Chapter I

INTRODUCTION

1.1 Background of the Study

Every organization depends on number of factors, so they should give prime concern to those factors. Therefore one of the major determinants for effective running of a business entity is its financial operation system. Optimum utilization of the organization's financial resources, leads the organization to the ultimate target fulfillment so it is very important to analyze the accounting and financial statements to know the financial position of the organization. Financial analysis is an act of interpreting financial statement (balance sheet, income statement, cash flow analysis and statement of retained earnings) with specific tools and purposes. It is a process of evaluating relationship between component parts of financial statement to obtain better understanding of firm's position and performance. Financial analysis is also involves a comparison of a firm's performance with that of the firms in the same line of business, which often is identified by the firms industry classification. Generally speaking the analysis is used to determine the firm's financial position in order to identify its current strengths and weaknesses and to suggest action that might enable the firm to take advantage of its strength and correct its weaknesses. Thus, financial analysis means a study of relationship among the various financial factors. In other words, financial analysis is a process of classifying and arranging mass data of financial statement. For obtaining a better understanding of the position of a business and its performance, classifying and arranging are needed. The main function of the analysis is the pinpointing of the strengths and weakness of a business undertaking by regrouping and analysis of figures contained in financial statements, by making comparisons of various components and examining their content. This analysis helps to understand the financial position, profitability, operational efficiency and growth potential of the business.

Bank in general means an institution that deals with money. Concept of banking had developed from the ancient history as with the effort of ancient history of goldsmith who practiced storing people's gold and valuables "bank" was originated from French word "Banque". Banks play vital role for domestic resource mobilization and economic development of a country. Origin of traditional banking is traced bank to the Babylonians and Athenians period but the first modern banks are the bank of Venice (1171), are the bank of Geneva (1320) and the bank of Amstordam (1609).

The commercial banks are those banks which pool together the saving of the community and arrange for their productive use. Commercial banks supply the financial needs of modern business by various means. They accept deposits from the public on the condition that they are repayable on demand or on short notice. Commercial banks are restricted to invest their funds in corporate securities. Their business is confined to financing the short term needs of trade and industry such as working capital financing. The first commercial bank was "Bank of England" (1694), Central bank of Britain. The commercial bank has its own role and contribution on the economic development and it is a source for economic development and it maintains economic confidence of various segments and extends credit to people.

1.2 **Statement of Problem**

The main challenge to the commercial banks at present is the competition. The commercial banks of Nepal can be classified into two groups domestic commercial banks and joint venture foreign banks. Domestic commercial banks are facing maximum competition compared to the joint venture foreign banks due to their nature of work and social responsibility. Increase opportunities in the banking market stemming from privatization and liberalization greater integration with the global economy and dismantling of credit ceiling will be accompanied by an increase in cost of funds and a new volatility in the cost and nature of the funds base. It is the low cost producer that will be able to meet the challenge and capitalize opportunities. N short, liability management shall play a key role in absorbing the risk and opportunities. This will represent a significant departure of asset management where the major concentration and emphasis is made by our traditional banks.

Creating liabilities products will go in hand with creativity towards meeting customer needs on the asset side of the balance sheet, because managing cost in itself will be a key determinant have successfully a bank can respond to market needs.

The research is carried out in order to look into the weakness and inefficiencies of Nepal Investment Bank Limited with the help of the monetary efficiency analysis of this bank. With the background the present study will attempt to make assessment on the problems and recommend solution regarding the above mentioned ground as follows:

1. How sound is the operational result in relation to their profitability?
2. To what extent Nepal Investment Bank Ltd has been able to shift the monetary resources from the saver to users?
3. Is return provided by NIBL bearing risk level satisfied?
4. Can NIBL meet its short term obligation?
5. What is the position of bank in terms of liquidity, profitability, leverage and activities ratio/
6. To identify the problems and prospect associate with NIBL?

1.3 Objective of the study

The main objective of the study is to examine, analyze and interpret the financial position of NIBL with the help of ration analysis and other necessary portfolios. The specific objectives of the study are as follows:

1. To know the profitability of NIBL
2. To meet its short-term obligation
3. To analyze the financial performance of NIBL in terms DPS, EPS, MPS, R/E etc
4. To analyze the risk and return of NIBL

1.4 **Significance of the study**

Regarding the economic structure of the country the bank do not have sufficient investment opportunities. The continuous changes which are taking place in the economic and financial milieu of the country, creates the threat to the commercial banks. In this context, the financial analysis would analyze strength, weakness, opportunities and threats of the commercial banks.

The result of the research will be helpful for commercial banks for sampled one to formulate strategies to solve the problems of the following sectors:

1. Ensuring that the banks attract quality management and service
2. Building their capacity for creating products in different areas of operation
3. Protecting and building up their deposit base
4. Enhancing their ability for providing services as per customer needs.
5. Strengthening their ability to manage credit in a sound way as well as maintaining compatibility to the privatization, joint venture, industrial policies of the country

1.5 Limitation of the study:

The study has been conducted as partial fulfillment of the requirement of the "Master Degree in Business Studies". Therefore the study has following limitations:

1. Time, budget and resources are the major limitation for a student
2. Out of 17 commercial banks, the study Is limited only in the financial performance of Nepal Investment Bank Limited. The analysis period of research covers only last 5 years form to
3. Research is based on the data of NIBL
4. Due to availability of limited information, this study will not cover every parts of the financial performance aspects

Chapter II

Research Methodology

The objective of this study is to analyze the financial performance of NIBL to fulfill the above objective; the study adopted the following research methodology. In the previous chapter, background of NIBL, has been highlighted, review of financial performance analysis, review of books and journals, review of thesis, review of legislation related to commercial banks, review of bank and financial institution ordinance 2004 have been discussed. This has assisted me to make choice of research mythology.

Research method refers to the methods/way that is used for conduction of research or performing research operation. Research methodology may be defined as "A systematic process that is adopted by the researcher in studying a problem with certain objective in view". In other words, research methods are those methods, which are used by the researcher during the course of studying his/her research problem. Research methodology is a way to solve the research problem systematically. The research methodology is wider than that of research methods. Research methodology high lights about how the research problem has been defined, what data have been collected, what particular method has been adopted and why hypothesis ha been formulated etc.

Research methodology depends on the various aspects of the research project. The size of the project, the objective of the study, importance of the project, time frame of the project, impact of the project in the aspects of the human life etc. are the variables that determine the research methodology of the particular projects.

2.1 Research Design

Research design is the plan of attack. What approach to the problem will be taken? What methods will be used? What strategies will be most effective? So, the research makes a plan of his/her study before undertaking the research work. This will enable to save time and resources. Such a plan of study or blue print for study is called a research design. A research design is a plan for the collection and analysis of data. It presents a series of guide posts to enable the researcher to progress in the right direction in order to achieve the goal. The research design may be a specific presentation of the various steps in the research process, these steps are

1. Selection of a research problem
2. Presentation of the problem
3. Formulation of hypothesis
4. Conceptual clarity, methodology
5. Survey of literature and documentation and bibliography
6. Data collection
7. Testing of the hypothesis, interpretation, presentation
8. Report writing

So, in this research, analytical research design has been used to complete the study.

2.2 Sources of data

The study is mainly base upon the secondary data, data collected by the researcher or through agent for the first time from related field and possessing original character are known as primary source (data). On the other hand, data collected by some one else, used already and are made available to others in the form of published statistics are known as secondary data. The data relating to this financial performance are collected from concerned banks.

The supplementary information and data are obtained from banking and financial statistics of Nepal Rastra Bank, NRB's economic report, unpublished official records of concerned banks, journal, booklets, Nepal Stock Exchange, Security Exchange Board and Nepal Rastra Bank. The information related to the financial performance of these concerned banks are collected by raising questions with the top level employees. Some of the operation has been incorporated as in the study.

2.3 Methods of analysis

The main purpose of analyzing the data is to change it from unprocessed form to understandable presentation. There are different kinds of tests i.e. financial, statistical and accounting tools is used according to the data available to achieve the objectives of the study.

The analysis of data is made according to the pattern of data available. In this research only financial analysis, statistical tools and mathematical tool i.e. simple averages, percentage, trend analysis and bar diagram are applied because of limited time and resource. Financial performance of NIBL is done on the basis of analytical as well as descriptive approaches of research.

2.3.1 Ratio analysis

A passive used tool of financial analysis is ratio analysis. The term ratio refers to the quantitative or numerical relationship between two items/variables. A ratio if calculated by dividing one item of the relationship with the other. A ratio is an arithmetical relationship between two figures. Ratio is the relationship between two gigues. Ratio is the proportion of two related variables. Variables could be independent or dependent.

1. Cash Position Ratio

Cash means cash in hand and balance with banks. Cash position ratios are used in analyzing the cash position of the entity at any point of time. This ratio indicates the time period that can be covered by existing cash position for meeting operating expenses. With this ratio we can find out whether or not the company is cash solvent in the short run. This is the position between cash or readily marketable securities and current liabilities. The formulas are:

$$\text{Absolute Cash Position Ratio} = \frac{\text{Cash + marketable Securities}}{\text{Current Liabilities}}$$

$$\frac{\text{Cash + marketable Securities}}{\text{Total Assets}}$$

A. Cash to Total Assets Ratio =

B. Interval Measures = $\frac{\text{Cash + marketable Securities}}{\text{Average daily cash operating expenses}}$

2. Liquidity Ratio (Solvency Ratio)

The term solvency refers to ability of meeting liabilities. Liquidity ratio measures the ability of the firm to meet its current obligation. In fact, liquidity is a prerequisite for the very survival of a firm. The short terms creditors of the firm are interest in the short term solvency or liquidity of a firm. But liquidity i9mplies, from the view point of utilization of the funds of the firm that funds are idle or they earn very little. A very high degree of liquidity is bad as idle assets earn nothing. Due to lack of sufficient liquidity, the company will be failure to meet its obligation, it creates bad credit image, loss of creditor's confidence, or even in lawsuits resulting in the closure of the company. Solvency ratio may be studied in two parts

1. Short term solvency ratio
2. Long term solvency ratio

Short term solvency refers to ability of meeting current liabilities in time out of current assets. Hence short term solvency ratios are based on current assets and current liabilities.

A. Current Ratio

This is the ratio between current assets and current liabilities with this ratio one can find out the sufficiency of current assets to meet current liabilities. Current liabilities generally mean liabilities to be settled with in a year or less. The calculation of current ratio is done

Current Ratio = $\frac{\text{Current assets}}{\text{Current liability}}$

Current assets include: cash, bank balance, money at call and those assets which can be converted into cash within a year such as investment in government securities, receivables, overdrafts, loans, advances, purchased, discounted and miscellaneous current assets

Current liability include: deposits and other short term loan, bills payable, staff bonus, dividend payables and miscellaneous current liabilities.

The current ratio measures the ability of the firm to meet its current liabilities current assets get converted in to cash in the operational cycle of the firm and provide the funds need to pay the current liabilities.

Apparently, higher the current ratio, greater short term solvency. Generally 2:1 is said to be ideal current ratio but actually what should be the ideal ratio for a concern depends upon nature of its activities.

Interpretation

Current Ratio	Remark
1	Current assets are just sufficient to meet current liabilities
Less than 1	The entity under consideration is not solvent in the short run. It cannot pay its short-term liabilities with its assets, which can be realized in cash within a short period. The entity has to increase its current assets.
Greater than 1	The entity has a favorable level of current assets compared to current liabilities. It is short term solvent entity. However, very high current ratio indicates that the entity's funds are unnecessary blocked on the current assets.

B. Cash and bank balance to current assets

It shows the relationship between cash and bank to current assets. Cash and Bank balance are the most liquid current assets. Higher ratio indicates the bank's sound ability to meet its demand for daily cash requirement to customer's deposits. The formula is:

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

C. Investment on governments' securities to current assets.

It shows the relationship between investments on government securities to current assets. The government securities are the safest palace to create investment but not more liquid than cash and bank balance. This ratio shows the portion of commercial banks current assets which are invested on different types of government securities. This is calculated by using following formula;

$$\text{Investment on governments' securities to current assets} = \frac{\text{Investment on government securities}}{\text{Current assets}}$$

D Loan and Advance to current assets

It shows the relationship between loan and advance to current assets. The bank must maintain its loan and advances in appropriate level to find out portion of current assets, which is granted as loan and advances. The formula is:

$$\text{Loan and advance to current assets} = \frac{\text{Loan and advance}}{\text{Current assets}}$$

E. Fixed deposit to total deposit

This ratio shows the relationship of fixed deposit to total deposit. Fixed deposit is high interest bearing deposit and it has a fixed maturity period. The greater the proportion of fixed deposits, the lesser will be the proportion of current or shot term deposits in the total deposits, which indicates higher short term liquidity position of a bank

The formula is

$$\text{Fixed deposit to total deposit} = \frac{\text{Fixed deposit}}{\text{Total deposit}}$$

F. Saving deposit to total deposit

This ratio is calculated in order to find out the proportion of total deposit which is short term and interest bearing. It is calculated by dividing the amount of saving deposit by the total deposit. The formula is:

$$\text{Saving deposit to total deposit} = \frac{\text{Saving deposit}}{\text{Total deposit}}$$

G. Short term loan to total deposit

It shows the portion of short term loan to total deposit it can be expressed as:

$$\frac{\text{Short term loan}}{\text{Total deposit}}$$

H. Cash and bank balance to total deposit

This is the relationship between the cash and bank balance with total deposit. This ratio is the percentage or portion of total deposit which is maintained as cash and bank balance by the banks. It is called cash reserve ratio. It is ability of bank to meet their daily requirements. The total deposits includes current deposits, saving deposits, fixed deposits, money at call and short notice and other deposits and cash and bank balance includes cash on hand, foreign cash on hand, cheques and other cash items, balance held in foreign banks. This ratio is calculated by dividing cash and bank balance by the amount of total deposits. This can be stated as:

$$\text{Cash and bank balance to total deposit} = \frac{\text{Cash and bank balance}}{\text{Total deposit}}$$

3. Stability ratio

Stability ratio consists of share capital shareholder reserve, net worth, total assets, current assets and total deposit in the corporate establishment. It includes different types of ratio which are as follows:

A. Shareholders reserve to share capital

This ratio indicates the relationship between share capital and shareholders reserve, it indicates the sustainability of the bank. Shareholders reserves include various reserves and share capital includes the paid up equity of the owners including the preference share. The formula is:

$$\text{Shareholders reserve to share capital} = \frac{\text{Shareholders reserve}}{\text{Share capital}}$$

B. Net worth to total assets

It shows the relationship of net worth to its total assets. It defines the proportion to its total assets employed on its net worth. The formula is

$$\text{Net worth to total assets} = \frac{\text{Net worth}}{\text{Total assets}}$$

C. Current assets to net worth

It show the relationship of current assets of the bank to net worth, which is calculated by using following formula

$$\text{Current assts to net worth} = \frac{\text{Current assets}}{\text{Net worth}}$$

D. Total Deposit to Net Worth

Total deposit includes saving, fixed and current call to short deposit and other deposit. Total deposits to net worth ratio shows the relative portion of total deposit in relation to net worth. The formula is:

$$\text{Total deposit to net worth} = \frac{\text{Total deposit}}{\text{Net worth}}$$

4. Asset Management Ratio (Activity Ratio)

Asset management ratio measures the efficiency of the bank to manage its asset in profitable and satisfactory manner. This ratio shows the speed with which assets are being converted or turnover so it is called turnover ratio.

A. Loan and advance to total deposit ratio

This ratio shows the capacity of bank which can mobilize the deposits (the outsider fund) on loan and advance in order to make profit maximization. Higher ratio implies the better utilization of total deposit. The formula is

$$\text{Loan advance to total deposit ratio} = \frac{\text{Loan and advance}}{\text{Total deposit}}$$

B. Loan and advance to fixed deposit

This ratio measures how many times the amount is used on loans and advances in comparison to fixed deposits. Loan and advances are the major sources of investment to generate income for the commercial banks and fixed deposits are high interest bearing obligation. The formula is

$$\text{Loan and advances to fixed deposit ratio} = \frac{\text{Loan and advance}}{\text{Fixed deposit}}$$

C. Loan and advances to saving deposit

Fixed deposits are the high interest bearing obligation then saving deposits are the second high interest bearing obligation. This ratio measures the extent to which the bank is successful to mobilize the saving deposit on loans and advance for the purpose of profit maximization. The formula is:

$$\text{Loan and advance to saving deposit} = \frac{\text{Loan and advance}}{\text{Saving deposit}}$$

D. Total off balance sheet operation to loan and advance ratio

Off balance sheet activities is a fee based activities. This fee based activities are affected by mode of operation, management strategy, banking network with foreign banks. Total off balance sheet operation consists of letter of credit (L/C), Letter of guarantee, document negotiated under reserve (DNUR), capital commitments, commitments of foreign currency purchase contracts claimed at bank by accepted and other such transaction. The formula is:

Total off balance sheet operation to loan and advance ratio =

$$\frac{\text{Total off balance sheet operation}}{\text{Loan and advance}}$$

E. Loan loss ratio

Loan loss provision to total loans and advance ratio

The ratio of loan loss provision to total loans and advances shows the quality of assets in form of loan I bank holding. NRB has directed all the commercial banks to classify its loans and advances into category and make provision according to these loans classified. The NRB directives direct to make the provision of 1%, 25%, 50% and 100% for good loans, sub standards loans, doubtful loans and bad loan respectively. This ratio indicates how efficiency it manages its loan and advances and make effort for loan recovery. This ratio shows the possibility of loan default of a bank. The more of the loan loss provision, suggests two definite things more of total loan and advance or more of bad loan. The formula is

$$\text{Loan loss provision to total loans and advance ratio} = \frac{\text{Loan loss provision}}{\text{Total loan and advance}}$$

Non performing loan

Non performing loan consists of loans and advances except good loans. The NRB directives has classified the loan and advances as pass, substandard, doubtful and loss and provision should be make 1%, 25%, 50% and 100% respectively. The loan under the category of pass loan is also called as performing loan and the sub standard, doubtful and loss loans are called non performing loan. Loan loss provision for non performing loan is defined as specific loan loss provision. Non performing loans are in fact very crucial problems of banks. They need extra efforts for collection of repayment.

Loan loss provision for none performing Loans

According the NRB directives, Loan loss provision is made against all types of loan. According to the NRB directives 1% provision is to be provided for all goods loans and 25%, 50% and 100% for sub standards, doubtful and bad loan respectively.

Non performing loans to total loan and advance

The new directive regarding loan classification and provisioning was issued on 2001, was effective from the fiscal year 2001/002. According to that new directive of NRB, non performing loans are categorized in to substandard, doubtful and bad loans. This ratio

shows the relationship between non performing loans with total loan and advance. If the non performing loans increase, it will decrease the profit.

Loan loss provision to non performing loan

The loan loss provision to loans and advances shows the quality of assets which the bank is holding. Loan loss provision in fact is the cushion against future contingency created by the default of the borrowers. The lower ratio indicates the good quality of assets in the total volume of loans and advances.

5. Profitability Ratio

A firm should earn profits to survive and grow over a long period of time. Profit is essential. In fact, sufficient profits must be earned to sustain the operations of the any firm or business to be able to obtain funds from investors for expansion and growth and to contribute towards the social overheads for the welfare of the society. The profitability of the company should be evaluated in terms of the firm's investment in assets and in terms of capital contributed by creditors and owners. So profitability ratio is calculated in relation to sales and investment.

Generally profitability ratios are calculated either in relation to sales or in relation to investment. So, here we calculate profitability ratios in relation to investment and assets

A. Interest paid to working fund

This ratio describes the percentage of total interest expenses and its interest on fixed deposit, call deposit, saving deposits and interest on borrowing with respect total working fund. A high ratio indicates high interest expenses on total working fund and vice versa. The formula is:

$$\text{Interest paid to working fund} = \frac{\text{Interest paid}}{\text{Working funds}}$$

B. Net profit to working fund

It shows the relationship between net profits to working fund. It is the capacity to earn the profit by utilizing available resource. Net profit includes the portion of income left to the internal equities after all costs and different types of changes, expenses should be deducted. The formula is:

$$\text{Net profit to working fund} = \frac{\text{Net profit}}{\text{Working funds}}$$

C. Net profit to total deposit

This ratio describes the percentage of profit earned by using total deposit. This ratio shows the efficiency towards its deposit mobilization. Higher ratio indicates proper utilization of total deposit and lower ratio indicates the proper utilization of total deposit. The formula is:

$$\text{Net profit to total deposit} = \frac{\text{Net profit}}{\text{Total deposit}}$$

D. Operating profit to net worth

It is appropriate for the comparative study to compute the operating profit to net worth. It shows the portion of operating profit in net worth. In this study, operating profit represents operating income minus operating cost. The formula is:

$$\text{Operating profit to net worth} = \frac{\text{Operating profit}}{\text{Net worth}}$$

E. Return on loan and advance ratio

Return on loan and advance ratio measures the earning capacity of the commercial banks on its deposits mobilized on loan and advances. Loan and advances includes loan cash credit, overdraft bills purchased and discounted. A high ratio indicates a high success to mobilize fund as loan and advances and vice versa. The formula is;

$$\text{Return on loan and advance ratio} = \frac{\text{Net profit}}{\text{Loan and advance}}$$

F. Return on equity (ROE)

It is also called net profit to net worth ratio. Net worth means different between total assets and total liabilities. It finds the efficiency of bank to use the funds of owners. Net worth includes paid up capital, reserve funds and other reserves, profit and loss account and bonus share. The formula is:

$$\text{Return on equity (ROE)} = \frac{\text{Net profit}}{\text{Total equity capital}}$$

G. Cost of services to working funds

Cost of services represents interest paid on borrowing on draft, salary allowances and provident fund and working fund is equal to the sum of current assets, net fixed assets and other assets. This ratio shows the portion of cost of services in working fund. The formula is

$$\text{Cost of services to working funds} = \frac{\text{Cost of services}}{\text{Working fund}}$$

6. Risk Ratio

The bank and its investment in particular are exposed to different degree of risk exists because of the inability of the decision maker to make perfect forecasts. An investment is not risky, if we can specify a unique sequence of cash flow for it. The possibility of risk makes banks investment a challenging task. A bank has to take risk ratio measures the level of risk.

A. Credit Risk Ratio

In the area of credit appraisal, the ratio technique is very important and used for measuring past performance and for projecting future trend. When parties approach bank for credit limits, bankers must be satisfied about the financial health of the borrowers. The banker uses ratio technique for following objectives.

- To judge the operating efficiency of the borrowers
- To judge the financial health
- To ensure safety and securities of the advance
- The risk behind making investment or granting loan or providing is measured by credit risk ratio. In fact, credit risk ratio shows the proportion of non performing assets in total loan and advances of a bank. It can be expressed as

$$\text{Credit risk ratio} = \frac{\text{Total loan and advance}}{\text{Total assets}}$$

B. Investment on government securities to total deposit

Investment on government securities includes treasury bills and development bonds etc. This ratio shows the utilization of firm's deposits in government securities. It can be expressed as;

$$\frac{\text{Investment on government securities}}{\text{Total deposit}}$$

C. Total investment to total deposit

A commercial bank utilizes its total deposit by investing its fund in different securities issued by government and other finances and non financial securities. So, this ratio indicates the utilization of bank's deposit in government securities and bonds, debentures and shares of other firms and banks. It can be expressed as:

$$\frac{\text{Total investment}}{\text{Total deposit}}$$

7. Ownership ratio

Common shareholders are known a owner of firm. Common shareholders are entitled to the residual profit. The rate of common dividend is not fixed because the earning may be distributed to them or retained in the bank or firm. So, the net profits after taxes represent owners' return. Ownership ratio is very important for shareholder's to know the financial performance of the bank or firm in a given period of time.

A. Earning per share (EPS)

The profitability of a firm from the point of view of the ordinary shareholders is the earning per share (EPS) except rate of return. It measures the profit available to the equity shareholders on per share basis, i.e. the amount that they can get on each share held. It measures the earning available to an equity shareholder on a per share basis. The EPS

represents the amount earned on behalf each outstanding share of common stock. It can be expressed as:

$$\text{Earning per share (EPS)} = \frac{\text{Net profit after taxes} - \text{preference dividend}}{\text{Number of equity share outstanding}}$$

B. Dividend per share

The amount of earning distributed and paid as cash dividend is considered as dividend per share. Higher the DPS shows the efficiency of management and vice versa. The ratio is calculated as

$$\text{Dividend per share (DPS)} = \frac{\text{Dividend per share (Proposed dividends)}}{\text{Number of equity share}}$$

C. Dividend payout ratio

The ratio measures the relationship between the earning belonging to the ordinary shareholder and dividend paid to them. This ratio indicates the portion of earning that has actually been distributed in the form of dividend out of total earning available for shareholders.

8. Growth Ratio

Growth analysis of the banks involves analysis of growth in deposits, loans, investments and net profit. Growth analysis is certain how much growth in deposit liability in supported by growth in assets. The analysis also shows assets portfolio which has significant increment corresponding to the increment in deposit liability.

A. Growth ratio of total loan and advance

Loan and advances is the major function of the commercial banking. The growth of these loans and advances determines the bank performance. The formula is;

Yearly change of total loan and advance in %

$$= \frac{\text{Current year's total loan and advance} - \text{previous year's total loan and advance}}{\text{Previous year's total loan and advance}} \text{X100}$$

B. Growth ratio to total investment

Investment is also integral part of banking. It determines the proper utilization of its fund. The formula is

Yearly change of total investment in %

$$= \frac{\text{Current year's total investment} - \text{previous year's total investment}}{\text{Previous year's total investment}} \text{ X 100}$$

C. Growth ratio to total deposit

Deposits are the main source of capital for commercial banks. Bank utilizes these funds in loan and advance as investment. The formula is:

Yearly change of total deposit in %

$$= \frac{\text{Current year's total deposit} - \text{previous year's total deposit}}{\text{Previous year's total deposit}} \text{ X } 100$$

D. Growth ratio of net profit

The growth of net profit reveals the overall performance of the banks, the formula is

Yearly change of net profit in %

$$= \frac{\text{Current year's net profit} - \text{previous year's net profit}}{\text{Previous year's net profit}} \text{ X } 100$$

2.3.2 Other indicators

Various indicators can be used to know the financial performance analysis of the bank and there are very few indicators which are used to analysis the financial performance of NIBL, which are given below:

A. Spread:

"The spread is defined as interest revenue interest expenses. Spread management emphasizes the difference between the return on assets and cost of liabilities over a time. A high positive spread is generally desirable and is required for all financial institutions" – Fred C. Yeager

It can be expressed as follows:

Spread = Total interest earned – total interest paid

B. Time series

A series formed from a set of statistical data arranged in accordance with their time of occurrence is said to be a time series. The values of variable may have been changing or fluctuating round a constant value over the change of time period. The time period may be yearly, monthly, weekly, daily, hourly etc. depending upon the nature of phenomena. The data which are variated with respect to time is called time series and the statistical methods used to analyze these time series is called time series analysis. A time series shows the relation between two variables, one being the time. The main importance of time series took place in economics and business. The way from which the maximum information can be drawn from the figures collected is known as the analysis of time series.

C. Least square method

This is the most popular and widely used mathematically methods of measuring trend. This is frequently used for future predication. There are various types of curves that may be used to describe the given data. Under this method, a trend line is fitted to the data satisfying the following two conditions.

$\sum(Y - Yc) = 0$ and $\sum(Y - Yc)^2$ is least where Y is the actual value and Yc the computed value of Y. As $\sum(Y - Yc)^2$ is least, hence the name method of least square. The line obtained by this method is known as the line of best fit.

Let, the trend line between the dependent variable Y and the independent variable X (i.e. time) be represented by

$Y = a + bX$ ……. i

Then for any given value of independent variable X, estimate value of y denoted by Yc given by above equation is

$Yc = a + bX$ ……. ii

a = Y intercept or value of Y when X = 0

b = slope of the trend line or amount of change that comes in Y for a unit change in X. (it is taken from business mathematics and statistics, B.C. Bajracharya 2053)

2.3.3 Statistical Analysis

In this research, various types of statistical tool are used to analysis of financial efficiency of NIBL. Among them, coefficient of correlation and trend analysis of important variables have been used.

A. Coefficient of correlation analysis

Correlation is statistical device designed to measure the degree of association between two or more variables. Two variables are said to have "correlation", when they are so related that the change in the value of one variable is accompanied by the change in the value of the other. The measure of correlation called the "correlation coefficient" summarizes in one figure, the degree and direction of movement. Correlation analysis only helps in determining the extent to which the two variables are correlated but it does not tell us about cause and effect relationship.

One may, for the example, be interested in studying the correlation between capital and deposit, height and weight of children, income and expenditure etc.

To measure the degree of association between such variables, one more summary statistics is needed and is know as correlation coefficient. It is generally denoted by 'r'. It is independent of original units of data. In this research, Karl Person's correlation coefficient is used to measure a degree of association between two variables only to the extent to which

it is linear Person's coefficient of correlation is used to measure the degree of relation between following variables.

a. Coefficient of correlation between total deposit and net profit
b. Coefficient of correlation between deposit an total income
c. Coefficient of correlation between deposit and loan
d. Coefficient of correlation between net worth and total assets
e. Coefficient of correlation between current assets and current liabilities

The formula is

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

Where,
r = the coefficient of correlation
∑XY = total population of items in two series
∑X = Total of X series
∑Y = Total of Y series
$\sum X^2$ = Total of the square of item in X series
$\sum Y^2$ = Total of the square of item in Y series
N = The number of items period

Interpretation of correlation coefficient®
When, r = 1, there is positively perfect correlation between the two variables
When, r = -1, there is negatively perfect correlation between the two variables
When, r = 0, the variables are uncorrelated
Nearer the value of r to +1, closer will be the relationship between two variables and nearer the value of r to 0, lesser will be the relationship.

B. Probable Error of correlation coefficient

Probable error of correlation coefficient is an old measure for testing the reliability of an observed correlation coefficient. The probable error of correlation coefficient is shortly denoted by P.E. ®. It 'r' is the correlation coefficient calculated from n pairs of sample observations, then the standard error of this correlation coefficient is given by

$$S.E. = \frac{1 - r2}{\sqrt{n}}$$

Then the probable error of r is P.E. (r) = 0.6745*S.E. (r)

$$P.E. = 0.6745 \quad \frac{1 - r2}{\sqrt{n}}$$

It is used in insignificant. So, perhaps there is no evidence of correlation.
If r < P.E., it is insignificant. So, perhaps there is no evidence of correlation.
If r > 6 P.E., it is significant

In other cases, nothing can be concluded. The probable error of correlation coefficient may be used to determine the limits within which the population correlation coefficient lies. Limits for population correlation coefficient are
R ± P.E.

2.3.4 Factors for analysis of risk and return

The factors which are used for analysis of risk and return are given below:

A. Dividend per share (DPS)

Dividend is relevant during the calculation of rate of return, which is a reward to the shareholders for their investment. Bank declares cash dividend and stock dividend. If a bank declares only the cash dividend, there is no problem to take the dividend amount but if a bank declares stock dividend or bonus dividend, it will be difficult to obtain the amount that shareholders have gained. So, in this case, they get extra numbers of share as dividend and simultaneously price of the stock declines as a result of increased number of stocks. To get a real amount of dividend, the following model can be sued.

Total dividend amount = cash dividend + stock dividend % X next year's MPS

B. Market Price of Stock (MPS)

Here, in this study the closing price is taken as the market price of stock, which has specific time of span of one year and the study has focused in annual basis. To get the real average, volume and price of each transaction in the stock and duration of time of each transaction in the whole year are effectual which is monotonous and impossible too. So, considering the data availability the closing price is used as the market price of stock, which has specific time of one year and the study has focused in annual basis.

Tools for analysis

The tools that are used for analysis are as follows

1. Holding period return (HPR)

Holding period return includes capital gain and dividend gain
HPR or R = capital gain + dividend gain

$$\text{HPR or } R = \frac{P_t - P_{t-1} + D_1}{P_{t-1}}$$

Where,

P_t = Ending price of the stock (price at time t)

P_{t+1} = Beginning price of the stock (Price at time t-1)

D_1 = Dividend received at time t

2. Expected rate of return ($\overline{Rj}$)

The expected rate of return is the arithmetic mean of the past years returns. It can be calculated by using following formula

$$R_j = \sum P_j X R_j$$

Where,

$\overline{R_j}$ = Expected rate of return of stock j

P_j = Probability distribution of security j

R_j = Return on stock j

When time series data are given, is can be calculated expected return as;

$$\overline{R_j} = \frac{\sum R_j}{N}$$

Where

N = number of observation

3. Coefficient of variation: Unitary risk measure

The risk that is calculated using standard deviation is the total risk on investment. If we needed to calculate risk per unit of expected return, coefficient of variation can be used. The formula is given below:

$$CV_j = \frac{\sigma_j}{\overline{R_i}}$$

Where,

CV_j = coefficient of variation of stock j

Coefficient of variation is the unitary risk measure. It gives the result regarding the unit of risk to bear for earning 1 unit of return

BIBLIOGRAPHY

Bajracharya, B.C. (2061) *"Business Statistic & Mathematic"*, Bhotahity, Kathmandu; M.K. Publisher & Distributor

Veaven, W.H. (1996) *"Financial Ratio & Predictors of Failure",* an empirical research in Accounting selected studies supplement to journal of accounting research

Dambalena, I.G. and Khoury, S.J. (1980*) "Ratio Stability & Corporation Failure",* Journal of Finance

Dangol, R.M. (1995) *"Management Accounting"*, Reprint Taleju Pustak Bitarak, Kathmandu

Dhakal, S. (2001) *"A comparative Study on the Financial Performance of Nepal Indosueq Bank Ltd. (NIBL) and Nepal Arab Bank Ltd. (NABIL)"*, Unpublished Master's Level Thesis

Edward Altman (1968) *"Financial Ratio Discriminate Analysis & Prediction of Corporate bankruptcy"*, Journal Finance

Dhungana, Bineet (C.A.) *"Professional Accounting Technician"* (Advance Level), A training Materials, CIMA Chartered Institute of Management & Accountancy

Bhalla, V.K. (1983) *"Investment Management Security Analysis and Portfolio Management"*