b>	<b>b = 3.49</b>

The rate of change on government securities percentage b is positive in all three in all three sample banks but it is higher in SBI. It implies that the government securities percentage of total current assets of it increasing higher in SBI in comparison to EBL and NIBL.

#### 4.6.5 Current Ratio

From the calculation of current ration trend as per Appendix 11, the value of constant a and b of respective banks are as follows:

<b>SBI</b>	<b>NIBL</b>	<b>EBL</b>
<b>a = 0.90</b>	<b>a = 0.88</b>	<b>a = 1.06</b>
<b>b = 4.00</b>	<b>b = -0.03</b>	<b>b = 0.002</b>

The rate of change in current ratio b is negative in SBI and NIBL but it is positive in EBL. It implies that the current ration is in decreasing trend in SBI and NIBL but increasing in EBL.

#### 4.6.6 Quick Ratio

From the calculation of quick ration trend as per Appendix 12, the value of constant a and b of respective banks are as follows:

<b>SBI</b>	<b>NIBL</b>	<b>EBL</b>
<b>a = 0.36</b>	<b>a = 0.24</b>	<b>a = 0.55</b>
<b>b = -0.01</b>	<b>b = -0.04</b>	<b>b = -0.03</b>

The rate of change in quick ratio b is negative in all three sample banks. It implies that the quick ratio of all these three sample banks is in decreasing trend, which means that these banks are reducing their liquidity slowly.

## **4.7 Correlation Analysis**

Correlation is a statistical tool which is used to describe the degree to which one variable is linearly related to another variable. Under this analysis Karl Pearson's method of coefficient of correlation is applied. The coefficient of correlation measures the degree of relationship between two sets of figures. The result of coefficient of correlation is always between +1 and -1, when r is +1 it means there is perfect relationship between two variables and vice versa. When r is 0, it means there is no relationship between two variables.

### **4.7.1 Coefficient of Correlation between Investment on Government Securities and Total Deposits**

The coefficient of correlation between investment on government securities and total deposits is calculated to measure the degree of relationship between two variables. Although bank utilizes its deposits on loan and advances but some part of idle deposit are invested on government securities. The purpose of computing correlation coefficient is to justify whether the excess deposits are significantly used in government securities or not or whether there is any relationship between these two variables

The table 4.21 shows the coefficient of correlation between government securities and total deposits i.e. **r**, **PEr**, and **6PEr** of these sample banks viz. SBI, NIBL and EBL.



**Table 4.21**

**Coefficient of correlation between government securities and total deposits**

<b>Bank</b>	<b>R</b>	<b>PEr</b>	<b>6PEr</b>
SBI	0.50	0.23	1.36
NIBL	0.92	0.05	0.29
EBL	0.98	0.01	0.06

Source: Appendix 13

From the **table 4.21** we can find the coefficient of correlation between government securities and total deposit value  $r$  is 0.50 in SBI, 0.92 in NIBL and 0.98 in EBL. It shows highly positive relationship between variable in an NIBL and EBL. By considering the probable error, since the value of ' $r$ ' NIBL and EBL is more than six times PEr, the value of ' $r$ ' is highly significant i.e. there is significant relationship between investment on government security and total deposit in these two banks. But in case of SBI, although it shows positive relationship there is no significant relationship between government security and total deposits.

**4.7.2 Coefficient of correlation between loan and advances and total deposits**

The coefficient of correlation between loan and advances and total deposit is calculated to measure the degree of relationship between major components of current assets i.e. loan and advances and major sources of fund on bank i.e. total deposits. In correlation analysis, deposit is independent variable and loan and advances is dependent variables. The purpose of computing coefficient of correlation is to justify whether the deposits are significantly used in loan and advance or not and whether there is any relationship between these two variables.

The table 4.22 shows the coefficient of correlation between loan and advances and total deposits i.e.  $r$ ,  $PEr$ , and  $6PEr$  of three sample banks.

**Table 4.22**

**Coefficient of correlation between Loan and Advances and total deposits**

<b>Bank</b>	<b>R</b>	<b>PEr</b>	<b>6PEr</b>
SBI	0.45	0.24	1.44
NIBL	0.98	0.01	0.06
EBL	0.91	0.05	0.30

Source: Appendix 14

From the **Table 4.22** we can find the coefficient of correlation between loan and advances and total deposits value ' $r$ ' is 0.45 in SBI, 0.98 in NIBL and 0.91 in EBL. it shows highly positive relationship between these variables in NIBL and EBL. by considering the probable error, since the value of ' $r$ ' in NIBL and EBL is more than six times of  $PEr$ , the value of ' $r$ ' is highly significant i.e there is significant relationship between loan and advances and total deposits in these two banks. But in case of SBI, although it shows positive relationship there is no significant i.e. there is significant relationship between loan and advances and total deposits as the value of ' $r$ ' is less than  $6PEr$ .

From the above analysis, it can be concluded that NIBL and EL have utilized its total deposits on loan and advances effectively. But higher value of ' $r$ ' in NIBL shows better relationship as well as better utilization of deposits on loan and advances than other two sample banks.

### 4.7.3 Coefficient of correlation between Loan and Advances and Net Profit

The basic function of commercial Bank is to collect deposits and invest such funds on loan and advances to generate higher profit. Large amount of loan and advances generate higher profit. The coefficient of correlation between loan and advances and net profit is calculated to measure the degree of relationship between loan and advances and net profit. In correlation analysis, loan and advances is independent variable and advances is dependent variable. The purpose of computing coefficient of correlation is to justify whether the loan and advances are significantly generating profit or not and whether there is any relationship between these two variables.

The table 4.23 shows the coefficient of correlation between loan and advances and net profit i.e. PER, and 6PEr of three sample banks.

**Table 4.23**

**Coefficient of correlation between Loan and Advances and Net Profit**

Bank	R	PEr	6PEr
SBI	0.32	0.27	1.62
NIBL	0.97	0.02	0.11
EBL	0.97	0.10	0.62

Source: Appendix 15

From the **Table 4.23** we can find the coefficient of correlation between loan and advances and net profit value 'r' is 0.32 in SBI < 0.97 in BIBL and EBL. it shows highly positive relationship between these variables in NIBL and EBL. By considering the probable error, since the value of 'r' of NIBL and EBL is more than six times of PEr, the value of 'r' is highly significant i.e. there is significant relationship between loan and advances and net profit in these tow banks. But in case of SNI < although it shows positive relationship there is no significant relationship between loan and advances and net profit as its value of 'r' is less than 6PEr.

From the above analysis, it can be concluded that there is significant relationship between loan and advances and net profit in NIBL and EBL. But there is no significant relationship between loan and advances and net profit is SBI.

#### **4.7.4 Coefficient of correlation between Cash and Bank Balance and Current Liabilities**

Cash and bank balance is most liquid component of current assets. Banks require cash and bank balance to meet its short-term obligations i.e. current liabilities. The coefficient of correlation between cash and bank balance and current liabilities is calculated measure the degree of relationship between cash and bank balance and current liabilities. The table 20 shows the coefficient of correlation between cash and bank balance and current liabilities i.e. 'r' PER, and 6PER of three sample banks.

**Table 4.24**

#### **Coefficient of correlation between Cash and Bank Balance and Current Liabilities**

<b>Bank</b>	<b>R</b>	<b>PER</b>	<b>6PER</b>
SBI	-0.71	0.15	0.90
NIBL	0.98	0.01	0.07
EBL	0.91	0.05	0.32

**Source: Appendix 16**

From the **Table 4.24** we can find the coefficient of correlation between cash and bank balance and current liabilities value 'r' is -0.71 in SBI, 0.98 in NIBL and 0.91 in EBL. It shows highly positive relationship between these variables in NIBL and EBL but in SBI it shows negative relationship between these variables in NIBL and EBL is more than six times PER, the value of 'r' is highly significant i.e. there is significant relationship between cash and bank balance and current liabilities in these two banks. But in case of

SBI, there is no significant relationship between cash and bank balance and current liabilities as its value of 'r' is less than 6PEr.

From the above analysis, it can be concluded that there is significant relationship between cash and bank balance and current liabilities in NIBL and EBL. But there is no significant relationship between cash and bank balance and current liabilities in SBI.

#### **4.8 Test of Hypothesis**

A hypothesis is a conjectural statement of the relation between two or more variables. Hypothesis always in declarative sentence form and they relate either generally or specifically variable of variables. There are two criteria for good hypothesis and hypothesis statement. One hypothetical statement is about the relations between variables. Second hypothesis carries a clear implication for testing the stated relation. These criteria mean that hypothesis statements certain two or more variables that are measurable and they specify how the variable are related.

In this study three hypothesis sets are sets are set to identify whether there is significant difference or not in (i) composition of working capital management, (ii) liquidity position and (III) profitability position among three sample banks viz. SBI, NIBL and EBL. here, two complementary are set up at one time i.e. a) Null Hypothesis  $(H_0)$  (b) Alternative Hypothesis  $(H_1)$ . Among these two hypotheses is on is accepted, then the other hypothesis is rejected and vice versa.

Since three banks are taken into consideration as samples in this study, F-test is applied to test the validity of our assumptions. For applying F-test is applied to test the validity of our assumptions. For applying F-test in the contest of small sample, the F value is calculated first and compared with the table value of F at a 5% level of significance for given degree of freedom. If calculated value F exceeds the table value we infer that null hypothesis is rejected i.e. the difference is significant at 5% level of significance. But if

F is less than the concerning table value of F the null hypothesis is accepted i.e. the difference is not significant. For the computation of value F, analysis of variance (ANOVA), a statistical tool is used . it is a powerful statistical technique for the tests of significant to evaluate difference among more than two variables. For the test of hypothesis one-factor analysis of variance is used.

#### **4.8.1 Composition Working Capital**

To judge whether there is significant difference in composition of working- capital among these three sample banks viz. SBI< NIBL and EBL, following null hypothesis and alternative hypothesis are formulated and tested.

##### **Null Hypothesis**

H<sub>0</sub>: There is no significant difference in composition of working capital among SBI, NIBL and EBL.

##### **Alternative Hypothesis**

H<sub>1</sub>: There is significant difference in composition of working capital among SBI, NIBL and EBL.

The table 4.25 exhibits the mean value of various percentages measuring the composition or structure of working capital management of SBI, NIBL and EBL.

**Table 4.25**

**Mean value of various percentages measuring the composition**

<b>POSITION</b>	<b>SBI (Mean)</b>	<b>NIBL (Mean)</b>	<b>EBL (Mean)</b>	<b>Calculated F Value</b>	<b>Tabulated F Value</b>	<b>Result/ Decision</b>
1. Cash and Bank Balance	7.30	11.69	6.30	14.45	3.89	H <sub>0</sub> is rejected
2. Money at Call or Short Notice	9.36	6.92	17.15	0.76	3.89	H <sub>0</sub> is accepted
3. Loan and Advances	56.43	68.76	28.62	57.92	3.89	H <sub>0</sub> is rejected
4. Government Securities	22.34	7.75	28.56	11.31	3.89	H <sub>0</sub> is rejected
5. Miscellaneous Current Assets	6.07	9.22	6.25	7.85	3.89	H <sub>0</sub> is rejected

**Source: Appendix 17, 18, 19, 20, 21**

From the Table 4.25 it is clear that the cash and bank balance, loan and advances, government securities and miscellaneous current assets of these banks are significantly different but money at call or short notice is not significantly different. From this analysis although money at call or short notice shows no significant difference it can be concluded that there is significant difference in composition of working capital among SBI < NIBL and EBL.

### **4.8.2 Liquidity Position**

To judge whether there is significant difference in liquidity position among these three banks SBI < NIBL and EBL, following null hypothesis and alternative hypothesis are formulated and tested.

#### **Null Hypothesis**

H<sub>0</sub>: There is no significant difference in liquidity position among SBI, NIBL and EBL.

#### **Alternative Hypothesis**

H<sub>1</sub>: There is significant difference in liquidity position among SBI < NIBL and EBL.

The table 4.26 exhibits the mean value of various ratios measuring the liquidity position of SBI, NIBL and EBL and their calculated value F along with its tabulated value.

**Table 4.26**

**Mean Value of Various Percentages Measuring the Liquidity Position**

POSITION	SBI (Mean)	NIBL (Mean)	EBL (Mean)	Calculated F Value	Tabulated F Value	Result/ Decision
1. Current Ratio	0.90	0.88	1.06	4.19	3.89	H <sub>0</sub> is rejected
2. Quick Ratio	0.36	0.24	0.55	9.66	3.89	H <sub>0</sub> is rejected
3. Cash and Bank Balance to Deposits Ratio (Excluding Fixed Deposit)	10.19	38.10	8.70	6.27	3.89	H <sub>0</sub> is rejected
4. Saving Deposits to Total Deposits Ratio	35.39	33.36	56.78	39.93	3.89	H <sub>0</sub> is rejected

Source: Appendix 22, 23, 24, and 25

From the **Table 4.26** it is clear that all the above mentioned liquidity ratio of these banks are significantly different. It implies that there is significant difference in liquidity position among SBI, NBIL and EBL.

### **4.8.3 Profitability Position**

To judge whether there is significant difference in profitability position among these banks SBI, NBIL, and EBL, following null hypothesis and alternative hypothesis are formulated and tested.

#### **Null Hypothesis**

Ho: There is no significant difference in profitability position among SBI, NIBIL and EBL.



### **Alternative Hypothesis**

Hi: There is significant difference in profitability position among SBI, NIBL and EBL.

The table 4.27 exhibits the mean value of various percentages measuring the composition or structure of working capital management of SBI, NBIL and EBL.

**Table 4.27**

#### **Mean Value of Various Percentages Measuring the Composition**

<b>RATIO</b>	<b>SBI (Mean)</b>	<b>NIBL (Mean)</b>	<b>EBL (Mean)</b>	<b>Calculated F Value</b>	<b>Tabulated F Value</b>	<b>Result/ Decision</b>
1. Interest Earned to Total Assets Ratio	6.47	6.27	5.47	2.27	3.89	H <sub>0</sub> is accepted
2. Net Profit to Total Assets Ratio	2.11	1.32	2.37	1.61	3.89	H <sub>0</sub> is rejected
3. Net Profit to Share holders' Equity	29.39	15.98	37.84	51.81	3.89	H <sub>0</sub> is rejected
4. Net Profit to Total Deposits Ratio	2.50	1.59	2.84	8.31	3.89	H <sub>0</sub> is rejected
5. Cost of Services to Total Assets Ratio	3.38	3.37	2.03	4.74	3.89	H <sub>0</sub> is rejected

Source: Appendix 26, 27, 28, 29, and 30

### **4.9 Major Findings**

On the basis of this study following findings are made.

- The major components of current assets in SBI, NIBL and EBL are cash and bank balance, money at call or short notice, loan and advances and government securities. In the study periods the proportion of cash and bank balance, money at call or short notice, loan and advances and government securities to total current assets on and average are 7.30%, 9.36%, 56.43% and 22.43% on SBI, 11.69%, 6.92%, 68.76% and 7.75% on NIBL and 6.30%, 17.15%, 26.62%, 28.56% respectively. And it is found that the average cash and bank balance and loan and advance percentage are higher in NIBL and money at call or short notice and government securities percentage are higher in EBL.

- Leverage ratio measures the long-term financial position. The average long-term debt to net to net worth ratio of SBI is higher than NIBL and EBL i.e.  $367.39\% > 280.52\% > 198.93\%$ . Similarly, the average net fixed assets to long-term debt ratio is also higher in SBI than EBL and NIBL i.e.  $8.22\% > 6.62\% > 6.27\%$ . Its shows that net fixed assets covers very low portion of long-term debt. From the analysis it is also found that large portion of long-term debt is used in current assets by these sample banks but relatively it is higher in SBI.
- The liquidity positions of bank are analyzed with the current ratio, quick ratio and cash and bank balance to deposit ratio. The current ratio of SBI is ranging in between 0.76 to 1.06 and the ratio of NIBL and EBL is ranging in between 0.74 to 1.11 and 10.6 to 1.07 respectively. The average current ratio of EBL is higher than that of SBI and NIBL i.e.  $1.06 > 0.90 > 0.88$ . Similarly, the average quick ratio is also greater in EBL than SBI and NIBL i.e.  $0.55 > 0.36 > 0.24$ . But the average cash and bank balance to total deposits (excluding fixed deposits) ratio is higher in NIBL than SBI and EBL  $38.10\% > 10.19\% > 8.70\%$ .
- Saving deposit to total deposit ratio of EBL are always then SBI and NBIL for the study periods. The ratio of SBI are ranging in between 31.04% to 42.45% and the ratio of NIBL and EBL are ranging in between 29.59% to 42.40% and 52.77% to 60.35% respectively. Its shows that EBL has more than 50% deposit on saving account out of total deposit over the study period. The average ratio of EBL is higher than that of SBI and NIBL i.e.  $56.78 > 35.39 > 33.36$ . so it is found that EBL has more short-term and less costly sources of fund than SBI and NIBL.
- The average value of loan and advances to total deposit ratio, loan and advances to fixed deposit ratio and loan and advances to saving deposits ratio are 54.72%, 250.06% and 156.11% on SBI and 64.53%, 252.53% and 196.81% on NIBL and 34.11%, 267.83% and 58.86% on EBL. From the analysis it is found that NIBL is employing the funds more efficiently for the profit generating purpose on loan and advances than two other sample banks.
- Profit ability is the measure of efficiency. the profit ability position of SBI and EBL are analyzed from various angles. The average of interest earned to total assets ratio of SBI is higher than NIBL and EBL i.e.  $6.47\% > 6.27\% > 5.47\%$ . Similarly, the

average cost of services to total assets ratio of SBI is also higher than NIBL and EBL. But average net profit to total assets ratio (**ROA**), net profit to shareholders' equity (ROE) and net profit to total deposit ratio are higher in EBL than SBI and NIBL. So, from the analysis it is found that profitability position of EBL is better than two other banks.

- From the hypothesis test of profitability position, it is observed that the interest earned to total assets ratio of these banks is not significantly different. From the analysis, it is found that although the mean value of interest earned to total assets and cost of services to total assets ratio are significantly different. From the analysis, It is found that although the mean value of interest earned to total assets and cost of services two total assets ratio of SBI and NIBL are higher than EBL, it shows better profitability position than SBI and NIBL as it has higher mean value of net profit to total assets ratio and net profit to total deposits ratio.
- From the hypothesis test of composition of the working capital it has been observed that the cash and balance, loan and advances, government securities and miscellaneous current assets of SBI, NIBL and EBL are significantly different but money at call or short notice is not significantly different. Since, the value of loan and advance percentage on total current assets of SBI and NIBL are significantly high, it implies that management of SBI and NIBL are willing to invest their funds more on loan and advances for interest earning purpose.
- From the hypothesis test of liquidity position, it has been observed that the current ratio, quick ratio, cash and bank balance to deposit ratio and saving deposit to total deposit ratio of SBI, NIBL, and EBL are significantly different. Since the mean value of current ratio, quick ratio of EBL and saving deposit to total deposit ratio are higher, It implies that the liquidity position of EBL is better in comparison to SBI and NIBL, however EBL has the lowest mean value of cash and bank balance to deposit ratio.
- The trend value of cash and bank balance and money at all or short notice percentage is negative in NIBL but the trend value of loan and advances and government securities percentage are positive. It implies that NIBL increases its funds on income generating current assets. In case of SBI, the trend value of money

at call or short notice percentage are negative but the trend value of cash and bank balance, loan and advances and government securities percentage are positive. The trend value of cash bank balance and government securities are positive in EBL but the trend value of money at call or short notice and loan and advances percentage are negative. It shows that income generating current assets is negative in EBI. It implies that the management of loan and advance is more problematic in EBL.

- The trend value of current ratio and quick ratio both are negative in SBI and NIBL but in EBL the trend value of quick ratio is positive and the trend value of current ratio is negative. It implies that the current ratios are decreasing in all sample banks but quick ratio is decreasing only in SBI and NIBL. From the analysis it is found that SBI and NIBL are trying to reduce their idle cash and bank balance. It also shows that the liquidity position of EBL is better than SBI and NIBL.
- Coefficient of correlation between cash and bank current liabilities in NIBL and EBL are highly significant and shows close relationship. But SBI shows negative relationship between these two variables. It shows that holding of cash and bank balance of SBI is not related with current liabilities.
- Correlation between investment on government securities and total deposits of NIBL and EBL are highly significant. It shows that there is close relationship between investment government security and total deposits in these banks but in case of SBI, there is no significant relationship between these government securities and total deposits. Similarly, correlation between loan advances and total deposits are also highly significant in NIBL and EBL and in SBI there is no significant relationship between these two variables. From the analysis it is found that NIBL and EBL have utilized its total deposits on loan and advances effectively but NIBL shows better relationship and better utilization of total deposits on loan and advances. Likewise, correlation between loan and advances and net profit in NIBL and EBL are highly significant and shows close relationship but SBI has no significant relationship between these two variables as well.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION & RECOMMENDATIONS**

The summary is a spectrum of the whole thesis, which is developed from the background information of the problem studied; its significance and objectives; the design of the study, the tools applied for the research and some promising highlights of the activities. It is a brief representation of the research works carried out during the whole study period.

The conclusion is the part of the thesis, which tells what, actually is done and what is achieved from the study. It includes the concrete findings regarding with the problem, Strength and weakness of the study, and the limitations related with the research. It may also include some assumptions about the positive and negative impact of the research in the future.

Recommendation is a very short and direct statement of the study, which indicates the direction of the study, real achievements, guideline for the future research works, actual steps to be carried out in the future for the improvement of firm or bank, and the solutions of existing problem that should be followed immediately to uplift the status of the bank. It may also create awareness about the obstacles and constraints of the bank and may suggest for enhancing its economic development.

#### **5.1 Summary**

Poor mobilization and utilization of resources, weak infrastructure development and unstable eco-political environment are the major constraints of Nepalese economy. The mobilization of the domestic resources is one of the key factors in the economic development of the country. The financial institutions are viewed as catalyst in the process of the economic growth. The under-developing countries including Nepal are suffering from the problem of improper mobilization of the financial, physical and human resources. One of the efforts applied to mobilize both internal and external financial resources is to set up banking organization and institutionalize them.

Commercial banks and other financial institutions collect immobilized money in the form of deposit from every corner and parts of the country. Commercial banks formulate sensible investment policies to make it more effective, which eventually contribute to the economic development of the country.

Bank is a resource for the economic development, which maintains the self-confidence of various sectors of society and extends credit to the people. Commercial banks deal with the activities of the trade, commerce, industry and agriculture that seek regular financial and other helps from them for growing and flourishing. The objective of commercial banks is to mobilized idle resources into the most profitable sectors.

The commercial banking in Nepal started from 1937 AD with the establishment of Nepal Bank Limited. Commercial bank came into existence mainly with the objective of collecting the idle funds, mobilizing them into productive sector and causing overall economic development. With an objective to enhance efficiency and healthy competition, quality banking service and technology in banking sector are introduced by foreign investment. With the opening of SBI bank in 1986 AD the door of commercial banks was opened to the private sector. EBL was established in 1993 AD, and NIBL was established in 1986 AD. All the commercial banks have their own rules and regulations and own vision but ultimately they are serving nation to build huge financial resources and mobilizing it in the best possible way.

Working capital structure management is the primary focus of funds management and interrelation between the source and uses of funds in the short-term financing planning and decision making. The specific objectives of this research is to assist the working capital structure of joint venture banks, to evaluate the liquidity, profitability, capital structure activity and capital adequacy position of joint venture banks in Nepal.

Nepal, a landlocked country of southern Asia, is one of the least developed nations in the world. The economy is heavily dependent on imports of basic materials and on foreign markets for its forest and agricultural products. Today, foreign employment and

other industrial development are the major sources of income besides agriculture. Financial institutions assist in the economic development of the country and are considered as the catalyst. The development process of a country involves the mobilization and deployment of resources. Commercial banks are the major financial institutions that occupy quite an important place in the framework in the economy development sectors as well as in saving and investment sectors. Commercial banks are the suppliers of finance for trade and industry and play a vital role in the economic and financial life of the country. After the implementation of the open market policy, joint venture commercial banks are opened as private banks. The liberal trade and investment policies have facilitated joint venture banks to invest in Nepal. Joint venture bank has been helpful in transferring foreign investment and advanced technology from one country to another. The establishment of joint venture banks gave a new horizon to the financial sector of the country.

In competitive financial market performance of joint venture banks are very good. The main objective of the study was to study the comparative analysis of the working capital management as well as financial performance of joint venture banks of Nepal. Under this study first three commercial joint venture banks are taken into consideration. Commercial bank is income oriented, thus proper financial decision making is more important in banking transaction for its efficiency and profitability. Most of the financial decisions of a bank are concerned with current assets and current liabilities. Working capital management is concerned with current asset and current liabilities. Generally, working capital management has been regarded as one of the conditioning factor in the decision-making issues of commercial banks. The term working capital management closely relates with short-term financing; it is concerned with collection and allocation of resources. Working capital management relates to problems that arise in attempting to manage the current assets, the current liabilities and interrelationships that exist between them.

To fulfill this objective of this study and other specific objective as described in chapter one, an appropriate research methodology has been developed which includes the ratio

analysis as financial tools and trend analysis, correlation coefficient and test of hypothesis as statistical tools. The major ratio analysis consists of the composition of working capital position, liquidity position, turnover position, capital structure position and profitability position. Under these, main ratios and their trend position are studied in the chapter five. In order to test the relationship between the various components of working capital, Karl Pearson's correlation coefficient  $r$  is calculated and analyzed. Some null hypothesis formulated in chapter five and calculated and tested in appendix and results are analyzed in chapter five. F-test is applied to test the validity of set hypotheses.

The necessary data are derived from the balance sheet and profit and loss A/C of SBI, NIBL and EBL for the period of five years from fiscal year 2004/05 to 2008/09. Now in this chapter an attempt has been made to present summary or findings, conclusions and some suggestions and recommendations.

## **5.2 Conclusion**

On the basis of analysis and findings of this study following conclusion are made.

- SBI and NIBL are investing relatively high in loan and advances than EBL.
- On the other hand EBL holds higher percentage of government securities and miscellaneous current assets in comparison to SBI and NIBL.
- Liquidity position of EBL is better than that of SBI and NIBL since it has higher current ratio and quick ratio. Thus EBL is considered as liquid bank.
- All components of current assets of these three sample banks are highly fluctuating during the study period.
- Cash & bank balances are fluctuating and they hold only minor percentage of total current assets. These banks are decreasing the percentage of money at call or short notice and utilized more of their funds in loans and advances for interest earning purpose.
- SBI and NIBL are efficient in the management of funds but failed to maintain the minimum required level of liquid assets.



- Profitability has been the main concern of SBI and NIBL in all the decisions. However, among these three sample banks EBL is found to have better profitability position in comparison to SBI and NIBL.
- Thus under this study the conclusion has been made that EBL is a better bank from both liquidity and profitability aspects.

### **5.3 Recommendations**

On the basis of analysis and findings of this study following recommendations are made.

- Total deposits turnover position of EBL is lower than that of SBI and NIBL but is not quite satisfactory in all these banks. Although fixed deposit turnover position is higher in EBL its saving deposits turnover position is very low in comparison to SBI and NIBL. Due to poor turnover position the chances of bad debts and non earning idle funds are high in all these banks. So, all these banks should give proper attention on collection of over dated loan and advances and utilization of idle funds as loan and advances. Especially, EBL should change its investment policy and utilize its deposits in income generating activity by investment efficiency on loan and advances.
- Loan and advances covers less than 50% of total current assets in EBL and it also shows decreasing trend. Although it is the priority of a bank to invest its funds on loans and advances to earn higher profit, EBL has more than 50% either in less profitable or non-profitable current assets. So EBL should adjust its investment policy on loan and advances with collected funds and its percentage of loan and advances in total current assets.
- Saving deposits covers less than 50% of total deposits in SBI and NIBL although it is less costly source of fund. therefore, these two banks should try to increase its saving deposit account's balance than other account. But it seems better in EBL.
- Although interest earned and cost of services are higher in SBI and NIBL, but net profit ratios are higher in EBL. It is due to higher cost of SBI and NIBL. The net profit ratios of NIBL is very low in comparison to other two banks, so NIBL

should reduce its cost through reducing high cost deposit and operate in proper way so that it can have least operating cost which further maximize its profitability and shareholders' return as well.

- Although cash and bank balance to total deposit ratio is higher in NIBL, its current ratio and quick ratio are less in comparison to SBI and EBL. The cash and bank balance to total deposit ratio is higher due to its less total deposit. Especially its quick ratio is very low than two other banks, so NIBL should invest more on liquid assets and increase its percentage in total current assets.

# BIBLIOGRAPHY

## Books

American Institute of Banking. (1972), *Principle of Bank Operation*. USA. *Commercial Bank Act, (2031BS)*.

Dahal. S & B (2002). *A Handbook of Banking*. Kathmandu: Asmita Books & Stationary.

Dewett, K.K. (1995). *Economic Theory*. New Delhi: S.Chand and Co.Limited.

Garg, K.N. (1977). *Money, Banking, Trade & Finance*. Allahabad: Kitab Mahal.

Gupta, D.P. (1984). *Banking System: Its role in Export Development*. Delhi: Tata Mcgraw Hill.

Hampton, John J. and Wagner, Cealia L. (1989). *Working Capital Management*.

Joseph, Majory L. & Joseph, William D. (1975). *Essentials of Research Methodology and Evaluation for Home Economists*. CA: Plycon Press.

Kerliner, Fred N. (1993). *Fundamental of Behavioral Research*.

Kothari, C.P. (1994). *Quantitative Techniques and Analysis*. New Delhi: Vikash Publishing House.

Levin Richard I. & Rubin, Darid S. (1991). *Statistical for Management*. New Delhi: Printice-Hall of India Pvt.Ltd.

Pandey, I.M. (1992). *Financial Management*. New Delhi:Vikash Publising House.

Pradhan, R. S. (1986). *Management of Working Capital*. New Delhi:National Books Organization.

Pradhan, S. (1992). *Basics of Financing Management*. Kathmandu: Educational Enterprises.

Ramamoorthy, V.E. (1976). *Working Capital Management*. Madras: IFMR, Madras.

Rose, P. (1999). *Commercial Bank Management*. Singapore: Irwin McGraw Hill, International Edition.

Shrestha, S. (1995). *Portfolio Behavior of Commercial Banks in Nepal*. Kathmandu: Dangol Printers.

Sharma, P. K. & Chaudhary, A. K. (2058 BS). *Statistical Methods*. Kathmandu: Khanal Books Prakashan.

Smith, K.V.(1974). *Management of Working Capital*. New York: West Publishing Co.

Vaidya, S. (1999). *Banking Management*. Kathmandu: Monitor Nepal.

Van Horne, J. C. (2000). *Financing Management and Policy*. New Delhi: Prentice Hall of India Private Limited.

Weston, J. F. & Brigham, E. F. (1984). *Management Finance*. Chicago: The Dryden Press.

Wright, D. & Valentine, W. (1997). *Business of Banking*. Orlando: Dryden Press.

### **Journals, Articles & Reports**

Acharya, K. (1985). Problems and Implements in Management of Working Capital in Nepalese Enterprises. *A Quarterly ISDOC Bulletin*, Vo. 10, No. 3, Jan-Mar.

Mahat, L.D. *The Nepal Chartered Accountant*, The Kathmandu Post: (2004, May 26). P. 4.

SBI Bank Ltd, Nepal (2004/05-2008/09), *Annual Report*, Kathmandu.

Nepal Investment Bank Limited, Nepal (2004/05-2008/09), *Annual Report*, Kathmandu.

Pradhan, R. S. (1998). The Nepalese Management Reviews: The demand for working capital by Nepalese corporations. *The Nepalese Management Review*, Vol.8, No.1.

Research and Information Division of FNCCI, *Nepal Economic Report* (Overview of the economy in 2063-2064 fiscal year).

Security Board, Nepal (2006/07), *Annual Report*, Kathmandu.

Shrestha, M. K. (July 1982-June1983). Working Capital Management in Public Enterprises: A study on Financial Result and Constraint, *A Quarterly ISDOC Bulletin*, Vol.8, No.1-4.

Standard Chartered Bank Nepal Limited, Nepal (2004/05-2008/09), *Annual Report*, Kathmandu.

### **Research Studies**

Amatya, N. B. (1993). An Appraisal of Financial Position of Nepal Bank Ltd. Unpublished Masters Thesis, Central Department of Management, Tribhuvan University.

Bhandari, A. R. (2043 BS). Working Capital Management A case study of Nepal Bank Ltd. An Unpublished Masters Degree Thesis, Central Department of Management. Tribuvan University.

Giri, R. (1986). A case Working Capital Management of Balaju Textile Industry Limited. An Unpublished Masters Degree Thesis, Central Department of Management, Tribhuvan University.

Joshi, A. L.(1986). A Study on Working Capital Management in Biratnagar Jute Mills Ltd, An Unpublished Masters Degree Thesis, Central Department of Management, Tribhuvan University.

K.C. N. (2000). Comparative Study of Working Capital Management of NBL and SBI, An Unpublished Masters Degree Thesis, Shanker Dev Campus, Tribhuvan University.

Lamsal, H. P. (2004). A Comparative Study of Working Capital Management of SBI and Standard Chartered Bank Nepal. An Unpublished Masters Degree Thesis, Shanker Dev Campus, Tribhuvan University.

Pathak, P. K. (1994). An Evaluation of Working Capital Management of Nepal Lube Oil Ltd. Nepal, An Unpublished Masters Degree Thesis, Central Department of Management, Tribhuvan University.

Poudel, R. (1997). A Comparative Analysis of Financial Performance between Nepal Bank Ltd. and Nepal Grindlays Bank Ltd, An Unpublished Masters Degree Thesis, Central Department of Management, Tribhuvan University.

Shrestha, S. M. (2049 BS), A Study on Working Capital Management of Dairy Development Corporation (DDC) Nepal, An Unpublished Masters Degree Thesis, Central Department of Management, Tribhuvan University.

Shrestha, S. C. (1988). A Study on Working Capital Management in Public Sector Brick Factories, An Unpublished Masters Degree Thesis, Central Department of Management, Tribhuvan University.

### **Official Websites**

Nepal Stock Exchange:- <http://www.nepalstock.com>

SBI Bank Limited:- <http://www.SBIbank.com>

Nepal Investment Bank Limited:- <http://www.NIBL.com.np>

Everest Bank Limited:- <http://www.EBLbank.com>

# ANNEXES

## Appendix-1

### SBI Bank Limited (SBI)

#### Kathmandu

### Comparative Balance Sheet for Five Fiscal Years

(Rs. In Million)

<b>PARTICULARS/YEARS</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>
<b>TOTAL ASSETS (Working Funds)</b>	<b>15024.20</b>	<b>18367.15</b>	<b>17629.25</b>	<b>16562.61</b>	<b>16745.49</b>
<b>A. CURRENT ASSETS</b>	14788.91	13161.68	13313.40	13868.30	14244.04
1. Cash & Bank Balance	1088.75	812.90	1051.82	1144.77	970.49
2. Money at Call & Short Notice	4631.83	522.55	31.37	670.20	918.73
3. Loans & Advances	7334.76	8324.44	7437.90	7755.95	8189.99
i. Loans, Cash Cr. & Overdrafts	6902.19	7993.28	7135.54	7454.26	7953.76
ii. Bill Discounted & Purchase	432.57	331.16	302.36	301.69	236.23
4. Investment	1234.82	2733.96	4121.29	3588.77	3672.63
i. Govt. Securities	1233.82	2732.96	4120.29	3588.77	3672.63
ii. Other	1.00	1.00	1.00	0.00	0.00
5. Interest Receivable	373.01	372.35	171.09	177.60	174.49
6. Misc. Current Assets	125.74	395.48	499.93	531.01	317.71
<b>B. FIXED ASSET (NET)</b>	219.17	235.12	237.63	251.91	338.13
7. Gross Block	327.55	364.13	395.66	433.12	540.17
8. Less Depreciation	108.38	129.01	158.03	181.12	212.04
9. INVESTMENTS	16.12	4970.35	4078.22	2442.40	2163.22
i. Shares	16.12	18.82	22.22	22.22	22.22
ii. Debentures	0.00	0.00	0.00	0.00	0.00
iii. Other	0.00	4951.53	4056.00	2420.18	2141.10
<b>C. MISC. ASSETS</b>	0.00	0.00	0.00	0.00	0.00
<b>TOTAL LIABILITIES</b>	<b>14040.13</b>	<b>17304.31</b>	<b>16482.83</b>	<b>15248.43</b>	<b>15263.80</b>
<b>D. CURRENT LIABILITIES</b>	13977.29	17226.21	16384.73	15135.42	15152.00
10. Deposit & Other A/c's	12779.51	15839.01	15506.44	13447.65	14119.03
i. Saving	4150.19	4917.14	4972.06	5229.72	5994.12
ii. Fixed	5278.27	7667.54	2446.85	2252.54	2310.57
iii. Current	2880.65	2850.97	2703.82	3034.00	2688.97
iv. Call & Short Deposit	0.00	0.00	4944.96	2540.70	2801.41
v. Other	470.40	403.36	438.75	390.69	323.97
11. Short Term Loan	285.20	0.00	417.30	961.46	229.66
12. Bills Payable	38.07	69.70	67.75	108.94	173.50
13. Tax Provision	0.00	0.00	0.00	0.00	0.00
14. Staff Bonus	54.97	52.60	44.12	66.36	71.94
15. Dividend Payables	12.32	143.52	11.80	94.14	36.87
16. Misc. Current Liabilities	807.22	1121.38	337.32	456.86	522.00
<b>E. DEFERRED LIABILITIES</b>	62.84	78.10	98.10	113.01	110.80
i. Long Term Loan	0.00	0.00	0.00	0.00	0.00
ii. Other Differed Liabilities	62.84	78.10	98.10	113.01	110.80
<b>NET WORTH</b>	<b>984.07</b>	<b>1062.83</b>	<b>1146.42</b>	<b>1314.18</b>	<b>1481.69</b>
<b>F. SHARE CAPITAL</b>	392.80	491.56	491.65	491.65	491.65
17. Ordinary Share	50.00	50.00	50.00	50.00	50.00
18. Bonus Share	342.80	441.65	441.65	441.65	441.65
19. Preference Share	0.00	0.00	0.00	0.00	0.00
<b>G. SHAREHOLDERS' RESERVES</b>	591.27	571.18	654.77	822.53	990.03
20. General Reserve	456.23	514.50	568.83	652.08	743.20
21. Capital Reserve	0.07	0.07	49.24	103.32	162.87
22. Exchange Fluctuation Reserve	22.19	25.11	28.26	30.01	33.90
23. Other Reserve	4.33	5.33	6.33	7.333	20.27

24. Un-appropriated Profit(Loss)	108.45	26.17	2.11	29.79	29.79
<b>Bills for Collection (contra)</b>	<b>61.67</b>	<b>51.83</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Acceptances etc. (contra)</b>	<b>228.87</b>	<b>389.91</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>BALANCE SHEET TOTAL</b>	<b>15314.74</b>	<b>18808.88</b>	<b>17629.25</b>	<b>16562.61</b>	<b>16745.49</b>

**Source:** Official website of Nepal Stock Exchange (<http://www.nepalstock.com>) and Annual Reports of SBI

## Appendix-2

### Nepal Investment Bank Limited (NIBL)

Durbar Marg, Kathmandu

### Comparative Balance Sheet for Five Fiscal Years

(Rs. In Million)

<b>PARTICULARS/YEARS</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>
<b>TOTAL ASSETS (Working Funds)</b>	<b>3796.36</b>	<b>5127.36</b>	<b>4973.90</b>	<b>9014.24</b>	<b>13255.50</b>
<b>A. CURRENT ASSETS</b>	3744.09	3423.11	3340.25	7517.89	11144.33
1. Cash & Bank Balance	362.92	522.86	338.92	926.53	1226.92
2. Money at Call & Short Notice	1170.72	0.00	0.00	40.00	310.00
3. Loans & Advances	2070.68	2429.03	2564.43	5772.14	7130.13
i. Loans, Cash Cr. & Overdrafts	1984.24	2318.91	2518.06	5648.03	6917.80
ii. Bill Discounted & Purchase	86.44	110.12	46.37	124.11	212.33
4. Investment	0.00	300.00	224.40	400.00	2001.10
i. Govt. Securities	0.00	300.00	224.40	400.00	2001.10
ii. Other	0.00	0.00	0.00	0.00	0.00
5. Interest Receivable	71.25	103.50	55.64	83.47	77.01
6. Misc. Current Assets	68.52	67.72	156.86	295.75	399.17
<b>B. FIXED ASSET (NET)</b>	39.92	33.98	35.89	191.11	249.79
7. Gross Block	83.53	83.94	64.56	245.55	326.88
8. Less Depreciation	43.61	49.96	48.67	54.44	77.09
9. INVESTMENTS	12.69	1670.27	1597.76	1305.24	1861.38
i. Shares	12.69	12.69	13.89	13.89	13.89
ii. Debentures	0.00	0.00	0.00	0.00	0.00
iii. Other	0.00	1657.58	1583.87	1291.35	1847.49
<b>C. MISC. ASSETS</b>	0.00	0.00	0.00	0.00	0.00
<b>TOTAL LIABILITIES</b>	<b>3386.46</b>	<b>4658.25</b>	<b>4450.43</b>	<b>8375.71</b>	<b>12526.45</b>
<b>D. CURRENT LIABILITIES</b>	3362.44	4629.02	4410.21	8359.46	12506.95
10. Deposit & Other A/c's	2983.28	4256.21	4174.76	7922.75	11524.68
i. Saving	997.48	1259.57	1278.79	2434.05	4886.10
ii. Fixed	1093.65	1658.66	945.93	1672.82	2294.68
iii. Current	581.91	769.01	785.40	979.01	1500.11
iv. Call & Short Deposit	221.69	502.51	1051.89	2610.41	2556.81
v. Other	88.55	66.46	112.57	226.46	286.98
11. Short Term Loan	140.00	120.00	98.50	6.83	361.50
12. Bills Payable	8.85	5.18	6.82	31.63	57.84
13. Tax Provision	0.00	0.00	2755.76	3326.70	1.46
14. Staff Bonus	11.77	10.43	8.68	18.91	25.72
15. Dividend Payables	4.35	5.38	1.81	1.69	5.25
16. Misc. Current Liabilities	214.19	231.82	119.64	377.65	530.50
<b>E. DEFERRED LIABILITIES</b>	24.02	29.25	40.22	16.25	19.50
i. Long Term Loan	0.00	0.00	0.00	0.00	0.00
ii. Other Differed Liabilities	24.02	29.25	40.22	16.25	19.50
<b>NET WORTH</b>	<b>410.24</b>	<b>469.08</b>	<b>523.46</b>	<b>638.53</b>	<b>729.05</b>
<b>F. SHARE CAPITAL</b>	135.35	169.98	169.98	295.29	295.29
17. Ordinary Share	60.00	60.00	60.00	116.66	116.66
18. Bonus Share	75.35	109.98	109.98	178.63	178.63
19. Preference Share	0.00	0.00	0.00	0.00	0.00



G. SHAREHOLDERS' RESERVES	274.89	299.10	353.48	343.48	433.75
20. General Reserve	222.48	233.78	245.20	268.70	299.24
21. Capital Reserve	33.84	0.00	67.99	29.53	59.06
22. Exchange Fluctuation Reserve	13.56	15.40	16.61	16.58	17.90
23. Other Reserve	0.00	0.03	0.03	0.03	0.03
24. Un-appropriated Profit(Loss)	5.01	23.655	23.65	28.40	14.66
<b>Bills for Collection (contra)</b>	<b>70.77</b>	<b>31.16</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Acceptances etc. (contra)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>BALANCE SHEET TOTAL</b>	<b>3867.47</b>	<b>5158.51</b>	<b>4973.89</b>	<b>9014.24</b>	<b>13255.50</b>

Source: Official website of Nepal Stock Exchange (<http://www.nepalstock.com>) and Annual Reports of NIBL

### Appendix-3

#### Everest Bank Limited (EBL)

#### Naya Baneshwor, Kathmandu

#### Comparative Balance Sheet for Five Fiscal Years

(Rs. In Million)

PARTICULARS/YEARS	2004/05	2005/06	2006/07	2007/08	2008/09
<b>TOTAL ASSETS (Working Funds)</b>	<b>16832.23</b>	<b>19357.18</b>	<b>18443.07</b>	<b>21000.50</b>	<b>23642.06</b>
A. CURRENT ASSETS	16650.32	19224.18	18330.82	20797.60	23494.66
1. Cash & Bank Balance	1020.46	961.05	825.26	1512.30	2023.17
2. Money at Call & Short Notice	7243.16	2612.00	2061.96	1657.91	2218.60
3. Loans & Advances	4857.17	5763.13	5364.00	5695.82	6410.24
i. Loans, Cash Cr. & Overdrafts	4658.17	5660.80	5248.36	5574.06	6322.58
ii. Bill Discounted & Purchase	199.00	102.33	115.64	121.76	87.39
4. Investment	3338.67	9547.98	9264.68	10346.49	11349.14
i. Govt. Securities	3338.67	4811.01	5784.72	6722.83	7948.22
ii. Other	0.00	4736.97	3479.96	3623.66	3400.92
5. Interest Receivable	154.69	139.03	105.21	121.64	146.57
6. Misc. Current Assets	36.17	200.99	709.71	1463.44	1346.92
B. FIXED ASSET (NET)	170.72	121.81	101.96	191.71	136.23
7. Gross Block	296.55	262.04	261.67	415.22	404.48
8. Less Depreciation	125.83	140.23	160.81	223.51	268.25
9. INVESTMENTS	11.19	11.19	11.19	11.19	11.19
i. Shares	11.19	11.19	11.19	11.19	11.19
ii. Debentures	0.00	0.00	0.00	0.00	0.00
iii. Other	0.00	0.00	0.00	0.00	0.00
C. MISC. ASSETS	0.00	0.00	0.00	0.00	0.00
<b>TOTAL LIABILITIES</b>	<b>15817.40</b>	<b>18245.18</b>	<b>17207.63</b>	<b>19631.59</b>	<b>22146.31</b>
D. CURRENT LIABILITIES	15781.59	18196.01	17150.05	19569.38	22086.19
10. Deposit & Other A/c's	12568.49	15430.05	15835.75	18755.64	21161.44
i. Saving	6632.70	8404.61	9441.91	10633.16	12771.83
ii. Fixed	2651.65	3236.03	2264.77	1948.60	1428.49
iii. Current	2417.09	3279.43	3808.39	5768.62	5816.94
iv. Call & Short Deposit	274.59	235.62	101.12	185.20	941.00
v. Other	592.46	274.36	219.56	220.06	203.18
11. Short Term Loan	2430.21	1666.71	684.72	79.16	78.28
12. Bills Payable	25.99	35.21	51.40	54.84	59.02
13. Tax Provision	0.00	0.00	0.00	0.00	0.00
14. Staff Bonus	72.78	85.48	72.15	76.08	85.95
15. Dividend Payables	5.30	212.80	8.11	9.47	10.72
16. Misc. Current Liabilities	678.42	765.76	497.92	594.19	690.78

E. DEFERRED LIABILITIES	36.21	49.17	57.58	62.21	60.12
i. Long Term Loan	0.00	0.00	0.00	0.00	0.00
ii. Other Differed Liabilities	36.21	49.17	57.58	62.21	60.12
<b>NET WORTH</b>	<b>1014.85</b>	<b>1112.02</b>	<b>1235.49</b>	<b>1368.91</b>	<b>1495.75</b>
F. SHARE CAPITAL	339.55	339.55	339.55	339.55	1000.00
17. Ordinary Share	50.00	50.00	50.55	50.00	678.26
18. Bonus Share	289.55	289.55	289.55	289.55	321.74
19. Preference Share	0.00	0.00	0.00	0.00	0.00
G. SHAREHOLDERS' RESERVES	675.30	772.47	895.94	1029.36	1121.10
20. General Reserve	508.88	595.05	679.10	679.10	749.28
21. Capital Reserve	0.00	0.00	0.00	33.95	37.46
22. Exchange Fluctuation Reserve	71.89	77.78	85.97	100.32	116.77
23. Other Reserve	0.00	0.00	0.00	0.00	0.00
24. Un-appropriated Profit(Loss)	94.53	99.64	130.87	215.99	217.59
<b>Bills for Collection (contra)</b>	<b>159.56</b>	<b>136.24</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Acceptances etc. (contra)</b>	<b>163.13</b>	<b>209.98</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>BALANCE SHEET TOTAL</b>	<b>17154.94</b>	<b>19703.42</b>	<b>18443.12</b>	<b>21000.50</b>	<b>23642.06</b>

Source: Official website of Nepal Stock Exchange (<http://www.nepalstock.com>) and Annual Reports of EBL

## Appendix-4

### SBI Bank Limited (SBI)

#### Kathmandu

### Comparative Profit & Loss A/C for Five Fiscal Years

(Rs. In  
Million)

PARTICULARS/YEARS	2004/05	2005/06	2006/07	2007/08	2008/09
<b>A. OPERATING INCOME</b>	<b>1309.11</b>	<b>1573.31</b>	<b>1639.11</b>	<b>1340.51</b>	<b>1333.66</b>
1. Interest (Earned)	1047.03	1266.70	1120.18	1017.87	1001.62
2. Commission & Discount	139.59	146.84	114.34	144.41	135.96
3. Exchange Income	122.19	159.51	154.22	144.08	157.32
4. Dividend	0.30	0.26	0.00	0.00	0.00
5. Other	0.00	0.00	250.37	34.15	38.75
<b>B. COST OF SERVICES</b>	<b>530.93</b>	<b>724.22</b>	<b>606.96</b>	<b>527.93</b>	<b>463.78</b>
6. Interest Paid	432.96	578.36	462.08	317.35	282.94
i. On Borrowings	18.68	13.57	5.31	9.85	17.47
ii. On Deposit	414.28	564.79	456.77	307.50	265.47

iii. Others	0.00	0.00	0.00	0.00	0.00
7. Salaries, Allowances & P.F.	97.97	145.86	144.88	210.58	180.84
C. 8. Provision for Bonus	54.97	52.60	44.12	66.36	71.94
D. 9. Other General Expenses	203.77	298.50	538.70	182.73	187.38
<b>E. 10. GROSS PROFIT</b>	<b>519.44</b>	<b>497.99</b>	<b>449.33</b>	<b>563.49</b>	<b>610.56</b>
F. 11. Depreciation	25.01	26.27	39.75	35.04	46.27
<b>G. 12. OPERATING PROFIT</b>	<b>494.43</b>	<b>471.72</b>	<b>409.58</b>	<b>528.45</b>	<b>564.29</b>
H. 13. Income From Other Sources	0.31	1.64	0.00	86.95	92.78
<b>I. 14. PRE-TAX PROFIT</b>	<b>494.78</b>	<b>473.36</b>	<b>409.58</b>	<b>615.40</b>	<b>657.07</b>
J. 15. Provision For Taxes	165.62	181.99	137.95	199.15	201.76
<b>K. 16. NET PROFIT</b>	<b>329.12</b>	<b>291.37</b>	<b>271.63</b>	<b>416.25</b>	<b>455.31</b>

Source: Official website of Nepal Stock Exchange (<http://www.nepalstock.com>) and Annual Reports of SBI

## Appendix-5

### Nepal Investment Bank Limited (NIBL)

Durbar Marg, Kathmandu

### Comparative Profit & Loss A/C for Five Fiscal Years

(Rs. In  
Million)

PARTICULARS/YEARS	2004/05	2005/06	2006/07	2007/08	2008/09
<b>A. OPERATING INCOME</b>	<b>350.25</b>	<b>421.58</b>	<b>415.68</b>	<b>577.44</b>	<b>911.94</b>
1. Interest (Earned)	279.86	349.75	326.22	459.51	731.40
2. Commission & Discount	18.35	16.20	16.20	40.81	55.75
3. Exchange Income	44.80	49.83	42.86	50.83	87.98

4. Dividend	0.00	0.00	0.00	0.00	0.00
5. Other	7.24	5.80	30.40	26.29	36.81
<b>B. COST OF SERVICES</b>	<b>138.98</b>	<b>194.25</b>	<b>172.16</b>	<b>250.50</b>	<b>415.95</b>
6. Interest Paid	115.73	163.15	130.44	189.21	311.19
i. On Borrowings	2.76	2.05	2.12	5.91	1.16
ii. On Deposit	112.97	161.10	128.32	183.30	310.03
iii. Others	0.00	0.00	0.00	0.00	0.00
7. Salaries, Allowances & P.F.	23.25	31.10	41.72	61.29	89.75
C. 8. Provision for Bonus	11.77	10.43	8.68	18.91	25.72
D. 9. Other General Expenses	84.40	114.25	151.25	126.50	127.42
<b>E. 10. GROSS PROFIT</b>	<b>115.10</b>	<b>102.65</b>	<b>83.59</b>	<b>181.53</b>	<b>253.10</b>
F. 11. Depreciation	9.32	8.82	8.59	11.87	23.40
<b>G. 12. OPERATING PROFIT</b>	<b>105.78</b>	<b>93.83</b>	<b>75.00</b>	<b>169.66</b>	<b>229.70</b>
H. 13. Income From Other Sources	0.11	0.00	3.10	0.49	1.77
<b>I. 14. PRE-TAX PROFIT</b>	<b>105.89</b>	<b>93.83</b>	<b>78.10</b>	<b>170.15</b>	<b>231.47</b>
J. 15. Provision For Taxes	33.23	37.44	21.01	53.33	78.80
<b>K. 16. NET PROFIT</b>	<b>72.66</b>	<b>56.39</b>	<b>57.09</b>	<b>116.82</b>	<b>152.67</b>

Source: Official website of Nepal Stock Exchange (<http://www.nepalstock.com>) and Annual Reports of NIBL

## Appendix-6

**Everest Bank Limited (EBL)**

**Naya Baneshwor, Kathmandu**

**Comparative Profit & Loss A/C for Five Fiscal Years**

(Rs. In  
Million)

<b>PARTICULARS/YEARS</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>
<b>A. OPERATING INCOME</b>	<b>1366.92</b>	<b>16440.26</b>	<b>1441.72</b>	<b>1499.21</b>	<b>1578.35</b>
1. Interest (Earned)	1052.36	1242.00	1013.64	1001.36	1042.18
2. Commission & Discount	154.34	179.46	163.46	215.20	198.95
3. Exchange Income	157.08	214.86	228.10	232.52	273.05
4. Dividend	0.00	0.00	0.00	0.00	0.00
5. Other	3.14	3.02	3.02	50.13	64.17
<b>B. COST OF SERVICES</b>	<b>513.48</b>	<b>574.49</b>	<b>424.87</b>	<b>383.46</b>	<b>406.92</b>
6. Interest Paid	425.93	472.37	298.36	255.13	272.24
i. On Borrowings	49.16	97.99	22.67	10.70	15.53
ii. On Deposit	376.77	374.38	275.69	244.43	256.71
iii. Others	0.00	0.00	0.00	0.00	0.00
7. Salaries, Allowances & P.F.	87.55	102.12	126.51	128.33	134.68
C. 8. Provision for Bonus	72.78	85.48	72.15	76.08	85.95
D. 9. Other General Expenses	162.93	269.27	258.96	261.27	253.96
<b>E. 10. GROSS PROFIT</b>	<b>617.73</b>	<b>711.02</b>	<b>685.74</b>	<b>778.39</b>	<b>831.52</b>
F. 11. Depreciation	29.90	47.74	27.40	67.61	66.20
<b>G. 12. OPERATING PROFIT</b>	<b>587.73</b>	<b>663.28</b>	<b>658.34</b>	<b>710.78</b>	<b>765.32</b>
H. 13. Income From Other Sources	5.88	10.98	5.10	4.39	8.27
<b>I. 14. PRE-TAX PROFIT</b>	<b>593.71</b>	<b>674.26</b>	<b>663.44</b>	<b>715.17</b>	<b>773.59</b>
J. 15. Provision For Taxes	201.12	243.43	184.23	208.22	235.779
<b>K. 16. NET PROFIT</b>	<b>392.59</b>	<b>430.83</b>	<b>479.21</b>	<b>506.95</b>	<b>537.80</b>

Source: Official website of Nepal Stock Exchange (<http://www.nepalstock.com>) and Annual Reports of EBL

### Appendix-13

#### Calculation of Correlation Coefficient between Investment on Government Securities (GS) and Total Deposits (TD) of SBI

GS(X)	TD(Y)	x(X-X)	x <sup>2</sup>	y(Y-Y)	y <sup>2</sup>	xy
1233.82	127779.51	-1835.87	3370433.34	-1558.82	2429913.56	2861793.44

2732.96	15839.01	-336.73	113389.79	1500.68	2252046.47	-505330.65
4120.29	15506.44	1050.60	1103751.96	1168.11	1364485.64	1227213.79
3588.77	13447.65	519.08	269439.89	-890.68	793307.30	-462329.57
3672.63	14119.03	602.94	363531.82	-219.30	48091.61	-132222.66
$\Sigma X=15348.47$	$\Sigma Y=71691.64$		$\Sigma x^2=5220546.80$		$\Sigma y^2=6887844.58$	$\Sigma xy=2989124.35$

$$\bar{X} = \frac{\sum x}{N} = \frac{15348.47}{5} = 3069.69$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{71691.64}{5} = 14338.33$$

$$\text{Correlation, } r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} = \frac{298912435}{\sqrt{(522054680)(688784458)}} = 0.4985$$

$$PEr = (0.6745) \frac{1-r^2}{\sqrt{N}} = (0.6745) \frac{1-(0.4985)^2}{\sqrt{5}} = 0.2267$$

$$6PEr = 6(0.2267) = 1.3602$$

**Calculation of Correlation Coefficient between Investment on Government Securities  
(GS) and Total Deposits (TD) of NIBL**

GS(X)	TD(Y)	x(X-X)	x <sup>2</sup>	y(Y-Y)	y <sup>2</sup>	Xy
0.00	2983.28	-585.10	342342.01	-3189.06	10170078.17	1865916.67
300.00	4256.21	-285.10	81282.01	-1916.13	3671538.85	546287.52
224.40	4174.76	-360.70	130104.49	-1997.58	3990309.88	720525.66
400.00	7922.75	-185.10	34262.01	1750.41	3063949.17	-324001.63
2001.10	11524.68	1416.00	2005056.00	5352.34	28647586.29	7578919.10
$\Sigma X=2925.50$	$\Sigma Y=30861.68$		$\Sigma x^2=2593046.52$		$\Sigma y^2=49543462.36$	$\Sigma xy=10387647.32$

$$\bar{X} = \frac{\sum x}{N} = \frac{2925.50}{5} = 585.10$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{30861.68}{5} = 6172.34$$

$$\text{Correlation, } r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} = \frac{1038764732}{\sqrt{(259304652)(4954346236)}} = 0.9165$$

$$PEr = (0.6745) \frac{1-r^2}{\sqrt{N}} = (0.6745) \frac{1-(0.9165)^2}{\sqrt{5}} = 0.0483$$

$$6PEr = 6(0.0483) = 0.2897$$

**Calculation of Correlation Coefficient between Investment on Government Securities  
(GS) and Total Deposits (TD) of EBL**

GS(X)	TD(Y)	x(X-X)	x <sup>2</sup>	y(Y-Y)	y <sup>2</sup>	xy
3338.67	12568.49	- 2382.42	5675925.06	- 4181.78	17487317.42	9962765.84
4811.01	15430.05	-910.08	828245.61	- 1320.22	1742991.41	1201509.46
5784.72	15835.75	63.63	4048.78	-914.52	836354.15	-58191.16
6722.83	18755.64	1001.74	1003483.03	2005.37	4021492.79	2008855.34
7948.22	21161.44	2227.13	4960108.04	4411.17	19458385.48	9824240.13
ΣX=28605.45	ΣY=83751.37		Σx <sup>2</sup> =12471810.50		Σy <sup>2</sup> =43546541.25	Σxy=22939179.60

$$\bar{X} = \frac{\sum x}{N} = \frac{28605.45}{5} = 5721.09$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{83751.37}{5} = 16750.27$$

$$\text{Correlation, } r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} = \frac{2293917960}{\sqrt{(1247181050)(4354654125)}} = 0.9843$$

$$PEr = (0.6745) \frac{1-r^2}{\sqrt{N}} = (0.6745) \frac{1-(0.9843)^2}{\sqrt{5}} = 0.0094$$

$$6PEr = 6(0.0094) = 0.0563$$

#### Appendix-14

Calculation of Correlation Coefficient between Loan and Advances (L&A) and Total

**Deposits (TD) of SBI**

L&A(X)	TD(Y)	x(X-X)	x <sup>2</sup>	y(Y-Y)	y <sup>2</sup>	xy
7334.76	127779.51	-473.85	224531.93	-1558.82	2429913.56	738642.79
8324.44	15839.01	515.83	266082.65	1500.68	2252046.47	774099.80
7437.90	15506.44	-370.71	137424.42	1168.11	1364485.64	-433028.46
7755.95	13447.65	-52.66	2772.86	-890.68	793307.30	46901.32
8189.99	14119.03	381.38	145452.23	-219.30	48091.61	-83636.31
ΣX=39043.04	ΣY=71691.64		Σx <sup>2</sup> =7762640.10		Σy <sup>2</sup> =6887844.58	Σxy=1042979.14

$$\bar{X} = \frac{\sum x}{N} = \frac{39043.04}{5} = 7808.61$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{71691.64}{5} = 14338.33$$

$$\text{Correlation, } r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} = \frac{298912435}{\sqrt{(7762640.10)(6887844.58)}} = 0.4511$$

$$PEr = (0.6745) \frac{1-r^2}{\sqrt{N}} = (0.6745) \frac{1-(0.4511)^2}{\sqrt{5}} = 0.2403$$

$$6PEr = 6(0.2403) = 1.4417$$

**Calculation of Correlation Coefficient between Loan and Advances (L&A) and Total**

**Deposits (TD) of NIBL**

L&A(X)	TD(Y)	x(X-X)	x <sup>2</sup>	y(Y-Y)	y <sup>2</sup>	Xy
2070.68	2983.28	-	3696398.45	-	10170078.17	6131285.44
		1922.60		3189.06		
2429.03	4256.21	-	2446884.32	-	3671538.85	2997303.93
		1564.25		1916.13		
2564.43	4174.76	-	2041618.04	-	3990309.88	2854240.46
		1428.85		1997.58		
5772.14	7922.75	1778.86	3164335.78	1750.41	3063949.17	3113737.95
7130.13	11524.68	3136.85	9839815.38	5352.34	28647586.29	16789489.57
ΣX=19966.41	ΣY=30861.68		Σx <sup>2</sup> =21189051.97		Σy <sup>2</sup> =49543462.36	Σxy=31886057.35

$$\bar{X} = \frac{\sum x}{N} = \frac{19966.41}{5} = 3993.28$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{30861.68}{5} = 6172.34$$



$$\text{Correlation, } r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} = \frac{10387647.32}{\sqrt{(2118905197)(4954346236)}} = 0.9841$$

$$PEr = (0.6745) \frac{1-r^2}{\sqrt{N}} = (0.6745) \frac{1-(0.9841)^2}{\sqrt{5}} = 0.0095$$

$$6PEr = 6(0.0095) = 0.0570$$

**Calculation of Correlation Coefficient between Loan and Advances (L&A) and Total Deposits (TD) of EBL**

L&A(X)	TD(Y)	x(X-X)	x <sup>2</sup>	y(Y-Y)	y <sup>2</sup>	Xy
4857.17	12568.49	-760.90	578971.85	-4181.78	17487317.42	3181927.81
5763.13	15430.05	145.06	21041.82	-1320.22	1742991.41	-191509.05
5364.00	15835.75	-254.07	64552.58	-914.52	836354.15	232354.94
5695.82	18755.64	77.75	6044.75	2005.37	4021492.79	155913.20
6410.24	21161.44	792.17	627530.14	4411.17	19458385.48	3494384.55
ΣX=28090.36	ΣY=83751.37		Σx <sup>2</sup> =1298141.15		Σy <sup>2</sup> =43546541.25	Σxy=6873071.44

$$\bar{X} = \frac{\sum x}{N} = \frac{28090.36}{5} = 5618.07$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{83751.37}{5} = 16750.27$$

**Appendix-15**

**Calculation of Correlation Coefficient between Loan and Advances (L&A) and Net Profit (NP) of SBI**

L&A(X)	NP(Y)	x(X-X)	x <sup>2</sup>	y(Y-Y)	y <sup>2</sup>	xy
7334.76	329.12	-473.85	224531.93	-23.62	557.72	11190.39
8324.44	291.37	515.83	266082.65	-61.37	3765.79	-31654.55
7437.90	271.63	-370.71	137424.42	-81.11	6578.18	30066.64
7755.95	416.25	-52.66	2772.86	63.51	4034.03	-3344.52
8189.99	455.31	381.38	145452.23	102.57	10521.43	39119.88

$\Sigma X=39043.04$	$\Sigma Y=1763.68$		$\Sigma x^2=7762640.10$		$\Sigma y^2=255457.14$	$\Sigma xy=45377.85$
---------------------	--------------------	--	-------------------------	--	------------------------	----------------------

$$\bar{X} = \frac{\Sigma x}{N} = \frac{39043.04}{5} = 7808.61 \quad \bar{Y} = \frac{\Sigma Y}{N} = \frac{1763.68}{5} = 352.74$$

$$\text{Correlation, } r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} = \frac{45377.85}{\sqrt{(7762640.10)(25457.14)}} = 0.3228$$

$$PEr = (0.6745) \frac{1-r^2}{\sqrt{N}} = (0.6745) \frac{1-(0.3228)^2}{\sqrt{5}} = 0.2702$$

$$6PEr = 6(0.2702) = 1.6213$$

**Calculation of Correlation Coefficient between Loan and Advances (L&A) and  
Net Profit (NP) of NIBL**

L&A(X)	NP(Y)	x(X-X)	x <sup>2</sup>	y(Y-Y)	y <sup>2</sup>	Xy
2070.68	72.66	-1922.60	3696398.45	-18.47	340.99	35502.77
2429.03	56.39	-1564.25	2446884.32	-34.74	1206.59	54335.86
2564.43	57.09	-1428.85	2041618.04	-34.04	1158.45	48632.41
5772.14	116.82	1778.86	3164335.78	25.69	660.18	45705.98
7130.13	152.67	3136.85	9839815.38	61.54	3787.66	193054.17
$\Sigma X=19966.41$	$\Sigma Y=455.63$		$\Sigma x^2=21189051.97$		$\Sigma y^2=7153.88$	$\Sigma xy=377231.18$

$$\bar{X} = \frac{\Sigma x}{N} = \frac{19966.41}{5} = 3993.28 \quad \bar{Y} = \frac{\Sigma Y}{N} = \frac{455.63}{5} = 91.13$$

$$\text{Correlation, } r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} = \frac{377231.18}{\sqrt{(21189051.97)(7153.88)}} = 0.9689$$

$$PEr = (0.6745) \frac{1-r^2}{\sqrt{N}} = (0.6745) \frac{1-(0.9689)^2}{\sqrt{5}} = 0.0185$$

$$6PEr = 6(0.0185) = 0.1108$$

**Calculation of Correlation Coefficient between Loan and Advances (L&A) and  
Net Profit (NP) of EBL**

L&A(X)	NP(Y)	x(X-X)	x <sup>2</sup>	y(Y-Y)	y <sup>2</sup>	Xy
4857.17	392.59	-760.90	578971.85	-76.89	5911.46	58502.71

5763.13	430.83	145.06	21041.82	-38.65	1493.51	-5605.91
5364.00	479.21	-254.07	64552.58	9.73	94.75	-2473.14
5695.82	506.95	77.75	6044.75	37.47	1404.30	2913.53
6410.24	537.80	792.17	627530.14	68.32	4668.17	54124.09
$\Sigma X=28090.36$	$\Sigma Y=2347.38$		$\Sigma x^2=1298141.15$		$\Sigma y^2=13572.19$	$\Sigma xy=107461.28$

$$\bar{X} = \frac{\sum x}{N} = \frac{28090.36}{5} = 5618.07$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{2347.38}{5} = 469.48$$

$$\text{Correlation, } r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} = \frac{107461.28}{\sqrt{(1298141.15)(13572.19)}} = 0.9689$$

$$PEr = (0.6745) \frac{1-r^2}{\sqrt{N}} = (0.6745) \frac{1-(0.9689)^2}{\sqrt{5}} = 0.1039$$

$$6PEr = 6(0.1039) = 0.6236$$

## Appendix-17

### Calculation of F Value

**Cash and Bank Balance Percentage on Total Current Assets**

Cash and Bank Balance Percentage					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1-x_1)^2$	$(x_2-x_2)^2$	$(x_3-x_3)^2$
7.36	9.69	6.13	0.00	3.99	0.03
6.18	15.27	5.00	1.27	12.85	1.70
7.90	10.15	4.50	0.36	2.38	3.24
8.25	12.32	7.27	0.91	0.40	0.94
6.81	11.01	8.61	0.24	0.46	5.33
$\Sigma X_1=36.51$	$\Sigma X_2=58.45$	$\Sigma X_3=31.51$	$\Sigma(x_1-x_1)^2=2.78$	$\Sigma x_2-x_2)^2=20.08$	$\Sigma(x_3-x_3)^2=11.24$

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{36.51}{5} = 7.30$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{58.45}{5} = 11.69$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{31.51}{5} = 6.30$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{7.30 + 11.69 + 6.30}{3} = 8.43$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(7.30 - 8.43)^2 + 5(11.69 - 8.43)^2 + 5(6.30 - 8.43)^2 = 82.12$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 2.78 + 20.08 + 11.24 = 34.10$$

$$SST = SCC + SSE = 82.12 + 34.10 = 116.22$$

**One-way ANOVA Table**

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=82.12	k-1=3-1=2	MSC = $\frac{SSC}{k-1} = \frac{82.12}{2} = 41.06$	F = $\frac{MSC}{MSE} = \frac{41.06}{2.84} = 14.45$
<b>Within Samples (Errors)</b>	SSE = 34.10	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{34.10}{12} = 2.84$	
<b>Total</b>	SST =116.22	n-1=15-1=14		

From above ANOVA table, we get

$$\text{Calculated} = F(2,12) = 14.45$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05} (2,12) = 3.89$$

Since the calculated value of F is greater than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

## Appendix-18

### Calculation of F Value

#### Money at Call or Short Notice Percentage on Total Current Assets

Money at Call or Short Notice Percentage					
SBI (x <sub>1</sub> )	NIBL (x <sub>2</sub> )	EBL (x <sub>3</sub> )	(x <sub>1</sub> -x <sub>1</sub> ) <sup>2</sup>	(x <sub>2</sub> -x <sub>2</sub> ) <sup>2</sup>	(x <sub>3</sub> -x <sub>3</sub> ) <sup>2</sup>
31.32	31.27	43.50	482.15	593.02	694.39
3.97	0.00	13.59	29.07	47.84	12.70
0.24	0.00	11.25	83.28	47.84	34.83
4.83	0.53	7.97	20.51	40.76	84.25
6.45	2.78	9.44	4.48	17.10	59.40
ΣX <sub>1</sub> =46.81	ΣX <sub>2</sub> =34.58	ΣX <sub>3</sub> =85.75	Σ(x <sub>1</sub> -x <sub>1</sub> ) <sup>2</sup> =623.49	Σ(x <sub>2</sub> -x <sub>2</sub> ) <sup>2</sup> =746.55	Σ(x <sub>3</sub> -x <sub>3</sub> ) <sup>2</sup> =885.57

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{46.81}{5} = 9.36$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{34.58}{5} = 6.92$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{85.75}{5} = 17.15$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{9.36 + 6.92 + 17.15}{3} = 11.14$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(9.36 - 11.14)^2 + 5(6.92 - 11.14)^2 + 5(17.15 - 11.14)^2 = 285.63$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 623.49 + 746.55 + 885.57 = 2255.62$$

$$SST = SCC + SSE = 285.63 + 2255.62 = 2541.25$$

#### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=285.63	k-1=3-1=2	MSC = $\frac{SSC}{k-1} = \frac{285.63}{2} = 142.81$	F = $\frac{MSC}{MSE} = \frac{142.81}{187.97} = 0.76$
<b>Within Samples (Errors)</b>	SSE = 2255.62	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{2255.62}{12} = 187.97$	
<b>Total</b>	SST =2541.25	n-1=15-1=14		

From above ANOVA table, we get

$$\text{Calculated } = F(2,12) = 0.76$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is less than the tabulated value of F, there is no significant difference and  $H_0$  is accepted.

### Appendix-19

#### Calculation of F Value

#### Loan and Advances Percentage on Total Current Assets

Loan and Advances Percentage					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1-x_1)^2$	$(x_2-x_2)^2$	$(x_3-x_3)^2$
49.60	55.31	29.17	46.66	181.01	0.31
63.25	70.96	29.98	46.52	4.84	1.85
55.87	76.77	29.26	0.31	64.23	0.42
55.93	76.78	27.39	0.25	64.31	1.51
57.50	63.98	27.28	1.15	22.84	1.78
$\Sigma X_1=282.14$	$\Sigma X_2=343.80$	$\Sigma X_3=143.08$	$\Sigma(x_1-x_1)^2=94.89$	$\Sigma x_2-x_2)^2=337.24$	$\Sigma(x_3-x_3)^2=5.87$

#### One-way ANOVA Table

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{282.14}{5} = 56.43$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{343.80}{5} = 68.72$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{143.08}{5} = 28.62$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{56.43 + 68.72 + 28.62}{3} = 51.27$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(56.43 - 51.27)^2 + 5(68.72 - 51.27)^2 + 5(28.62 - 51.27)^2 = 4228.26$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 94.89 + 337.24 + 5.87 = 437.99$$

$$SST = SCC + SSE = 4228.26 + 437.99 = 4666.25$$

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=4228.26	k-1=3-1=2	MSC = $\frac{SSC}{k-1} = \frac{4228.26}{2} = 41.06$	F = $\frac{MSC}{MSE} = \frac{41.06}{36.50} = 1.13$ <b>= 57.92</b>
<b>Within Samples (Errors)</b>	SSE = 437.99	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{437.9}{12} = 36.50$	
<b>Total</b>	SST =4666.25	n-1=15-1=14		

From above ANOVA table, we get

$$\text{Calculated} = F(2,12) = 57.92$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is greater than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

### Appendix-20

#### Calculation of F Value

##### Government Securities Percentage on Total Current Assets

Government Securities Percentage					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1-x_1)^2$	$(x_2-x_2)^2$	$(x_3-x_3)^2$
8.34	0.00	20.05	196.01	60.09	72.36
20.76	8.76	25.03	2.49	1.02	12.48
30.95	6.72	31.56	74.05	1.07	9.00
25.88	5.32	32.33	12.49	5.91	14.19
25.78	17.96	33.83	11.84	104.13	27.79
$\Sigma X_1=111.72$	$\Sigma X_2=38.76$	$\Sigma X_3=142.79$	$\Sigma(x_1-x_1)^2=296.88$	$\Sigma x_2-x_2)^2=172.22$	$\Sigma(x_3-x_3)^2=135.81$

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{111.72}{5} = 22.34$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{38.76}{5} = 7.75$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{142.79}{5} = 28.56$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{22.34 + 7.75 + 28.56}{3} = 19.55$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(22.34 - 19.55)^2 + 5(7.75 - 19.55)^2 + 5(28.56 - 19.55)^2 = 1140.72$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 296.88 + 172.22 + 135.81 = 604.92$$

$$SST = SCC + SSE = 1140.72 + 604.92 = 1745.64$$

#### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
Between Sample	SCC=1140.72	k-1=3-1=2	MSC = $\frac{SCC}{k-1} = \frac{1140.72}{2} = 570.36$	F = $\frac{MSC}{MSE}$
Within Samples	SSE = 604.92	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{604.92}{12} = 50.41$	$\frac{570.36}{50.41} = 11.31$

(Errors)		12	50.41	12	50.41
			<b>n-k</b>		<b>= 11.31</b>
<b>Total</b>	SST =1745.64	n-1=15-1=14			

From above ANOVA table, we get

$$\text{Calculated} = F(2,12) = 11.31$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is greater than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

## Appendix-21

### Calculation of F Value

#### Miscellaneous Current Assets Percentage on Total Current Assets

Miscellaneous Current Assets Percentage					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1-x_1)^2$	$(x_2-x_2)^2$	$(x_3-x_3)^2$
7.25	9.56	6.06	1.39	0.11	0.04
4.42	10.20	4.96	2.70	0.95	1.66
5.97	6.81	4.47	0.01	5.79	3.16
6.91	10.28	7.20	0.71	1.12	0.90
5.80	9.25	8.56	0.07	0.00	5.31
$\Sigma X_1=30.35$	$\Sigma X_2=46.10$	$\Sigma X_3=31.26$	$\Sigma(x_1-x_1)^2=4.88$	$\Sigma(x_2-x_2)^2=7.98$	$\Sigma(x_3-x_3)^2=11.07$

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{30.35}{5} = 6.07$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{46.10}{5} = 9.22$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{31.26}{5} = 6.25$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{6.07 + 9.22 + 6.25}{3} = 7.18$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(6.07 - 7.18)^2 + 5(9.22 - 7.18)^2 + 5(6.25 - 7.18)^2 = 31.30$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 4.88 + 7.98 + 11.07 = 23.93$$

$$SST = SCC + SSE = 31.30 + 23.93 = 55.23$$

#### One-way ANOVA Table

Source of	Sum of	Degree of	Mean Sum of Squares	F-ratio
-----------	--------	-----------	---------------------	---------



Variation	Squares (S.S.)	Freedom d.f.	(M.S.S.)	
<b>Between Sample</b>	SCC=31.30	k-1=3-1=2	MSC = $\frac{SSC}{k-1} = \frac{31.30}{2} = 15.65$	F = $\frac{MSC}{MSE} = \frac{15.65}{1.99} = 7.85$
<b>Within Samples (Errors)</b>	SSE = 23.93	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{23.93}{12} = 1.99$	
<b>Total</b>	SST =55.23	n-1=15-1=14		

From above ANOVA table, we get

$$\text{Calculated} = F(2,12) = 7.85$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is greater than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

## Appendix-22

### Calculation of F Value

#### Current Ratio

Current Ratio					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1-x_1)^2$	$(x_2-x_2)^2$	$(x_3-x_3)^2$
1.06	1.11	1.06	0.03	0.05	0.00
0.76	0.74	1.06	0.02	0.02	0.00
0.81	0.76	1.07	0.01	0.02	0.00
0.92	0.90	1.06	0.00	0.00	0.00
0.94	0.89	1.06	0.00	0.00	0.00
$\Sigma X_1=4.49$	$\Sigma X_2=4.40$	$\Sigma X_3=5.31$	$\Sigma(x_1-x_1)^2=0.05$	$\Sigma(x_2-x_2)^2=0.09$	$\Sigma(x_3-x_3)^2=0.00$

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{4.49}{5} = 0.90$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{4.40}{5} = 0.88$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{5.31}{5} = 1.06$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{0.90 + 0.88 + 1.06}{3} = 0.95$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(0.90 - 0.95)^2 + 5(0.88 - 0.95)^2 + 5(1.06 - 0.95)^2 = 0.10$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 0.05 + 0.09 + 0.00 = 0.14$$

$$SST = SCC + SSE = 0.10 + 0.14 = 0.24$$

### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=0.10	k-1=3-1=2	MSC = $\frac{SSC}{k-1} = \frac{0.10}{2} = 0.05$	F = $\frac{MSC}{MSE} = \frac{0.05}{0.01} = 5.00$
<b>Within Samples (Errors)</b>	SSE = 0.14	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{0.14}{12} = 0.01$	
<b>Total</b>	SST = 0.24	n-1=15-1=14		

From above ANOVA table, we get

$$\text{Calculated} = F(2,12) = 5.00$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is greater than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

### Appendix-23

#### Calculation of F Value

#### Quick Ratio

Quick Ratio					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1 - x_1)^2$	$(x_2 - x_2)^2$	$(x_3 - x_3)^2$
0.50	0.46	0.74	0.02	0.05	0.03

0.24	0.18	0.46	0.01	0.00	0.01
0.32	0.13	0.51	0.00	0.01	0.01
0.36	0.16	0.51	0.00	0.01	0.00
0.37	0.28	0.55	0.00	0.00	0.00
$\Sigma X_1=1.78$	$\Sigma X_2=1.21$	$\Sigma X_3=2.78$	$\Sigma(x_1-x_1)^2=0.04$	$\Sigma x_2-x_2)^2=0.07$	$\Sigma(x_3-x_3)^2=0.05$

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{1.78}{5} = 0.36$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{1.21}{5} = 0.24$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{2.78}{5} = 0.55$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{0.36 + 0.24 + 0.55}{3} = 0.38$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(0.36 - 0.38)^2 + 5(0.24 - 0.38)^2 + 5(0.55 - 0.38)^2 = 0.25$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 0.04 + 0.07 + 0.05 = 0.15$$

$$SST = SCC + SSE = 0.25 + 0.15 = 0.40$$

### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=0.25	k-1=3-1=2	MSC = $\frac{SCC}{k-1} = \frac{0.25}{2} = 0.12$	F = $\frac{MSC}{MSE} = \frac{0.12}{0.01} = 12$
<b>Within Samples (Errors)</b>	SSE = 0.15	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{0.15}{12} = 0.01$	
<b>Total</b>	SST =0.40	n-1=15-1=14		

From above ANOVA table, we get

$$\text{Calculated} = F(2,12) = 12$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is greater than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

### Appendix-24

#### Calculation of F Value

### Cash and Bank Balance Percentage on Total Deposits (Excluding Fixed Deposits) Ratio

Cash and Bank Balance to Total Deposits Ratio					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1-x_1)^2$	$(x_2-x_2)^2$	$(x_3-x_3)^2$
14.51	81.16	10.29	18.68	1854.54	2.53
9.95	31.68	7.88	0.06	41.19	0.67
8.05	17.45	6.08	4.57	426.42	6.86
10.23	21.86	9.00	0.00	263.47	0.09
8.22	38.33	10.25	3.89	0.06	2.41
$\Sigma X_1=50.96$	$\Sigma X_2=190.48$	$\Sigma X_3=43.50$	$\Sigma(x_1-x_1)^2=27.21$	$\Sigma x_2-x_2)^2=2585.68$	$\Sigma(x_3-x_3)^2=12.56$

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{50.96}{5} = 10.19$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{190.48}{5} = 38.10$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{43.50}{5} = 8.70$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{10.19 + 38.10 + 8.70}{3} = 19.00$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(10.19 - 19.00)^2 + 5(38.10 - 19.00)^2 + 5(8.70 - 19.00)^2 = 2741.65$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 27.21 + 2585.68 + 12.56 = 2625.44$$

$$SST = SCC + SSE = 2741.65 + 2625.44 = 5367.09$$

#### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=2741.65	k-1=3-1=2	MSC = $\frac{SCC}{k-1} = \frac{2741.65}{2} = 1370.82$	F = $\frac{MSC}{MSE} = \frac{1370.82}{218.79} = 6.27$
<b>Within Samples (Errors)</b>	SSE=2625.44	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{2625.44}{12} = 218.79$	
<b>Total</b>	SST=5367.09	n-1=15-1=14		

From above ANOVA table, we get

$$\text{Calculated } F = F(2,12) = 6.27$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is greater than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

## Appendix-25

### Calculation of F Value

#### Saving Deposit to Total Deposits Ratio

Saving Deposit to Total Deposits Ratio					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1-x_1)^2$	$(x_2-x_2)^2$	$(x_3-x_3)^2$
32.48	33.44	52.77	8.47	0.01	16.08
31.04	29.59	54.47	18.85	14.15	5.35
32.06	30.63	59.62	11.03	7.42	8.07
38.89	30.72	56.69	12.28	6.94	0.01
42.45	42.40	60.35	49.97	81.74	12.76
$\Sigma X_1=176.93$	$\Sigma X_2=166.78$	$\Sigma X_3=283.91$	$\Sigma(x_1-x_1)^2=100.59$	$\Sigma x_2-x_2)^2=110.26$	$\Sigma(x_3-x_3)^2=42.27$

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{176.93}{5} = 35.39$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{166.68}{5} = 33.36$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{283.91}{5} = 56.78$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{35.39 + 33.36 + 56.78}{3} = 41.84$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(35.39 - 41.84)^2 + 5(33.36 - 41.84)^2 + 5(56.78 - 41.84)^2 = 1684.59$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 100.59 + 110.26 + 42.27 = 253.12$$

$$SST = SCC + SSE = 1684.59 + 253.12 = 1937.71$$

#### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=1684.59	k-1=3-1=2	$MSC = \frac{SSC}{k-1} = \frac{1684.59}{2} = 842.30$	F = $\frac{MSC}{MSE} = \frac{842.30}{21.09} = 39.93$
<b>Within Samples (Errors)</b>	SSE=253.12	n-k = 15-3 = 12	$MSE = \frac{SSE}{n-k} = \frac{253.12}{12} = 21.09$	
<b>Total</b>	SST=1937.71	n-1=15-1=14		

From above ANOVA table, we get

Calculated =  $F(2,12) = 39.93$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

i.e.  $F_{0.05}(2,12) = 3.89$

Since the calculated value of F is greater than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

## Appendix-26

### Calculation of F Value

#### Interest Earned to Total Assets Ratio

Interest Earned to Total Assets Ratio					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1 - \bar{x}_1)^2$	$(x_2 - \bar{x}_2)^2$	$(x_3 - \bar{x}_3)^2$
6.97	7.37	6.25	0.25	1.21	0.61
6.90	6.82	6.42	0.18	0.30	0.90
6.35	6.56	5.50	0.01	0.08	0.00
6.15	5.10	4.77	0.10	1.38	0.49
5.98	5.52	4.41	0.24	0.57	1.12
$\Sigma X_1 = 32.35$	$\Sigma X_2 = 31.37$	$\Sigma X_3 = 27.34$	$\Sigma(x_1 - \bar{x}_1)^2 = 0.79$	$\Sigma(x_2 - \bar{x}_2)^2 = 3.54$	$\Sigma(x_3 - \bar{x}_3)^2 = 3.13$

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{32.35}{5} = 6.47$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{31.37}{5} = 6.27$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{27.34}{5} = 5.47$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{6.47 + 6.27 + 5.47}{3} = 6.07$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(6.47 - 6.07)^2 + 5(6.27 - 6.07)^2 + 5(5.47 - 6.07)^2 = 2.82$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 0.79 + 3.54 + 3.13 = 7.46$$

$$SST = SCC + SSE = 2.82 + 7.46 = 10.27$$

#### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
Between Sample	SCC=2.82	k-1=3-1=2	MSC = $\frac{SSC}{k-1} = \frac{2.82}{2} = 1.41$	F = $\frac{MSC}{MSE}$
Within Samples	SSE=7.46	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{7.46}{12} = 0.62$	= $\frac{1.41}{0.62}$

<b>(Errors)</b>		12		= 2.27
<b>Total</b>	SST=10.27	n-1=15-1=14		

From above ANOVA table, we get

$$\text{Calculated} = F(2,12) = 2.27$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is less than the tabulated value of F, there is no significant difference and  $H_0$  is accepted.

### Appendix-27

#### Calculation of F Value

#### Net Profit to Total Assets Ratio

Net Profit to Total Assets Ratio					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1 - \bar{x}_1)^2$	$(x_2 - \bar{x}_2)^2$	$(x_3 - \bar{x}_3)^2$
2.19	1.91	2.33	0.01	0.35	0.00
1.59	1.10	2.23	0.27	0.05	0.02
1.54	1.15	2.60	0.32	0.03	0.05
2.51	1.30	2.41	0.16	0.00	0.00
2.72	1.15	2.27	0.37	0.03	0.01
$\Sigma X_1 = 10.55$	$\Sigma X_2 = 6.61$	$\Sigma X_3 = 11.85$	$\Sigma (x_1 - \bar{x}_1)^2 = 1.14$	$\Sigma (x_2 - \bar{x}_2)^2 = 0.46$	$\Sigma (x_3 - \bar{x}_3)^2 = 0.09$

$$\bar{X}_1 = \frac{\Sigma X_1}{n_1} = \frac{10.55}{5} = 2.11$$

$$\bar{X}_2 = \frac{\Sigma X_2}{n_2} = \frac{6.61}{5} = 1.32$$

$$\bar{X}_3 = \frac{\Sigma X_3}{n_3} = \frac{11.85}{5} = 2.37$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{2.11 + 1.32 + 2.37}{3} = 1.93$$

$$SCC = \Sigma n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(2.11 - 1.93)^2 + 5(1.32 - 1.93)^2 + 5(2.37 - 1.93)^2 = 2.97$$

$$SSE = \Sigma n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 1.14 + 0.46 + 0.09 = 1.68$$

$$SST = SCC + SSE = 2.97 + 1.68 = 4.66$$

#### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
---------------------	-----------------------	------------------------	------------------------------	---------

<b>Between Sample</b>	SCC=2.97	k-1=3-1=2	$MSC = \frac{SSC}{k-1} = \frac{2.97}{2} = 1.49$	$F = \frac{MSC}{MSE}$
<b>Within Samples (Errors)</b>	SSE=1.68	n-k = 15-3 = 12	$MSE = \frac{SSE}{n-k} = \frac{1.68}{12} = 0.14$	$= \frac{1.49}{0.14}$
<b>Total</b>	SST=4.66	n-1=15-1=14		$= 10.61$

From above ANOVA table, we get

Calculated =  $F(2,12) = 10.61$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

i.e.  $F_{0.05}(2,12) = 3.89$

Since the calculated value of F is higher than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

### Appendix-28

#### Calculation of F Value

#### Net Profit to Shareholders' Equity Ratio

Net Profit to Shareholders' equity Ratio					
SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1-x_1)^2$	$(x_2-x_2)^2$	$(x_3-x_3)^2$
33.44	17.71	38.68	16.43	3.02	0.71
27.41	12.02	38.74	3.91	15.63	0.81
23.69	10.91	38.79	32.46	25.69	0.90
31.67	18.30	37.03	5.21	5.38	0.65
30.73	20.94	35.96	1.79	24.66	3.55
$\Sigma X_1=146.96$	$\Sigma X_2=79.88$	$\Sigma X_3=189.20$	$\Sigma(x_1-x_1)^2=59.80$	$\Sigma(x_2-x_2)^2=74.38$	$\Sigma(x_3-x_3)^2=6.63$



$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{146.96}{5} = 29.39$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{79.88}{5} = 15.98$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{189.20}{5} = 37.84$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{29.39 + 15.89 + 37.84}{3} = 27.74$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(29.39 - 27.74)^2 + 5(15.98 - 27.74)^2 + 5(37.84 - 27.74)^2 = 1215.81$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 59.80 + 74.38 + 6.63 = 140.81$$

$$SST = SCC + SSE = 1215.81 + 140.81 = 1356.62$$


---

### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=1215.81	k-1=3-1=2	MSC = $\frac{SCC}{k-1} = \frac{1215.81}{2} = 607.90$	F = $\frac{MSC}{MSE} = \frac{607.90}{11.73} = 51.81$
<b>Within Samples (Errors)</b>	SSE=140.81	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{140.81}{12} = 11.73$	
<b>Total</b>	SST=1356.62	n-1=15-1=14		

From above ANOVA table, we get

$$\text{Calculated } F = F(2,12) = 51.81$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is higher than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

### Appendix-29

#### Calculation of F Value

#### Net Profit to Total Deposits Ratio

Net Profit to Total Deposits Ratio			
------------------------------------	--	--	--

SBI ( $x_1$ )	NIBL ( $x_2$ )	EBL ( $x_3$ )	$(x_1-x_1)^2$	$(x_2-x_2)^2$	$(x_3-x_3)^2$
2.58	2.44	3.12	0.01	0.72	0.08
1.84	1.32	2.79	0.43	0.07	0.00
1.75	1.37	3.03	0.56	0.05	0.04
3.10	1.47	2.70	0.36	0.01	0.02
3.22	3.12	2.54	0.53	0.07	0.09
$\Sigma X_1=12.49$	$\Sigma X_2=7.93$	$\Sigma X_3=14.19$	$\Sigma(x_1-x_1)^2=1.88$	$\Sigma(x_2-x_2)^2=0.92$	$\Sigma(x_3-x_3)^2=0.23$

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{12.49}{5} = 2.50$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{7.93}{5} = 1.59$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{14.19}{5} = 2.84$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{2.50 + 1.59 + 2.84}{3} = 2.31$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(2.50 - 2.31)^2 + 5(1.59 - 2.31)^2 + 5(2.84 - 2.31)^2 = 4.19$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 1.88 + 0.92 + 0.23 = 3.03$$

$$SST = SCC + SSE = 4.19 + 3.04 = 7.22$$

### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=4.19	k-1=3-1=2	$MSC = \frac{SSC}{k-1} = \frac{4.19}{2} = 2.10$	$F = \frac{MSC}{MSE}$
<b>Within Samples (Errors)</b>	SSE=3.03	n-k = 15-3 = 12	$MSE = \frac{SSE}{n-k} = \frac{3.03}{12} = 0.25$	$= \frac{2.10}{0.25}$
<b>Total</b>	SST=7.22	n-1=15-1=14		$= 8.31$

From above ANOVA table, we get

$$\text{Calculated} = F(2,12) = 8.31$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of F is higher than the tabulated value of F, there is significant difference and  $H_0$  is rejected.

## Appendix-30

### Calculation of F Value

#### Cost of Services to Total Assets Ratio

Cost of Services to Total Assets Ratio					
SBI (x <sub>1</sub> )	NIBL (x <sub>2</sub> )	EBL (x <sub>3</sub> )	(x <sub>1</sub> -x <sub>1</sub> ) <sup>2</sup>	(x <sub>2</sub> -x <sub>2</sub> ) <sup>2</sup>	(x <sub>3</sub> -x <sub>3</sub> ) <sup>2</sup>
3.53	3.66	3.05	0.03	0.09	1.04
3.94	3.79	2.97	0.32	0.18	0.88
3.44	3.46	2.30	0.00	0.01	0.08
3.19	2.78	1.83	0.04	0.34	0.04
2.77	3.14	0.00	0.37	0.05	4.12
ΣX <sub>1</sub> =16.88	ΣX <sub>2</sub> =16.83	ΣX <sub>3</sub> =10.15	Σ(x <sub>1</sub> -x <sub>1</sub> ) <sup>2</sup> =0.75	Σ(x <sub>2</sub> -x <sub>2</sub> ) <sup>2</sup> =0.67	Σ(x <sub>3</sub> -x <sub>3</sub> ) <sup>2</sup> =6.16

$$\bar{X}_1 = \frac{\sum X_1}{n_1} = \frac{16.88}{5} = 3.38$$

$$\bar{X}_2 = \frac{\sum X_2}{n_2} = \frac{16.83}{5} = 3.37$$

$$\bar{X}_3 = \frac{\sum X_3}{n_3} = \frac{10.15}{5} = 2.03$$

$$\text{Grand Mean } \bar{X} = \frac{\bar{X}_1 + \bar{X}_2 + \bar{X}_3}{3} = \frac{3.38 + 3.37 + 2.03}{3} = 2.92$$

$$SCC = \sum n_j (\bar{X}_j - \bar{X})^2 = n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(3.38 - 2.92)^2 + 5(3.37 - 2.92)^2 + 5(2.03 - 2.92)^2 = 5.99$$

$$SSE = \sum n_j (X - \bar{X}_j)^2 = (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 0.75 + 0.67 + 6.16 = 7.58$$

$$SST = SCC + SSE = 5.99 + 7.58 = 13.58$$

#### One-way ANOVA Table

Source of Variation	Sum of Squares (S.S.)	Degree of Freedom d.f.	Mean Sum of Squares (M.S.S.)	F-ratio
<b>Between Sample</b>	SCC=5.99	k-1=3-1=2	MSC = $\frac{SSC}{k-1} = \frac{5.99}{2} = 3.00$	F = $\frac{MSC}{MSE}$
<b>Within Samples (Errors)</b>	SSE=7.58	n-k = 15-3 = 12	MSE = $\frac{SSE}{n-k} = \frac{7.58}{12} = 0.63$	= $\frac{3.00}{0.63}$
<b>Total</b>	SST=13.58	n-1=15-1=14		= <b>4.74</b>

From above ANOVA table, we get

$$\text{Calculated} = F(2,12) = 4.74$$

The tabulated value of F at 5% level of significance for (2,12) is 3.89

$$\text{i.e. } F_{0.05}(2,12) = 3.89$$

Since the calculated value of  $F$  is greater than the tabulated value of  $F$ , there is significant difference and  $H_0$  is rejected.