

# Chapter-2

## Introduction: Financial Performance Analysis



## **CHAPTER - 2**

### **INTRODUCTION: FINANCIAL PERFORMANCE ANALYSIS**

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## **2.1 INTRODUCTION TO FINANCIAL STATEMENT ANALYSIS**

Published financial statements are the only source of information about the activities and affairs of a business entity available to the public, shareholders, investors and creditors, and the governments. These various groups are interested in the progress, position and prospects of such entity in various ways. But these statements howsoever, correctly and objectively prepared, by themselves do not reveal the significance, meaning and relationship of the information contained therein. For this purpose, financial statements have to be carefully studied, dispassionately analyzed and intelligently interpreted. This enables a forecasting of the prospects for future earnings, ability to pay interest, debt maturities both current as well as long-term, and probability of sound financial and dividend policies. According to Myers, “financial statement analysis is largely a study of relationship among the various financial factors in business as disclosed by a single set of statements and a study of the trend of these factors as shown in a series of statements”

Thus, analysis of financial statements refers to the treatment of information contained in the financial statement in a way so as to afford a full diagnosis of the profitability and financial position of the firm concerned.

The process of analyzing financial statements involves the rearranging, comparing and measuring the significance of financial and operating data. Such a step helps to reveal the relative significance and effect of items of the data in relation to the time period and/or between two organizations.

Interpretation, which follows analysis of financial statements, is an attempt to reach to logical conclusion regarding the position and progress of the business on the basis of analysis. Thus, analysis and interpretation of financial statements are regarded as complimentary to each other.

## **2.2 OBJECTIVES OF FINANCIAL ANALYSIS**

Financial statement analysis is very much helpful in assessing the financial position and profitability of a concern. The main objectives of analyzing the financial statements are as follows:

1. The analysis would enable the present and the future earning capacity and the profitability of the concern.
2. The operational efficiency of the concern as a whole as well as department wise can be assessed. Hence the management can easily locate the areas of efficiency and inefficiency.
3. The solvency of the firm, both short-term and long-term, can be determined with the help of financial statement analysis which is beneficial to trade creditors and debenture holders.
4. The comparative study in regard to one firm with another firm or one department with another department is possible by the analysis of financial statements.
5. Analysis of past results in respects of earning and financial position of the enterprise is of great help in forecasting the future results. Hence it helps in preparing budgets.
6. It facilitates the assessments of financial stability of the concern.
7. The long-term liquidity position of funds can be assessed by the analysis of financial statements.

## **2.3 LIMITATIONS OF FINANCIAL ANALYSIS**

1. Owing to the fact that financial statements are compiled on the basis of historical costs, while there is a market decline in the value of the monetary unit and resultant rise in prices, the figures in the financial statement loses its functions as an index on current economic realities. Again the financial statements contain both items. So an analysis of financial statements cannot be taken as an indicator for future forecasting and planning.
2. Analysis of financial statements is a tool which can be used profitably by an expert analyst but may lead to faulty conclusions if used by unskilled analyst. So the result cannot be taken as judgments or conclusions.

3. Financial statements are interim reports and therefore cannot be final because the final gain or loss can be computed only at the termination of the business. Financial statement reflects the progress of the position of the business so analysis of these statements will not be a conclusive evidence of the performance of the business.
4. Financial statements though expressed in exact monetary terms are not absolutely final and accurate and it depends upon the judgment of the management in respect of various accounting methods. If there is change in accounting methods, the analysis may have no comparable basis and the result will be biased.
5. The reliability of analysis depends on the accuracy of the figures used in the financial statements. The analysis will be vitiated by manipulations in the income statement or balance sheet and accounting procedure adopted by the accountant for recording.
6. The results for indications derived from analysis of financial statements may be differently interpreted by different users.
7. The analysis of financial statement relating to a single year only will have limited use. Hence the analysis may be extended over a number of years so that results may be compared to arrive a meaningful conclusion.
8. When different firms are adopting different accounting procedures, records, policies and different items under similar headings in the financial statements, the comparison will be more difficult. It will not provide reliable basis to assess the performance, efficiency, profitability and financial condition of the firm as compared to industry as a whole.
9. There are different tool of analysis available for the analyst. However, which tool is to be used in a particular situation depends on the skill, training, and expertise of the analyst and the result will vary accordingly.

## **2.4 TYPES OF FINANCIAL ANALYSIS**

A distinction may be drawn between various types of financial analysis either on the basis of material used for the same or according to the modus operandi or according to the objective of the analysis.

### **2.4.1 ACCORDING TO NATURE OF THE ANALYST**

#### **1. External Analysis**

It is made by those who do not have access to the detailed records of the company. This group, which has to depend almost entirely on published financial statements, includes investors, credit agencies and governmental agencies regulating a business in nominal way. The position of the external analyst has been improved in recent times owing to the governmental regulations requiring business undertaking to make available detailed information to the public through audited accounts.

#### **2. Internal Analysis**

The internal analysis is accomplished by those who have access to the books of accounts and all other information related to business. While conducting this analysis, the analyst is a part of the enterprise he is analysing. Analysis for managerial purposes is an internal type of analysis and is conducted by executives and employees of the enterprise as well as governmental and court agencies which may have regulatory and other jurisdiction over the business.

### **2.4.2 ACCORDING TO MODUS OPERANDI OF ANALYSIS**

#### **1. Horizontal Analysis:**

When financial statements for a number of years are reviewed and analyzed, the analysis is called 'horizontal analysis'. As it is based on data from year to year rather than on one date or period of time as a whole, this is also known as 'dynamic analysis. This is very useful for long term trend analysis and planning.

#### **2. Vertical Analysis:**

It is frequently used for referring to ratios developed for one date or for one accounting period. Vertical analysis is also called 'Static Analysis'. This is not very conducive to proper analysis of the firm's financial position and its interpretation as it does not enable to study data in perspective. This can only be provided by a study conducted over a number of years so that comparisons can be effected. Therefore, vertical analysis is not very useful.

### **2.4.3 ACCORDING TO THE OBJECTIVE OF THE ANALYSIS**

On this basis the analysis can be long-term and short-term analysis:

#### **1. Long-term Analysis:**

This analysis is made in order to study the long-term financial stability, solvency and liquidity as well as profitability and earning capacity of a business. The objective of making such an analysis is to know whether in the long-term the concern will be able to earn a minimum amount which will be sufficient to maintain a reasonable rate of return on the investment so as to provide the funds required for modernization, growth and development of the business.

#### **2. Short-term Analysis:**

This analysis is made to determine the short-term solvency, stability, liquidity and earning capacity of the business. The objective is to know whether in the short-run a business enterprise will have adequate funds readily available to meet its short-term requirements and sufficient borrowing capacity to meet contingencies in the near future.

## **2.5 METHODS OF FINANCIAL ANALYSIS**

The analysis of financial statements consists of a study of relationship and trends, to determine whether or not the financial position and results of operations as well as the financial progress of the company are satisfactory or unsatisfactory. The analytical methods or devices, listed below, are used to ascertain or measure the relationships among the financial statements items of a single set of statements and the changes that have taken place in these items as reflected in successive financial statements. The



fundamental objective of any analytical method is to simplify or reduce the data under review to more understandable terms.

Analytical methods and devices used in analyzing financial statements are as follows:

1. Comparative Statements
2. Common Size Statements
3. Trend Ratios
4. Ratio Analysis
5. Cash Flow Statements
6. Fund Flow Statement.

Here we are discussing the Ratio analysis method in details, as it is very important to measure the profitability, liquidity and leverage situation of the company for the Mergers and Acquisitions.

## **2.6 RATIO ANALYSIS**

Ratio analysis is used to evaluate relationships among financial statement items. The ratios are used to identify trends over time for one organization or to compare two or more organizations at one point in time. Ratio analysis focuses on three key aspects of a business: liquidity, profitability, and solvency.

Ratio Analysis is a important tool for any business organization. The computation of ratios facilitates the comparison of firms which differ in size. Ratios can be used to compare a firm's financial performance with industry averages. In addition, ratios can be used in a form of trend analysis to identify areas where performance has improved or deteriorated over time.

Ratio is the symptoms like the blood pressure, the pulse or the temperature of an individual. Just as in the case of an individual, a doctor or a valid by reading the pulse of a patient or by studying the blood pressure or the temperature of a patient can diagnose the cause of his ailment, so also a financial analyst through ration analysis of the employment of resources and its overall financial position. Just as in medical science the symptoms are passive factors, to diagnose them properly depends upon the efficiency

and the expertise of the doctor, so also to derive right conclusions from ratio analysis will depend upon the efficiency and depth of understanding of the financial analyst.

### **2.6.1 ACCOUNTING RATIOS**

An absolute figure often does not convey much meaning. Generally, it is only in the light of other information that significance of a figure is realized. A weighs 70 kg. Is he fat? One cannot answer this question unless one knows A's age and height. Similarly, a company's profitability cannot be known unless together with the amount of profit and the amount of capital employed. The relationship between the two figures expressed arithmetically is called a ratio. The ratio between 4 and 10 is 0.4 or 40% or 2:5. "0.4", "40%" and "2:5" are ratios. Accounting ratios are relationships, expressed in arithmetical terms, between figures which have a cause and effect relationship or which are connected with each other in some other manner.

Accounting ratios are a very useful tool for grasping the true message of the financial statements and understanding them. Ratios naturally should be worked out between figures that are significantly related to one another. Obviously no purpose will be served by working out ratios between two entirely unrelated figures, such as discount on debentures and sales. Ratios may be worked out on the basis of figures contained in the financial statements.

Ratios provide clues and symptoms of underlying conditions. They act as indicators of financial soundness, strength, position and status of an enterprise.

Interpretation of ratios forms the core part of ratio analysis. The computation of ratio is simply a clerical work but the interpretation is a taste requiring art and skill. The usefulness of ratios is dependent on the judicious interpretations.

### **2.6.2 USES OF RATIO ANALYSIS**

A comparative study of the relationship, between various items of financial statements, expressed as ratios, reveals the profitability, liquidity, solvency as well as the overall financial position of the enterprises.

Ratio analysis helps to analyze and understand the financial health and trend of a business, its past performance makes it possible to have forecast about future state of affairs of the business. Inter firm comparison and intra firm comparison becomes easier through the analysis. Past performance and future projections could be reviewed through the ratio analysis easily. Management uses the ratio analysis in exercising control in various areas viz. budgetary control, inventory control, financial control etc. and fixing the accountability and responsibility of different departmental heads for accelerated and planned performance. It is useful for all the constituents of the company as discussed under:

### **1. Management**

Management is interested in ratios because they help in the formulation of policies, decision-making and evaluating the performances and trends of the business and its various segments.

### **2. Shareholders**

With the application of ratio analysis to financial statements, shareholders can understand not only the working and operational efficiency of their company, but also the likely effect of such efficiency on the net worth and consequently the price of their shares in the Stock Exchange. With the help of such analysis, they can form opinion regarding the effectiveness or otherwise of the management functions.

### **3. Investors**

Investors are interested in the operational efficiency, earning capacities and 'financial health' of the business. Ratios regarding profitability, debt-equity, fixed assets to net worth, assets turnover, etc., are some measures useful for the investors in making decisions regarding the type of security and industry in which they should invest.

### **4. Creditors**

Creditors can reasonably assure themselves about the solvency and liquidity position of the business by using ratio-analysis. Such analysis helps to throw light on the repayment policy and capability of an enterprise.

## **5. Government**

The Government is interested in the 'financial health' of the business. Carefully worked ratios will reflect the policy of the management and its consistency or otherwise with the overall regional and national economic policies. Such ratios help in better understanding of cost-structures and may justify price controls by the Government to save the consumers.

## **6. Analysts**

Ratio analysis is the most important technique available to the financial analysis to study the financial statements to compare the progress and position of various firms with each other and vis-a-vis the industry.

### **2.6.3 CLASSIFICATIONS OF RATIOS**

Different ratios calculated from different financial figures carry different significance for different purposes. For example, for the creditor's liquidity and solvency ratios are more significant than the profitability ratios, which are of prime importance for an investor. This means that ratios can be grouped on different basis depending upon their significance. The classification is rather crude and unsuitable to determine the profitability or financial position of the business. In general, accounting ratios may be classified on the following basis leading to overlap in many cases.

#### **2.6.3.1 According To The Statement Upon Which They Are Based**

Ratios can be classified into three groups according to the statements from which they are calculated:

##### **1) Balance Sheet Ratios**

They deal with relationship between two items appearing in the balance sheet, e.g., current assets to current liability or current ratio. These ratios are also known as financial position ratios since they reflect the financial position of the business.

##### **2) Operating Ratios or Profit and Loss Ratios**

These ratios express the relationship between two individual or group of items appearing in the income or profit and loss statement. Since they reflect the operating

conditions of a business, they are also known as operating ratios, e.g., gross profit to sales, cost of goods sold to sales, etc.

### **3) Combined Ratios**

These ratios express the relationship between two items, each appearing in different statements, i.e., one appearing in balance sheet while the other in income statement, e.g., return on investment (net profit to capital employed); Assets turnover (sales) ratio, etc. Since both the statements are involved in the calculation of each of these ratios, they are also known as inter-statement ratios.

Since the balance sheet figures refer to one point of time, while the income statement figures refer to events over a period of time, care must be taken while calculating combined or inter-statement ratios. For example while computing assets turnover ratio, average assets should be taken on the basis of opening and ending balance sheets.

#### **2.6.3.2 Classification According To “Importance”**

This classification has been recommended by the British Institute of Management for inter-firm comparisons. It is based on the fact that some ratios are more relevant and important than others in the process of comparisons and decision-making. Therefore, ratios may be treated as primary or secondary.

##### **1) Primary Ratio**

Since profit is primary consideration in all business activities, the ratio of profit to capital employed is termed as ‘Primary Ratio’. In business world this ratio is known as “Return on Investment”. It is the ratio which reflects the validity or otherwise of the existence and continuation of the business unit. In case if this ratio is not satisfactory over long period, the business unit cannot justify its existence and hence, should be closed down. Because of its importance for the very existence of the business unit it is called ‘Primary Ratio’.

##### **2) Secondary Ratios**

These are ratios which help to analyze the factors affecting “Primary Ratio”. These may be sub-classified as under:

### ***2.1 Supporting Ratios:***

These are ratios which reflect the profit-earning capacities of the business and thus support the “Primary Ratio”. For example sales to operating profit ratio reflects the capacity of contribution of sales to the profits of the business. Similarly, sales to assets employed reflect the effectiveness in the use of assets for making sales, and consequently profits.

### ***2.2 Explanatory Ratios:***

These are ratios which analyze and explain the factors responsible for the size of profit earned. Gross profit to sales, cost of goods sold to sales, stock-turnover, debtors turnover are some of the ratios which can explain the size of the profits earned. Where these ratios are calculated to highlight the effect of specific activity, they are termed as ‘Specific Explanatory Ratios’. For example, the effect of credit and collection policy is reflected by debtor’s turnover ratio.

### **2.6.3.3 Functional Classification**

The classification of ratios according to the purpose of its computation is known as functional classification. On this basis ratios are categorized as follows:

## **2.7 RETURN ON INVESTMENT RATIOS**

The return on investment (ROI) is a very useful technique to measure the profitability of all financial resources employed in the business enterprises assets. ROI reveals a vital indication of the profitability in terms of employment of capital in the business. In other words this ratio measure the earning power profit output with the capital input. “This rate is the end profit of a series of quantitative variables representing different interconnected and interdependent factor’s of business operations.” ROI is

computed by multiplying profit margin ratio and assets turnover ratio. ROI is totally free from all the weakness that contained as assets turn over ignores the profitability of the business on sales while profit margin does not consider the utilization of the assets of the business. Thus, ROI represent the relationship between net profit and assets of the business. The main ratios related to return on Investments are as under.

### **ADVANTAGES OF ROI**

Return on investment may help:

- (1) To measure the operation effectiveness,
- (2) To measure the profit achievement,
- (3) To assess the merits and demerits of new projects.
- (4) In setting up profit targets. It measures the overall financial performance of the business firm. It is also useful in comparing the firm's efficiency with that of similar firms with the industry.

## **LIMITATIONS OF ROI**

ROI is one of the very important measures for judging the overall financial performance of a firm. However it suffers from certain important limitations are as follows:

### **1. MANIPULATION POSSIBLE**

ROI is based on earnings and investments. Both these figures can be manipulated by management by adopting varying accounting policies regarding depreciation, inventory valuation, treatment of provisions etc. the decision in respect of most of these matters is arbitrary and subject to whims of the management.

### **2. DIFFERENT BASES FOR COMPUTATION OF PROFIT AND INVESTMENT**

There are different bases for calculating both profit and investment as explained in the preceding pages. For example, fixed assets may be taken at gross or net values, earning may be taken before or after tax, etc.

### **3. EMPHASIS ON SHORT – TERM PROFITS**

ROI emphasizes the generation of short-term profits. The firm may achieve this objective by cutting down cost such as those on research and development or sales promotion. Cutting down of such costs without any justification may adversely affected the profitability of the firm in the long run, though ROI may indicate better performance in the short run.

### **4. POOR MEASURE**

ROI is a poor measure of a firm's performance since it is also affected by many extraneous and non controllable factors. Often the present return is the result of the past management. And the present management cannot take credit or be held responsible for the doings of their predecessor.

### **5. CHANCE FACTOR**



Sometimes high or low profits may be due to chance. ROI, in such cases, for judging the financial performance will be more or less irrelevant.

## **EVALUATION OF ROI**

ROI is a yardstick which measures the overall performance of management and profitability of business firm. It determines whether a certain goal has been justified or not. It is an indicator of the measure of success of a business from the owner's points of view. The ultimate test of any business is the rate of return on invested capital. For the use of various purpose and various parties return on investment can be evaluated as under:

- 1. Return on Net Capital Employed Ratio**
- 2. Return on Long-Term Fund Ratio**
- 3. Return on Assets Ratio**
- 4. Return on Shareholder's Fund Ratio**

## **2.8 Profitability Ratios**

Profitability ratios give some yardstick to measure the profit in relative terms with reference to sales, assets or capital employed. These ratios highlight the end result of business activities. The main objective is to judge the efficiency of the business. The main ratios related to Profitability are as under.

- 5. Gross Profit Ratio**
- 6. Net Profit Ratio**
- 7. Operating Profit Ratio**

## **2.9 SOLVENCY RATIOS OR FINANCIAL RATIOS**

These ratios are calculated to judge the financial position of the organization from short-term as well as long-term solvency point of view. Thus, it can be sub-divided into:

### **2.9.1 Short-term Solvency Ratios (Liquidity Ratios)**

**8. Current Ratio**

**9. Quick Ratio**

### **2.9.2 Long-term Solvency Ratios (Capital Structure Ratios)**

**10. Debt-Equity Ratio**

**11. Long Term Debt Equity Ratio**

**12. Total Debt to Owner's Fund Ratio**

## **2.10 ACTIVITY RATIOS OR TURNOVER RATIOS**

These ratios are used to measure the effectiveness of the use of capital/assets in the business. These ratios are usually calculated on the basis of sales or cost of goods sold and is expressed in integers rather than as percentages. The main Activity Ratios are as under.

**13. Total Assets Turnover Ratio**

**14. Fixed Assets Turnover Ratio**

**15. Working Capital Turnover Ratio**

**16. Inventory Turnover Ratio**

**17. Debtors Turnover Ratio**

The classification of the structure of ratio analysis cuts across the various bases on which it has been made. The determination of activity and profitability ratios is drawn partly from the balance sheet and partly from the Statement of Profit & Loss. Ratios satisfying the test of liquidity or solvency partake the items of both the balance sheet and income statement, some activity ratios coincide with those satisfying the test of liquidity, some leverage ratios belong to the category of income statement. This clearly indicates that one

basis of classification crosses into other category. However, for the purpose of consideration of individual ratios, a classification of ratio on functional basis is discussed hereunder:

### **1. RETURN ON NET CAPITAL EMPLOYED**

This ratio is also known as overall profitability ratio or return on capital employed. The income (output) as compared to the capital employed (input) indicates the return on investment. It shows how much the company is earning on its investment. This ratio is calculated as follows:

$$\text{Return on Net Capital Employed Ratio} = \frac{\text{Net Operating Profit (EBIT)}}{\text{Net Capital Employed}} \times 100$$

Operating profit means profit before interest and tax. In arriving at the profit, interest on loans is treated as part of profit (but not the interest on bank overdraft or other short-term finance) because loans themselves are part of the input, i.e., the capital employed and hence, the interest on loans should also be part of the output. All non-business income or rather income not related to normal operations of the company should be excluded. Thus net operating profit figure shall be IBIT, i.e., Income Before Interest and Taxation (excluding non-business income).

The income figure is reckoned before taxation because the amount of tax has no relevance to the operational efficiency. Both interest and taxation are appropriations of profit and do not reflect operational efficiency. Moreover, to compare the profitability of two different organizations having different sources of finance and different tax burden, the profit before interest and taxation is the best measure.

Capital employed comprises share capital and reserves and surplus, long-term loans minus non-operating assets and fictitious assets. It can also be represented as net fixed assets plus working capital (i.e. current assets minus current liabilities).

*Capital Employed*

$$\begin{aligned} &= \text{Share Capital} + \text{Researve and Surplus} + \text{Long Term Loan} \\ &- \text{Non Operating Assets} - \text{Fictitious Assets} \end{aligned}$$

OR

*Capital Employed = Net Fixed Assets + Working Capital*

In using overall profitability ratio as the chief measure of profitability, the following two notes of caution should be kept in mind. First, the figure of operating profit shows the profit earned throughout a period. The figure of capital employed on the other hand refers to the values of assets as on a balance sheet date. As the values of assets go on changing throughout a business period it may be advisable to take the average assets throughout a period, so that the profits are compared against average capital employed during a period.

Secondly, in making comparison between two different units on the basis of the overall profitability ratio, the time of incorporation of the two units should be taken care off. If a company incorporated in 2000 is compared with that incorporated in 2010, the first company's assets will be appearing at a much lower figure than those of second company. Thus the former will show a lower capital base and if profits of both the companies are the same, the former will show a higher rate of return. This does not indicate higher efficiency; only the capital employed is lower because of the reason that it started 10 years earlier. Hence, in such cases the present value of the fixed assets should be considered for calculating the capital employed.

'Return on capital employed' should be used cautiously with clear understanding of its limitations. The 'profits' and "capital employed" figures are the result of a number of approximations (example, depreciation) and human judgment (valuation of assets). Therefore, the purpose of calculation of the ratio should be kept in view and appropriate figures should be selected having regard to impact of changing price levels.

The overall profitability ratio has two components. These are the net profit ratio (operating profit/sales x 100) multiplied by turnover ratio (sales/capital employed)

If a management wants to maximize its profitability, it could do so by improving its net profit ratio and turnover ratio. The former refers to the margin made in each sale in terms of percentage whereas, the latter shows the utilization, i.e., rotation of the capital in making the sale. . If the selling price of an article is `10

whose cost is ₹6, there is a margin of ₹4 or 40%. This shows the gap between selling price and cost price in the percentage form. The overall profitability is also dependent upon the effectiveness of employment of capital. If in this case, sales ₹200 were made with a capital of ₹100 then the rotation, i.e. the turnover is 200/100 or 2 times. Thus the business has earned a total profit of ₹80 with a capital of ₹100, profitability ratio being 80%, i.e., Net profit ratio x Turnover ratio = 40% x 2 = 80%.

## **2. RETURN ON LONG TERM FUNDS**

This ratio establishes the relationship between net profit and the long term funds. The term long-term funds refer to the total investment made in business for long term. It is calculated by dividing Earnings before Interest & Tax (EBIT) by the total long-term funds. Return on long-term funds is calculated on the basis of following formula,

$$\text{Return on Long Term Fund Ratio} = \frac{\text{Operating Profit (EBIT)}}{\text{Long Term Fund}} \times 100$$

## **3. RETURN ON ASSETS**

Here the profitability is measured in terms of the relationship between net profits and assets. It shows whether the assets are being properly utilized or not. It is calculated as:

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

This ratio is a measure of the profitability of the total funds or investment of the organization.

#### **4. RETURN ON SHAREHOLDERS' FUNDS**

It is also referred to as return on net worth. In this case it is desired to work out the profitability of the company from the shareholders' point of view and it is computed as follows:

$$\text{Return on Shareholder's Fund Ratio} = \frac{\text{Net Income}}{\text{Shareholder's Fund}}$$

Modifications of the 'return on capital employed' can be made to adopt it to various circumstances. Thus if it is required to work out the profitability from the shareholders' point of view, then the profit figure should be after interest and taxation and the capital employed should be after deducting the long-term loans. This ratio would reflect the profitability for the shareholders. To extend the idea further, the profitability from equity shareholders' point of view can also be worked out by taking the profits after preference dividend and comparing against capital employed after deducting both long-term loans and preference capital.

#### **5. GROSS PROFIT RATIO**

Gross profit ratio expresses the relationship of gross profit to net sales or turnover. Gross profit is the excess of the proceeds of goods sold and services rendered during a period over their cost, before taking into account administration, selling and distribution and financing charges. Gross profit ratio is expressed as follows:

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

This ratio is important to determine general profitability since it is expected that the ratio would be quite high so as to cover not only the remaining costs but also

to allow proper returns to owners.

Any fluctuation in the gross profit ratio is the result of a change either in 'sales' or the 'cost of goods sold' or both. The rise or fall in the selling price may be an external factor over which the management may have little control, especially when prices are controlled. The management, however, must try to keep the other end of the margin (i.e., cost) at least steady, if not reduce it. If the gross profit ratio is lower than what it was previously, when the selling price has remained steady, it can be reasonably concluded that there is an increase in the manufacturing cost. Since manufacturing overheads include a fixed element as well, a fall in the volume of sales will also lower the rate of gross profit and vice-versa.

## **6. NET PROFIT RATIO**

One of the components of return on capital employed is the net profit ratio (or the margin on sales) calculated as:

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Sales}} \times 100$$

It indicates the net margin earned in a sale of `100. Net profit is arrived at from gross profit after deducting administration, selling and distribution expenses; non-operating incomes, such as dividends received and non-operating expenses are ignored, since they do not affect efficiency of operations.

## **7. OPERATING PROFIT RATIO**

The ratio of all operating expenses (i.e., materials used, labor, factory overheads, and office and selling expenses) to sales is the operating ratio. Operating profit ratio is expressed as follows:

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit (EBIT)}}{\text{Net Sales}} \times 100$$

A comparison of the operating ratio would indicate whether the cost content is high or low in the figure of sales. If the annual comparison shows that the sales have increased, the management would be naturally interested and

concerned to know as to which element of the cost has gone up.

It is not necessary that the management should be concerned only when the operating ratio goes up. If the operating ratio has fallen, though the unit selling price has remained the same, still the position needs analysis as it may be the sum total of efficiency in certain departments and inefficiency in others. A dynamic management should be interested in making a fuller analysis.

It is, therefore, necessary to break up the operating ratio into various cost ratios. The major components of cost are: material, labor and overheads.

Generally all these ratios are expressed in terms of percentage. They total up to the Operating Ratio. This, deducted from 100 will be equal to the Net Profit Ratio.

If possible, the total expenditure for effecting sales should be divided into two categories, viz., fixed and variable-and then ratios should be worked out. The ratio of variable expenses to sales will be generally constant; that of fixed expenses should fall if sales increase; it will increase if sales fall.

## **8. CURRENT RATIO**

Current ratio also known as the working capital ratio, is the most widely used ratio. It is the ratio of total current assets to current liabilities and is calculated by dividing the current assets by current liabilities.

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

Current assets are those assets which can be converted into cash in the short-run or within one year. Likewise, current liabilities are those which are to be paid off in the short run. Current assets normally include cash in hand or at bank, inventories, sundry debtors, loans and advances, marketable securities, pre-paid expenses, etc. while current liabilities consist of sundry creditors, bills payable, outstanding and accrued expenses, provisions for taxation, proposed and un-claimed dividend, bank overdraft etc.



Current ratio indicates the firms' commitment to meet its short-term obligations. It is a measure of testing short-term solvency or in other words, it is an index of the short-term financial stability of an enterprise because it shows the margin available after paying off current liabilities.

Generally 2:1 ratio is considered ideal for a concern. If the current assets are two times of the current liabilities, there will be no adverse effect on the business operations when the payment of liabilities is made. In fact a ratio much higher than 2:1 may be unsatisfactory from the angle of profitability, though satisfactory from the point view of short term solvency. A high current ratio may be taken as adverse on account of the following reasons:

- The stock might be piling up because of poor sales.
- The amount might be looked up in debtors due to slack collection policy.
- The cash or bank balances might be lying idle because of no proper investment.

## **9. QUICK RATIO**

This ratio is also known as Quick Ratio or Acid Test Ratio. This ratio is calculated by relating liquid or quick assets to current liabilities. Liquid assets mean those assets which are immediately converted into cash without much loss. All current assets except inventories and prepaid expenses are categorized as liquid assets. The ratio can be computed as:

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

Liquidity ratio may also be computed by substituting liquid liabilities in place of current liabilities. Liquid liabilities mean those liabilities which are payable within a short period. Bank overdraft and cash credit facilities, if they become a permanent mode of financing are to be excluded from current liabilities to arrive at liquid liabilities. Thus:

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

This ratio is an indicator of the liquid position of an enterprise. Generally, a liquid ratio of 1:1 is considered as ideal as the firm can easily meet all current liabilities. The main difference in current ratio and liquid ratio is on account of inventories and therefore a comparison of two ratios leads to important conclusions regarding inventory holding up.

## **10. DEBT-EQUITY RATIO**

Debt-equity ratio is the relation between borrowed funds and owners' capital in a firm, it is also known as external-internal equity ratio. The debt-equity ratio is used to ascertain the soundness of long-term financial policies of the business. Debt means long-term loans i.e. debentures or long-term loans from financial institutions. Equity means shareholders' funds i.e., preference share capital, equity share capital, reserves less loss and fictitious assets like preliminary expenses. It is calculated in the following ways:

$$\text{Debt Equity Ratio} = \frac{\text{Debts}}{\text{Equity}}$$

The main purpose of this ratio is to determine the relative stakes of outsiders and shareholders.

Normally in India an ideal debt equity ratio is considered to be 2:1 if it is calculated as (i) above or 0.67:1 if calculated as (ii) above. This means that a company may borrow upto twice the amount of its capital and reserves or it may raise two-thirds of its long-term funds by way of loans. Generally loans are very profitable for shareholders since interest at a fixed rate only is payable whereas the yield generally is much higher and income-tax authorities allow interest as a deductible expenses, thus effectively reducing the interest burden of the company. A higher proportion would be risky because loans carry with them for obligation to pay interest at a fixed rate which may become difficult if profit is reduced. However a lower proportion of long-term loans would indicate an undue conservation and unwillingness to take every normal risk. Both these affect the image of the company and the value placed by the market on shares.

## **11. LONG TERM DEBT EQUITY RATIO**

The debt-equity ratio is determined to ascertain the soundness of the long-term financial policies of the company. It is also known as “external- Internal” equity ratios. It may be calculated as follows.

$$\text{Long Term Debt to Equity Ratio} = \frac{\text{Long Term Debt}}{\text{Equity}}$$

It indicates the proportion between shareholder funds and the total long term borrowed funds. This ratio may be taken as ideal if it is 1. In other words the investor may take debt-equity ratio as quite satisfactory if shareholder’s funds are equal to borrowed funds.

## **12. TOTAL DEBT TO OWNER’S FUND RATIO**

Several debt ratios may be used to analyze the long term solvency of a firm. The firm may be interested in knowing the proportion of the interest bearing debt in capital structure. It may therefore compute debt ratio by dividing total debt by equity. The ratio has been computed as follows:

$$\text{Total Debt to Equity Ratio} = \frac{\text{Total Debt}}{\text{Equity}}$$

Total debt will include short and long term borrowings firm financial institutions bonds, debentures, deferred payment arrangements for buying capital equipments and bank borrowings public deposits and any other interest-bearing loan. Equity includes equity share capital & surplus. A low debt-equity ratio implies a greater claim of owners than creditors from the point of view of creditors. It represents satisfactory situations since a high proportion of equity provides a larger margin of safety for them. The higher debt equity ratio, the larger the share holder’s earning when the cost of debt is less than the firm’s overall ratio of return on investment thus, there is need to strike a proper balance between the use of debt and equity.

## **13. TOTAL ASSETS TURNOVER RATIO**

This ratio is ascertained by dividing the net sales by the value of total assets. Thus, it is calculated as under.

$$\textit{Total Assets Turnover Ratio} = \frac{\textit{Total Sales}}{\textit{Average Total Assets}}$$

A high ratio is an indicator of overtrading of total assets while a low ratio reveals idle capacity. The total Assets Turnover Ratio can be segregated into Fixed asset turnover ratios, Working capital turnover ratios, Inventory turnover ratios, Debtors turnover ratios and Creditors turnover ratios.

#### **14. FIXED ASSETS TURNOVER RATIO**

This ratio indicates the number of times fixed assets are being turned over in a stated period. It is calculated as:

$$\textit{Fixed Assets Turnover Ratio} = \frac{\textit{Total Sales}}{\textit{Total Net Fixed Assets}}$$

This ratio is an indicator of the extent to which investment in fixed assets contributes to generate sales. The fixed assets are to be taken net of depreciation. The higher is the ratio the better is the performance.

#### **15. WORKING CAPITAL TURNOVER RATIO**

This ratio shows the number of times working capital is turned-over in a stated period. This ratio is calculated as:

$$\textit{Working Capital Turnover Ratio} = \frac{\textit{Total Sales}}{\textit{Working Capital}}$$

It indicates to what extent the working capital funds have been employed in the business towards sales.

#### **16. INVENTORY TURNOVER RATIO**

This ratio is an indicator of the efficiency of the use of investment in stock. It is calculated as:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold (COGS)}}{\text{Average Inventory}}$$

Mostly opening and closing stock figures are given and these should be averaged. The average should be calculated as under:

$$\text{Average Inventory} = \frac{\text{Opening Inventory} + \text{Closing Inventory}}{2}$$

Too large an inventory will depress the ratio; control over inventories and active sales promotion will increase the ratio. If desired this ratio may be split into two ratios, for raw materials and for finished goods. This analysis will throw a better light on the inventory position.

Average inventory is calculated on the basis of the average inventory at the beginning and at the end of the accounting period.

## **17. DEBTORS TURNOVER RATIO**

These days some amount of sales always locked up in the form of book debts. Efficient credit control and prompt collection of amounts due will mean lower investments in book debts. This ratio measures the net credit sales of a firm to the recorded trade debtors thereby indicating the rate at which cash is generated by turnover of receivable or debtors. This ratio is calculated as

$$\text{Debtors Turnover Ratio} = \frac{\text{Debtors}}{\text{Sales}} \times 365 \text{ days}$$

Average debtors refer to the average of opening and closing balance of debtors for the period. Debtors include bills receivables but exclude debts which arise on account of transactions other than sale of goods. While calculating debtors turnover, it is important to note that provision for bad and doubtful debts are not deducted from total debtors in order to avoid the impression that a larger amount of receivables have been collected.

## **2.11 ADVANTAGES OF RATIO ANALYSIS**

Ratio analysis is a powerful tool of financial analysis. An absolute figure generally conveys no meaning. It is seen that mostly figure assumes importance

only in background of other information. Ratios bring together figures which are significantly allied to one another to portray the cause and effect relationship.

From a study of the various ratios and their practical applications, the following advantages can be attributed to the technique of ratio analysis:

It helps to analyze and understand financial health and trend of a business, its past performance, and makes it possible to forecast the future state of affairs of the business. They diagnose the financial health by evaluating liquidity, solvency, profitability etc. This helps the management to assess the financial requirements and the capabilities of various business units. It serves as a media to link the past with the present and the future.

It serves as a useful tool in management control process, by making a comparison between the performance of the business and the performance of similar types of business.

1. Ratio analysis plays a significant role in cost accounting, financial accounting, budgetary control and auditing.
2. It helps in the identification, tracing and fixing of the responsibilities of managerial personnel at different levels.
3. It accelerates the institutionalization and specialization of financial management.
4. Accounting ratios summarize and systematize the accounting figures in order to make them more understandable in a lucid form. They highlight the inter-relationship which exists between various segments of the business expressed by accounting statements.

## **2.12 LIMITATIONS OF RATIO ANALYSIS**

Ratio analysis is a widely used technique to evaluate the financial position and performance of a business. But these are subject to certain limitations:

1. Usefulness of ratios depend on the abilities and intentions of the persons who handle them. It will be affected considerably by the bias of such persons.

2. Ratios are worked out on the basis of money-values only. They do not take into account the real values of various items involved. Thus, the technique is not realistic in its approach.
3. Historical values (specially in balance sheet ratios) are considered in working out the various ratios. Effects of changes in the price levels of various items are ignored and to that extent the comparisons and evaluations of performance through ratios become unrealistic and unreliable.
4. One particular ratio, in isolation is not sufficient to review the whole business. A group of ratios are to be considered simultaneously to arrive at any meaningful and worthwhile opinion about the affairs of the business.
5. Since management and financial policies and practices differ from concern to concern, similar ratios may not reflect similar state of affairs of different concerns. Thus, comparisons of performance on the basis of ratios may be confusing.
6. Ratio analysis is only a technique for making judgments and not a substitute for judgment.
7. Since ratios are calculated on the basis of financial statements which are themselves affected
8. Greatly by the firm's accounting policies and changes therein, the ratios may not be able to bring out the real situations
9. Ratios are at best, only symptoms; they may indicate what is to be investigated only a careful investigation will bring out the correct position.
10. Ratios are only as accurate as the accounts on the basis of which these are established. Therefore, unless the accounts are prepared accurately by applying

correct values to assets and liabilities, the statements prepared wherefrom would not be correct and the relationship established on that basis would not be reliable.

## **CONCLUSION**

Thus, analysis of financial statements refers to the treatment of information contained in the financial statement in a way so as to afford a full diagnosis of the profitability and financial position of the firm concerned. The process of analyzing financial statements involves the rearranging, comparing and measuring the significance of financial and operating data. Such a step helps to reveal the relative significance and effect of items of the data in relation to the time period and/or between two organizations.

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