A STUDY OF
WORKING CAPITAL MANAGEMENT OF
JOINT VENTURE BANKS

SUBMITTED BY

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RECOMMENDATION

This is to certify that the thesis submitted by

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Entitled

"A Study on Working Capital Management of Joint Venture Banks in Nepal"

has been prepared as approved by this department in the prescribed format of Faculty of Management, T.U. and is forwarded for examination.

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VIVA-VOCE SHEET

We have conducted the VIVA-VOCE examination of the thesis presented by

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"A Study on Working Capital Management of Joint Venture Banks in Nepal"

and found the thesis to be original work of the student written in with prescribed format. The committee recommends the thesis to be accepted as partial fulfillment of the requirements for the degree of Masters of Business Studies (MBS).

VIVA-VOCE Examination Committee

Chair Person, Research Committee   _____

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DECLARATION

I hereby, declare that the work of reported in this thesis entitled **"A Study on Working Capital Management of Joint Venture Banks in Nepal"** submitted to Shanker Dev Campus, Faculty of Management, Tribhuwan University is the original work done in the form of partial fulfillment of the requirement for the Master's Degree in Business Studies (M.B.S.) under the supervision of Ms. Meera Gautam of Shanker Dev Campus, Tribhuwan University.

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1. INTRODUCTION

1.1 Background of the study

Nepal is located along the Himalayas, bordered by India to the east, south and west and China in the north. It has an area of 147181 square kilometers, is 885 km east to west, and is not-uniform north to south both dimension and in terms of terrain. It is located between the latitude $26^{o}22'$ to $30^{o}27'$ North and longitude $80^{o}4'$ E to $88^{o}12'$ East, and elevation ranges from 90 to 8848 meters. The population was 23.1 million in 2001.

Nepal is one of the least developed countries with per capita GDP US$ 311 in 2005/06 (CBS) and ranks 136 out of 177 countries on the Human Development Index (UNDP, 2005). Poverty incidence of the Nepal has been 33.5 percentages, (CBS/WFP/WB, 2006).

Nepal is basically an agricultural country. Agriculture provides employment to over 80% of labour 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 purposes 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, P. 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 modern 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 form 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 of 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 country. 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 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 Nepali 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 Product 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   Evolution of Banking Sector in Nepal:

The banking system in Nepal has no far away history. It was started during the period of Rana Prime Minister Ranaddip Singh. "Tejarath Adda" was established during the year 1877 A.D. It was the first step in institutional development of banking sector of Nepal and considered as the father of the today's modern banking institution of Nepal, which rendered a good services to government servant and the general public by providing loan at cheaper rate and mobilizing scattered resources from the public. Before its establishment, there was no any official unit for this type of service. People used to go to the local moneylender, goldsmith, landlord etc. They used to charge high interest rate against the collateral of gold, silver, land, house etc. Consequently, the major parts of the country remain untouched from these banking activities. The trade with India and other countries increase the necessity of the institutional banker,

which can act more widely to enhance the trade and commerce and to touch the remote banking sector in the economy. Reviewing this situation, the "Udhyog Parishad" was constituted in 1936 A.D. One year after its formulation, it formulated a "Company Act" and "Nepal Bank Act" in 1937 A.D. Nepal Bank Limited was established under Nepal Bank Act in 1937 A.D. as a first commercial bank of Nepal with 10 million authorized capital. The central bank of Nepal, Nepal Rastra Bank was established in 1956 A.D (2013-01-14) under the Nepal Rastra Bank Act 1956 A.D. The second commercial bank of Nepal is Rastriya Banijya Bank which was established in 1966 (2022 B.S), twenty-nine years later the establishment of the first commercial bank. For industrial development, industrial development center was set up in 1956 A.D. (2013 B.S) which was converted to Nepal Industrial Development Corporation (NIDC) in 1959 A.D (2016 B.S). Similarly, Agricultural Development Bank (ADB) was established in 1976 A.D (2024 B.S.) with an objective to provide agricultural loan so that agricultural productivity could be enhanced through introduction of modern agricultural techniques. During Nineties, the banks and financial institutions have been increasing rapidly. As an open policy of the HMG's to get permission to invest in banking sector from private and foreign investor under commercial bank Act 1957 (2013), different private banks are getting permission to establish with the joint venture of other countries. Currently, there are 20 commercial banks operating in Nepali financial market along with 9 joint ventures with foreign investors.

The first joint venture of Nepal is Nabil Bank Limited established in 1984 A.D, joint ventures with United Arab Emirates Bank. Then two other banks Nepal Indosuez Bank Ltd. with Indosuez Bank of France and Nepal Grindlays Bank Limited with Grindlays Bank of London were established in 1986 A.D. But, currently these banks name changed as Nepal Investment Bank Limited and Standard Chartered Bank Limited respectively. Himalayan Bank Limited Bank is joint ventured with Habib Bank of Pakistan and SBI Bank Limited is joint ventured with State Bank of India were established in 1993 A.D. Everest Bank limited is joint ventured with Punjab National Bank India (early it was joint ventured with United Bank of Calcutta). Nepal Bangladesh Bank is joint ventured with I.F.I.C Bank Limited of Bangladesh which was established in 1993. Bank of Katmandu is joint ventured with SIAM commercial Bank public co. Thailand which was established in 1995 A.D. Nepal Bank of Ceylon is joint ventured with Nepal Credit and Commerce Bank which was established in

1997 A.D. Likewise, Lumbini Bank Limited and NIC bank Limited both was established in 1998 A.D. Others private commercial banks, namely Kumari Bank Limited was established in 1999, Machhapuchhere Bank Limited was established in 2000 A.D, Laxmi Bank Limited was established in 2001 A.D and Siddhartha Bank Limited was also established in 2001 A.D, Global Bank, Citizen Bank, Prime Bank, Sunrise Bank, Bank of Asia, Nepal Merchant Bank, Kist Bank are the newly established commercial bank.

During the mid 1980s the adopted the policy of liberalization, which attracted the foreign banks to come to Nepal. In 1984 Nepal Arab Bank Limited was established as the first joint venture bank. After the restoration of democracy in1990, Nepal adopted democratic constitution that was lauded as the best social-legal document in the world. Further the economic liberalized with a view of enhancing private sector participation in various spheres. As consequence, as in the most to the countries, Nepalese financial sector is largely dominated by the banking sector. Under the commercial banking sphere, majority occupied by large number of joint venture banks.

1.3   Statement of the Problem

Working capital management is also one of the conditioning factor in the decision-making issues. The management of working capital is synonymous to the management of short-term liquidity. 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. 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 risks 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 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 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.

NABIL, NIBL and SCBNL 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.

- ∫ What is the bank's image in relation to working capital?
- ∫ What are the major factors affecting the management of working capital of sample banks?
- ∫ Which of the current assets are more problematic in sample banks?
- ∫ What is the lending pattern of loan and advances and other investment?
- ∫ What are the components of working capital, which affect the operating income of sample banks?

1.4   Objectives of the Study

Every research study is conducted with a view of achieving some objectives and this study is of no exception. The main objective of this study is to examine of the

management of working capital of sample banks. The specific objectives of this study are as follows:

-) To study the current assets and current liabilities and their impact on liquidity and profitability.
-) To analyze the liquidity, assets utilization, long-term solvency and profitability position of sample banks.
-) To analyze the comparative study of working capital management among sample banks.
-) On the basis of the analysis, to provide recommendation and suggestions for the improvement of working capital management of sample banks in the future.

1.5   Research Hypothesis

Hypothesis is a quantitative statement about the population parameter. In other words it an assumption that is made about the population parameter and then its validity is tested. Hypothesis test is one of the important applications of statistical interference in decision making. 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. In order to fulfill the objective of research study following hypothesis is formulated for testing.

Hypothesis 1

H_0:   There is no significant difference in composition of working capital among sample banks.

H_1:   There is significant difference in composition of working capital sample bank .

Hypothesis 2

H_0:   There is no significant difference in liquidity position among sample banks.

H_1:   There is significant difference in liquidity position among sample banks.

Hypothesis 3

H_0:   There is no significant difference in profitability position among sample banks.

H_1:   There is significant difference in profitability position among sample banks.

1.6   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. Nepalese commercial banks are operating in the competitive environment. In this situation, banks have to adopt suitable strategies for their existence. They should balance and coordinate the different functional areas of business concern. The success or failure of any organization depends upon its strategy, which is affected by working capital management. Working capital management is the crux of problem to prepare the proper strategy on its favors. So the study might be helpful for the management of the concerned bank as well as it might be valuable for the researcher, scholars, student who wants to study into the working capital management of the joint venture banks.

1.7   Limitations of the study

None of the study can go beyond the boundary of some limitations and this study is also not an exception. The scope of the present study has been limited in terms of period of study as well as sources and nature of data. The following are the major limitations of the study.

- This study is basically depended on secondary data.
- The whole study is based on the current five years (*F/Y 2058/59* to *F/Y 2062/63)* data and conclusion drawn confines only to the above period.
- Out of various commercial banks, this study is concerned with the first three commercial joint venture banks viz. sample banks.
- The truth of research is based upon the available data from the banks
- Although there are various aspects of financial management, this study is mainly concerned with the working capital aspect of the sample banks.
- This study is basically done as the requirement for the partial fulfillment of

Master's of Business Studies (MBS) of Tribhuvan University (TU).

1.8   Organization of the study

The study has been divided into five chapters. They are:

1.   Chapter One: Introduction
2.   Chapter Two: Literature Review
3.   Chapter Three: Research Methodology
4.   Chapter Four: Presentation and Analysis of Data and Findings
5.   Chapter Five: Summary, Conclusion and Recommendations

The first chapter covers background of the study, overview of national economy, evolution of banking sector in Nepal, about the institutions under study, focus of the study, statement of the problem, objectives of the study, research hypothesis, and significance of the study, limitation of the study and organization of the study. Therefore, this chapter is for brief introduction of the topic and it highlights the fundamental objectives.

The second chapter is for pertinent literature and studies. This chapter is the backbone of study, where relevant studies have been reviewed.

The third chapter presents the research methodology used in the study. It encompasses research design, nature and sources of data, data processing procedure, tools and techniques of analysis.

The fourth chapter is the main part of this research that deals with the presentation, analysis and interpretation of data. Different types of tools and technique have been used to analyze the available data in order to achieve the set objectives.

The last chapter presents the summary and conclusion of the study based on the analysis of data and also provides recommendation to the sample banks viz. NABIL, NIBL and SCBNL.

After all, the bibliography and appendices are included.

2. REVIEW OF LITERATURE

This chapter in concerned with the review of relevant literatures available in the books, journals, articles, research reports, newspapers, magazines, policy documents which are published or unpublished. Every study is very much based on past knowledge, study and experiences. The past knowledge or the previous studies should not be ignored as it provides foundation to the present study. Various thesis works have done in different aspects of working capital of different organization are also reviewed for the purpose of justifying the study.

2.1 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, P. 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." (1993, P. 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 monitory 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.

2.2   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, P. 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 capital, 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, P. 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

2.3   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 , P. 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 group of industries or traders to achieve mutual exchange of goods and services.

2.4   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 & 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

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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 (1992, P. 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 different 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 firms growth. The term working capital refers to the current assets of the firm's those items that can be converted into cash with in the year. Net working capital is defined as the difference between current assets and current liabilities (Hamption and Wagner, 1989, P. 34).

"Working capital may be defined as the funds deployed by the company in the form of cash, stock, sundry debtors and other currents assets. The total sum of funds 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).

2.5 Issues 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 a change in the level of business activities? In particular, they face the following issues with respect to the management of working capital, (Pradhan, 1992, P. 148).

⟩ Size of working capital to maintain size of each type of current assets
⟩ Size of permanent & seasonal working capital investment

⟩ Source 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

2.6 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) & 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 objectives of business and run the business smoothly,

⟩ To fulfill the present need of business as well as get ready for risk & economic fluctuation in future.

2.7 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 Factors:*

⟩ Prevailing interest rate of bank: If interest rate is high cash demand is low & liquidity need is low.

⟩ Savings & investment situation: If income & saving scale of people is high, low liquidity. If investment in commercial field is high, high liquidity.

) Growth & scheming position of the financial market: If financial market of bank is in growth & prosperity, then low liquidity and if opposite, high liquidity.

b.   *Internal Factors:*

) 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 & ready to bear risk, low liquidity.

) Strategic planning & funds flow situation: Liquidity depends upon planning, & strategy. Current A/C needs high liquidity & payment. On the other hand fixed deposit needs low liquidity.

Figure 1: Determinants of Working Capital Needs of Bank

Determinants of Working Capital Needs of Bank

External Factors:	*International Factors:*
• Prevailing Interest Rate • Saving & Investment Rate • Growth & Slackening Position of Financial Market	• Lending Policy of Banks • Management Capacity • Strategic Planning & Funds Flow Situation
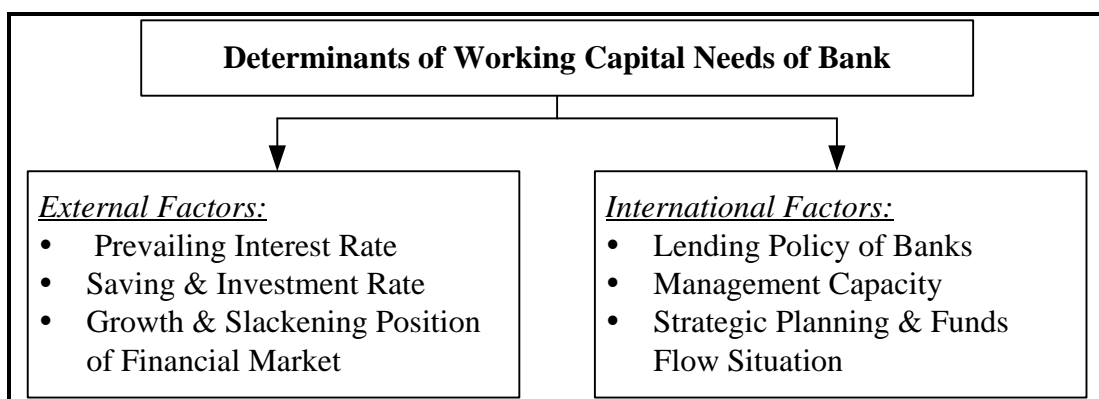
2.8   Demand of Working Capital in Banks

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

) Transaction motive

) Security motive

) Speculative motive

Figure 2: Demand of Working Capital in Banks

Demand of Working Capital in Banks		
Transaction Motive	**Security Motive**	**Speculative Motive**
Payment of Cheques • Current A/C • Saving A/C • Fixed A/C	*Meet Financial Fluctuation*	*Joint Venture Opportunity*
Advance Loan • Short-Term • Medium-Term • Long-Term	*Meet Liquidity Ratio* • Cash Reserve Ratio • Satutatory Liquidity Ratio	*Transaction Opportunity*
Remittance Draft, LC etc. • Inward • Outward		*Bank Security Opportunity*
Operating Expenses • Capital Expenses • Revenue Expenses		

2.9   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, P. 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

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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 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, (Panday, op. cit., P. 822). Higher level of current assets implies greater liquidity and solvency of the firm. There is less risk of technical insolvency, but a considerable amount of funds will be tied up in current assets, which causes to lower the profitability. On the other side, to have a higher profitability, a firm can take an 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 3: Alternative Current Assets Policies
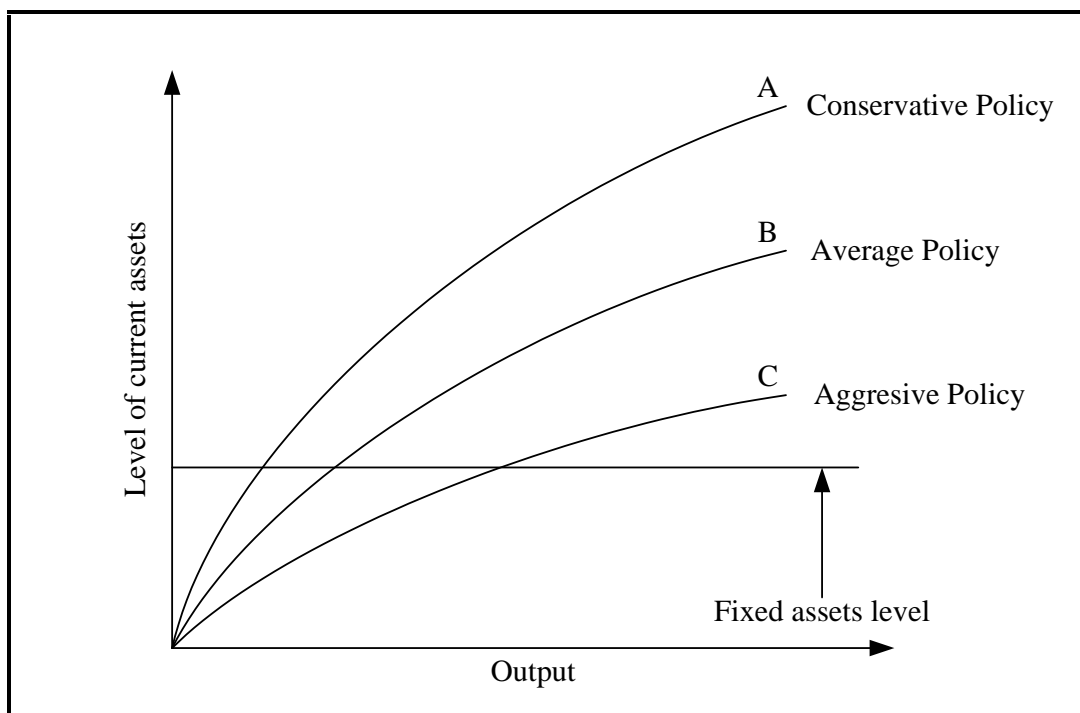
When the firm follows the matching policy or average policy long-term financing will be used to finance fixed assets and permanent current assets and short-term financing to finance temporary or variable current assets (Ibid., P. 828).

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 (Ibid., P. 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 (Ibid., P. 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 capital is 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 sources generally cost less than the long-term sources, but they are riskier, (Pradhan, 1992, P. 148).

2.10 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. In the next chapter they have dealt with the various components of working capitals and their effective management techniques. The components of working capital they have dealt with the cash, marketable securities, receivable and inventory for the efficient management of cash, they have explained the different cash management models. They have also explained the major sources and forms of short term financing, such as trade credit, loans from commercial banks and commercial paper.

Van Horne, 2000, another well known expert of financial management and writer in his book "Financial Management and Policy", has given the concept of capital management, it is usually described as involving the administration of these assets namely cash, marketable securities, receivables, inventories and the administration of current liabilities. It means the working capital management is concerned with the problem that arises in attempting to manage the current assets, the current liabilities and the inter-relationship that exist between them. He has also described the different methods for efficient management of cash and marketable securities and various models for balancing cash and marketable securities. For the management of receivable, different credit and collection policies have been described and various principles of inventory have been examined for inventory management and control.

Shrestha 1995, has published "Portfolio Behavior of Commercial Banks in Nepal" based on the study of two local commercial banks, three joint-venture banks and one

development bank as a sample for the study. Some major findings of her study are hereunder.

) Total deposits have been the major sources of fund for all the banks.

) Capital and reserve funds do not seem to have changed much over the year.

) The user of fund analysis shows that the resources of commercial banks are allocated in the liquid funds, investment on securities, loans and advances. Bills purchased and discounted.

) Among the portfolio, for Nepalese banks loan and advances share highest volume of the resources and the bills purchased and discounted the least over the year.

) The excess reserves of the commercial banks show unused resource. The cash reserve exceeds much more than the required cash reserve.

Pradhan, 1986, has published a book on management of working capital in Nepalese PEs. This book is based on the study of nine manufacturing public enterprises of Nepal for the duration of ten years from 1973 to 1982 AD. In his study, he aimed at examining the various aspects of management of working capital in selected manufacturing public enterprises of Nepal. The specific objectives undertaken in his study 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

) To estimate the transaction demand functions of working capital and its various components.

) His study has 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 receivables 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 regression 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.

His study is concerned with interrelationships that exist between managing current assets and current liabilities. The study manages to focus on net working capital concept. The study has employed ratio analysis, discriminate analysis and econometric models for its analysis.

2.11 Review of Related Journals/Articles

Shrestha, (ISDOC Bulletin, Vol.8, No.1-4, July 1982 - June 1983), 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 Cheeuri 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 inability 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 combinations 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. l, 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 (Vol. 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 accrued expenses.

Mr. Mahat has defined that working capital management is one of the important pillars of corporate finance. However, Nepalese industries are facing difficulty in their survival by the cause of recession, which can bring best and worst in corporate finance such an environment should be efficient enough to cope with the possible worst happenings in future for working capital management. He has said that managing the working capital resources for a profit making industries are routine affairs of just making payment and arranging collection of debtors. In contrast, the company in debt trouble, it is rather difficult to meet its working capital gap by way of debt financing, the company should have to bear interest, which may cause to increase in the percentage of operating expenses to the turnover and depletion in the profits. Therefore, spontaneous sources of working capital will be a better source for working capital in order to improve its performance.

Consequently, in a changed economic scenario, every company should realize that inability to manage working capital might land them in a vicious circle that can be hard to get out from. It is indeed essential for industries to tighten their belts and checks their financial stability to face and stand in forthcoming competitive day.

2.12 Review of Research Studies

Joshi, Thesis, T.U., 1986. has conducted study relating to Working Capital Management. He has analyzed the financial statement of Biratnagar Jute Mill for five years (2036/037 to 2040/41). This study has focused on problem of working capital management, and the current assets and current liabilities. He has used financial ratios as the major tool of his study. He found that inventories held the major share of

current assets followed by debtors and very negligible cash balance. Mill's had poor liquidity position and financed by short-term sources. He found mills had not earned sufficient profit even to pay the interest on short-term loans. Moreover, he found the operation deficiencies caused by managerial imprudence and gross negligence in working capital management.

Giri, Thesis, T.U., 1986, in his study has attempted to evaluate working capital management of Balaju Textile Industry Limited (BTIL). The major findings of his study are no significant improvement in working capital during study period. Increased working capital was financed by sales of fixed assets or sources of share capital: Current Assets were financed by long term financing and high level of sluggish inventory's amount to unnecessary tied-up of funds, impairment of profit and increased costs.

He has suggested for efficient working capital management of BTIL. It is better to fix a minimum target rate of return, make regular check to identify both excess and deficient current assets to avoid risk in management of working capital, financing current assets from the appropriate combination of short term and long term sources to preserve liquidity and maintain stability; take necessary actions for disposing a huge inventory with tied up working capital, involved huge carrying cost risk of losses; sick position and working inefficiency of corporation should improve.

He has set only three research questions to analyze working capital management of BTIL, which is insufficient. He has used ratio analysis as a research tools. But he has not done analysis to evaluate the relationship of current assets components with total current assets. Similarly, he has set null hypothesis but has not tested it through appropriate tools to find out whether null hypothesis is accepted or rejected. So we can say it is not fully analytical type of research.

Shrestha, Thesis, T.U., 1988, has also 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.

Bhandhari, Thesis, T.U., 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.

Likewise, *Amatya, Thesis, T.U., 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 FY1980/81 to 1989/90. The major findings of his appraisal are as follows:

- Regarding the liquidity management, the bank is in a bettor 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, Thesis, T.U., 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, Thesis, T.U., 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 co-efficient 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, Thesis, T.U., 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, Thesis, SDC, 2000, in his thesis entitled "Comparative Study of Working Capital Management of NBL and NABIL", aims to examine the management of working capital in NBL and NABIL. 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 NABIL
-) To analyze the comparative study of working capital management of NBL and NABIL.
-) Recommendation & Suggestions for the improvement of working capital management NBL & NABIL in the future.

In his study he has mentioned the following findings:

-) The average cash & bank balance and loan & advance are higher on NABIL than NBL. Management of loan and advances is more problematic in NBL than NABIL
-) Interest income of NBL is better than NABIL.
-) Liquidity management policy of these two banks are significantly different
-) NABIL has the better utilization of deposits in income generating activity than NBL. It also shows that NABIL 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 NABIL.
-) Profitability position of NABIL is far better although, NBL earned higher interest than NABIL.

Similarly, *Lamsal, Thesis, SDC, 2004,* had undertaken a study entitled "A Comparative Study of Working Capital Management of NABIL 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 2058/59 of selected banks and mostly used statistical and financial tools to analyze them in order to achieve the set objectives.

After analyzing the secondary data of NABIL and SCBNL, *Mr. Lamsal* summarized his findings as "NABIL and SCBNL 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 NABIL and SCBNL were 0.64 and 0.75 respectively. Liquidity of SCBNL was always better then NABIL during study period."

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

From the review of above mentioned bunch of research works, it is clear that there are very few of 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 Nabil Bank Limited, Nepal Investment Bank Limited and Standard Chartered Bank Nepal Limited has been carried out with a view to fulfill that gap.

3. RESEARCH METHODOLOGY

Research is a systematic and organized effort to investigate facts and methodology is the method of doing research in well manner and also the research for gaining the knowledge about method of goal achievement, which we desire is known as research methodology. So research methodology means the analysis of specific topic by using proper method. In other words research methodology is a process of arriving to the solution of problem through planned and systematic dealing with collection, analysis and interpretation of the facts and figures. "Research methodology refers to the various sequential steps to adopt by a researcher in studying a problem with certain objectives in view" (Kothari, 1994, P. 19). Therefore, we can conclude that research methodology tries to make clear view of the method and process adopted in the entire aspect of the study. It is also considered as the path from which researcher can systematically solve the research problem.

3.1 Research Design

Selection of appropriate research design is necessary to meet the study objectives of any research. "Research design is a plan structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances", ibid, P. 43.

The study aims to portraying accurately on the working capital (or current assets and current liabilities) and its impact on overall financial position of sample banks. It is based on recent 5 years data from *F/Y 2058/59* to *F/Y 2062/63*. The study has been conducted to assess the existing situation of working capital management of commercial joint venture banks of Nepal and describe the situation and events occurring at present. The research design followed for this study is basically a historical, empirical and descriptive-cum-analytical.

3.2 Population and Sample

At present there are 25 commercial banks including 14 joint venture banks in Nepal. Among them NBL, NIBL and SCBNL has been taken as a sample for the study. These sample banks are the pioneer leading bank in the Nepal. Financial statements of last five fiscal years from *F/Y 2058/59* to *F/Y 2062/63* have been taken as sample

data for the comparative study of working capital management. These joint venture banks are chosen as they account for the considerable market share of the banking sectors.

Nabil Bank Limited (NABIL)

The first commercial joint venture bank of Nepal, Nepal Arab Bank Limited, was established on July 12th 1984 under a technical service agreement with Dubai Bank Limited and was renamed as Nabil Bank Limited (NABIL) on 1st January 2002. In the beginning, the authorized capital of this bank was Rs.100 million and paid up capital was Rs.28 million 400 thousand. The 50% share of NABIL owned by Dubai Bank Limited was transferred to Emirates Bank International Limited, Dubai by virtue of its annexation with the later. Later on, Emirates Bank International Limited sold its entire 50% share to National Bank Ltd, Bangladesh. Now National Bank Limited is managing the bank in accordance with the Technical Services Agreement signed between it and the bank on June 1995. Its present shareholding pattern is as follows:

N.B. International Limited, Ireland	50%
Nepal Industrial Development Corporation	10%
Rastriya Beema Sansthan	5%
Security Purchase and Sales Corporation	5%
General Public	30%
Authorized Capital	Rs.500,000,000.00
Issued Capital	Rs.491,654,400.00
Paid-Up Capital	Rs.491,654,400.00

Nepal Investment Bank Limited (NIBL)

Nepal Investment Bank Limited (NIBL), previously Nepal Indosuez Bank Limited, was established on 21st 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 companies comprising of bankers, professionals, industrialists and businessmen of Nepal, has acquired on 25th 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 (NIBL) upon approval of bank's 15th Annual General Meeting, Nepal Rastra Bank and Company Registrar's office on 31st May 2002. The present shareholding pattern of NIBL 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

Standard Chartered Bank Limited (SCBNL)

Under the company act of 1964, Nepal Grindlays Bank Limited, renamed as Standard Chartered Bank Nepal Limited (SCBNL) in 16th July 2001 was established as a third commercial joint venture bank of Nepal in 1985. The bank originally started its operation in 1986. The 50% of the equity share capital was originally owned by ANZ Grindlays Bank, which managed and controlled the overall activities of the bank. Later on, the ownership of 50% share of ANZ Grindlays Bank has been transferred to Standard Chartered Bank Limited, U.K. in August 2000. The bank, at present is managed and controlled by Standard Chartered Bank Limited, U.K. The present shareholding structure of SCBNL is as follows:

Standard Chartered Bank Limited, U.K.	75%
General Public	25%
Authorized Capital	Rs.339,548,800.00
Issued Capital	Rs.339,548,800.00
Paid-Up Capital	Rs.339,548,800.00

3.3   Sources of data

This study is conducted on the basis of secondary data relating to the investment, deposit, loan and advances and profit are directly obtained from the balance sheet and profit and loss account of concerned bank's annual reports, supplementary data and information are collected from number of institutions and regulating authorities like

Nepal Rastra Bank, Nepal stock Exchange Ltd, Ministry of finance, Economic survey etc.

According to the need and objectives, all the secondary data are compiled, processed and tabulated in the series. In order to judge the reliability of data provided by the banks and other sources they were compiled with the annual reports of auditor. Formal and informal talks to the concerned head of the departments of the bank were also helpful to obtain the additional information of related problem.

Similarly, various data and information are collected from the periodicals, economic journals, managerial magazine and other published and unpublished reports and documents from various sources.

3.4   Nature of data

In case of data, some personal views and ideas of individual's respondent are collected. But in case of entire secondary data used in the study are basically of the following nature.

- Most of the data taken for the analysis is collected in the form of published by the concerned banks through their annual reports
- Since all the banks taken account in NEPSE, the figures are all most reliable and suitable tool

3.5   Tools and Techniques of Analysis.

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

3.5.1 Financial Tools

In this research study various financial tools are employed for the analysis. There are various ratios but in this study some selected ratios among them are used. The main focus will be on Ratio Analysis. Ratio analysis is the most important tools of the financial analysis, which help to ascertain the financial conditions of the organizations. "Ratio analysis is such a power full tool of financial analysis that thought the help of it economic and financial position of business unit can be fully x-rayed." (Kothari, 1994, P 187). Ratios are calculated to obtain the better insight into real situation of working capital management of sample banks viz. NBL, NIBL and SCBNL. Various ratios are employed and grouped for the analysis of composition of

working capital, liquidity position, activity or turnover position, profitability position and capital structure or leverage position

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 bank 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 sounds working capital position and vice-versa.

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

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

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.

iv.   *Cash and Bank Balance to Total Assets Ratio*

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

What percent of total 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 important role in the company.

i. *Current Ratio*

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

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*

$$\text{Quick/Acid Test Ratio} = \frac{\text{Quick assets}}{\text{Current Liabilities}}$$

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:*

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

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. Through 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*

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

This ratio assesses to what extent, the banks are able to utilize the depositor's funds to earn profit by providing loans and advances. It is computed dividing the total amounts 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:*

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

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:*

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

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 earned 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:*

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

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:*

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

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:*

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

A sound management always tries to utilize its larger amount of assets with minimum cost. This ratio is useful in measuring the assets utilization with cost of services. The ratio is computed dividing the cost of services by total assets.

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 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 or 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 not 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 two 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 it to test the characteristics of hypothesized population parameter based on sample information whether the difference between the population parameter and sample static is significant or not. Smaller the difference, the sample

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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 NABIL, NIBL and SCBNL.

) There is no significant difference in liquidity position among NABIL, NIBL and SCBNL.

) There is no significant difference in profitability position among NABIL, NIBL and SCBNL.

4.   DATA PRESENTATION AND ANALYSIS

This chapter is to fulfill the objectives of the study by presenting data and analyzing them with the help of various financial and statistical tools that are given in research methodology. The major objectives of this study is a comparative study of working capital management of three sample banks viz. NABIL, NIBL, SCBNL. The major variables of the study are cash and bank balance, money at call or short notice, loan and advances and investment in government securities. Under this chapter relevant data and information of working capital as well as financial performance of the sample banks are presented, compared and analyzed. It presents composition of current assets and current liabilities, relationship between current assets and fixed assets, current assets and total assets, turnover position, liquidity position and profitability position. It covers to analyze the ratio as well as the trend with the use of least square method. It also uses correlation analysis and hypothesis test.

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. 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. NABIL, NIBL and SCBNL 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 current 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 NABIL, NIBL and SCBNL respectively of the study period.

Table 1: Current Assets Component of different Bank

Table-1 (A)						
Current Assets Component of NABIL						
						(Rs. in Million)
Fiscal Year	**Cash and Bank Balance**	**Money at Call or Short Notice**	**Loan and Advances**	**Government Securities**	**Misc. Current Assets**	**Total Current Assets**
2058/59	1088.75	4631.83	7334.76	1233.82	499.75	14788.91
2059/60	812.90	522.55	8324.44	2732.96	768.83	13161.68
2060/61	1051.82	31.37	7437.90	4120.29	672.02	13313.40
2061/62	1144.77	670.20	7755.95	3588.77	708.61	13868.30
2062/63	970.49	918.73	8189.99	3672.63	492.20	14244.04

Table-1 (B)						
Current Assets Component of NIBL						
						(Rs. in Million)
Fiscal Year	**Cash and Bank Balance**	**Money at Call or Short Notice**	**Loan and Advances**	**Government Securities**	**Misc. Current Assets**	**Total Current Assets**
2058/59	362.92	1170.72	2070.68	0.00	139.77	3744.09
2059/60	522.86	0.00	2429.03	300.00	171.22	3423.11
2060/61	338.92	0.00	2564.43	224.40	212.50	3340.25
2061/62	926.53	40.00	5772.14	400.00	379.22	7517.89
2062/63	1226.92	310.00	7130.13	2001.10	476.18	11144.33

Table-1 (C)						
Current Assets Component of SCBNL						
						(Rs. in Million)
Fiscal Year	**Cash and Bank Balance**	**Money at Call or Short Notice**	**Loan and Advances**	**Government Securities**	**Misc. Current Assets**	**Total Current Assets**
2058/59	1020.46	7243.16	4857.17	3338.67	190.86	16650.32
2059/60	961.05	2612.00	5763.13	4811.01	5076.99	19224.18
2060/61	825.26	2061.96	5364.00	5784.72	4294.88	18330.82
2061/62	1512.30	1657.91	5695.82	6722.83	5208.74	20797.60
2062/63	2023.17	2218.60	6410.24	7948.22	4894.43	23494.66

Sources: *Appendix 1, 2 and 3*

From the tables 1 total amount of current assets components of SCBNL is higher than both NABIL and NIBL in all five years period. NIBL shows the lowest among them. The lowest among all is 3340.25 of NIBL in FY 2060/61 and the highest is 23494.66 of SCBNL in FY 2062/63.

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.

<p align="center">**Table 2: Percentage Composition of Current Assets**</p>

Table-2 (A)

Percentage Composition of Current Assets of NABIL

Fiscal Year	Cash and Bank Balance	Money at Call or Short Notice	Loan and Advances	Government Securities	Misc. Current Assets	Total Current Assets
2058/59	7.36	31.32	49.60	8.34	3.38	100.00
2059/60	6.18	3.97	63.25	20.76	5.84	100.00
2060/61	7.90	0.24	55.87	30.95	5.05	100.00
2061/62	8.25	4.83	55.93	25.88	5.11	100.00
2062/63	6.81	6.45	57.50	25.78	3.46	100.00
Average	**7.30**	**9.36**	**56.43**	**22.34**	**4.57**	

Table-2 (B)

Percentage Composition of Current Assets of NIBL

Fiscal Year	Cash and Bank Balance	Money at Call or Short Notice	Loan and Advances	Government Securities	Misc. Current Assets	Total Current Assets
2058/59	9.69	31.27	55.31	0.00	3.73	100.00
2059/60	15.27	0.00	70.96	8.76	5.00	100.00
2060/61	10.15	0.00	76.77	6.72	6.36	100.00
2061/62	12.32	0.53	76.78	5.32	5.04	100.00
2062/63	11.01	2.78	63.98	17.96	4.27	100.00
Average	**11.69**	**6.92**	**68.76**	**7.75**	**4.88**	

Table-2 (C)

Percentage Composition of Current Assets of SCBNL

Fiscal Year	Cash and Bank Balance	Money at Call or Short Notice	Loan and Advances	Government Securities	Misc. Current Assets	Total Current Assets
2058/59	6.13	43.50	29.17	20.05	1.15	100.00
2059/60	5.00	13.59	29.98	25.03	26.41	100.00
2060/61	4.50	11.25	29.26	31.56	23.43	100.00
2061/62	7.27	7.97	27.39	32.33	25.04	100.00
2062/63	8.61	9.44	27.28	33.83	20.83	100.00
Average	**6.30**	**17.15**	**28.62**	**28.56**	**19.37**	

Sources: *Appendix 1, 2 and 3*

4.1.1 Cash and Bank Balance Percentage

From the tables 2 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 NABIL decreased in FY 2059/60 from 7.36% to 6.18% and increased for two years up to 7.90% then to 8.50% in FY 2060/61 and 2062/63 respectively. It again decreased to 6.81% in FY 2062/63. NIBL shows increasing and decreasing trend alternatively. It increased from 9.69% to 15.27% in FY 2059/60 then decreased to 10.25% in FY 2060/61. Similarly it increased to 12.32% in FY 2061/62 then decreased to 11.10% in FY 2060/21. Cash and bank balance percentage of SCBNL

decreased for two years from 6.13 to 5.00% then to 4.50% in FY 2059/60 and FY 2060/61 respectively. It then increased for two years to 7.27% in FY 2061/62 and to 8.61% in FY 2062/63.

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

4.2   Money at Call or Short Notice Percentage

Money at call or short notice percentage of NABIL is highest in FY 2058/59. It then decreased down to 3.97% and to 0.24% in FY2059/60 and FY 2060/61 respectively. It then increased to 4.83% in FY 2061/62 and to 6.45% in FY 2062/63. NIBL shows highest in FY 2058/59 i.e. 31.27% and it shows 0.00% for following two years FY 2059/60 and FY 2060/61. Then it shows sight increase to 0.53% and to 2.78% respectively in FY 2061/62 and FY 2062/63. Similarly SCBNL also shows highest in FY 2058/59 i.e. 43.50%. It decreased down to 13.59%, then to 11.25% and to 7.97% in FY 2059/60, FY 2060/61 and FY 2061/62 respectively. In the last year of the study period i.e. FY 2069/61 it increased up to 9.44%. The average money at call or short notice percentage of NABIL, NIBL and SCBNL are 9.36%, 6.92% and 17.15% respectively.

4.2.1   Loan and Advances Percentage

Loan and advances percentage of NABIL increased from 49.60 % to 63.25% in FY 2059/60. It then decreased to 55.87% in FY 2060/61 and increased slightly to 55.93%, and to 57.50% in FY 2061/62 and FY 2062/63. Similarly in FY 2059/60 loan and advances percentage of NIBL also increased from 55.31% to 70.96%. It also increased to 76.77% in FY 2060/61 and to 76.78% in FY 2061/62. Then it decreased to 63.98% in FY 2069/61. In case of SCBNL, it increased from 29.17% to 29.98% in FY 2059/60 and decreased slightly to 29.26% in FY 2060/61. It again decreased to 27.39% and to 27.28% respectively in FY 2061/62 and FY 2062/63. The average loan and advances percentage of NABIL, NIBL and SCBNL are 56.43%, 68.76% and 27.62% respectively.

4.2.2   Government Securities Percentage

Government securities percentage of NABIL increased greatly in FY 2059/60 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 2061/62 and FY 2062/63. In FY 2058/59 NIBL did not invest on government securities as it shows 0.00% in that fiscal year. Later in FY 2059/60 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 2060/61 and FY 2061/62 respectively. In the FY 2062/63 it increased with great percentage up to 17.96 and noticed to be the highest. Government securities percentage of SCBNL continuously increased from 20.05% to 25.03% in FY 2059/60, 31.56% in FY 2060/61, 32.33% in FY 2061/62 and 33.83 in FY 2062/63. The average government securities percentage of NABIL, NIBL and SCBNL are 22.34%, 7.75% and 28.56% respectively.

4.2.3   Miscellaneous Current Assets Percentage

Miscellaneous current assets percentage of NABIL in the FY 2059/60 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 2060/61. In FY 2061/62 it again increased slightly up to 5.11% then decreased to 3.46% in FY 2062/63. Likewise, miscellaneous current assets percentage of NIBL also increased in FY 2059/60 from 3.723% to 5.00%. It again increased up to 6.36% in FY 2060/61. It then decreased for two years down to 5.04% and to 4.27 respectively in FY 2061/62 and 2062/63. In case of SCBNL, in FY 2059/60 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 2060/61 down to 23.43 and once again it increased up to 25.04% in FY 2061/62. In FY 2062/63 it again decreased down to 20.83%. SCBNL 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 NABIL, NIBL and SCBNL are 4.57%, 4.88% and 19.37% respectively.

From the overall analysis of composition of working capital NIBL and NABIL have better utilized their funds on loan and advances to earn interest. SCBNL 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.

4.3   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.

4.3.1 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, greater 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:

$$\text{Current Ratio} = \frac{\text{Current Assets (CA)}}{\text{Current Liabilities (CL)}}$$

The table 3 shows the current ratio of NABIL, NIBL and SCBNL.

Table 3: Current Ratio

Current Ratio (Times)

(Rs. in Million)

Fiscal Year	NABIL			NIBL			SCBNL		
	CA	CL	Ratio	CA	CL	Ratio	CA	CL	Ratio
2058/59	14788.91	13977.29	1.06	3744.09	3362.44	1.11	16650.32	15781.19	1.06
2059/60	13161.68	17226.21	0.76	3423.11	4629.02	0.74	19224.18	18196.01	1.06
2060/61	13313.40	16384.73	0.81	3340.25	4410.21	0.76	18330.82	17150.05	1.07
2061/62	13868.30	15135.42	0.92	7517.89	8359.46	0.90	20797.60	19569.38	1.06
2062/63	14244.04	15153.00	0.94	11144.33	12506.95	0.89	23494.66	22086.19	1.06
Average			**0.90**			**0.88**			**1.06**
Total Average of three sample banks		**0.95**							

Sources: *Appendix1, 2 and 3*

The *Table-3* shows that the current assets of NABIL decreased in FY 2059/60 then gradually increased for last three years of study periods. Current liabilities of NABIL increased in FY 2059/60 but decreased for following two fiscal years and again increased in FY 2062/63. In NIBL, current assets gradually decreased for first two

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fiscal years and then increased for last two fiscal years of the study period. Current liabilities of NIBL increased in FY 2059/60 and then decreased in the following fiscal year. Then it gradually increased for last two fiscal years. In SCBNL, current assets increased in FY 2059/60 but decreased in the following fiscal year, then gradually increased for last two fiscal years. Similarly, current liabilities of SCBNL also increased in FY 2059/60, 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 FY 2058/59 and lowest 0.74 in FY 2059/60. The average ratio of SCBNL is higher than that of NABIL and NIBL i.e. 1.06>0.90>0.88. The average of SCBNL is also higher than the total average of three sample banks.

4.3.2 Quick Ratio

Quick ratio establishes a relationship between quick or liquid assets and current liabilities. An asset is liquid if it can be converted into cash immediately 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 included in quick assets, are book debts and marketable securities. Under this study cash and bank balance, money at call or short notice and government securities are included in quick assets. This quick ratio is calculated by dividing the quick assets by current liabilities.

$$\text{Quick/Acid Test Ratio} = \frac{\text{Quick assets}}{\text{Current Liabilities}}$$

The table 4 shows the quick ratios of three sample banks.

Table 4: Quick Ratio

Quick Ratio (Times)									
									(Rs. in Million)
Fiscal Year	**NABIL**			**NIBL**			**SCBNL**		
	QA	**CL**	**Ratio**	**QA**	**CL**	**Ratio**	**QA**	**CL**	**Ratio**
2058/59	6954.40	13977.29	0.50	1533.64	3362.44	0.46	11602.29	15781.19	0.74
2059/60	4068.41	17226.21	0.24	822.86	4629.02	0.18	8384.06	18196.01	0.46
2060/61	5203.48	16384.73	0.32	563.32	4410.21	0.13	8671.94	17150.05	0.51
2061/62	5403.74	15135.42	0.36	1366.53	8359.46	0.16	9893.04	19569.38	0.51
2062/63	5561.85	15153.00	0.37	3538.02	12506.95	0.28	12189.99	22086.19	0.55
Average			**0.36**			**0.24**			**0.55**
Total Average of three sample banks		**0.38**							

Sources: *Appendix1, 2 and 3*

The *Table-4* depicts that the quick ratio of NABIL are always fluctuating over the study period. The ratio is highest in FY 2058/59 i.e. 0.50 and lowest in FY 2059/60 i.e. 0.24. In NIBL, the highest ratio is 0.46 in FY 2058/59 and lowest is 0.13 in FY

2060/61 which is also the lowest among all ratios. In SCBNL, the highest is 0.74 in FY 2058/59. It is also the highest among all and its lowest is 0.46 in FY 2059/60. The average ratio of SCBNL is greater than that of NABIL and NIBL i.e. 0.55>0.36>0.24. The average of SCBNL is also higher than the total average of three sample banks.

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

The ratio 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).

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

The table 5 shows the ratios of NABIL, NIBL and SCBNL.

Table 5: Cash and Bank Balance to Total Deposit Ratio

Cash and Bank Balance to Total Deposit Ratio (Excluding Fixed Deposit) (%)									
									(Rs. in Million)
Fiscal Year	NABIL			NIBL			SCBNL		
	C&BB	TD	Ratio	C&BB	TD	Ratio	C&BB	TD	Ratio
2058/59	1088.75	7501.24	14.51	362.92	1889.63	19.21	1020.46	9916.84	10.29
2059/60	812.90	8171.47	9.95	522.86	2597.55	20.13	961.05	12194.02	7.88
2060/61	1051.82	13059.59	8.05	338.92	3228.83	10.50	825.26	13570.98	6.08
2061/62	1144.77	11195.11	10.23	926.53	6249.93	14.82	1512.30	16807.04	9.00
2062/63	970.49	11808.46	8.22	1226.92	9230.00	13.29	2023.17	19732.95	10.25
Average			10.19			15.59			8.70
Total Average of three sample banks		11.49							

Sources: *Appendix1, 2 and 3*

The *Table-5* depicts that the ratios of NABIL decreased for first two fiscal years FY 2059/60 and FY 2060/61 and then increased in next fiscal year and then again decreased in FY 2062/63. The highest ratio is 14.51% in FY 2058/59 and the lowest in FY 2060/61. In NIBL, the highest ratio is 20.13% in FY 2059/60 which is also the highest among all ratios and the lowest is 10.50% in FY 2060/61. In SCBNL, the highest is 10.29% in FY 2058/59 and the lowest which is lowest among all is 6.08% in FY 2060/61. The average ratio of NIBL is higher than that of NABIL and SCBNL

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 SCBNL has better liquidity position than NABIL and NIBL. NIBL is found very weak in the liquidity management, although it has higher cash and bank balance to total deposit ratio than SCBNL and NABIL.

4.3.4 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.

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

The table 6 shows the ratios of NABIL, NIBL and SCBNL.

Table 6: Saving Deposit to Total Deposit Ratio

Saving Deposit to Total Deposit Ratio (%)								
								(Rs. in Million)
Fiscal Year	NABIL			NIBL			SCBNL		
	SD	TD	Ratio	SD	TD	Ratio	SD	TD	Ratio
2058/59	4150.19	12779.51	32.48	997.48	2983.28	33.44	6632.70	12568.49	52.77
2059/60	4917.14	15839.01	31.04	1259.57	4256.21	29.59	8404.61	15430.05	54.47
2060/61	4972.06	15506.44	32.06	1278.79	4174.76	30.63	9441.91	15835.75	59.62
2061/62	5229.72	13447.65	38.89	2434.05	7922.75	30.72	10633.16	18755.64	56.69
2062/63	5994.12	14119.03	42.45	4886.10	11524.68	42.40	12771.83	21161.44	60.35
Average			35.39			33.36			56.78
Total Average of three sample banks		41.84							

Sources: *Appendix1, 2 and 3*

The *Table-6* depicts that the ratios of NABIL first decreased then increased for last three fiscal years. The highest is 42.45% in FY 2062/63 and the lowest is 31.04% in 2059/60. Similarly, in NIBL it decreased first then increased for last three years. The highest is 42.40% in FY 2062/63 and the lowest which is also the lowest of among all is 29.59% in FY 2059/60. In SCBNL it decreased only in FY 2061/62. The highest which is also the highest among all is 60.35% in FY 2062/63 and the lowest is 52.77% in FY 2058/59. The average ratio of SCBNL is greater than that of NABIL and NIBL i.e. 56.78>35.39>33.36. Its average ratio is also higher than the total average of three sample banks.

4.4   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.

4.4.1 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 7 shows the effectiveness in utilization of total deposits of sample banks.

Table 7: Loan and Advances to Total Deposit Ratio

Loan and Advances to Total Deposit Ratio (%)								
							(Rs. in Million)	
Fiscal Year	**NABIL**			**NIBL**			**SCBNL**		
	L&A	**TD**	**Ratio**	**L&A**	**TD**	**Ratio**	**L&A**	**TD**	**Ratio**
2058/59	7334.76	12779.51	57.39	2070.68	2983.28	69.41	4857.17	12568.49	38.65
2059/60	8324.44	15839.01	52.56	2429.03	4256.21	57.07	5763.13	15430.05	37.35
2060/61	7437.90	15506.44	47.97	2564.43	4174.76	61.43	5364.00	15835.75	33.87
2061/62	7755.95	13447.65	57.68	5772.14	7922.75	72.86	5695.82	18755.64	30.37
2062/63	8189.99	14119.03	58.01	7130.13	11524.68	61.87	6410.24	21161.44	30.29
Average			**54.72**			**64.53**			**34.11**
Total Average of three sample banks			**51.12**						

Sources: *Appendix1, 2 and 3*

The ***Table-7*** shows that the ratios of NABIL is decreased for first two fiscal years and then increased for last two fiscal years. The highest is 58.01% in FY 2062/63 and the lowest is 47.97% in FY 2060/61. 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 2061/62 and the lowest is 57.07% in FY 2059/60. In SCBNL it continuously decreased from the first to last fiscal year. The highest is 38.65% in FY 2058/59 and the lowest which is the lowest among all is 30.29% in FY 2062/63. The average ratio of NIBL is higher than that of NABIL and SCBNL i.e.

64.53>54.72>34.11. The average ratio of two banks NIBL and NABIL 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 NABIL and SCBNL. Because of the lower amount of total deposit, the ratio becomes higher of NIBL than NABIL and SCBNL. NIBL is employing the funds more efficiently for the profit generating purpose on loan and advances than two other sample banks. NABIL has also employed its funds quite satisfactorily but SCBNL is very weak in this respect.

4.4.2 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 8 shows the ratios of NABIL, NIBL and SCBNL.

Table 8: Loan and Advances to Fixed Deposit

Loan and Advances to Fixed Deposit Ratio (%)								
								(Rs. in Million)
Fiscal Year	NABIL			NIBL			SCBNL		
	L&A	FD	Ratio	L&A	FD	Ratio	L&A	FD	Ratio
2058/59	7334.76	5278.27	138.96	2070.68	1093.65	189.34	4857.17	2651.65	183.18
2059/60	8324.44	7667.54	108.57	2429.03	1658.66	146.45	5763.13	3236.03	178.09
2060/61	7437.90	2446.85	303.98	2564.43	945.93	271.10	5364.00	2264.77	236.85
2061/62	7755.95	2252.54	344.32	5772.14	1672.82	345.05	5695.82	1948.60	292.30
2062/63	8189.99	2310.57	354.46	7130.13	2294.68	310.72	6410.24	1428.49	448.74
Average			**250.06**			**252.53**			**267.83**
Total Average of three sample banks			**256.81**						

Sources: *Appendix1, 2 and 3*

The *Table-8* shows that the ratios of NABIL decreased in the first fiscal year and then gradually increased for last three fiscal years. It is highest in FY 2062/63 i.e. 354.46% and lowest in FY 2059/60 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 2061/62 i.e. 345.05% and lowest in FY 2059/60 i.e. 146.45%. In SCBNL similar to NABIL it first decreased and then gradually increased for last three

fiscal years. It is highest in FY 2062/63 i.e. 448.74% and also the highest among all and lowest in FY 2059/60 i.e. 178.09%. The average of SCBNL is greater than NIBL and NABIL i.e. 267.83>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 SCBNL is better than that of NABIL and NIBL. This ratio implies that SCBNL is utilizing its fixed deposit in loan and advances more efficiently than two other sample banks.

4.4.3 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

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

The table 9 shows ratios of three sample banks.

Table 9: Loan and Advances to Saving Deposit Ratio

Loan and Advances to Saving Deposit Ratio (%)								
								(Rs. in Million)
Fiscal Year	**NABIL**			**NIBL**			**SCBNL**		
	L&A	**SD**	**Ratio**	**L&A**	**SD**	**Ratio**	**L&A**	**SD**	**Ratio**
2058/59	7334.76	4150.19	176.73	2070.68	997.48	207.59	3338.67	6632.70	50.34
2059/60	8324.44	4917.14	169.29	2429.03	1259.57	192.85	4811.01	8404.61	57.24
2060/61	7437.90	4972.06	149.59	2564.43	1278.79	200.54	5784.72	9441.91	61.27
2061/62	7755.95	5229.72	148.31	5772.14	2434.05	237.14	6722.83	10633.16	63.23
2062/63	8189.99	5994.12	136.63	7130.13	4886.10	145.93	7948.22	12771.83	62.23
Average			**156.11**			**196.81**			**58.86**
Total Average of three sample banks		**137.26**							

Sources: *Appendix1, 2 and 3*

The ***Table-9*** depicts that the loan and advances to saving deposit ratio of NABIL 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 2058/59. 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 2061/62 i.e. 237.14%, which is also the highest among all and lowest in FY 2062/63 i.e. 145.93%. In SCBNL, it gradually increased for first three fiscal years and then decreased in last fiscal year. It is highest in FY 2061/62 i.e. 63.23% and lowest in FY 2058/59 i.e. 50.34% and also the lowest among all. The average of NIBL is greater than NABIL and SCBNL i.e. 196.81>156.11>58.86. The average of NIBL and NABIL 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 NABIL and SCBNL. NABIL is also good in utilizing short-term funds but SCBNL is very weak in utilizing short-term fund.

4.5   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.

4.5.1 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 10 shows the ratios for NABIL, NIBL and SCBNL.

Table 10: Interest Earned to Total Assets Ratio

Fiscal Year	NABIL			NIBL			SCBNL		
	IE	TA	Ratio	IE	TA	Ratio	IE	TA	Ratio
2058/59	1047.03	15024.20	6.97	279.86	3796.70	7.37	1052.36	16832.23	6.25
2059/60	1266.70	18367.15	6.90	349.75	5127.36	6.82	1242.00	19357.18	6.42
2060/61	1120.18	17629.25	6.35	326.22	4973.90	6.56	1013.64	18443.07	5.50
2061/62	1017.87	16562.61	6.15	459.51	9014.24	5.10	1001.36	21000.50	4.77
2062/63	1001.62	16745.49	5.98	731.40	13255.50	5.52	1042.18	23642.06	4.41
Average			6.47			6.27			5.47
Total Average of three sample banks			6.07						

Interest Earned to Total Assets Ratio (%) — (Rs. in Million)

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

The Table-*10* depicts that the interest earnings of all three banks are fluctuating. The ratios of NABIL are gradually decreasing in all fiscal years of study period. It is highest in FY 2058/59 i.e. 6.97% and lowest in FY 2062/63 i.e. 5.98%. In NIBL, it decreased for three years till FY 2061/62 then increased in FY 2062/63. The highest is 7.37% in FY 2058/59 and also the highest among all and the lowest 5.10% in FY 2061/62. In SCBNL, it increased for the first fiscal year then decreased till FY 2062/63. The highest is 6.42% in FY 2059/60 and the lowest is 4.41% in FY 2062/63 and also the lowest among all. The average of NABIL is greater than NIBL and SCBNL i.e. 6.47>6.27>5.47. The average of NABIL 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 NABIL is better than NBIL and SCBNL. This implies that NABIL is efficiently using its total assets to earn interest income. NIBL has also used its total assets quite satisfactorily but SCBNL is poor in utilizing its total assets to earn interest income.

4.5.2 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 11 shows the net profit to total assets ratio of three sample banks.

Table 11: Net Profit to Total Assets Ratio

Net Profit to Total Assets Ratio (%)									
								(Rs. in Million)	
Fiscal Year	**NABIL**			**NIBL**			**SCBNL**		
	NP	**TA**	**Ratio**	**NP**	**TA**	**Ratio**	**NP**	**TA**	**Ratio**
2058/59	329.12	15024.20	2.19	72.66	3796.70	1.91	392.59	16832.23	2.33
2059/60	291.37	18367.15	1.59	56.39	5127.36	1.10	430.83	19357.18	2.23
2060/61	271.63	17629.25	1.54	57.09	4973.90	1.15	479.21	18443.07	2.60
2061/62	416.25	16562.61	2.51	116.82	9014.24	1.30	506.95	21000.50	2.41
2062/63	455.31	16745.49	2.72	152.67	13255.50	1.15	537.80	23642.06	2.27
Average			**2.11**			**1.32**			**2.37**
Total Average of three sample banks			**1.93**						

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

The ***Table-11*** depicts that the net profit of all three banks are fluctuating. The overall profitability i.e. net profit to total assets of NABIL decreased for two fiscal years and then increased for two years. It is highest in FY 2062/63 i.e. 2.72%, also the highest among all and lowest in FY 2060/61 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 2058/59 and the lowest 1.10% in FY 205758 and also the lowest among all. Similarly, in SCBNL 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 2060/61 and the lowest is 2.23% in FY 2059/60. The average of SCBNL is greater than NABIL and NIBL i.e. 2.37>2.11>1.32. The average of SCBNL and NABIL are higher than the total average of three sample banks.

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

4.5.3 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 12 shows the net profit to shareholders' equity ratio of three sample banks.

Table 12: Net Profit to Shareholders' Equity Ratio

Net Profit to Shareholders' Equity Ratio (%)								
								(Rs. in Million)
Fiscal Year	NABIL			NIBL			SCBNL		
	NP	NW	Ratio	NP	NW	Ratio	NP	NW	Ratio
2058/59	329.12	984.07	33.44	72.66	410.24	17.71	392.59	1014.85	38.68
2059/60	291.37	1062.83	27.41	56.39	469.08	12.02	430.83	1112.02	38.74
2060/61	271.63	1146.42	23.69	57.09	523.46	10.91	479.21	1235.49	38.79
2061/62	416.25	1314.18	31.67	116.82	638.53	18.30	506.95	1368.91	37.03
2062/63	455.31	1481.69	30.73	152.67	729.05	20.94	537.80	1495.75	35.96
Average			29.39			15.98			37.84
Total Average of three sample banks			27.74						

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

The ***Table-12*** depicts that the ratios of NABIL 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 2058/59 i.e. 33.44% and lowest in FY 2060/61 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 2062/63 and the lowest 10.91% in FY 2060/61 and also the lowest among all. In SCBNL, it first increased for two fiscal years and then decreased for last two fiscal years. The highest is 38.79% in FY 2060/61, also the highest among all and the lowest is 35.96% in FY 2062/63. The average of SCBNL is greater than NABIL and NIBL i.e. 37.84>29.39>15.98. The two banks SCBNL and NABIL have greater average than the average of three sample banks.

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

4.5.4 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.

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

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

Table 13: Net Profit to Total Deposit Ratio

Net Profit to Total Deposit Ratio (%)								
							(Rs. in Million)	
Fiscal Year	**NABIL**			**NIBL**			**SCBNL**		
	NP	**TD**	**Ratio**	**NP**	**TD**	**Ratio**	**NP**	**TD**	**Ratio**
2058/59	329.12	12779.51	2.58	72.66	2983.28	2.44	392.59	12568.49	3.12
2059/60	291.37	15839.01	1.84	56.39	4256.21	1.32	430.83	15430.05	2.79
2060/61	271.63	15506.44	1.75	57.09	4174.76	1.37	479.21	15835.75	3.03
2061/62	416.25	13447.65	3.10	116.82	7922.75	1.47	506.95	18755.64	2.70
2062/63	455.31	14119.03	3.22	152.67	11524.68	1.32	537.80	21161.44	2.54
Average			**2.50**			**1.59**			**2.84**
Total Average of three sample banks			**2.31**						

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

The above *Table-13* depicts that the ratios of NABIL decreased for two fiscal years and then increased for two years. It is highest in FY 2062/63 i.e. 3.22%, also the highest among all and lowest in FY 2060/61 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 2058/59 and the lowest 1.32% in two years FY 2059/60 and FY 2062/63 and also the lowest among all. In SCBNL 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 2058/59 and the lowest is 2.54% in FY 2062/63. The average of SCBNL is greater than NABIL and NIBL i.e. 2.84>2.50>1.59. The average of SCBNL and NABIL 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 SCBNL is better than NABIL and NIBL. It implies that SCBNL has better performance on mobilization of total deposits. NABIL also shows satisfactory performance on the mobilization of total deposits but NIBL is very weak in that respect.

4.5.5 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.

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

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

Table 14: Cost of Services to Total Assets Ratio

Cost of Services to Total Assets Ratio (%)									
									(Rs. in Million)
Fiscal Year	NABIL			NIBL			SCBNL		
	CS	TA	Ratio	CS	TA	Ratio	CS	TA	Ratio
2058/59	530.93	15024.20	3.53	138.98	3796.70	3.66	513.48	16832.23	3.05
2059/60	724.22	18367.15	3.94	194.25	5127.36	3.79	574.49	19357.18	2.97
2060/61	606.96	17629.25	3.44	172.16	4973.90	3.46	424.87	18443.07	2.30
2061/62	527.93	16562.61	3.19	250.50	9014.24	2.78	383.46	21000.50	1.83
2062/63	463.78	16745.49	2.77	415.95	13255.50	3.14	406.92	23642.06	1.72
Average			3.38			3.37			2.37
Total Average of three sample banks		3.04							

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

The above ***Table-14*** depicts that the cost of services are fluctuating over the study period for all three sample banks. The ratios of NABIL increased in first fiscal year and decreased for last three fiscal years. It is highest in FY 2059/60 i.e. 3.94%, also the highest among all and lowest in FY 2062/63 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 2059/60 and the lowest 2.78 % in FY 2061/62. In SCBNL, it gradually decreased for the whole study period. The highest is 3.05% in FY 2058/59 and the lowest is 1.72% in FY 2062/63 and also the lowest among all. The average of NABIL is higher than NIBL and SCBNL i.e. 3.38>3.37>2.37. The average of NABIL 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 NABIL and NIBL are better than SCBNL. It shows that the profitability position of NABIL and NIBL are quite satisfactory than SCBNL.

4.6 Capital Structure or 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 strong 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 owners' capital used by the firm.

4.6.1 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 15: Long-term Debt to Net worth Ratio

Long-term Debt to Net worth Ratio (%)								
								(Rs. in Million)
Fiscal Year	NABIL			NIBL			SCBNL		
	LTD	NW	Ratio	LTD	NW	Ratio	LTD	NW	Ratio
2058/59	5341.11	984.07	542.76	1117.67	410.24	272.44	2687.86	1014.85	264.85
2059/60	7745.64	1062.83	728.78	1687.91	469.08	359.83	3285.20	1112.02	295.43
2060/61	2544.95	1146.42	221.99	986.15	523.46	188.39	2322.35	1235.49	187.97
2061/62	2365.55	1314.18	180.00	1689.07	638.53	264.52	2010.81	1368.91	146.89
2062/63	2421.37	1481.69	163.42	2314.18	729.05	317.42	1488.61	1495.75	99.52
Average			367.39			280.52			198.93
Total Average of three sample banks		282.28							

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

The above ***Table-15*** depicts that the long-term debt of NABIL is fluctuating and the net worth are gradually increasing all over the study period. So the yearly ratios of NABIL are also fluctuating. The highest is 728.78% in FY 2059/60 and also the highest among all and the lowest is 163.42% in FY 2062/63. Similarly, the long-term debt of NIBL is also fluctuating and the net worth gradually increasing. The highest ratio is 359.83% in FY 2059/60 and lowest is 188.39% in FY 2060/61. In the same way, the net worth of SCBNL is gradually increasing over the study period. The highest is 295.43% in FY 2059/60 and the lowest that is also the lowest among all is 99.52% in FY 2062/63. The average of SCBNL is less than NIBL and NABIL 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 NABIL was better than NIBL and SNCBL in first three years but in last two years NIBL showed better than NABIL and SCBNL. This implies that the proportion of outsiders' claim in total capitalization is higher in NABIL and NIBL. So the NABIL and NIBL have more risky and aggressive capital structure than SCBNL.

4.6.2 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 is calculated as follows:

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

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

Table 16: Net Fixed Assets to Long-term Debt Ratio

Net Fixed Assets to Long-term Debt Ratio (%)								
(Rs. in Million)								
Fiscal Year	**NABIL**			**NIBL**			**SCBNL**		
	NFA	**LTD**	**Ratio**	**NFA**	**LTD**	**Ratio**	**NFA**	**LTD**	**Ratio**
2058/59	219.17	5341.11	4.10	39.92	1117.67	3.57	170.72	2687.86	6.35
2059/60	235.12	7745.64	3.04	33.98	1687.91	2.01	121.81	3285.20	3.71
2060/61	237.63	2544.95	9.34	35.89	986.15	3.64	101.06	2322.35	4.35
2061/62	251.91	2365.55	10.65	191.11	1689.07	11.31	191.71	2010.81	9.53
2062/63	338.13	2421.37	13.96	249.79	2314.18	10.79	136.23	1488.61	9.15
Average			**8.22**			**6.27**			**6.62**
Total Average of three sample banks			**7.03**						

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

The above **Table-16** depicts that the ratio of NABIL first decreased and then gradually increased for last three fiscal years. It is highest in FY 2062/63 i.e. 13.96% and is also the highest among all and lowest is in FY 2059/60 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 2061/62 and the lowest also the lowest among all is 2.01% in FY 2059/60. Similarly, in SCBNL 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 9.53% in FY 2061/62 and the lowest also the lowest among all is 3.71% in FY 2059/60. The average of NABIL is greater

than SCBNL and NIBL i.e. 8.22>6.62>6.27. Its average is also greater than the total average of three sample banks.

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

4.7   Trend Analysis

Trend analysis is a part of time series analysis. For a long period it is 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 behaviour of the data. For the purpose of the study Least Square Method of trend analysis is used.

4.7.1 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:

NABIL	NIBL	SCBNL
a = 7.30	*a = 11.69*	*a = 6.30*
b = 0.10	*b = -0.03*	*b = 0.72*

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

Figure 4: Actual and Trend Line of Cash and Bank Balance Percent
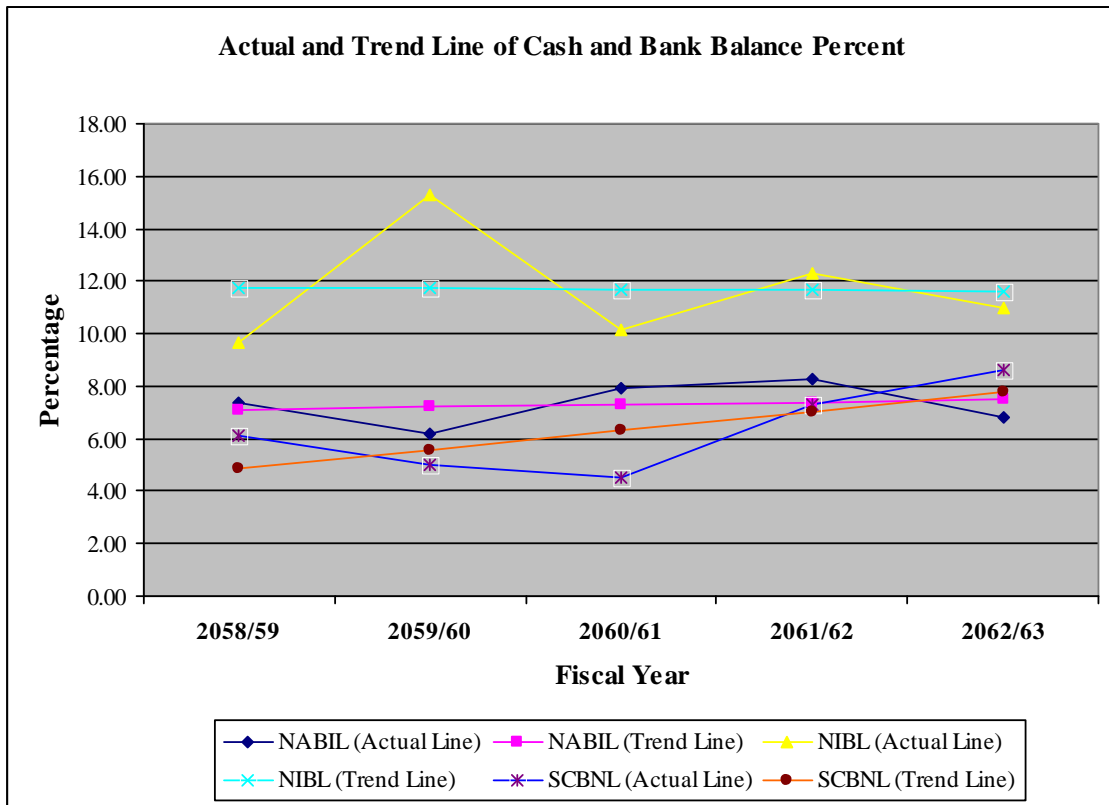
Source: *Appendix 7*

The ***Figure-4*** depicts that the trend line of NIBL is always higher of the study period due to high cash and bank balance percentage. It helps to conclude that the average cash and bank balance percentage of NIBL is higher than NABIL and SCBNL and the trend value of cash percentages indicates that NIBL maintained constant cash and bank balance percentage on current assets.

4.7.2 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:

NABIL	NIBL	SCBNL
a = 9.36	*a = 6.92*	*a = 17.15*
b = -4.89	*b = -5.64*	*b = -7.37*

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 SCBNL shows speedy decreasing in money at call or short notice percentage.

Figure 5: Actual and Trend Line of Money at call or Short Notice Balance Percentage
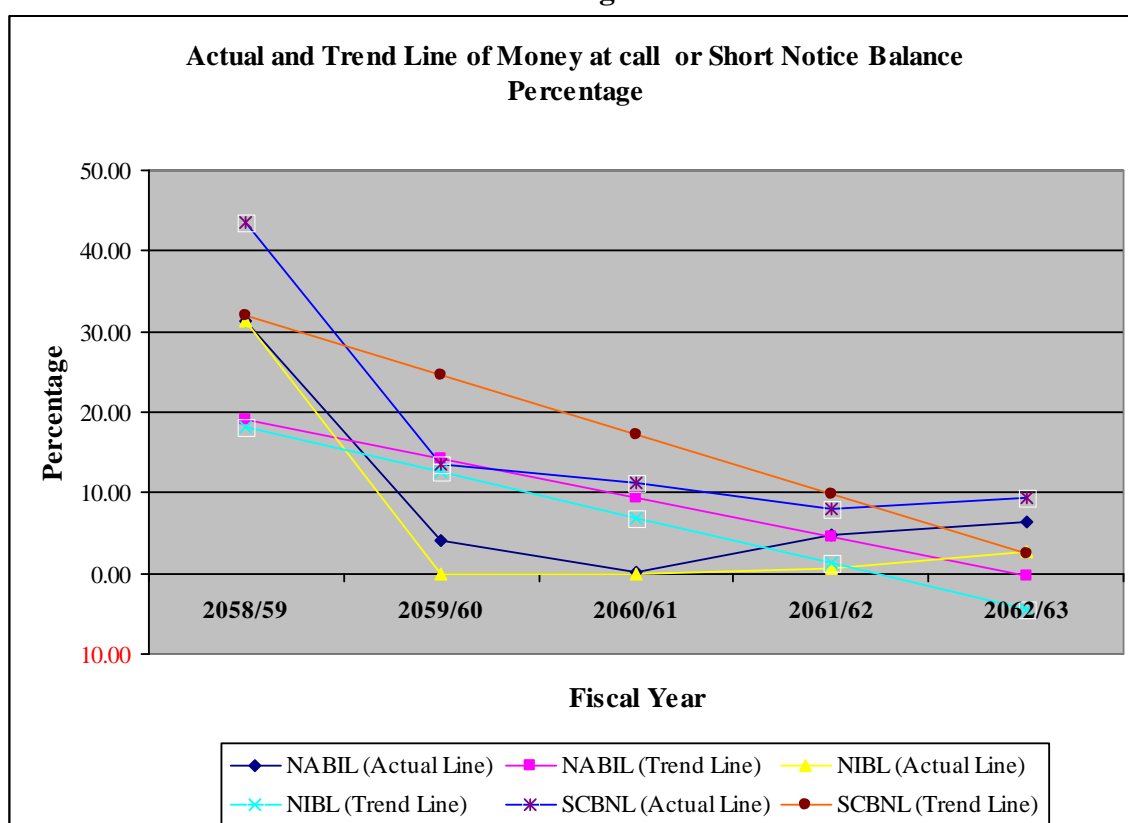
Source: *Appendix 8*

The *Figure-5* depicts that the actual and trend line of SCBNL is always higher of the study period due to high money at call or short notice percentage. It helps to conclude that the average money at call or short notice percentage of SCBNL is higher than NABIL and NIBL.

4.7.3 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:

NABIL	NIBL	SCBNL
a = 56.43	*a = 68.76*	*a = 28.62*
b = 0.85	*b = 2.32*	*b = -0.64*

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

Figure 6: Actual and Trend Line of Loan and Advantage Percentage
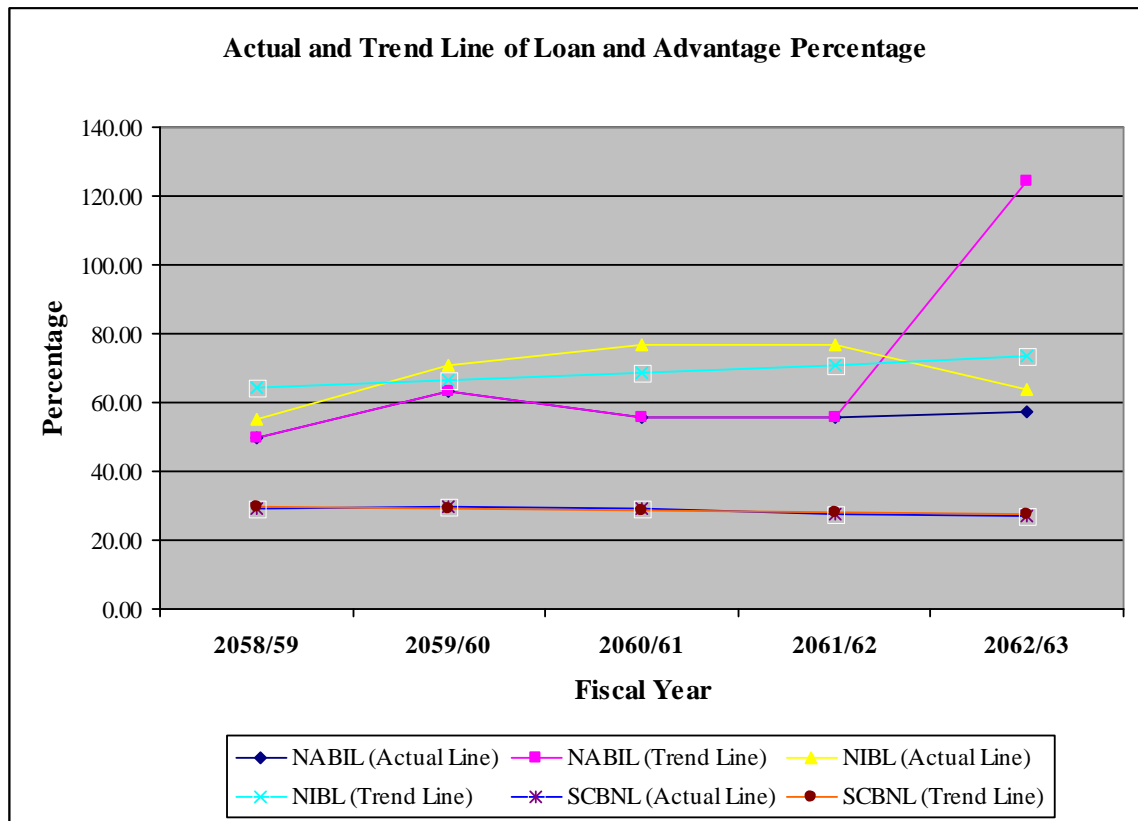
Source: *Appendix 9*

The *Figure-6* depicts that the actual and trend line of loan and advances percentage of NIBL is always higher than NABIL and SCBNL. The trend line of NIBL and NABIL are upward sloping but it is downward sloping in SCBNL. It helps to conclude that the loan and advances percentage of NIBL are better than NABIL and SCBNL. This loan and advances percentage of total current assets indicates that the greater portion of current assets is employed for the income generating purpose in NIBL.

4.7.4 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:

NABIL	NIBL	SCBNL
a = 22.34	*a = 7.75*	*a = 28.56*
b = 4.00	*b = 3.25*	*b = 3.49*

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

Figure 7: Actual and Trend Line of Government Securities Percentage
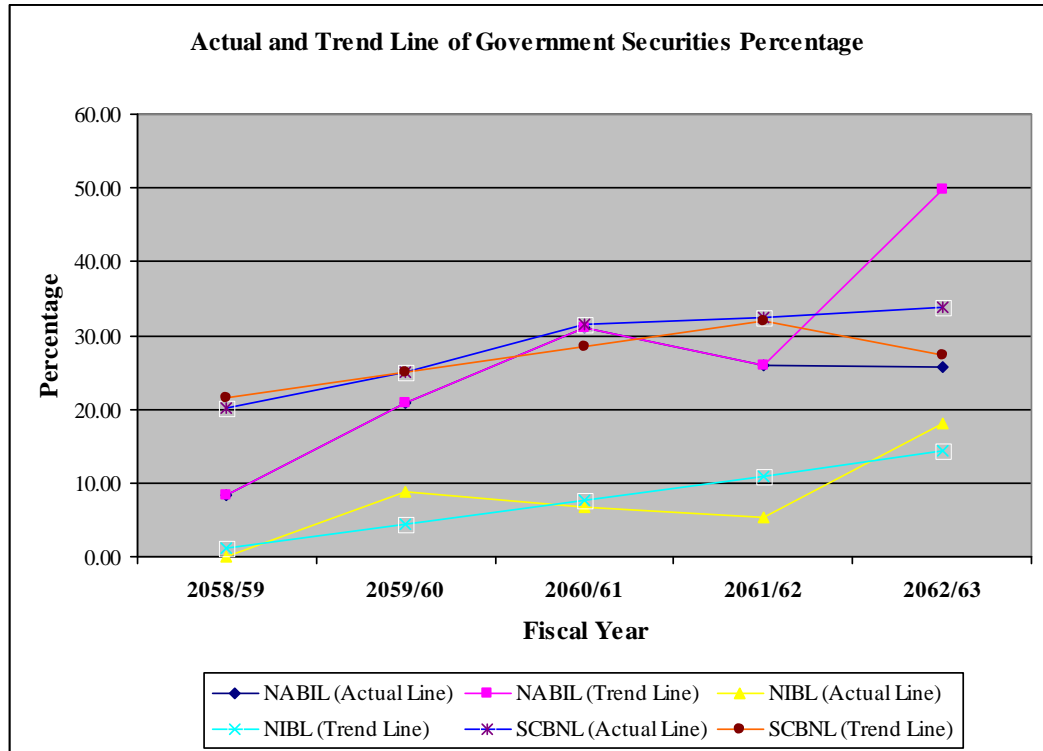
Source: *Appendix 10*

The *Figure-7* depicts that the actual and trend line of government securities percentage of SCBNL is always higher than NABIL and NIBL. The trend line of all sample banks is upward sloping. This analysis helps to conclude that the government securities percentage of SCBNL is better than NABIL and NIBL. This government securities percentage of total current assets indicates that SCBNL has priority to invest on government securities rather than on loan and advances due to availability of secured investment sector.

4.7.5 Current Ratio

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

NABIL	NIBL	SCBNL
a = 0.90	*a = 0.88*	*a = 1.06*
b = -0.01	*b = -0.03*	*b = 0.002*

The rate of change in current ratio *b* is negative in NABIL and NIBL but it is positive in SCBNL. It implies that the current ratio is in decreasing trend in NABIL and NIBL but increasing in SCBNL.

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Figure 8: Actual and Trend Line of Current Ratio
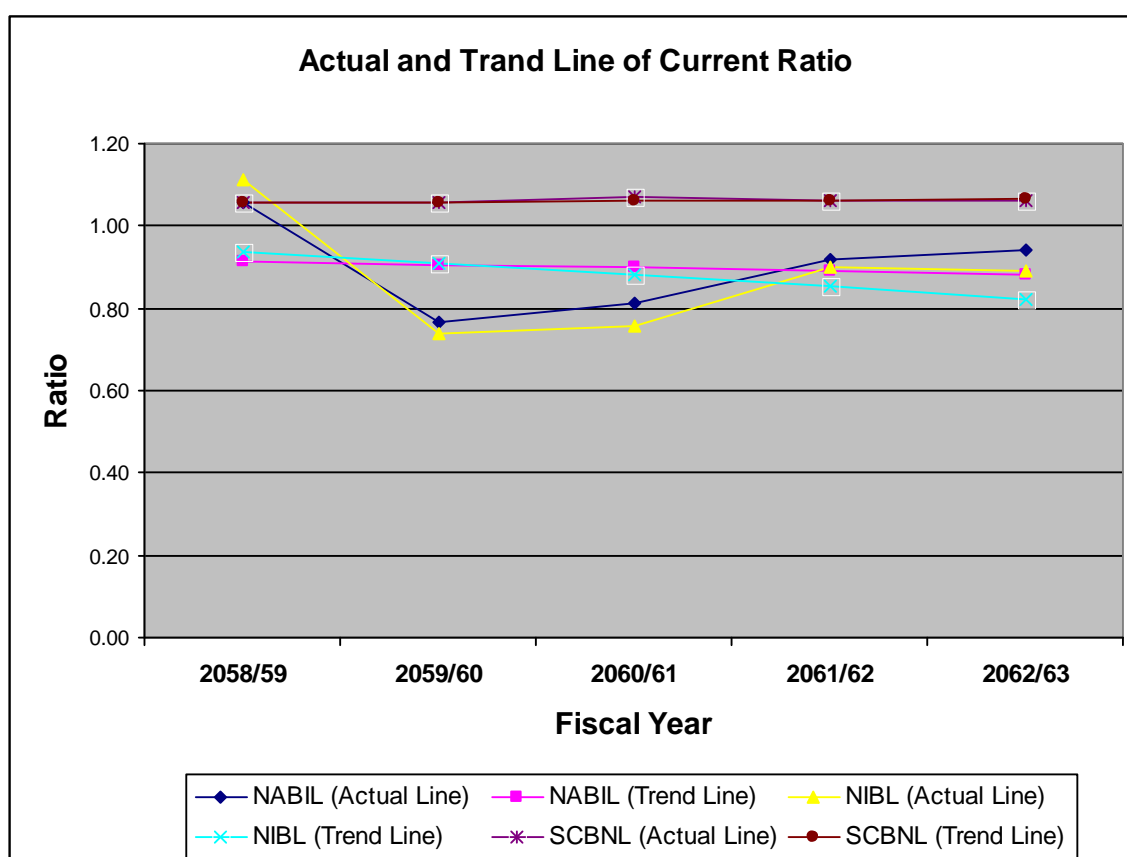
Source: *Appendix 11*

The ***Figure-8*** depicts that the actual and trend line of current ratio of SCBNL is always higher than NABIL and NIBL. The trend line of SCBNL is upward sloping but is downward sloping in NABIL and NIBL. This analysis helps to conclude that the liquidity position of SCBNL is better than that of NABIL and NIBL. SCBNL has more ability to meet its current obligations in comparison to NABIL and NIBL.

4.7.6 Quick Ratio

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

NABIL	NIBL	SCBNL
a = 0.36	*a = 0.24*	*a = 0.55*
b = -0.01	*b = -0.04*	*b = -0.03*

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.

Figure 9: Actual and Trend Line of Quick Ratio
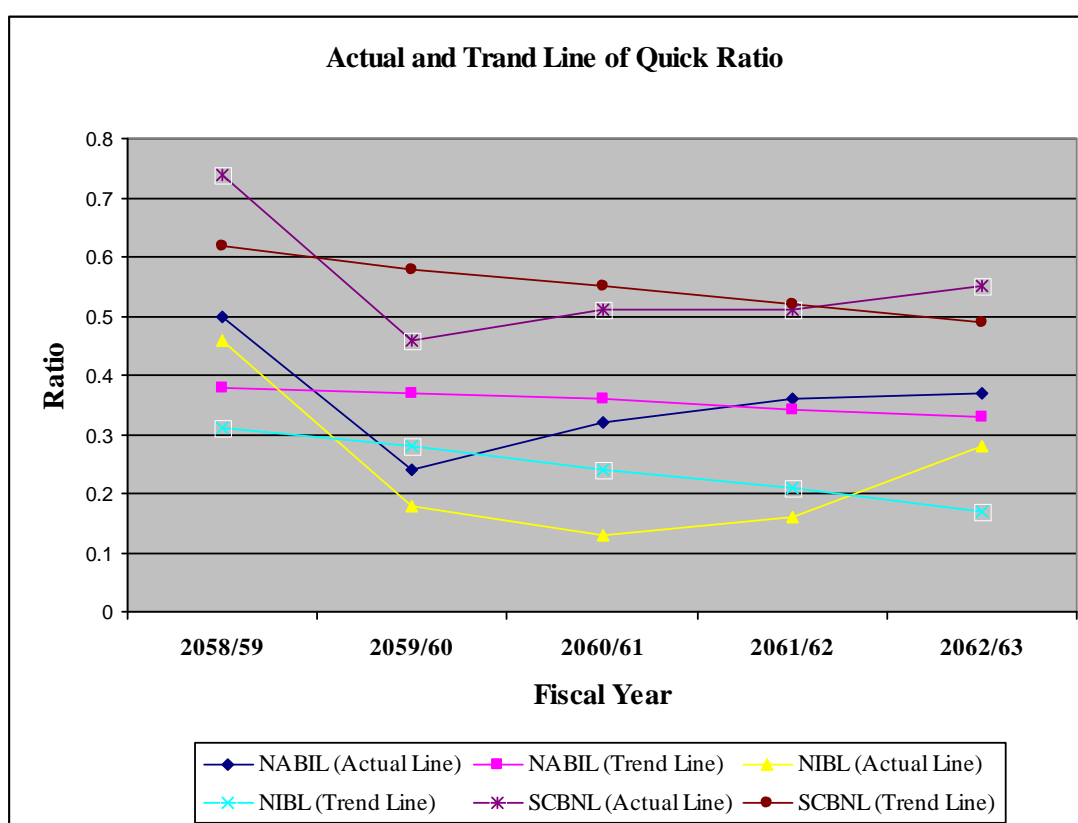
Source: *Appendix 12*

The *Figure-9* depicts that the actual and trend line of quick ratio of SCBNL is always higher than NABIL and NIBL. The trend line of all these banks is downward sloping. This analysis helps to conclude that the quick ratios of SCBNL are always better than that of NABIL and NIBL which means that SCBNL has better liquidity position in comparison to NABIL and NIBL.

4.8 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.

4.8.1 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 17 shows the coefficient of correlation between government securities and total deposits i.e. *r, PEr, and 6PEr* of three sample banks viz. NABIL, NIBL and SCBNL.

Table 17: Coefficient of correlation between government securities and total deposits

Bank	*r*	*PEr*	*6PEr*
NABIL	0.50	0.23	1.36
NIBL	0.92	0.05	0.29
SCBNL	0.98	0.01	0.06

Source: *Appendix 13*

From the *Table-17* we can find the coefficient of correlation between government securities and total deposits value *r* is 0.50 in NABIL, 0.92 in NIBL and 0.98 in SCBNL. It shows highly positive relationship between these variables in NIBL and SCBNL. By considering the probable error, since the value of *r* of NIBL and SCBNL is more than six times of PEr, the value of r is highly significant i.e. there is significant relationship between investment on government securities and total deposits in these two banks. But in case of NABIL, although it shows positive relationship there is no significant relationship between government securities and total deposits.

4.8.2 Coefficient of correlation between Loan and Advances and Total Deposits

The coefficient of correlation between loan and advances and total deposits 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 variable. The purpose of computing coefficient of correlation is to justify

whether the deposits are significantly used in loan and advances or not and whether there is any relationship between these two variables.

The table 18 shows the coefficient of correlation between loan and advances and total deposits i.e. *r, PEr, and 6PEr* of three sample banks.

Table 18: Coefficient of correlation between loan and advances and total deposits

Bank	r	PEr	6PEr
NABIL	0.45	0.24	1.44
NIBL	0.98	0.01	0.06
SCBNL	0.91	0.05	0.30

Source: *Appendix 14*

From the *Table-18* we can find the coefficient of correlation between loan and advances and total deposits value *r* is 0.45 in NABIL, 0.98 in NIBL and 0.91 in SCBNL. It shows highly positive relationship between these variables in NIBL and SCBNL. By considering the probable error, since the value of *r* of NIBL and SCBNL 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 NABIL, although it shows positive relationship there is no 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 SCBNL 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.

4.8.3 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 loan 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 19 shows the coefficient of correlation between loan and advances and net profit i.e. *r, PEr, and 6PEr* of three sample banks.

Table 19: Coefficient of correlation between loan and advances and net profit

Bank	*r*	*PEr*	*6PEr*
NABIL	0.32	0.27	1.62
NIBL	0.97	0.02	0.11
SCBNL	0.97	0.10	0.62

Source: *Appendix 15*

From the ***Table-19*** we can find the coefficient of correlation between loan and advances and net profit value *r* is 0.32 in NABIL, 0.97 in NIBL and SCBNL. It shows highly positive relationship between these variables in NIBL and SCBNL. By considering the probable error, since the value of *r* of NIBL and SCBNL 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 two banks. But in case of NABIL, 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 SCBNL. But there is no significant relationship between loan and advances and net profit in NABIL.

4.8.4 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 to 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 20: Coefficient of correlation between cash and bank balance and current liabilities

Bank	*r*	*PEr*	*6PEr*
NABIL	-0.71	0.15	0.90
NIBL	0.98	0.01	0.07
SCBNL	0.91	0.05	0.32

Source: *Appendix 16*

From the ***Table-4.20*** we can find the coefficient of correlation between cash and bank balance and current liabilities value ***r*** is -0.71 in NABIL, 0.98 in NIBL and 0.91 in SCBNL. It shows highly positive relationship between these variables in NIBL and SCBNL but in NABIL it shows negative relationship. By considering the probable error, since the value of ***r*** of NIBL and SCBNL is more than six times of ***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 NABIL, 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 SCBNL. But there is no significant relationship between cash and bank balance and current liabilities in NABIL.

4.9 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 or 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.[34]

In this study three hypothesis 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. NABIL, NIBL and SCBNL. Here, two complementary are set up at one time i.e. a) Null Hypothesis (H_0) and b) Alternative Hypothesis (H_1). Among these two hypotheses if one 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 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 the 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.

4.9.1 Composition of Working Capital

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

Null Hypothesis

H_0: There is no significant difference in composition of working capital among NABIL, NIBL and SCBNL.

Alternative Hypothesis

H_1: There is significant difference in composition of working capital among NABIL, NIBL and SCBNL.

The table 21 exhibits the mean value of various percentages measuring the composition or structure of working capital management of NABIL, NIBL and SCBNL.

Table 21: mean value of various percentages measuring the composition.

POSITION	NABIL (Mean)	NIBL (Mean)	SCBNL (Mean)	Calculated *F* Value	Tabulated *F* Value	Result/ Decision
1. Cash and Bank Balance	7.30	11.69	6.30	14.45	3.89	H$_0$ is rejected
2. Money at Call or Short Notice	9.36	6.92	17.15	0.76	3.89	H$_0$ is accepted
3. Loan and Advances	56.43	68.76	28.62	57.92	3.89	H$_0$ is rejected
4. Government Securities	22.34	7.75	28.56	11.31	3.89	H$_0$ is rejected
5. Miscellaneous Current Assets	6.07	9.22	6.25	7.85	3.89	H$_0$ is rejected

Sources: *Appendix 17, 18, 19, 20 and 21*

From the **Table-21** 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 NABIL, NIBL and SCBNL.

4.9.2 Liquidity Position

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

Null Hypothesis

H$_0$: There is no significant difference in liquidity position among NABIL, NIBL and SCBNL.

Alternative Hypothesis

H$_1$: There is significant difference in liquidity position among NABIL, NIBL and SCBNL.

The table 22 exhibits the mean value of various ratios measuring the liquidity position of NABIL, NIBL and SCBNL and their calculated value **F** along with its tabulated value.

Table 22: Mean value of various ratios measuring the liquidity position

RATIOS	NABIL (Mean)	NIBL (Mean)	SCBNL (Mean)	Calculated F Value	Tabulated F Value	Result/ Decision
1. Current Ratio	0.90	0.88	1.06	4.19	3.89	H_0 is rejected
2. Quick Ratio	0.36	0.24	0.55	9.66	3.89	H_0 is rejected
3. Cash and Bank Balance to Deposits Ratio (Excluding Fixed Deposit)	10.19	38.10	8.70	6.27	3.89	H_0 is rejected
4. Saving Deposits to Total Deposits Ratio	35.39	33.36	56.78	39.93	3.89	H_0 is rejected

Sources: *Appendix 22, 23, 24 and 25*

From the ***Table-22*** it is clear that all the above mentioned liquidity ratios of these banks are significantly different. It implies that there is significant difference in liquidity position among NABIL, NIBL and SCBNL.

4.9.3 Profitability Position

To judge whether there is significant difference in profitability position among these banks NABIL, NIBL and SCBNL, following null hypothesis and alternative hypothesis are formulated and tested.

Null Hypothesis

H_0: There is no significant difference in profitability position among NABIL, NIBL and SCBNL.

Alternative Hypothesis

H_1: There is significant difference in profitability position among NABIL, NIBL and SCBNL.

The table 23 exhibits the mean value of various percentages measuring the composition or structure of working capital management of NABIL, NIBL and SCBNL.

Table 23: Mean value of various percentages measuring the composition

RATIOS	NABIL (Mean)	NIBL (Mean)	SCBNL (Mean)	Calculated *F* Value	Tabulated *F* Value	Result/ Decision
1. Interest Earned to Total Assets Ratio	6.47	6.27	5.47	2.27	3.89	H_0 is accepted
2. Net Profit to Total Assets Ratio	2.11	1.32	2.37	10.61	3.89	H_0 is rejected
3. Net Profit to Shareholders' Equity	29.39	15.98	37.84	51.81	3.89	H_0 is rejected
4. Net Profit to Total Deposits Ratio	2.50	1.59	2.84	8.31	3.89	H_0 is rejected
5. Cost of Services to Total Assets Ratio	3.38	3.37	2.03	4.74	3.89	H_0 is rejected

Sources: *Appendix 26, 27, 28, 29 and 30*

From the above ***Table-23*** it is clear that the interest earned to total assets ratio of these banks is not significantly different but the remaining four ratios of profitability are significantly different. This implies that although the interest earned to total assets ratio is not significantly different, there is significant difference in profitability position among NABIL, NIBL and SCBNL.

4.10 Major Finding

The major findings of this study during the period of five years in NABIL, NIBL and SCBNL from the analysis are summarized below.

⟩ The major components of current assets in NABIL, NIBL and SCBNL are cash and bank balance, money at call or short notice, loan and advances and government securities. In the study period the proportion of cash and bank balance, money at call or short notice, loan and advances and government securities to total current assets on an average are 7.30%, 9.36%, 56.43% and 22.43% on NABIL, 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 advances percentage are higher in NIBL and money at call or short notice and government securities percentage are higher in SCBNL.

⟩ The liquidity positions of banks are analyzed with the current ratio, quick ratio and cash and bank balance to deposit ratio. The current ratio of NABIL is ranging in between 0.76 to 1.06 and the ratio of NIBL and SCBNL is ranging in between 0.74 to 1.11 and 10.6 to 1.07 respectively. The average current ratio of SCBNL is higher than that of NABIL and NIBL i.e. 1.06>0.90>0.88.

Similarly, the average quick ratio is also greater in SCBNL than NABIL 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 NABIL and SCBNL 38.10%>10.19%>8.70%.

) Saving deposit to total deposit ratio of SCBNL are always higher than NABIL and NBIL for the study periods. The ratios of NABIL are ranging in between 31.04% to 42.45% and the ratios of NIBL and SCBNL are ranging in between 29.59% to 42.40% and 52.77% to 60.35% respectively. It shows that SCBNL has more than 50% deposit on saving account out of total deposit over the study period. The average ratio of SCBNL is higher than that of NABIL and NIBL i.e. 56.78>35.39>33.36. So it is found that SCBNL has more short-term and less costly sources of fund than NABIL 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 NABIL and 64.53%, 252.53% and 196.81% on NIBL and 34.11%, 267.83% and 58.86% on SCBNL. 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.

) Profitability is the measure of efficiency. The profitability position of NABIL and SCBNL are analyzed from various angles. The average value of interest earned to total assets ratio of NABIL is higher than NIBL and SCBNL i.e. 6.47%>6.27%>5.47%. Similarly, the average cost of services to total assets ratio of NABIL is also higher than NIBL and SCBNL. But the average net profit to total assets ratio (***ROA***), net profit to shareholders' equity (***ROE***) and net profit to total deposit ratio are higher in SCBNL than NABIL and NIBL. So, from the analysis it is found that profitability position of SCBNL is better than two other banks.

) Leverage ratio measures the long-term financial position. The average long term debt to net worth ratio of NABIL is higher than NIBL and SCBNL i.e. 367.39%>280.52%>198.93%. Similarly, the average net fixed assets to long term debt ratio is also higher in NABIL than SCBNL and NIBL i.e. 8.22%>6.62%>6.27. It 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 NABIL.

⟩ The trend value of cash and bank balance and money at call 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 NABIL, 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 and bank balance and government securities are positive in SCBNL 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 SCBNL. It implies that the management of loan and advance is more problematic in SCBNL.

⟩ The trend value of current ratio and quick ratio both are negative in NABIL and NIBL but in SCBNL 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 NABIL and NIBL. From the analysis it is found that NABIL and NIBL are trying to reduce their idle cash and bank balance. It also shows that the liquidity position of SCBNL is better than NABIL and NIBL.

⟩ Correlation between investment on government securities and total deposits of NIBL and SCBNL are highly significant. It shows that there is close relationship between investment on government security and total deposits in these banks but in case of NABIL, there is no significant relationship between government securities and total deposits. Similarly, correlation between loan and advances and total deposits are also highly significant in NIBL and SCBNL and in NABIL there is no significant relationship between these two variables. From the analysis it is found that NIBL and SCBNL 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

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SCBNL are highly significant and shows close relationship but NABIL has no significant relationship between these two variables as well.

) Coefficient of correlation between cash and bank balance and current liabilities in NIBL and SCBNL are highly significant and shows close relationship. But NABIL shows negative relationship between these two variables. It shows that holding of cash and bank balance of NABIL is not related with current liabilities.

) From the hypothesis test of composition of the working capital it has been observed that the cash and bank balance, loan and advances, government securities and miscellaneous current assets of NABIL, NIBL and SCBNL are significantly different but money at call or short notice is not significantly different. Since the mean value of loan and advance percentage on total current asserts of NABIL and NIBL are significantly high, it implies that management of NABIL 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 NABIL, NIBL and SCBNL are significantly different. Since the mean value of current ratio, quick ratio of SCBNL and saving deposit to total deposit ratio are higher, it implies that the liquidity position of SCBNL is better in comparison to NABIL and NIBL, however SCBNL has the lowest mean value of cash and bank balance to deposit ratio.

) 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 but the net profit to total assets ratio, net profit to total deposits ratio 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 to total assets ratio of NABIL and NIBL are higher than SCBNL, it shows better profitability position than NABIL and NIBL as it has higher mean value of net profit to total assets ratio and net profit to total deposits ratio.

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5.   SUMMARY, CONCLUSION & RECOMMENDATION

This chapter is used to summarize the whole study, to draw the major findings, conclusions of the study and forward the applicable recommendations for more better and efficient management of working capital of first three commercial joint venture banks namely Nabil Bank Limited, Nepal Investment Bank Limited and Standard Chartered Bank Nepal Limited.

5.1   Summary

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 commercials 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 assets and current

liabilities. Generally, working capital refers to the difference between current assets and current liabilities. Thus, 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 NABIL, NIBL and SCBNL for the period of five years from fiscal year 2058/59 to 2062/63. Now in this chapter an attempt has been made to present summary or findings, conclusions and some suggestions and recommendations.

5.2   Conclusion

All components of currents 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. NABIL and NIBL are investing relatively high in loan and advances than SCBNL. On the other hand SCBNL holds higher percentage of government securities and miscellaneous current assets in comparison to NABIL and NIBL.

Liquidity position of SCBNL is better than that of NABIL and NIBL since it has higher current ratio and quick ratio. Thus SCBNL is considered as liquid bank. However, NABIL 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 NABIL and NIBL in all the decisions. However, among these three sample banks SCBNL is found to have better profitability position in comparison to NABIL and NIBL. Thus under this study the conclusion has been made that SCBNL 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.

⟩ Loan and advances covers less than 50% of total current assets in SCBNL 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, SCBNL has more than 50% either in less profitable or non-profitable current assets. So standard chartered should adjust its investment policy on loan and advances with collected funds and its percentage of loan and advances in total current assets.

⟩ Although cash and bank balance to total deposit ratio is higher in NIBL, its current ratio and quick ratio are less in comparison to NABIL and SCBNL. 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.

⟩ Saving deposits covers less than 50% of total deposits in NABIL and NIBL although it is less costly sources of fund. Therefore, these two banks should try to increase its saving deposit account's balance than other account. But it seems better in SCBNL.

⟩ Total deposits turnover position of SCBNL is lower than that of NABIL and NIBL but is not quite satisfactory in all these banks. Although fixed deposit turnover position is higher in SCBNL its saving deposits turnover position is very low in comparison to NABIL 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, SCBNL should change its investment policy and utilize its deposits in income generating activity by investment efficiency on loan and advances.

Although interest earned and cost of services are higher in NABIL and NIBL, but net profit ratios are higher in SCBNL. It is due to higher cost of NABIL 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.

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Nabil Bank Limited: - *http://www.nabilbank.com*

Nepal Investment Bank Limited: - *http://www.nibl.com.np*

Standard Chartered Bank Nepal Limited: - *http://www.standardchartered.com*

APPENDIX

Appendix-1

Nabil Bank Limited (NABIL)
Kantipath, Kathmandu
Comparative Balance Sheet for Five Fiscal Years

(Rs. in million)

PARTICULARS/YEARS	2005/06 2062/63	2004/05 2061/62	2005/06 2062/63	2004/05 2061/62	2005/06 2062/63
TOTAL ASSETS (Working Funds)	**15024.20**	**18367.15**	**17629.25**	**16562.61**	**16745.49**
A. CURRENT ASSETS	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. FIXED ASSET (NET)	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	181.21	212.04
9. INVESTMENTS	16.12	4970.35	4078.22	2442.40	2163.32
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
C. MISC. ASSETS	0.00	0.00	0.00	0.00	0.00
TOTAL LIABILITIES	**14040.13**	**17304.31**	**16482.83**	**15248.43**	**15263.80**
D. CURRENT LIABILITIES	13977.29	17226.21	16384.73	15135.42	15153.00
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
E. DEFERRED LIABILITIES	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
NET WORTH	**984.07**	**1062.83**	**1146.42**	**1314.18**	**1481.69**
F. SHARE CAPITAL	392.80	491.65	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
G. SHAREHOLDERS' RESERVES	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	7.33	20.27
24. Un-appropriated Profit(Loss)	108.45	26.17	2.11	29.79	29.79
Bills for Collection(contra)	**61.67**	**51.83**	**0.00**	**0.00**	**0.00**
Acceptances etc.(contra)	**228.87**	**389.91**	**0.00**	**0.00**	**0.00**
BALANCE SHEET TOTAL	**15314.74**	**18808.88**	**17629.25**	**16562.61**	**16745.49**

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

Appendix-2

Nepal Investment Bank Limited (NIBL)
Durbar Marg, Kathmandu
Comparative Balance Sheet for Five Fiscal Years

(Rs. in million)

PARTICULARS/YEARS	2005/06 2062/63	2004/05 2061/62	2005/06 2062/63	2004/05 2061/62	2005/06 2062/63
TOTAL ASSETS (Working Funds)	**3796.70**	**5127.36**	**4973.90**	**9014.24**	**13255.50**
A. CURRENT ASSETS	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. FIXED ASSET (NET)	39.92	33.98	35.89	191.11	249.79
7. Gross Block	83.53	83.94	84.56	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
C. MISC. ASSETS	0.00	0.00	0.00	0.00	0.00
TOTAL LIABILITIES	3386.46	4658.27	4450.43	8375.71	12526.45
D. CURRENT LIABILITIES	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	112.75	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
E. DEFERRED LIABILITIES	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
NET WORTH	**410.24**	**469.08**	**523.46**	**638.53**	**729.05**
F. SHARE CAPITAL	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	343.25	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	49.89	23.65	28.40	14.66
Bills for Collection(contra)	**70.77**	**31.16**	**0.00**	**0.00**	**0.00**
Acceptances etc.(contra)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
BALANCE SHEET TOTAL	**3867.47**	**5158.51**	**4973.89**	**9014.24**	**13255.50**

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

Standard Chartered Bank Nepal Limited (SCBNL)
Naya Baneshwor, Kathmandu
Comparative Balance Sheet for Five Fiscal Years

(Rs. in million)

PARTICULARS/YEARS	2005/06 2062/63	2004/05 2061/62	2005/06 2062/63	2004/05 2061/62	2005/06 2062/63
TOTAL ASSETS (Working Funds)	**16832.23**	**19357.18**	**18443.07**	**21000.50**	**23642.06**
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	6322.85
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	101.06	191.71	136.23
7. Gross Block	296.55	262.04	261.87	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
TOTAL LIABILITIES	**15817.40**	**18245.18**	**17207.63**	**19631.59**	**22146.31**
D. CURRENT LIABILITIES	15781.19	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
NET WORTH	**1014.85**	**1112.02**	**1235.49**	**1368.91**	**1495.75**
F. SHARE CAPITAL	339.55	339.55	339.55	339.55	1000.00
17. Ordinary Share	50.00	50.00	50.00	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
Bills for Collection(contra)	**159.56**	**136.24**	**0.00**	**0.00**	**0.00**
Acceptances etc.(contra)	**163.13**	**209.98**	**0.00**	**0.00**	**0.00**
BALANCE SHEET TOTAL	**17154.94**	**19703.42**	**18443.12**	**21000.50**	**23642.06**

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

Appendix-4

Nabil Bank Limited (NABIL)
Kantipath, Kathmandu
Comparative Profit & Loss A/C for Five Fiscal Years

(Rs. in million)

PARTICULARS/YEARS	2062/63	2061/62	2062/63	2061/62	2062/63
	2005/06	2004/05	2005/06	2004/05	2005/06
A. OPERATING INCOME	**1309.11**	**1573.31**	**1639.11**	**1340.51**	**1333.66**
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. COST OF SERVICES	**530.93**	**724.22**	**606.96**	**527.93**	**463.78**
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
E.10. GROSS PROFIT	**519.44**	**497.99**	**449.33**	**563.49**	**610.56**
F.11. Depreciation	25.01	26.27	39.75	35.04	46.27
G.12. OPERATING PROFIT	**494.43**	**471.72**	**409.58**	**528.45**	**564.29**
H.13. Income From Other Sources	0.31	1.64	0.00	86.95	92.78
I.14. PRE-TAX PROFIT	**494.74**	**473.36**	**409.58**	**615.40**	**657.07**
J.15. Provision For Taxes	165.62	181.99	137.95	199.15	201.76
K.16. NET PROFIT	**329.12**	**291.37**	**271.63**	**416.25**	**455.31**

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

Appendix-5

Nepal Investment Bank Limited (NIBL)
Durbar Marg, Kathmandu
Comparative Profit & Loss A/C for Five Fiscal Years

(Rs. in million)

PARTICULARS/YEARS	2062/63	2061/62	2062/63	2061/62	2062/63
	2005/06	2004/05	2005/06	2004/05	2005/06
A. OPERATING INCOME	**350.25**	**421.58**	**415.68**	**577.44**	**911.94**
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. COST OF SERVICES	**138.98**	**194.25**	**172.16**	**250.50**	**415.95**
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
E.10. GROSS PROFIT	**115.10**	**102.65**	**83.59**	**181.53**	**253.10**
F.11. Depreciation	9.32	8.82	8.59	11.87	23.40
G.12. OPERATING PROFIT	**105.78**	**93.83**	**75.00**	**169.66**	**229.70**
H.13. Income From Other Sources	0.11	0.00	3.10	0.49	1.77
I.14. PRE-TAX PROFIT	**105.89**	**93.83**	**78.10**	**170.15**	**231.47**
J.15. Provision For Taxes	33.23	37.44	21.01	53.33	78.80
K.16. NET PROFIT	**72.66**	**56.39**	**57.09**	**116.82**	**152.67**

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

Standard Chartered Bank Nepal Limited (SCBNL)
Naya Baneshwor, Kathmandu
Comparative Profit & Loss A/C for Five Fiscal Years

(Rs. in million)

PARTICULARS/YEARS	2062/63	2061/62	2062/63	2061/62	2062/63
	2005/06	2004/05	2005/06	2004/05	2005/06
A. OPERATING INCOME	**1366.92**	**1640.26**	**1441.72**	**1499.21**	**1578.35**
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	36.52	50.13	64.17
B. COST OF SERVICES	**513.48**	**574.49**	**424.87**	**383.46**	**406.92**
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
E.10. GROSS PROFIT	**617.73**	**711.02**	**685.74**	**778.39**	**831.52**
F.11. Depreciation	29.90	47.74	27.40	67.61	66.20
G.12. OPERATING PROFIT	**587.83**	**663.28**	**658.34**	**710.78**	**765.32**
H.13. Income From Other Sources	5.88	10.98	5.10	4.39	8.27
I.14. PRE-TAX PROFIT	**593.71**	**674.26**	**663.44**	**715.17**	**773.59**
J.15. Provision For Taxes	201.12	243.43	184.23	208.22	235.79
K.16. NET PROFIT	**392.59**	**430.83**	**479.21**	**506.95**	**537.80**

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

Appendix-7

Calculation of Trend Value of Cash and Bank Balance to Current Assets Ratio

FY (X)	X^2	NABIL			NIBL			SCBNL		
		Y_1	XY_1	$Yc_1=a+bx$	Y_2	XY_2	$Yc_2=a+bx$	Y_3	XY_3	$Yc_3=a+bx$
-2	4	7.36	-14.72	7.11	9.69	-19.39	11.75	6.13	-12.26	4.86
-1	1	6.18	-6.18	7.20	15.27	-15.27	11.72	5.00	-5.00	5.58
0	0	7.90	0.00	7.30	10.15	0.00	11.69	4.50	0.00	6.30
1	1	8.25	8.25	7.40	12.32	12.32	11.66	7.27	7.27	7.03
2	4	6.81	13.63	7.50	11.01	22.02	11.63	8.61	17.22	7.75
	X^2=10	Y_1=36.51	XY_1=0.98		Y_2=58.45	XY_2=-0.32		Y_3=31.51	XY_3=7.24	

NABIL

$a = \dfrac{Y_1}{N} = \dfrac{36.51}{5} = 7.30$

$b = \dfrac{XY_1}{X^2} = \dfrac{0.98}{10} = 0.10$

NIBL

$a = \dfrac{Y_2}{N} = \dfrac{58.45}{5} = 11.69$

$b = \dfrac{XY_2}{X^2} = \dfrac{-0.32}{10} = -0.03$

SCBNL

$a = \dfrac{Y_3}{N} = \dfrac{31.51}{5} = 6.30$

$b = \dfrac{XY_3}{X^2} = \dfrac{7.24}{10} = 0.72$

Appendix-8

Calculation of Trend Value of Money at Call or Short Notice to Current Assets Ratio

FY (X)	X^2	NABIL			NIBL			SCBNL		
		Y_1	XY_1	$Yc_1=a+bx$	Y_2	XY_2	$Yc_2=a+bx$	Y_3	XY_3	$Yc_3=a+bx$
-2	4	31.32	-62.64	19.14	31.27	-62.54	18.20	43.50	-87.00	31.90
-1	1	3.97	-3.97	14.25	0.00	0.00	12.56	13.59	-13.59	24.52
0	0	0.24	0.00	9.36	0.00	0.00	6.92	11.25	0.00	17.15
1	1	4.83	4.83	4.47	0.53	0.53	1.27	7.97	7.97	9.78
2	4	6.45	12.90	-0.41	2.78	5.56	-4.37	9.44	18.89	2.40
	X^2=10	Y_1=46.81	XY_1=-48.88		Y_2=34.58	XY_2=-56.44		Y_3=85.75	XY_3=-73.73	

NABIL

$a = \dfrac{Y_1}{N} = \dfrac{46.81}{5} = 9.36$

$b = \dfrac{XY_1}{X^2} = \dfrac{-48.88}{10} = -4.39$

NIBL

$a = \dfrac{Y_2}{N} = \dfrac{34.58}{5} = 6.92$

$b = \dfrac{XY_2}{X^2} = \dfrac{-56.44}{10} = -5.64$

SCBNL

$a = \dfrac{Y_3}{N} = \dfrac{5.75}{5} = 17.15$

$b = \dfrac{XY_3}{X^2} = \dfrac{-73.73}{10} = -7.37$

Appendix-9

Calculation of Trend Value of Loan and advances to Current Assets Ratio

FY (X)	X^2	NABIL			NIBL			SCBNL		
		Y_1	XY_1	$Yc_1=a+bx$	Y_2	XY_2	$Yc_2=a+bx$	Y_3	XY_3	$Yc_3=a+bx$
-2	4	49.60	49.60	49.60	55.31	-110.61	64.13	29.17	-58.34	29.89
-1	1	63.25	63.25	63.25	70.96	-70.96	66.44	29.98	-29.98	29.25
0	0	55.87	55.87	55.87	76.77	0.00	68.76	29.26	0.00	28.62
1	1	55.93	55.93	55.93	76.78	76.78	71.08	27.39	27.39	27.98
2	4	57.50	115.00	124.35	63.98	127.96	73.39	27.28	54.57	27.34
	$X^2=10$	$Y_1=282.14$	$XY_1=339.63$		$Y_2=343.80$	$XY_2=23.17$		$Y_3=143.08$	$XY_3=-6.37$	

NABIL

$$a = \frac{Y_1}{N} = \frac{282.14}{5} = 56.43$$

$$b = \frac{XY_1}{X^2} = \frac{339.63}{10} = 33.96$$

NIBL

$$a = \frac{Y_2}{N} = \frac{343.80}{5} = 68.76$$

$$b = \frac{XY_2}{X^2} = \frac{23.17}{10} = 2.32$$

SCBNL

$$a = \frac{Y_3}{N} = \frac{143.08}{5} = 28.62$$

$$b = \frac{XY_3}{X^2} = \frac{-6.37}{10} = -0.64$$

Appendix-10

Calculation of Trend Value of Government Securities to Current Assets Ratio

FY (X)	X^2	NABIL			NIBL			SCBNL		
		Y_1	XY_1	$Yc_1=a+bx$	Y_2	XY_2	$Yc_2=a+bx$	Y_3	XY_3	$Yc_3=a+bx$
-2	4	8.34	8.34	8.34	0.00	0.00	1.26	20.05	-40.10	21.59
-1	1	20.76	20.76	20.76	8.76	-8.76	4.50	25.03	-25.03	25.07
0	0	30.95	30.95	30.95	6.72	0.00	7.75	31.56	0.00	28.56
1	1	25.88	25.88	25.88	5.32	5.32	11.00	32.33	32.33	32.04
2	4	25.78	51.57	49.84	17.96	35.91	14.25	33.83	67.66	27.34
	$X^2=10$	$Y_1=111.72$	$XY_1=137.50$		$Y_2=38.76$	$XY_2=32.47$		$Y_3=142.79$	$XY_3=34.86$	

NABIL

$$a = \frac{Y_1}{N} = \frac{111.72}{5} = 22.34$$

$$b = \frac{XY_1}{X^2} = \frac{137.50}{10} = 13.75$$

NIBL

$$a = \frac{Y_2}{N} = \frac{38.76}{5} = 7.75$$

$$b = \frac{XY_2}{X^2} = \frac{32.47}{10} = 3.25$$

SCBNL

$$a = \frac{Y_3}{N} = \frac{142.79}{5} = 28.56$$

$$b = \frac{XY_3}{X^2} = \frac{34.86}{10} = 3.49$$

Calculation of Trend Value of Current Ratio

FY (X)	X^2	NABIL			NIBL			SCBNL		
		Y_1	XY_1	$Yc_1=a+bx$	Y_2	XY_2	$Yc_2=a+bx$	Y_3	XY_3	$Yc_3=a+bx$
-2	4	1.06	1.06	1.06	1.11	-2.23	0.94	1.06	-2.11	1.06
-1	1	0.76	0.76	0.76	0.74	-0.74	0.91	1.06	-1.06	1.06
0	0	0.81	0.81	0.81	0.76	0.00	0.88	1.07	0.00	1.06
1	1	0.92	0.92	0.92	0.90	0.90	0.85	1.06	1.06	1.06
2	4	0.94	1.88	1.98	0.89	1.78	0.82	1.06	2.13	27.34
	$X^2=10$	$Y_1=4.49$	$XY_1=5.43$		$Y_2=4.40$	$XY_2=-0.29$		$Y_3=5.31$	$XY_3=-0.02$	

NABIL

$a = \dfrac{Y_1}{N} = \dfrac{111.72}{5} = 0.90$

$b = \dfrac{XY_1}{X^2} = \dfrac{137.50}{10} = 0.54$

NIBL

$a = \dfrac{Y_2}{N} = \dfrac{38.76}{5} = 0.88$

$b = \dfrac{XY_2}{X^2} = \dfrac{32.47}{10} = -0.03$

SCBNL

$a = \dfrac{Y_3}{N} = \dfrac{142.79}{5} = 1.06$

$b = \dfrac{XY_3}{X^2} = \dfrac{34.86}{10} = 0.00$

Calculation of Trend Value of Quick Ratio

FY (X)	X^2	NABIL			NIBL			SCBNL		
		Y_1	XY_1	$Yc_1=a+bx$	Y_2	XY_2	$Yc_2=a+bx$	Y_3	XY_3	$Yc_3=a+bx$
-2	4	0.50	-1.00	0.38	0.46	-0.91	0.31	0.74	-1.47	0.62
-1	1	0.24	-0.24	0.37	0.18	-0.18	0.28	0.46	-0.46	0.58
0	0	0.32	0.00	0.36	0.13	0.00	0.24	0.51	0.00	0.55
1	1	0.36	0.36	0.34	0.16	0.16	0.21	0.51	0.51	0.52
2	4	0.37	0.73	0.33	0.28	0.57	0.17	0.55	1.10	0.49
	$X^2=10$	$Y_1=1.78$	$XY_1=-0.14$		$Y_2=1.21$	$XY_2=-0.36$		$Y_3=2.76$	$XY_3=-0.32$	

NABIL

$a = \dfrac{Y_1}{N} = \dfrac{1.78}{5} = 0.36$

$b = \dfrac{XY_1}{X^2} = \dfrac{-0.14}{10} = -0.01$

NIBL

$a = \dfrac{Y_2}{N} = \dfrac{1.21}{5} = 0.24$

$b = \dfrac{XY_2}{X^2} = \dfrac{-0.36}{10} = -0.04$

SCBNL

$a = \dfrac{Y_3}{N} = \dfrac{2.76}{5} = 0.55$

$b = \dfrac{XY_3}{X^2} = \dfrac{-0.32}{10} = -0.03$

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

GS(X)	TD(Y)	x(X-X)	x²	y(Y-Y)	y²	xy
1233.82	12779.51	-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
X=15348.47	Y=71691.64		x²=5220546.80		y²=6887844.58	xy=2989124.35

$$X = \frac{X}{N} = \frac{15348.47}{5} = 3069.69 \qquad Y = \frac{Y}{N} = \frac{71691.64}{5} = 14338.33$$

$$\text{Correlation, } r = \frac{xy}{x^2 \ y^2} = \frac{2989124.35}{(5220546.80)(6887844.58)} = 0.4985$$

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

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

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

GS(X)	TD(Y)	x(X-X)	x²	y(Y-Y)	y²	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
X=2925.50	Y=30861.68		x²=2593046.52		y²=49543462.36	xy=10387647.32

$$X = \frac{X}{N} = \frac{2925.50}{5} = 585.10 \qquad Y = \frac{Y}{N} = \frac{30861.68}{5} = 6172.34$$

$$\text{Correlation, } r = \frac{xy}{x^2 \ y^2} = \frac{10387647.32}{(2593046.52)(49543462.36)} = 0.9165$$

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

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

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

GS(X)	TD(Y)	x(X-X)	x²	y(Y-Y)	y²	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
X=28605.45	Y=83751.37		x²=12471810.50		y²=43546541.25	xy=22939179.60

$$X = \frac{X}{N} = \frac{28605.45}{5} = 5721.09 \qquad Y = \frac{Y}{N} = \frac{83751.37}{5} = 16750.27$$

$$\text{Correlation, } r = \frac{xy}{x^2 \; y^2} = \frac{22939179.60}{(12471810.50)(43546541.25)} = 0.9843$$

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

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

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

L&A(X)	TD(Y)	x(X-X)	x²	y(Y-Y)	y²	xy
7334.76	12779.51	-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
X=39043.04	Y=71691.64		x²=776264.10		y²=6887844.58	xy=1042979.14

$$X = \frac{X}{N} = \frac{39043.04}{5} = 7808.61 \qquad Y = \frac{Y}{N} = \frac{71691.64}{5} = 14338.33$$

$$\text{Correlation, } r = \frac{xy}{\sqrt{x^2 \ y^2}} = \frac{2989124.35}{\sqrt{(776264.10)(6887844.58)}} = 0.4511$$

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

$$6PEr = 6(0.2267) = 1.4417$$

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

L&A(X)	TD(Y)	x(X-X)	x²	y(Y-Y)	y²	xy
2070.68	2983.28	-1922.60	3696398.45	-3189.06	10170078.17	6131285.44
2429.03	4256.21	-1564.25	2446884.32	-1916.13	3671538.85	2997303.93
2564.43	4174.76	-1428.85	2041618.04	-1997.58	3990309.88	2854240.46
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
X=19966.41	Y=30861.68		x²=21189051.97		y²=49543462.36	xy=31886057.35

$$X = \frac{X}{N} = \frac{19966.41}{5} = 3993.28 \qquad Y = \frac{Y}{N} = \frac{30861.68}{5} = 6172.34$$

$$\text{Correlation, } r = \frac{xy}{\sqrt{x^2 \ y^2}} = \frac{10387647.32}{\sqrt{(21189051.97)(49543462.36)}} = 0.9841$$

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

$$6PEr = 6(0.0483) = 0.0570$$

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

L&A(X)	TD(Y)	x(X-X)	x^2	y(Y-Y)	y^2	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
X=28090.36	Y=83751.37		x^2=1298141.15		y^2=43546541.25	xy=6873071.44

$$X = \frac{X}{N} = \frac{28090.36}{5} = 5618.07 \qquad Y = \frac{Y}{N} = \frac{83751.37}{5} = 16750.27$$

$$\text{Correlation, } r = \frac{xy}{x^2\ y^2} = \frac{6873071.44}{(1298141.15)(43546541.25)} = 0.9141$$

$$\textbf{\textit{PEr}} = (0.6745)\ \frac{1-r^2}{N} = (0.6745)\ \frac{1-(0.9141)^2}{5} = 0.0496$$

$$\textbf{\textit{6PEr}} = 6(0.0496) = 0.2974$$

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

L&A(X)	NP(Y)	x(X-X)	x²	y(Y-Y)	y²	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
X=39043.04	Y=1763.68		x²=776264.10		y²=25457.14	xy=45377.85

$$X = \frac{X}{N} = \frac{39043.04}{5} = 7808.61 \qquad Y = \frac{Y}{N} = \frac{1763.68}{5} = 352.74$$

$$\text{Correlation, } r = \frac{xy}{\sqrt{x^2\ y^2}} = \frac{45377.85}{\sqrt{(776264.10)(25457.14)}} = 0.3228$$

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

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

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

L&A(X)	NP(Y)	x(X-X)	x²	y(Y-Y)	y²	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
X=19966.41	Y=455.63		x²=21189051.97		y²=7153.88	xy=377231.18

$$X = \frac{X}{N} = \frac{19966.41}{5} = 3993.28 \qquad Y = \frac{Y}{N} = \frac{455.63}{5} = 91.13$$

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

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

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

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

L&A(X)	NP(Y)	x(X-X)	x^2	y(Y-Y)	y^2	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
X=28090.36	Y=2347.38		x^2=1298141.15		y^2=13572.19	xy=107461.28

$$X = \frac{X}{N} = \frac{28090.36}{5} = 5618.07 \qquad Y = \frac{Y}{N} = \frac{2347.38}{5} = 469.48$$

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

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

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

Calculation of *F* value
Cash and Bank Balance Percentage on Total Current Assets

Cash and Bank Balance Percentage					
NABIL (X_1)	NIBL (X_2)	SCBNL (X_3)	$(X_1 - \overline{X}_1)^2$	$(X_2 - \overline{X}_2)^2$	$(X_3 - \overline{X}_3)^2$
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
X_1 =36.51	X_2 =58.45	X_3 =31.51	$(X_1-X_1)^2$=2.78	$(X_2-X_2)^2$=20.08	$(X_3-X_3)^2$=11.24

$$X_1 = \frac{X_1}{n_1} = \frac{36.51}{5} = 7.30$$

$$X_2 = \frac{X_2}{n_2} = \frac{58.45}{5} = 11.69$$

$$X_3 = \frac{X_3}{n_3} = \frac{31.51}{5} = 6.30$$

$$\text{Grand Mean, } X = \frac{X_1 + X_2 + X_3}{3} = \frac{7.30 + 11.69 + 6.30}{3} = 8.43$$

$$\text{SCC} = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$\text{SSE} = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

$$\text{SST} = \text{SCC} + \text{SSE} = 82.12 + 34.10 = 116.22$$

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	
Between Samples	SCC = 82.12	k – 1 = 3 – 1 = 2	MSC =	$\frac{\text{SSC}}{k-1}$	=	$\frac{82.12}{2}$	= 41.06	$F = $	$\frac{\text{MSC}}{\text{MSE}}$
Within Samples (Errors)	SSE = 34.10	n – k = 15 – 3 = 12	MSE =	$\frac{\text{SSE}}{n-k}$	=	$\frac{34.10}{12}$	= 2.84	=	$\frac{41.06}{2.84}$
								=	**14.45**
Total	SST = 116.22	n – 1=15 – 1 = 19							

From above ANOVA table, we get

Calculated = *F* (2,12) = 14.45

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.

Calculation of *F* value
Money at Call or Short Notice Percentage on Total Current Assets

Money at Call or Short Notice Percentage					
NABIL (X_1)	NIBL (X_2)	SCBNL (X_3)	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$	$(X_3 - X_3)^2$
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	8.48	17.10	59.40
$X_1 = 46.81$	$X_2 = 34.58$	$X_3 = 85.75$	$(X_1 - X_1)^2 = 623.49$	$(X_2 - X_2)^2 = 746.55$	$(X_3 - X_3)^2 = 885.57$

$$X_1 = \frac{X_1}{n_1} = \frac{36.51}{5} = 9.36$$

$$X_2 = \frac{X_2}{n_2} = \frac{58.45}{5} = 6.92$$

$$X_3 = \frac{X_3}{n_3} = \frac{31.51}{5} = 17.15$$

$$\text{Grand Mean, X} = \frac{X_1 + X_2 + X_3}{3} = \frac{9.36 + 6.92 + 17.15}{3} = 11.14$$

$$\text{SCC} = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$\text{SSE} = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

$$\text{SST} = \text{SCC} + \text{SSE} = 285.63 + 2255.62 = 2541.25$$

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	
Between Samples	SCC = 285.63	$k - 1 = 3 - 1$ $= 2$	$\text{MSC} =$	$\frac{\text{SSC}}{k - 1}$	$= \frac{285.63}{2}$	$= 142.81$	$F =$	$\frac{\text{MSC}}{\text{MSE}}$
Within Samples (Errors)	SSE = 2255.62	$n - k = 15 - 3$ $= 12$	$\text{MSE} =$	$\frac{\text{SSE}}{n - k}$	$= \frac{2255.62}{12}$	$= 187.97$		$= \frac{142.81}{187.97}$ $= \textbf{0.76}$
Total	SST = 2541.25	$n - 1 = 15 - 1$ $= 19$						

From above ANOVA table, we get
Calculated $= F(2,12) = 0.76$
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 less than the tabulated value of *F*, there is no significant difference and H_0 is accepted.

Calculation of *F* value
Loan and Advances Percentage on Total Current Assets

Loan and Advances Percentage			$(X_1 - X_1)^2$	$(X_2 - X_2)^2$	$(X_3 - X_3)^2$
NABIL (X_1)	NIBL (X_2)	SCBNL (X_3)			
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
$X_1 = 282.14$	$X_2 = 343.80$	$X_3 = 143.08$	$(X_1 - X_1)^2 = 94.89$	$(X_2 - X_2)^2 = 337.24$	$(X_3 - X_3)^2 = 5.87$

$$X_1 = \frac{X_1}{n_1} = \frac{36.51}{5} = 56.43$$

$$X_2 = \frac{X_2}{n_2} = \frac{58.45}{5} = 68.72$$

$$X_3 = \frac{X_3}{n_3} = \frac{31.51}{5} = 28.62$$

$$\text{Grand Mean, } X = \frac{X_1 + X_2 + X_3}{3} = \frac{56.43 + 68.72 + 28.62}{3} = 51.27$$

$$SCC = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$SSE = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

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

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
Between Samples	SCC = 4228.26	$k - 1 = 3 - 1 = 2$	$MSC = \dfrac{SSC}{k-1} = \dfrac{4228.26}{2}$	$= 2114.13$	$F = \dfrac{MSC}{MSE}$
Within Samples (Errors)	SSE = 437.99	$n - k = 15 - 3 = 12$	$MSE = \dfrac{SSE}{n-k} = \dfrac{437.99}{12}$	$= 36.50$	$= \dfrac{2114.13}{36.50}$
					$= \mathbf{57.92}$
Total	SST = 4666.25	$n - 1 = 15 - 1 = 19$			

From above ANOVA table, we get

Calculated $= F$ (2,12) $= 57.92$

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 less than the tabulated value of *F*, there is significant

difference and H_0 is rejected.

Calculation of *F* value
Government Securities Percentage on Total Current Assets

Government Securities Percentage					
NABIL (X_1)	NIBL (X_2)	SCBNL (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
X_1 =111.72	X_2 =38.76	X_3 =142.79	$(X_1-X_1)^2$=296.88	$(X_2-X_2)^2$=172.22	$(X_3-X_3)^2$=135.81

$$X_1 = \frac{X_1}{n_1} = \frac{36.51}{5} = 22.34$$

$$X_2 = \frac{X_2}{n_2} = \frac{58.45}{5} = 7.75$$

$$X_3 = \frac{X_3}{n_3} = \frac{31.51}{5} = 28.56$$

Grand Mean, X $= \dfrac{X_1 + X_2 + X_3}{3} = \dfrac{22.34 + 7.75 + 28.56}{3} = 19.55$

SCC $= n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$

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

SSE $= (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$

$= 296.88 + 172.22 + 135.81 = 604.92$

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 Samples	SCC = 1140.72	k – 1 = 3 – 1 = 2	MSC =	$\dfrac{SSC}{k-1} = \dfrac{1140.72}{2}$	= 570.36	$F =$	$\dfrac{MSC}{MSE}$
Within Samples (Errors)	SSE = 604.92	n – k = 15 – 3 = 12	MSE =	$\dfrac{SSE}{n-k} = \dfrac{604.92}{12}$	= 50.41	=	$\dfrac{570.36}{50.41}$
						=	**11.31**
Total	SST = 1745.64	n – 1=15 – 1 = 19					

From above ANOVA table, we get
Calculated $= F$ (2,12) = 11.31
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-21

Calculation of *F* value
Miscellaneous Current Assets Percentage on Total Current Assets

Miscellaneous Current Assets Percentage					
NABIL (X_1)	NIBL (X_2)	SCBNL (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
$X_1 = 30.35$	$X_2 = 46.10$	$X_3 = 31.26$	$(X_1-X_1)^2=4.88$	$(X_2-X_2)^2=7.98$	$(X_3-X_3)^2=11.07$

$$X_1 = \frac{X_1}{n_1} = \frac{30.35}{5} = 6.07$$

$$X_2 = \frac{X_2}{n_2} = \frac{46.10}{5} = 9.22$$

$$X_3 = \frac{X_3}{n_3} = \frac{31.26}{5} = 6.25$$

$$\text{Grand Mean, } X = \frac{X_1 + X_2 + X_3}{3} = \frac{6.07 + 9.22 + 6.25}{3} = 7.18$$

$$\text{SCC} = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$
$$= 5(6.07 - 7.18)^2 + 5(9.22 - 7.18)^2 + 5(6.25 - 7.18)^2 = 31.30$$

$$\text{SSE} = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$
$$= 4.88 + 7.98 + 11.07 = 23.93$$

$$\text{SST} = \text{SCC} + \text{SSE} = 31.30 + 23.93 = 55.23$$

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 Samples	SCC = 31.30	k – 1 = 3 – 1 = 2	MSC = $\frac{SSC}{k-1}$ =	$\frac{31.30}{2}$ =	15.65	$F = $	$\frac{MSC}{MSE}$
Within Samples (Errors)	SSE = 23.93	n – k = 15 – 3 = 12	MSE = $\frac{SSE}{n-k}$ =	$\frac{23.93}{12}$ =	1.99	=	$\frac{15.65}{1.99}$
						=	**7.85**
Total	SST = 55.23	n – 1 = 15 – 1 = 19					

From above ANOVA table, we get

Calculated = *F* (2,12) = 7.85

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.

Calculation of *F* value
Current Ratio

Current Ratio					
NABIL (X_1)	NIBL (X_2)	SCBNL (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
$X_1 = 4.49$	$X_2 = 4.40$	$X_3 = 5.31$	$(X_1 - X_1)^2 = 0.05$	$(X_2 - X_2)^2 = 0.09$	$(X_3 - X_3)^2 = 0.00$

$$X_1 = \frac{X_1}{n_1} = \frac{4.49}{5} = 0.90$$

$$X_2 = \frac{X_2}{n_2} = \frac{4.40}{5} = 0.88$$

$$X_3 = \frac{X_3}{n_3} = \frac{5.31}{5} = 1.06$$

$$\text{Grand Mean, X} = \frac{X_1 + X_2 + X_3}{3} = \frac{0.90 + 0.88 + 1.06}{3} = 0.95$$

$$\text{SCC} = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$\text{SSE} = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

$$\text{SST} = \text{SCC} + \text{SSE} = 0.10 + 0.14 = 0.24$$

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
Between Samples	SCC = 0.10	k − 1 = 3 − 1 = 2	$\text{MSC} = \frac{\text{SSC}}{k-1} = \frac{0.10}{2} = 0.05$		$F = \frac{\text{MSC}}{\text{MSE}}$
Within Samples (Errors)	SSE = 0.14	n − k = 15 − 3 = 12	$\text{MSE} = \frac{\text{SSE}}{n-k} = \frac{0.14}{12} = 0.01$		$= \frac{0.05}{0.01}$
					= **4.19**
Total	SST = 0.24	n − 1 = 15 − 1 = 19			

From above ANOVA table, we get

Calculated $= F (2,12) = 4.19$

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.

Calculation of *F* value
Quick Ratio

Quick Ratio			$(X_1 - X_1)^2$	$(X_2 - X_2)^2$	$(X_3 - X_3)^2$
NABIL (X_1)	**NIBL (X_2)**	**SCBNL (X_3)**			
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	0.00
0.36	0.16	0.51	0.00	0.01	0.00
0.37	0.28	0.55	0.00	0.00	0.00
X_1 =1.78	X_2 =1.21	X_3 =2.76	$(X_1 - X_1)^2$=0.04	$(X_2 - X_2)^2$=0.07	$(X_3 - X_3)^2$=0.05

$$X_1 = \frac{X_1}{n_1} = \frac{1.78}{5} = 0.36$$

$$X_2 = \frac{X_2}{n_2} = \frac{1.21}{5} = 0.24$$

$$X_3 = \frac{X_3}{n_3} = \frac{2.76}{5} = 0.55$$

$$\text{Grand Mean, X} = \frac{X_1 + X_2 + X_3}{3} = \frac{0.36 + 0.24 + 0.55}{3} = 0.38$$

$$\text{SCC} = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$\text{SSE} = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

$$\text{SST} = \text{SCC} + \text{SSE} = 0.25 + 0.15 = 0.40$$

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		
Between Samples	SCC = 0.25	k – 1 = 3 – 1 = 2	MSC =	$\frac{SSC}{k-1}$	=	$\frac{0.38}{2}$	=	0.12	$F =$	$\frac{MSC}{MSE}$
Within Samples (Errors)	SSE = 0.15	n – k = 15 – 3 = 12	MSE =	$\frac{SSE}{n-k}$	=	$\frac{0.15}{12}$	=	0.01	=	$\frac{0.12}{0.01}$
									=	**9.66**
Total	SST = 0.40	n – 1=15 – 1 = 19								

From above ANOVA table, we get

Calculated = *F* (2,12) = 9.66

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.

Calculation of *F* value
Cash and Bank Balance to Total Deposits (Excluding Fixed Deposits) Ratio

Cash and Bank Balance to Total Deposits Ratio					
NABIL (X_1)	NIBL (X_2)	SCBNL (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
$X_1 = 50.96$	$X_2 = 190.48$	$X_3 = 43.50$	$(X_1 - X_1)^2 = 27.21$	$(X_2 - X_2)^2 = 2585.68$	$(X_3 - X_3)^2 = 12.56$

$$X_1 = \frac{X_1}{n_1} = \frac{50.96}{5} = 10.19$$

$$X_2 = \frac{X_2}{n_2} = \frac{190.48}{5} = 38.10$$

$$X_3 = \frac{X_3}{n_3} = \frac{43.50}{5} = 8.70$$

$$\text{Grand Mean, X} = \frac{X_1 + X_2 + X_3}{3} = \frac{10.16 + 38.10 + 8.70}{3} = 19.00$$

$$\text{SCC} = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$\text{SSE} = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

$$\text{SST} = \text{SCC} + \text{SSE} = 2741.65 + 2625.44 = 5367.09$$

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	
Between Samples	SCC = 2741.65	k – 1 = 3 – 1 = 2	MSC =	$\frac{SSC}{k-1}$	= $\frac{2741.65}{2}$	= 1370.82	$F = $	$\frac{MSC}{MSE}$
Within Samples (Errors)	SSE = 2625.44	n – k = 15 – 3 = 12	MSE =	$\frac{SSE}{n-k}$	= $\frac{2625.44}{12}$	= 218.79	=	$\frac{1370.82}{218.79}$
							=	**6.27**
Total	SST = 5367.09	n – 1 = 15 – 1 = 19						

From above ANOVA table, we get
Calculated = *F* (2,12) = 6.27

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.

Calculation of *F* value
Saving Deposits to Total Deposits Ratio

Saving Deposits to Total Deposits Ratio					
NABIL (X_1)	NIBL (X_2)	SCBNL (X_3)	$(X_1-\bar{X}_1)^2$	$(X_2-\bar{X}_2)^2$	$(X_3-\bar{X}_3)^2$
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
$X_1 =176.93$	$X_2 =166.78$	$X_3 =283.91$	$(X_1-\bar{X}_1)^2=100.59$	$(X_2-\bar{X}_2)^2=110.26$	$(X_3-\bar{X}_3)^2=42.27$

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

$$\bar{X}_2 = \frac{X_2}{n_2} = \frac{166.78}{5} = 33.36$$

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

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

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

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

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

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

$$\text{SST} = \text{SCC} + \text{SSE} = 1684.59 + 253.12 = 1937.71$$

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	
Between Samples	SCC = 1684.59	k – 1 = 3 – 1 = 2	MSC =	$\dfrac{\text{SSC}}{k-1}$	= $\dfrac{1684.59}{2}$	= 842.30	$F=$	$\dfrac{\text{MSC}}{\text{MSE}}$
Within Samples (Errors)	SSE = 253.12	n – k = 15 – 3 = 12	MSE =	$\dfrac{\text{SSE}}{n-k}$	= $\dfrac{253.12}{12}$	= 21.09	=	$\dfrac{842.30}{21.09}$
							=	**39.93**
Total	SST = 1937.71	n – 1=15 – 1 = 19						

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.

Calculation of *F* value
Interest Earned to Total Assets Ratio

Interest Earned to Total Assets Ratio					
NABIL (X_1)	NIBL (X_2)	SCBNL (X_3)	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$	$(X_3 - X_3)^2$
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
$X_1 = 32.35$	$X_2 = 31.37$	$X_3 = 27.34$	$(X_1 - X_1)^2 = 0.79$	$(X_2 - X_2)^2 = 3.54$	$(X_3 - X_3)^2 = 3.13$

$$X_1 = \frac{X_1}{n_1} = \frac{32.35}{5} = 6.47$$

$$X_2 = \frac{X_2}{n_2} = \frac{31.37}{5} = 6.27$$

$$X_3 = \frac{X_3}{n_3} = \frac{27.34}{5} = 5.47$$

$$\text{Grand Mean, } X = \frac{X_1 + X_2 + X_3}{3} = \frac{6.47 + 6.27 + 5.47}{3} = 6.07$$

$$SCC = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$SSE = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

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

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 Samples	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 (Errors)	SSE = 7.46	n – k = 15 – 3 = 12	MSE =	$\frac{SSE}{n-k} = \frac{7.46}{12}$	= 0.62	$= \frac{1.41}{0.62}$
						= **2.27**
Total	SST = 10.27	n – 1=15 – 1 = 19				

From above ANOVA table, we get
Calculated = *F* (2,12) = 2.27
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 less than the tabulated value of *F*, there is no significant difference and H_0 is accepted.

Calculation of *F* value
Net Profit to Total Assets Ratio

Net Profit to Total Assets Ratio					
NABIL (X_1)	**NIBL (X_2)**	**SCBNL (X_3)**	**$(X_1 - X_1)^2$**	**$(X_2 - X_2)^2$**	**$(X_3 - X_3)^2$**
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
$X_1 = 10.55$	$X_2 = 6.61$	$X_3 = 11.85$	$(X_1 - X_1)^2 = 1.14$	$(X_2 - X_2)^2 = 0.46$	$(X_3 - X_3)^2 = 0.09$

$$X_1 = \frac{X_1}{n_1} = \frac{10.55}{5} = 2.11$$

$$X_2 = \frac{X_2}{n_2} = \frac{6.61}{5} = 1.32$$

$$X_3 = \frac{X_3}{n_3} = \frac{11.85}{5} = 2.37$$

Grand Mean, X $= \dfrac{X_1 + X_2 + X_3}{3} = \dfrac{2.11 + 1.32 + 2.37}{3} = 1.93$

SCC $= n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$

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

SSE $= (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$

$= 1.14 + 0.46 + 0.09 = 1.68$

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	
Between Samples	SCC = 2.97	k – 1 = 3 – 1 = 2	MSC =	$\dfrac{SSC}{k-1}$ =	$\dfrac{2.97}{2}$ =	1.49	**F** =	$\dfrac{MSC}{MSE}$
Within Samples (Errors)	SSE = 1.68	n – k = 15 – 3 = 12	MSE =	$\dfrac{SSE}{n-k}$ =	$\dfrac{1.68}{12}$ =	0.14	=	$\dfrac{1.49}{0.14}$
							=	**10.61**
Total	SST = 4.66	n – 1 = 15 – 1 = 19						

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

Calculation of *F* value
Net Profit to Shareholders' Equity Ratio

Net Profit to Shareholders' Equity Ratio			$(X_1 - X_1)^2$	$(X_2 - X_2)^2$	$(X_3 - X_3)^2$
NABIL (X_1)	**NIBL (X_2)**	**SCBNL (X_3)**			
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
$X_1 = 146.96$	$X_2 = 79.88$	$X_3 = 189.20$	$(X_1 - X_1)^2 = 59.80$	$(X_2 - X_2)^2 = 74.38$	$(X_3 - X_3)^2 = 6.63$

$$X_1 = \frac{X_1}{n_1} = \frac{146.96}{5} = 29.39$$

$$X_2 = \frac{X_2}{n_2} = \frac{79.88}{5} = 15.98$$

$$X_3 = \frac{X_3}{n_3} = \frac{189.20}{5} = 37.84$$

$$\text{Grand Mean, } X = \frac{X_1 + X_2 + X_3}{3} = \frac{29.39 + 15.98 + 37.84}{3} = 27.74$$

$$\text{SCC} = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$\text{SSE} = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

$$\text{SST} = \text{SCC} + \text{SSE} = 1215.81 + 140.81 = 1356.62$$

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	
Between Samples	SCC = 1215.81	k – 1 = 3 – 1 = 2	MSC =	$\frac{SSC}{k-1}$ =	$\frac{1215.81}{2}$ = 607.90	$F =$	$\frac{MSC}{MSE}$
Within Samples (Errors)	SSE = 140.81	n – k = 15 – 3 = 12	MSE =	$\frac{SSE}{n-k}$ =	$\frac{140.81}{12}$ = 11.73	=	$\frac{607.90}{11.73}$ = **51.81**
Total	SST = 1356.62	n – 1 = 15 – 1 = 19					

From above ANOVA table, we get
Calculated = *F* (2,12) = 51.81
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.

Calculation of *F* value
Net Profit to Total Deposits Ratio

Net Profit to Total Deposits Ratio					
NABIL (X_1)	NIBL (X_2)	SCBNL (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	1.32	2.54	0.53	0.07	0.09
X_1 =12.49	X_2 =7.93	X_3 =14.19	$(X_1 - X_1)^2$=1.88	$(X_2 - X_2)^2$=0.92	$(X_3 - X_3)^2$=0.23

$$X_1 = \frac{X_1}{n_1} = \frac{12.49}{5} = 2.50$$

$$X_2 = \frac{X_2}{n_2} = \frac{7.93}{5} = 1.59$$

$$X_3 = \frac{X_3}{n_3} = \frac{14.19}{5} = 2.84$$

$$\text{Grand Mean, X} = \frac{X_1 + X_2 + X_3}{3} = \frac{2.50 + 1.59 + 2.84}{3} = 2.31$$

$$\text{SCC} = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$\text{SSE} = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

$$\text{SST} = \text{SCC} + \text{SSE} = 4.19 + 3.03 = 7.22$$

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
Between Samples	SCC = 4.19	$k - 1 = 3 - 1$ $= 2$	MSC =	$\frac{SSC}{k-1} = \frac{4.19}{2}$	= 2.10	$F = \frac{MSC}{MSE}$
Within Samples (Errors)	SSE = 3.03	$n - k = 15 - 3$ $= 12$	MSE =	$\frac{SSE}{n-k} = \frac{3.03}{12}$	= 0.25	$= \frac{2.10}{0.25}$
						$= \textbf{8.31}$
Total	SST = 7.22	$n - 1 = 15 - 1$ $= 19$				

From above ANOVA table, we get
Calculated $= F (2,12) = 8.31$
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.

Calculation of *F* value
Cost of Services to Total Assets Ratio

Cost of Services to Total Assets Ratio					
NABIL (X_1)	**NIBL (X_2)**	**SCBNL (X_3)**	**$(X_1\text{-} X_1)^2$**	**$(X_2\text{-} X_2)^2$**	**$(X_3\text{-} X_3)^2$**
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
$X_1 =16.88$	$X_2 =16.83$	$X_3 =10.15$	$(X_1\text{-}X_1)^2=0.75$	$(X_2\text{-}X_2)^2=0.67$	$(X_3\text{-}X_3)^2=6.16$

$$X_1 = \frac{X_1}{n_1} = \frac{16.88}{5} = 3.38$$

$$X_2 = \frac{X_2}{n_2} = \frac{16.83}{5} = 3.37$$

$$X_3 = \frac{X_3}{n_3} = \frac{10.15}{5} = 2.03$$

$$\text{Grand Mean, X} = \frac{X_1 + X_2 + X_3}{3} = \frac{3.38 + 3.37 + 2.03}{3} = 2.92$$

$$\text{SCC} = n_j(X_j - X)^2 = n_1(X_1 - X)^2 + n_2(X_2 - X)^2 + n_2(X_2 - X)^2$$

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

$$\text{SSE} = (X_j - X_j)^2 = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2$$

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

$$\text{SST} = \text{SCC} + \text{SSE} = 5.99 + 7.58 = 13.58$$

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	
Between Samples	SCC = 5.99	k – 1 = 3 – 1 = 2	$MSC = \dfrac{SSC}{k-1}$	$= \dfrac{5.99}{2}$	$= 3.00$		$F = \dfrac{MSC}{MSE}$	
Within Samples (Errors)	SSE = 7.58	n – k = 15 – 3 = 12	$MSE = \dfrac{SSE}{n-k}$	$= \dfrac{7.58}{12}$	$= 0.63$		$= \dfrac{3.00}{0.63}$	
							$= \mathbf{4.74}$	
Total	SST = 13.58	n – 1=15 – 1 = 19						

From above ANOVA table, we get
Calculated $= F (2,12) = 4.74$
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.