ଓଡ଼ିଶା ରାଜ୍ୟ ମୁକ୍ତ ବିଶ୍ୱବିଦ୍ୟାଳୟ, ସମ୍ବଲପୁର, ଓଡ଼ିଶା
Odisha State Open University, Sambalpur, Odisha
Established by an Act of Government of Odisha.

Diploma in Accounting

DIA-6
FINANCIAL ACCOUNTING

Block

2

Unit-I

Ratio Analysis-I

Unit-II

Ratio Analysis-II

Unit-III

Ratio Analysis-III

EXPERT COMMITTEE

Dr. Pradeep Kumar Panda — **Chairman**
Rtd. Principal, Govt. College
Sambalpur, Odisha

Dr. Prasanta Kumar Kuanr — **Member**
Asst. Professor,
Rourkela Govt. College

Prof. Dilip Kumar Parichha — **Member**
Rtd. Principal NSCB College
Sambalpur

Sri Aditya Kumar Jena — **Members**
Associate Professor & HOD Commerce,
Panchayat College, Bargarh

Diploma in Accounting

Course Writer
Dr. Rajesh Sain
HOD ,Deptt.of IMBA
BJB (Auto) College
Bhubaneswar

Course Editor
Dr. Anam Charan Raul
Assistant Professor in Commerce
M.P.C. (Auto.) College
Baripada, Mayurbhanja

Material Production

Dr. Jayanta Kar Sharma
Registrar
Odisha State Open University, Sambalpur

Printed by : Shree Mandir Publications, Sahid Nagar,Bhubaneswar

Unit – I

Ratio Analysis-I

Learning Objectives

After reading this chapter, students should be able to know :

- explain the meaning and objectives of accounting ratios
- Identify the various types of ratios commonly used
- Calculate various ratios to assess solvency, liquidity, efficiency and profitability of the firm
- Elaborate the use of trend analysis in analyzing financial statement

Structure

1.1 Introduction

Ratio analysis refers to the analysis and interpretation of the figures appearing in the financial statements (i.e., Profit and Loss Account, Balance Sheet and Fund Flow statement etc.).

It is a process of comparison of one figure against another. It enables the users like shareholders, investors, creditors, Government, and analysts etc. to get better understanding of financial statements.

Ratio analysis is a very powerful analytical tool useful for measuring performance of an organisation. Accounting ratios may just be used as symptom like blood pressure, pulse rate, body temperature etc. The physician analyses these information to know the causes of illness. Similarly, the financial analyst should also analyse the accounting ratios to diagnose the financial health of an enterprise.

1.2 Meaning of Financial Ratios

As stated earlier, accounting ratios are an important tool of financial statements analysis. A ratio is a mathematical number calculated as a reference to relationship of two or more numbers and can be expressed as a fraction, proportion, percentage and a number of times. When the number is calculated by referring to two accounting numbers derived from the financial statements, it is termed as accounting ratio.

It needs to be observed that accounting ratios exhibit relationship, if any, between accounting numbers extracted from financial statements. Ratios are essentially derived numbers and their efficacy depends a great deal upon the basic numbers from which they are calculated. Hence, if the financial statements contain some errors, the derived numbers in terms of ratio analysis would also present an erroneous scenario. Further, a ratio must be calculated using numbers which are meaningfully correlated. A ratio calculated by using two unrelated numbers would hardly serve any purpose. For example, the furniture of the business is Rs. 1,00,000 and Purchases are Rs. 3,00,000. The ratio of purchases to furniture is 3 (3,00,000/1,00,000) but it hardly has any relevance. The reason is that there is no relationship between these two aspects.

Metcalf and Tigard have defined financial statement analysis and interpretations as a process of evaluating the relationship between component parts of a financial statement to obtain a better understanding of a firm's position and performance.

Khan and Jain define the term ratio analysis as “the systematic use of ratios to interpret the financial statements so that the strengths and weaknesses of a firm as well as its historical performance and current financial conditions can be determined.”

1.3 Procedure for Computation of Ratios

Generally, ratio analysis involves four steps:

(i) Collection of relevant accounting data from financial statements.

(ii) Constructing ratios of related accounting figures.

(iii) Comparing the ratios thus constructed with the standard ratios which may be the corresponding past ratios of the firm or industry average ratios of the firm or ratios of competitors.

(iv) Interpretation of ratios to arrive at valid conclusions.

1.4 Objectives of Ratio Analysis

Ratio analysis is indispensable part of interpretation of results revealed by the financial statements. It provides users with crucial financial information and points out the areas which require investigation. Ratio analysis is a technique which involves regrouping of data by application of arithmetical relationships, though its interpretation is a complex matter. It requires a fine understanding of the way and the rules used for preparing financial statements. Once done effectively, it provides a lot of information which helps the analyst:

(i) To know the areas of the business which need more attention;

(ii) To know about the potential areas which can be improved with the effort in the desired direction;

(iii) To provide a deeper analysis of the profitability, liquidity, solvency and efficiency levels in the business;

(iv) To provide information for making cross-sectional analysis by comparing the performance with the best industry standards; and

(v) To provide information derived from financial statements useful for making projections and estimates for the future.

1.5 Types of Ratios

There is a two way classification of ratios: (1) traditional classification, and (2) functional classification. The traditional classification has been on the basis of financial statements to which the determinants of ratios belong. On this basis the ratios are classified as follows:

(ii) 'Statement of Profit and Loss Ratios: A ratio of two variables from the statement of profit and loss is known as statement of profit and loss ratio. For example, ratio of gross profit to revenue from operations is known as gross profit ratio. It is calculated using both figures from the statement of profit and loss.

(iii) Balance Sheet Ratios: In case both variables are from the balance sheet, it is classified as balance sheet ratios. For example, ratio of current assets to current liabilities known as current ratio. It is calculated using both figures from balance sheet.

(iv) Composite Ratios: If a ratio is computed with one variable from the statement of profit and loss and another variable from the balance sheet, it is called composite ratio. For example, ratio of credit revenue from operations to trade receivables (known as trade receivables turnover ratio) is calculated using one figure from the statement of profit and loss (credit revenue from operations) and another figure (trade receivables) from the balance sheet.

Although accounting ratios are calculated by taking data from financial statements but classification of ratios on the basis of financial statements is rarely used in practice. It must be recalled that basic purpose of accounting is to throw light on the financial performance (profitability) and financial position (its capacity to raise money and invest them wisely) as well as changes occurring in financial position (possible explanation of changes in the activity level). As such, the alternative classification (functional classification) based on the purpose for which a ratio is computed, is the most commonly used classification which is as follows:

A. Profitability Ratios

B. Liquidity Ratios

C. Activity (or Turnover) Ratios

D. Solvency Ratios

1.6 Profitability Ratios

Profit is the primary objective of all businesses. All businesses need a consistent improvement in profit to survive and prosper. A business that continually suffers losses cannot survive for a long period.

Profitability ratios measure the efficiency of management in the employment of business resources to earn profits. These ratios indicate the success or failure of a business enterprise for a particular period of time. Profitability ratios are used by almost all the parties connected with the business. A strong profitability position ensures common stockholders a higher dividend income and appreciation in the value of the common stock in future. Creditors, financial institutions and preferred stockholders expect a prompt payment of interest and fixed dividend income if the business has good profitability position.

Management needs higher profits to pay dividends and reinvest a portion in the business to increase the production capacity and strengthen the overall financial position of the company.

Some important profitability ratios are given below:

Net profit (NP) ratio
Gross profit (GP) ratio
Price earnings ratio (P/E ratio)
Operating ratio
Expense ratio
Dividend yield ratio
Dividend payout ratio
Return on capital employed ratio
Earnings per share (EPS) ratio
Return on shareholder's investment/Return on equity
Return on common stockholders' equity ratio

Net profit ratio (NP ratio) is a popular profitability ratio that shows relationship between net profit after tax and net sales. It is computed by dividing the net profit (after tax) by net sales.

$$\text{Net profit (NP) ratio} = \frac{\text{Net profit after tax}}{\text{Net sales}}$$

For the purpose of this ratio, net profit is equal to gross profit minus operating expenses and income tax. All non-operating revenues and expenses are not taken into account because the purpose of this ratio is to evaluate the profitability of the business from its primary operations.

Net profit (NP) ratio is a useful tool to measure the overall profitability of the business. A high ratio indicates the efficient management of the affairs of business.

Gross profit ratio (GP ratio) is a profitability ratio that shows the relationship between gross profit and total net sales revenue. It is a popular tool to evaluate the operational performance of the business . The ratio is computed by dividing the gross profit figure by net sales.

The following formula/equation is used to compute gross profit ratio:

$$\text{Gross profit Ratio} = \frac{\text{Gross profit}}{\text{Net sales}}$$

When gross profit ratio is expressed in percentage form, it is known as gross profit margin or gross profit percentage. The formula of gross profit margin or percentage is given below:

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Net sales}} \times 100$$

The basic components of the formula of **gross profit ratio (GP ratio)** are gross profit and net sales. Gross profit is equal to net sales minus cost of goods sold. Net sales are equal to total gross sales less returns inwards and discount allowed. The information about gross profit and net sales is normally available from income statement of the company.

Price earnings ratios (P/E ratio) measures how many times the earnings per share (EPS) has been covered by current market price of an ordinary share. It is computed by dividing the current market price of an ordinary share by earnings per share.

The formula of price earnings ratio is given below:

$$\text{Price earnings ratio (P/E ratio)} = \frac{\text{Market price per equity share}}{\text{Earnings per share (EPS)}}$$

A higher P/E ratio is the indication of strong position of the company in the market and a fall in ratio should be investigated.

Operating ratio is computed by dividing operating expenses by net sales. It is expressed in percentage.

Operating ratio is computed as follows:

$$\text{Operating ratio} = \frac{\text{Operating cost}}{\text{Net sales}} \times 100$$

The basic components of the formula are operating cost and net sales. Operating cost is equal to cost of goods sold plus operating expenses. Non-operating expenses such as interest charges, taxes etc., are excluded from the computations.

This ratio is used to measure the operational efficiency of the management. It shows whether the cost component in the sales figure is within normal range. A low operating ratio means high net profit ratio i.e., more operating profit.

The ratio should be compared: (1) with the company's past years ratio, (2) with the ratio of other companies in the same industry. An increase in the ratio should be investigated and brought to attention of management. The operating ratio varies from industry to industry.

Expense ratio (expense to sales ratio) is computed to show the relationship between an individual expense or group of expenses and sales. It is computed by dividing a particular expense or group of expenses by net sales. Expense ratio is expressed in percentage.

$$\text{Expense ratio} = \frac{\text{Particular expense}}{\text{Net sales}} \times 100$$

The numerator may be an individual expense or a group of expenses such as administrative expenses, sales expenses or cost of goods sold.

Expense ratio shows what percentage of sales is an individual expense or a group of expenses. A lower ratio means more profitability and a higher ratio means less profitability.

Return on shareholders' investment ratio is a measure of overall profitability of the business and is computed by dividing the *net income after interest and tax* by average stockholders' equity. It is also known as return on equity (ROE)

ratio and return on net worth ratio. The ratio is usually expressed in percentage.

$$\text{Return on shareholders' investment or return on equity ratio} = \frac{\text{Net income after interest and tax}}{\text{Average stockholders' equity}} \times 100$$

The numerator consists of net income after interest and tax because it is the amount of income available for common and preference stockholders. The denominator is the average of stockholders' equity (preference and common stock). The information about

net income after interest and tax is normally available from income statement and the information about preference and common stock is available from balance sheet.

Return on equity (ROE) is widely used to measure the overall profitability of the company from preference and common stockholders' view point. The ratio also indicates the efficiency of the management in using the resources of the business.

Return on common stockholders' equity ratio measures the success of a company in generating income for the benefit of common stockholders. It is computed by dividing the net income available for common stockholders by

common stockholders' equity. The ratio is usually expressed in percentage.

$$\text{Return on common stockholders' equity} = \frac{\text{Net income - Preferred dividend}}{\text{Average common stockholders' equity}} \times 100$$

The numerator in the above formula consists of net income available for common stockholders which are equal to net income less dividend on preferred stock. The denominator consists of average common stockholders' equity which is equal to average total stockholders' equity less average preferred stockholders equity. If preferred stock is not present, the net income is simply divided by the average common stockholders' equity to compute the common stock equity ratio. Like return on equity (ROE) ratio, a higher common stock equity ratio indicates high profitability and strong financial position of the company and can convert potential investors into actual common stockholders.

Earnings per share (EPS) ratio measures how many dollars of net income have been earned by each share of common stock. It is computed by dividing net income less preferred dividend by the number of shares of common stock outstanding during the period. It is a popular measure of overall profitability of the company and is usually expressed in dollars. Earnings per share ratio (EPS ratio) is computed by the following formula:

The numerator is the net income available for common stockholders' (net income less preferred dividend) and the denominator is the average number of shares of common stock outstanding during the year.

The formula of EPS ratio is similar to the formula of return on common stockholders' equity ratio except the denominator of EPS ratio formula is the number of average shares of common stock outstanding rather than the average common stockholders' equity. The higher the EPS figure, the better it is. A higher EPS is the sign of higher earnings, strong financial position and, therefore, a reliable company to invest money.

Return on capital employed ratio is computed by dividing the net income before interest and tax by capital employed. It measures the success of a business in generating satisfactory profit on capital invested. The ratio is expressed in percentage.

Formula:

$$\text{Return on capital employed ratio} = \frac{\text{Net income before interest and tax}}{\text{Capital employed}} \times 100$$

The basic components of the formula of return on capital employed ratio are net income before interest and tax and capital employed.

Net income before the deduction of interest and tax expenses is frequently referred to as operating income. Here, interest means interest on long term loans. If company pays interest expenses on short-term borrowings, that is deducted to arrive at operating income.

Return on capital employed ratio measures the efficiency with which the investment made by shareholders and creditors is used in the business. Managers use this ratio for various financial decisions. It is a ratio of overall profitability and a higher ratio is, therefore, better.

Dividend yield ratio shows what percentage of the market price of a share a

company annually pays to its stockholders in the form of dividends. It is calculated by dividing the annual dividend per share by market value per share. The ratio is generally expressed in percentage form and is sometimes called dividend yield percentage.

Since dividend yield ratio is used to measure the relationship between the annual amount of dividend per share and the current market price of a share, it is mostly used by investors looking for dividend income on continuous basis. Formula:

The following formula is used to calculated dividend yield ratio:

$$\text{Dividend yield ratio} = \frac{\text{Dividend per share}}{\text{Market value per share}} \times 100$$

Dividend payout ratio discloses what portion of the current earnings the company is paying to its stockholders in the form of dividend and what portion the company is ploughing back in the business for growth in future. It is computed by dividing the dividend per share by the earnings per share (EPS) for a specific period. The formula of dividend payout ratio is given below:

$$\text{Dividend payout ratio} = \frac{\text{Dividend per share}}{\text{Earnings per share}}$$

The numerator in the above formula is the dividend per share paid to common stockholders only. It does not include any dividend paid to preferred stockholders.

Example on Profitability Ratios

Following is the Profit and Loss Account of Samir Auto Ltd., for the year ended

31st March, 2016.

Dr. Cr.

Particulars	Amount in Rs.	Particulars	Amount in Rs.
To Opening Stock	1,00,000	By Sales	5,60,000
To Purchases	3,50,000	By Closing Stock	1,00,000
To Wages	9,000		
To Gross Profitc/d	2,01,000		
	6,60,000		6,60,000
To Administrative Expenses		By Gross Profit b/d	2,01,000
To Selling and Distribution Expenses	20,000	By Interest on Investments	
		By Profit on sale of Assets	10,000
To Non-Operating Expenses	89,000		
To Net Profit Transferred to Capital	30,000		8,000
	80,000		
	2,19,000		2,19,000

You are required to calculate:

(i) Gross Profit Ratio

(ii) Net Profit Ratio

(iii) Operating Ratio

(iv) Operating Profit Ratio

(v) Administrative Expenses Ratio

Solution:

(i) ***Gross Profit Ratio***= Gross Profit X 100 Net Sales

2,01,000 X 100 = 35.9%

5,60,000

(ii) ***Net Profit Ratio***= Net Profit After Tax X 100 Net Sales

80,000 X 100 = 14.3%

5,60,000

(iii) ***Operating Ratio*** = Cost of Goods Sold + Operating Exp. Net Sales

Cost of Goods Sold = Op.Stock + Purchases + Wages – Closing Stock = 1,00,000 + 3,50,000 + 9,000- 1,00,000= Rs.3,59,000

Operating Expenses= Administrative Exp. + Selling and Distribution Exp. = Rs.20,000 + Rs.89,000 = Rs.1,09,000

Operating Ratio = 3,59,000 + 1,09,000 X 100 =83.6%

5,60,000

- ***Operating Profit Ratio*** = 100- Operating Ratio= 16.4%

- ***Administrative Expense Ratio*** = Administrative Exp X 100 Net Sales

20,000 X 100 = 3.6%

5,60,000

1.7 Liquidity Ratios

Liquidity ratios measure the adequacy of current and liquid assets and help evaluate the ability of the business to pay its short-term debts. The ability of a business to pay its short-term debts is frequently referred to as short-term solvency position or liquidity position of the business.

Generally a business with sufficient current and liquid assets to pay its current liabilities as and when they become due is considered to have a strong liquidity position and a businesses with insufficient current and liquid assets is considered to have weak liquidity position.

Short-term creditors like suppliers of goods and commercial banks use liquidity ratios to know whether the business has adequate current and liquid assets to meet its current obligations. Financial institutions hesitate to offer short-term loans to businesses with weak short-term solvency position.

Three commonly used liquidity ratios are given below:

(i) Current ratio or working capital ratio

(ii) Quick ratio or acid test ratio

(iii) Absolute liquid ratio

(i) ***Current ratio*** (also known as **working capital ratio**) is a popular tool to evaluate short-term solvency position of a business. Short-term solvency refers to the ability of a business to pay its short-term obligations when they become due. Short term obligations (also known as current liabilities) are the liabilities payable within a short period of time, usually one year.

Current ratio is computed by dividing total current assets by total current liabilities of the business. This relationship can be expressed in the form of following formula or equation:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Above formula comprises of two components i.e., current assets and current liabilities. Both the components are available from the balance sheet of the company. Some examples of current assets and current liabilities are given below:

Current assets	**Current liabilities**
Cash	Accounts payable / creditors
Marketable securities	Accrued payable
Accounts receivables / debtors	Bonds payable
Inventories / stock	
Prepaid expenses	

(ii) Quick ratio (also known as "acid test ratio" and "liquid ratio") is used to test the ability of a business to pay its short-term debts. It measures the relationship between liquid assets and current liabilities. Liquid assets are equal to total current assets minus inventories and prepaid expenses.

The formula for the calculation of quick ratio is given below:

$$\text{Quick ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$

Quick ratio is considered a more reliable test of short-term solvency than current ratio because it shows the ability of the business to pay short term debts immediately.

Inventories and prepaid expenses are excluded from current assets for the purpose of computing quick ratio because inventories may take long period of time to be converted into cash and prepaid expenses cannot be used to pay current liabilities.

(iii) Absolute Liquid ratio-some analysts also compute **absolute liquid ratio** to test the liquidity of the business. Absolute liquid ratio is computed by dividing the absolute liquid assets by current liabilities.

The formula to compute this ratio is given below:

$$\text{Absolute liquid ratio} = \frac{\text{Absolute liquid assets}}{\text{Current liabilities}}$$

Absolute liquid assets are equal to liquid assets minus accounts receivables (including bills receivables). Some examples of absolute liquid assets are cash, bank balance and marketable securities etc.

Example on Liquidty Ratios:

The following is the Balance Sheet of Samir Auto. Ltd., for the year ending 31st March, 2016.

Liabilities	Amount in Rs.	Assets	Amount in Rs.
10% preference Share capital	5,00,000	Goodwill	1,00,000
		Land and Building	6,50,000
Equity Share Capital	10,00,000	Plant	8,00,000
9% Debentures	2,00,000	Furniture and Fixtures	1,50,000
Long-term Loan	1,00,000	Bills Receivables	70,000
Bills Payable	60,000	Sundry Debtors	90,000
Sundry Creditors	70,000		

Bank Overdraft	30,000	Bank Balance	45,000
Outstanding Expenses	5,000	Short-term Investments	25,000
		Prepaid Expenses	5,000
		Stock	30,000
	19,65,000		19,65,000

From the balance sheet calculate:

(1) Current ratio

(2) Acid test ratio

(3) Absolute liquid ratio

(4) Comment on these ratios

Solution

(1) ***Current Ratio*** = Current Assets / Current Liabilities

Current Assets= Rs.70,000 + Rs.45,000 + Rs.25,000 + Rs.5,000 + Rs.30,000 = Rs.2,65,000

Current Liabilities= Rs.60,000 + Rs.70,000 + Rs.30,000 + Rs.5,000 = Rs.1,65,000

Current Ratio= Current Assets = Rs.2,65,000 = 1.61 Current Liabilities Rs.1,65,000

(2) ***Acid test ratio*** = Liquid Assets / Current Liabilities

Liquid Assets= Current Assets- (Stock + Prepaid Expenses) = Rs.2,30,000 Acid test ratio = Liquid Assets = Rs.2, 30,000 = 1.39

Current Liabilities Rs. 1,65,000

(3) ***Absolute liquid ratio***= Absolute Liquid Assets

Absolute liquid ratio= Absolute Liquid Assets = 70,000 = 0.42

[redacted]

Current Liabilities 1,65,000

(4) ***Comments:*** Current ratio of the company is not satisfactory because the ratio (1.61) is below the generally accepted standard of 2:1. Acid-Test ratio, on the other hand, is more than normal standard of 1:1. Liquid assets are quite sufficient to provide a cover to the current liabilities. The absolute liquid ratio is 0.42 which is slightly less than the accepted standard of 0.5.

1.8 Activity Ratios

Activity ratios (also known as turnover ratios) measure the efficiency of a firm or company in generating revenues by converting its production into cash or sales. Generally a fast conversion increases revenues and profits.

Activity ratios show how frequently the assets are converted into cash or sales and, therefore, are frequently used in conjunction with liquidity ratios for a deep analysis of liquidity.

$$\text{Inventory turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Average inventory at cost}}$$

Some important activity ratios are:

Inventory turnover ratio

Receivables turnover ratio

Average collection period

Accounts payable turnover ratio

Average payment period

Asset turnover ratio

Working capital turnover ratio

Fixed assets turnover ratio

Inventory turnover ratio (ITR) is an activity ratio is a tool to evaluate the liquidity of inventory. It measures how many times a company has sold and replaced its inventory during a certain period of time.

Inventory turnover ratio is computed by dividing the cost of goods sold by average inventory at cost. The formula/equation is given below:

Two components of the formula of inventory turnover ratio are cost of goods sold and average inventory at cost. Cost of goods sold is equal to cost of goods manufactured (purchases for trading company) plus opening inventory less closing inventory. Average inventory is equal to opening balance of inventory plus closing balance of inventory divided by two.

Inventory turnover ratio varies significantly among industries. A high ratio indicates fast moving inventories and a low ratio, on the other hand, indicates slow moving or obsolete inventories in stock. A low ratio may also be the result of maintaining excessive inventories needlessly. Maintaining excessive inventories unnecessarily indicates poor inventory management because it involves tiding up funds that could have been used in other business operations.

$$\text{Inventory turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Average inventory at cost}}$$

Receivables turnover ratio (also known as **debtors turnover ratio**) is computed by dividing the net credit sales during a period by average receivables. Accounts receivable turnover ratio simply measures how many times the receivables are collected during a particular period. It is a helpful tool to evaluate the liquidity of receivables.

$$\text{Accounts receivable turnover ratio} = \frac{\text{Net credit sales}}{\text{Average trade receivables (net)}}$$

Two components of the formula are "net credit sales" and "average trade accounts receivable". It is clearly mentioned in the formula that the numerator should include only credit sales. But in examination questions, this information may not be given. In that case, the total sales should be used as numerator assuming all the sales are made on credit.

Average receivables are equal to opening receivables (including notes receivables) plus closing receivables (including notes receivables) divided by two. But sometimes opening receivables may not be given in the examination questions. In that case closing balance of receivables should be used as denominator.

Average collection period is computed by dividing the number of working days for a given period (usually an accounting year) by receivables turnover ratio. It is expressed in days and is an indication of the quality of receivables.

The formula is given below:

$$\text{Average collection period} = \frac{\text{Number of working days}}{\text{Debtors turnover ratio}}$$

A short collection period means prompt collection and better management of receivables. A longer collection period may negatively effect the short-term debt paying ability of the business in the eyes of analysts.

Accounts payable turnover ratio (also known as creditors turnover ratio or creditors' velocity) is computed by dividing the net credit purchases by average accounts payable. It measures the number of times, on average, the accounts payable are paid during a period. Like receivables turnover ratio, it is expressed in times.

$$\text{Accounts payable turnover ratio} = \frac{\text{Net credit purchases}}{\text{Average accounts payable}}$$

In above formula, numerator includes only credit purchases. But if credit purchases are not known, the total net purchases should be used.

Average accounts payable are computed by adding opening and closing balances of accounts payable (including notes payable) and dividing by two. If opening balance of accounts payable is not given, the closing balance (including notes payable) should be used.

Accounts payable turnover ratio indicates the creditworthiness of the company. A high ratio means prompt payment to suppliers for the goods purchased on credit and a low ratio may be a sign of delayed payment. Accounts payable turnover ratio also depends on the credit terms allowed by suppliers. Companies who enjoy longer credit periods allowed by creditors usually have low ratio as compared to others.

Average payment period means the average period taken by the company in making payments to its creditors. It is computed by dividing the number of working days in a year by creditors turnover ratio. Some other formulas for its computation are given below:

Formula:

This ratio may be computed in a number of ways:

1. $$\text{Average accounts payables} = \frac{\text{Accounts payables (including notes payable)}}{\text{Average daily credit purchase*}}$$

$$\text{*Average daily credit purchases} = \frac{\text{Credit purchases}}{\text{Number of working days in a year}}$$

2. $$\text{Average payment period} = \frac{(\text{Accounts payable} \times \text{Number of working days})}{\text{Net credit purchases}}$$

3. $$\text{Averaage payment period} = \frac{\text{Number of working days}}{\text{Payables turnover ratio}}$$

Any of the above formulas may be used to compute average payment period. If credit purchases are unknown, the total purchases may be used. A shorter payment period indicates prompt payments to creditors. Like accounts payable turnover ratio, average payment period also indicates the creditworthiness of the company. But a very short payment period may be an indication that the company is not taking full advantage of the credit terms allowed by suppliers.

Working capital turnover ratio is computed by dividing the cost of goods sold by net working capital. It represents how many times the working capital has been turned over during the period.

$$\text{Working capital turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Net working capital}}$$

The formula consists of two components – cost of goods sold and net working capital. If the cost of goods sold figure is not available or cannot be computed from the available information, the total net sales can be used as numerator. Net working capital is equal to current assets minus current liabilities. This information is available from the balance sheet.

Generally, a high working capital turnover ratio is better. A low ratio indicates inefficient utilization of working capital. The ratio should be carefully interpreted because a very high ratio may also be a sign of insufficient working capital.

Fixed assets turnover ratio (also known as sales to fixed assets ratio) is a commonly used activity ratio that measures the efficiency with which a company uses its fixed assets to generate its sales revenue. It is computed by dividing net sales by average fixed assets.

Generally, a high fixed assets turnover ratio indicates better utilization of fixed assets and a low ratio means inefficient or under-utilization of fixed assets. The usefulness of this ratio can be increased by comparing it with the ratio of other companies, industry standards and past years.

Example of Activity Ratios

From Balance Sheet			**From Income Statement**	
CURRENT ASSES			**REVENUE**	
Cash	Rs 2,550		*Sales*	*Rs.112,500*

Marketable securities	Rs. 2,000		Cost of Goods Sold(COGS)	Rs. 85,040
Account Receivable (Net)	*Rs.16,675*		**Gross Margin**	**Rs. 27,460**
Inventories	Rs.26,470			
Total Current Assets	**Rs.47,695**			

Opening Inventory = Rs.22,500

Using the above figures, we can calculate the average collection period ratio.

Average Collection Period	=	$\frac{\text{Accounts Receivable}}{\text{Sales}} \times 360 \text{ days}$
	=	$\text{Rs. } 16{,}675 \times \frac{}{} \quad 360$

1.9 Solvency Ratios

Solvency ratios (also known as long-term solvency ratios) measure the ability of a business to survive for a long period of time. These ratios are very important for stockholders and creditors.

Solvency ratios are normally used to:

- Analyze the capital structure of the company
- Evaluate the ability of the company to pay interest on long term borrowings
- Evaluate the ability of the the company to repay principal amount of the long term loans (debentures, bonds, medium and long term loans etc.).

- Evaluate whether the internal equities (stockholders' funds) and external equities (creditors' funds) are in right proportion.

Some frequently used long-term solvency ratios are given below:

(i) Debt to equity ratio

(ii) Proprietary ratio

(iii) Fixed assets to equity ratio

(iv) Capital gearing ratio

(i) Debt to equity ratio is a long term solvency ratio that indicates the soundness of long-term financial policies of a company. It shows the relation between the portion of assets financed by creditors and the portion of assets financed by stockholders. As the debt to equity ratio expresses the relationship between external equity (liabilities) and internal equity (stockholder's equity), it is also known as "external-internal equity ratio".

Debt to equity ratio is calculated by dividing total liabilities by stockholder's equity.

$$\text{Debt to equity ratio} = \frac{\text{Total liabilities}}{\text{Stockholder's equity}}$$

The numerator consists of the total of current and long term liabilities and the denominator consists of the total stockholders' equity including preferred stock. Both the elements of the formula are obtained from company's balance sheet.

A ratio of 1 (or 1: 1) means that creditors and stockholders equally contribute to the assets of the business. A less than 1 ratio indicates that the portion of assets provided by stockholders is greater than the portion of assets provided by creditors and a greater than 1 ratio indicates that the portion of assets provided by creditors is greater than the portion of assets provided by stockholders.

Creditors usually like a low debt to equity ratio because a low ratio (less than 1) is the indication of greater protection to their money. But stockholders like to get benefit from the funds provided by the creditors therefore they would like a high debt to equity ratio.

(ii) *The* ***proprietary ratio*** (also known as net worth ratio or equity ratio) is used to evaluate the soundness of the capital structure of a company. It is computed by dividing the stockholders' equity by total assets.

Formula:

$$\text{Proprietory ratio} = \frac{\text{Stockholders' equity}}{\text{Total assets}} \times 100$$

The proprietary ratio shows the contribution of stockholders' in total capital of the company. A high proprietary ratio, therefore, indicates a strong financial position of the

company and greater security for creditors. A low ratio indicates that the company is already heavily depending on debts for its operations. A large portion of debts in the total capital may reduce creditors interest, increase interest expenses and also the risk of bankruptcy.

(iii) Fixed assets to equity ratio measures the contribution of stockholders and the contribution of debt sources in the fixed assets of the company. It is computed by dividing the fixed assets by the stockholders' equity.

Other names of this ratio are *fixed assets to net worth ratio* and *fixed assets to proprietors fund ratio*.

Formula:

$$\text{Fixed assets to stockholders' equity ratio} = \frac{\text{Fixed assets}}{\text{Stockholders' equity}}$$

The numerator in the above formula is the book value of fixed assets (fixed assets less depreciation) and the denominator is the stockholders' equity that consists of common stock, preferred stock, paid in capital and retained earnings. Information about fixed assets and stockholders' equity is available from balance sheet.

(iv) Capital gearing ratio is a useful tool to analyze the capital structure of a company and is computed by dividing the common stockholders' equity by fixed interest or dividend bearing funds.

Analyzing capital structure means measuring the relationship between the funds provided by common stockholders and the funds provided by those who receive a periodic interest or dividend at a fixed rate.

A company is said to be low geared if the larger portion of the capital is composed of common stockholders' equity. On the other hand, the company is said to be highly geared if the larger portion of the capital is composed of fixed interest/dividend bearing funds.

Formula:

$$\text{Capital gearing ratio} = \frac{\text{Common stockholders' equity}}{\text{Fixed interest bearing funds}}$$

Or

$$\text{Capital gearing ratio} = \text{Common stockholders' equity} : \text{Fixed interest bearing funds}$$

In the above formula, the numerator consists of common stockholders' equity that is equal to total stockholders' equity less preferred stock and the denominator consists of fixed interest or dividend bearing funds that usually include long term loans, bonds, debentures and preferred stock etc. All the information required to compute capital gearing ratio is available from the balance sheet.

Example on Solvency Ratios

From the following Balance Sheet Calculate Debt-Equity Ratio.

Liabilities	Amount in Rs.	Assets	Amount in Rs.
3,000 Equity shares of Rs.100 each	3,00,000	Fixed Assets	6,00,000
2,000 10% Preference shares of Rs.100 each	2,00,000	Current Assets	2,00,000
1,000 11% Debentures of Rs.100 each	1,00,000		
General Reserves	50,000		
Reserves for contingencies	50,000		
Current Liabilities	1,00,000		
	8,00,000		8,00,000

Solution:

(i) Debt-Equity Ratio = Outsiders'Funds / Shareholders' fund

= 1,00,000 (Debentures) + 1,00,000 (Current Liabilities)

3,00,000 + 2,00,000 + 50,000 + 50,000

= Rs.2,00,000/ Rs.6,00,000 = 1:3

(ii) Debt-Equity Ratio (excluding current liabilities)

= Long-term Debt = Rs.1,00,000/Rs.6,00,000 = 1:6

[redacted]

Shareholders' funds

1.10 Advantages of Ratio Analysis

Ratio analysis is widely used as a powerful tool of financial statement analysis. It establishes the numerical or quantitative relationship between two figures of a financial statement to ascertain strengths and weaknesses of a firm as well as its current financial position and historical performance. It helps various interested parties to make an evaluation of certain aspect of a firm's performance. The following are the principal advantages of ratio analysis:

(i) Forecasting and Planning:

The trend in costs, sales, profits and other facts can be known by computing ratios of relevant accounting figures of last few years. This trend analysis with the help of ratios may be useful for forecasting and planning future business activities.

(ii) Budgeting:

Budget is an estimate of future activities on the basis of past experience. Accounting ratios help to estimate budgeted figures. For example, sales budget may be prepared with the help of analysis of past sales.

(iii) Measurement of Operating Efficiency:

Ratio analysis indicates the degree of efficiency in the management and utilisation of its assets. Different activity ratios indicate the operational efficiency. In fact, solvency of a firm depends upon the sales revenues generated by utilizing its assets.

(iv) Communication:

Ratios are effective means of communication and play a vital role in informing the position of and progress made by the business concern to the owners or other parties.

(v) Control of Performance and Cost:

Ratios may also be used for control of performances of the different divisions or departments of an undertaking as well as control of costs.

(vi) Inter-firm Comparison:

Comparison of performance of two or more firms reveals efficient and inefficient firms, thereby enabling the inefficient firms to adopt suitable measures for improving their efficiency. The best way of inter-firm comparison is to compare the relevant ratios of the organisation with the average ratios of the industry.

(vii) Indication of Liquidity Position:

Ratio analysis helps to assess the liquidity position i.e., short-term debt paying ability of a firm. Liquidity ratios indicate the ability of the firm to pay and help in credit analysis by banks, creditors and other suppliers of short-term loans.

(viii) Indication of Long-term Solvency Position:

Ratio analysis is also used to assess the long-term debt-paying capacity of a firm.

Long-term solvency position of a borrower is a prime concern to the long-term creditors, security analysts and the present and potential owners of a business. It is measured by the leverage/capital structure and profitability ratios which indicate the earning power and operating efficiency. Ratio analysis shows the strength and weakness of a firm in this respect.

(ix) Indication of Overall Profitability:

The management is always concerned with the overall profitability of the firm. They want to know whether the firm has the ability to meet its short-term as well as long-term obligations to its creditors, to ensure a reasonable return to its owners and secure optimum utilisation of the assets of the firm. This is possible if all the ratios are considered together.

(x) Signal of Corporate Sickness:

A company is sick when it fails to generate profit on a continuous basis and suffers a severe liquidity crisis. Proper ratio analysis can give signal of corporate sickness in advance so that timely measures can be taken to prevent the occurrence of such sickness.

(xi) Aid to Decision-making:

Ratio analysis helps to take decisions like whether to supply goods on credit to a firm, whether bank loans will be made available etc.

(xii) Simplification of Financial Statements:

Ratio analysis makes it easy to grasp the relationship between various items and helps in understanding the financial statements.

1.11 Limitations of Ratio Analysis

The technique of ratio analysis is a very useful device for making a study of the financial health of a firm. But it has some limitations which must not be lost sight of before undertaking such analysis.

Some of these limitations are:

i. ***Limitations of Financial Statements:***

Ratios are calculated from the information recorded in the financial statements. But financial statements suffer from a number of limitations and may, therefore, affect the quality of ratio analysis.

ii. Historical Information:

Financial statements provide historical information. They do not reflect current conditions. Hence, it is not useful in predicting the future.

iii. Different Accounting Policies:

Different accounting policies regarding valuation of inventories, charging depreciation

etc. make the accounting data and accounting ratios of two firms non-comparable.

iv. Lack of Standard of Comparison:

No fixed standards can be laid down for ideal ratios. For example, current ratio is said to be ideal if current assets are twice the current liabilities. But this conclusion may not be justifiable in case of those concerns which have adequate arrangements with their bankers for providing funds when they require, it may be perfectly ideal if current assets are equal to or slightly more than current liabilities.

v. Quantitative Analysis:

Ratios are tools of quantitative analysis only and qualitative factors are ignored while computing the ratios. For example, a high current ratio may not necessarily mean sound liquid position when current assets include a large inventory consisting of mostly obsolete items.

vi. Window-Dressing:

The term 'window-dressing' means presenting the financial statements in such a way to show a better position than what it actually is. If, for instance, low rate of depreciation is charged, an item of revenue expense is treated as capital expenditure etc. the position of the concern may be made to appear in the balance sheet much better than what it is. Ratios computed from such balance sheet cannot be used for scanning the financial position of the business.

vii. Changes in Price Level:

Fixed assets show the position statement at cost only. Hence, it does not reflect the changes in price level. Thus, it makes comparison difficult.

viii. Causal Relationship Must:

Proper care should be taken to study only such figures as have a cause-and-effect relationship; otherwise ratios will only be misleading.

ix. Ratios Account for one Variable:

Since ratios account for only one variable, they cannot always give correct picture since several other variables such Government policy, economic conditions, availability of resources etc. should be kept in mind while interpreting ratios.

x. Seasonal Factors Affect Financial Data:

Proper care must be taken when interpreting accounting ratios calculated for seasonal business. For example, an umbrella company maintains high inventory during rainy season and for the rest of year its inventory level becomes 25% of the seasonal inventory level. Hence, liquidity ratios and inventory turnover ratio will give biased picture.

1.12 Trend Analysis

Trend analysis involves the collection of information from multiple time periods and plotting the information on a horizontal line for further review. The intent of this analysis is to spot actionable patterns in the presented information.

Revenue and cost information from a company's income statements can be arranged on a trend line for multiple reporting periods and examined for trends and inconsistencies. For example, a sudden spike in expense in one period followed by a sharp decline in the next period can indicate that an expense was booked twice in the first month. Thus, trend analysis is quite useful for examining preliminary financial statements for inaccuracies, to see if adjustments should be made before the statements are released for general use.

When used internally (the revenue and cost analysis function), trend analysis is one of the most useful management tools available. The following are examples of this type of usage:

- Examine revenue patterns to see if sales are declining for certain products, customers, or sales regions.
- Examine expense report claims for evidence of fraudulent claims.
- Examine expense line items to see if there are any unusual expenditure in a reporting period that require additional investigation.
- Extend revenue and expense line items into the future for budgeting purposes, to estimate future results.

When trend analysis is being used to predict the future, keep in mind that the factors formerly impacting a data point may no longer be doing so to the same extent. This means that an extrapolation of a historical time series will not necessarily yield a valid prediction of the future. Thus, a considerable amount of additional research should accompany trend analysis when using it to make predictions.

Procedure for Calculating Trends:

(i) One year is taken as a base year. Generally, the first or the last is taken as base year.

(ii) The figures of base year are taken as 100.

(iii)Trend percentages are calculated in relation to base year. If a figure in other year is less than the figure in base year the trend percentage will be less than 100 and it will be more than 100 if figure is more than base year figure. Each year's figure is divided by the base year's figure.

The interpretation of trend analysis involves a cautious study. The mere increase or decrease in trend percentage may give misleading results if studied in isolation. An increase of 20% in current assets may be treated favorable. If this increase in current

assets is accompanied by an equivalent increase in current liabilities, then this increase will be unsatisfactory. The increase in sales may not increase profits if the cost of production has also gone up.

The base period should be carefully selected. The base period should be a normal period. The price level changes in subsequent years may reduce the utility of trend ratios. If the figure of the base period is very small, then the ratios calculated on this basis may not give a true idea about the financial data. The accounting

procedures and conventions used for collecting data and preparation of financial statements should be similar otherwise the figures will not be comparable.

Example on Trend Analysis

Calculate the trend percentages from the following figures of Samir Auto Ltd.

Taking 2010 as the base and interpret them:

Year	Sales (Rs.in Thousand)	Profit After tax (Rs.in Thousand)
2010	1,000	150
2011	1,200	185
2012	1,500	210
2013	2,000	220
2014	2,900	240

Solution:

Trend Percentages

(Base year 2010 as 100)

Year	Sales	Trend percentage	PAT	Trend Percentage
2010	1,000	100	150	100
2011	1,200	120	185	123.33
2012	1,500	150	210	140

2013	2,000	200	220	146.67
2014	2,900	290	240	160

Interpretation:

(i) The sales have continuously increased in all the years upto 2014. The percentage in 2014 is 290 compared to 100 of base year. The increase in sales is quite satisfactory.

(ii) The figures of profit have also increased over the years.

(iii) But if critically examined, it can be concluded that profit has not soared in the same manner as of sales. This may be because of increase in cost of production.

1.13 Let's Sum-Up

Ratios are a powerful tool in the interpretation of the accounts and can discover issues and problems not immediately evident from the accounts and financial information provided in the annual report. They can provide the basis for inter-firm comparisons allowing managers to benchmark the performance and efficiency of the firm against its competitors. Trends can then be examined and analysed. Stakeholders may use ratios to support their decision making. Employees, for example may use profit ratios to support pay claims and creditors can use liquidity ratios to evaluate whether debts will be repaid.

1.14 Key Terms

- Budgeting
- Window-dressing
- Profitability ratios
- Liquidity ratios
- Activity ratios
- Solvency ratios
- Trend analysis

1.15 Self-Assessment Questions

(i) What is meant by ratio analysis? Discuss its objectives and limitations.

Ans :

(ii) What are liquidity ratios? Discuss their significance.

Ans :

1.16 Further Readings

(i) Gupta S.K and Sharma R.K, Management Accounting, Kalyani Publishers, 2nd Edition, New Delhi

(ii) Rao P.M., Financial Statement Analysis and Reporting, PHI, 1st Edition, New Delhi

(iii) Arora, M.N, Cost and Management Accounting, Himalaya Publishing House, 3rd Edition, Mumbai

1.17 Model Questions

(i) "Ratio analysis is a tool to examine the health of business with a view to make financial results more intelligible." Explain.

(ii) What do you mean by ratio analysis? Narrate the advantages of ratio analysis.

Problem 4. The Balance sheet of Naronath & Co. as on 31.12.2000 shows as follows:

Liabilities	Amount in Rs.	Assets	Amount in Rs.
Equity capital 15% Preference	1,00,000 50,000	Fixed Assets Stores	1,80,000 25,000

shares		Debtors	55,000
12% Debentures	20,000 000 2,65,	Bills Receivable	3,000
Retained Earnings	000	Bank	2,000
			2,65,00
Creditors			0

Comment on the financial position of the Company i. e., Debt – Equity Ratio, Fixed Assets Ratio, Current Ratio, and liquid ratio.

Unit –II
Ratio Analysis-II

Learning Objectives: After studying this lesson, you will be able to know:

Importance of ratio analysis, nature of ratio analysis, significance of ratio analysis, users of financial ratios, characteristics of ratio analysis, factors affecting ratio analysis, steps of ratio analysis and etc.

Structure:

2.1 Introduction

Ratio analysis is widely used as a powerful tool of financial statement analysis. It establishes the numerical or quantitative relationship between two figures of a financial statement to ascertain strengths and weaknesses of a firm as well as its current financial position and historical performance. It helps various interested parties to make an evaluation of certain aspect of a firm's performance. Ratios as a tool of financial analysis provide symptoms with the help of which any analyst is in a position to diagnose the financial health of the unit. Financial analysis may be compared with biopsy conducted by the doctor on the patient in order to diagnose the causes of illness so that treatment may be prescribed to the patient to help him recover. As, already hinted different groups of persons are interested in the affairs of any business entity.

2.2 Importance of Ratio Analysis

Ratio analysis is an important tool for analyzing the company's financial performance. The following are the importance of the accounting ratios in the corporate world.

1. Analyzing Financial Statements

Ratio analysis is an important technique of **financial statement analysis**. Accounting ratios are useful for understanding the financial position of the company. Different users such as investors, management. bankers and creditors use the ratio to analyze the financial situation of the company for their decision making purpose.

2. Judging Efficiency

Accounting ratios are important for judging the company's efficiency in terms of its operations and management. They help judge how well the company has been able to utilize its assets and earn profits.

3. Locating Weakness

Accounting ratios can also be used in locating weakness of the company's operations even though its overall performance may be quite good. Management can then pay attention to the weakness and take remedial measures to overcome them.

4. Formulating Plans

Although **accounting** ratios are used to analyze the company's past financial performance, they can also be used to establish future trends of its financial performance. As a result, they help formulate the company's future plans.

5. Comparing Performance

It is essential for a company to know how well it is performing over the years and as compared to the other firms of the similar nature. Besides, it is also important to know how well its different divisions are performing among themselves in different years. Ratio analysis facilitates such comparison ratio analysis involves four steps:

(i) Collection of relevant accounting data from financial statements.

(ii) Constructing ratios of related accounting figures.

(iii) Comparing the ratios thus constructed with the standard ratios which may be the corresponding past ratios of the firm or industry average ratios of the firm or ratios of competitors.

(iii) Interpretation of ratios to arrive at valid conclusions.

6. Forecasting and Planning

The trend in costs, sales, profits and other facts can be known by computing ratios of relevant accounting figures of last few years. This trend analysis with the help of ratios may be useful for forecasting and planning future business activities.

7. Budgeting

Budget is an estimate of future activities on the basis of past experience. Accounting ratios help to estimate budgeted figures. For example, sales budget may be prepared with the help of analysis of past sales.

8. Measurement of Operating Efficiency

Ratio analysis indicates the degree of efficiency in the management and utilisation of its assets. Different activity ratios indicate the operational efficiency. In fact, solvency of a firm depends upon the sales revenues generated by utilizing its assets.

9. Communication:

Ratios are effective means of communication and play a vital role in informing the position of and progress made by the business concern to the owners or other parties.

10. Control of Performance and Cost

Ratios may also be used for control of performances of the different divisions or departments of an undertaking as well as control of costs.

11. Inter-firm Comparison

Comparison of performance of two or more firms reveals efficient and inefficient firms, thereby enabling the inefficient firms to adopt suitable measures for improving their efficiency. The best way of inter-firm comparison is to compare the relevant ratios of the organisation with the average ratios of the industry.

12. Indication of Liquidity Position

Ratio analysis helps to assess the liquidity position i.e., short-term debt paying ability of a firm. Liquidity ratios indicate the ability of the firm to pay and help in credit analysis by banks, creditors and other suppliers of short-term loans.

13. Indication of Long-term Solvency Position:

Ratio analysis is also used to assess the long-term debt-paying capacity of a firm. Long-term solvency position of a borrower is a prime concern to the long-term creditors, security analysts and the present and potential owners of a business. It is measured by the leverage/capital structure and profitability ratios which indicate the earning power and operating efficiency. Ratio analysis shows the strength and weakness of a firm in this respect.

14. Indication of Overall Profitability:

The management is always concerned with the overall profitability of the firm. They want to know whether the firm has the ability to meet its short-term as well as long-term obligations to its creditors, to ensure a reasonable return to its owners and secure optimum utilisation of the assets of the firm. This is possible if all the ratios are considered together.

15. Signal of Corporate Sickness:

A company is sick when it fails to generate profit on a continuous basis and suffers a severe liquidity crisis. Proper ratio analysis can give signal of corporate sickness in advance so that timely measures can be taken to prevent the occurrence of such sickness.

16. Aid to Decision-making:

Ratio analysis helps to take decisions like whether to supply goods on credit to a firm, whether bank loans will be made available etc.

17 Simplification of Financial Statements:

Ratio analysis makes it easy to grasp the relationship between various items and helps in understanding the financial statements

2.3 Nature of Ratio Analysis

Ratio analysis is a powerful tool of financial analysis. A ratio is defined as "the indicated quotient of two mathematical expressions" and as "the relationship between two or more things". In financial analysis, a ratio is used as an index or yardstick for evaluating the financial position and performance of a firm.Analysis of financial statements is a process of evaluating relationship between component parts of financial statements to obtain a better understanding of the firm's position and performance. Financial analysis is used as a device to analyse and interpret the financial health of enterprise.The absolute accounting figures reported in the financial statements do not provide a meaningful understanding of the performance and financial performance of a firm. An accounting figure conveys meaning when t is related to some other relevant information. Just like a doctor examines his patient by recording his body temperature, blood pressure etc., before making his conclusion regarding the illness and before giving his treatment, a financial analyst analyses the financial statements with various tools of analysis before commenting upon the financial health or weaknesses of an enterprise. A ratio is known as a symptom like blood pressure, the pulse rate or the temperature of an individual.

It is with the help of ratios that the financial statements can be analyzed more clearly and decisions are drawn from such analysis. The point to note is that a ratio indicates a quantitative relationship, which can be, in turn, used to make a qualitative judgement. Such is the nature of all financial ratios. In financial analysis, ratio is used as an index of yardstick for evaluating the **financial position** and performance of the firm. It is a technique of analysis and interpretation of financial statements. Ratio analysis helps in making decisions as it helps establishing relationship between various ratios and interpret thereon. Ratio analysis helps analysts to make quantitative judgement about the financial position and performance of the firm.

2.4 Steps of Ratio Analysis

For any financial professional, it is important to know how to effectively analyze the financial statements of a firm. This requires an understanding of three key areas:

1. The structure of the financial statements
2. The economic characteristics of the industry in which the firm operates and
3. The strategies the firm pursues to differentiate itself from its competitors.

There are generally six steps to developing an effective analysis of financial statements:

1. Relevant data selection from the **financial statements** related to the objectives of the analysis.

2. Calculation of required ratios from the data and presenting them either in pure ratio form or in percentage.

3. Comparison of derived different ratios with:

i. The ratio of the same concern over a period of years to know upward or downward trend or static position to help in estimating the future, or
ii. The ratios of another firm in same line, or
iii. The ratios of projected financial statements, or
iv. The ratios of industry average, or
v. The predetermined standards, or
vi. The ratios between the departments of the same concern assessing either the financial position or the profitability or both.

4. Interpretation of the ratio

Ratio analysis uses financial report and data and summarizes the key relationship in order to appraise financial performance. The effectiveness will be greatly improved when trends are identified, comparative ratios are available and inter-related ratios are prepared.

Additional steps to be followed:

1. Identify the industry economic characteristics

First, determine a value chain analysis for the industry—the chain of activities involved in the creation, manufacture and distribution of the firm's products and/or services. Techniques such as Porter's Five Forces or analysis of economic attributes are typically used in this step.

2. Identify company strategies.

Next, look at the nature of the product/service being offered by the firm, including the uniqueness of product, level of profit margins, creation of brand loyalty and control of costs. Additionally, factors such as supply chain integration, geographic diversification and industry diversification should be considered.

3. Assess the quality of the firm's financial statements.

Review the key financial statements within the context of the relevant accounting standards. In examining balance sheet accounts, issues such as recognition, valuation and classification are keys to proper evaluation. The main question should be whether this balance sheet is a complete representation of the firm's economic position. When evaluating the income statement, the main point is to properly assess the quality of earnings as a complete representation of the firm's economic performance. Evaluation of the statement of cash flows helps in understanding the impact of the firm's liquidity position from its operations, investments and financial activities over the period—in essence, where funds came from, where they went, and how the overall liquidity of the firm was affected.

4. Analyze current profitability and risk.

This is the step where financial professionals can really add value in the evaluation of the firm and its financial statements. The most common analysis tools are key financial statement ratios relating to liquidity, asset management, profitability, debt management/coverage and risk/market valuation. With respect to profitability, there are two broad questions to be asked: how profitable are the operations of the firm relative to its assets—independent of how the firm finances those assets—and how profitable is the firm from the perspective of the equity shareholders. It is also important to learn how to disaggregate return measures into primary impact factors. Lastly, it is critical to analyze any financial statement ratios in a comparative manner, looking at the current ratios in relation to those from earlier periods or relative to other firms or industry averages.

5. Prepare forecasted financial statements.

Although often challenging, financial professionals must make reasonable assumptions about the future of the firm (and its industry) and determine how these assumptions will impact both the cash flows and the funding. This often takes the form of pro-forma financial statements, based on techniques such as the percent of sales approach.

6. Value the firm.

While there are many valuation approaches, the most common is a type of discounted cash flow methodology. These cash flows could be in the form of projected dividends, or more detailed techniques such as free cash flows to either the equity holders or on enterprise basis. Other approaches may include using relative valuation or accounting-based measures such as economic value added.

The next steps

Once the analysis of the firm and its financial statements are completed, there are further questions that must be answered. One of the most critical is: "Can we really trust the numbers that are being provided?" There are many reported instances of accounting irregularities. Whether it is called aggressive accounting, earnings management, or

outright fraudulent financial reporting, it is important for the financial professional to understand how these types of manipulations are perpetrated and more importantly, how to detect them.

2.5 Significance of Ratio Analysis

Ratios as a tool of financial analysis provide symptoms with the help of which any analyst is in a position to diagnose the financial health of the unit. Financial analysis may be compared with biopsy conducted by the doctor on the patient in order to diagnose the causes of illness so that treatment may be prescribed to the patient to help him recover. As, already hinted different groups of persons are interested in the affairs of any business entity, therefore, ***significance of ratio analysis*** for various groups is different and may be discussed as follows:

significance of ratio analysis for various groups is different and may be discussed as follows:

A. Usefulness to the Management:

1. Decision Making:

Mass of information contained in the financial statements may be unintelligible a confusing. Ratios help in highlighting the areas deserving attention and corrective action facilitating decision making.

2. Financial Forecasting and Planning:

Planning and forecasting can be done only by knowing the past and the present. Ratio help the management in understanding the past and the present of the unit. These also provide useful idea about the existing strength and weaknesses of the unit. This knowledge is vital for the management to plan and forecast the future of the unit.

3. Communication:

Ratios have the capability of communicating the desired information to the relevant persons in a manner easily understood by them to enable them to take stock of the existing situation:

4. Co-ordination is Facilitated:

Being precise, brief and pointing to the specific areas the ratios are likely to attract immediate grasping and attention of all concerned and is likely to result in improved coordination from all

5. Control is more effective:

System of planning and forecasting establishes budgets, develops forecast statements and lays down standards. Ratios provide actual basis. Actual can be compared with the standards. Variances to be computed an analyzed by reasons and individuals. So it is great help in administering an effective system of control.

B.Usefulness to the Owners/Shareholders :

Existing as well as prospective owners or shareholders are fundamentally interested in the (a) long-term solvency and (b) profitability of the unit. Ratio analysis can help them by analyzing and interpreting both the aspects of their unit.

Usefulness to the Creditors

Creditors may broadly be classified into short-term and long term. Short-term creditors are trade creditors, bills payables, creditors for expenses etc., they are interested in analyzing the liquidity of the unit. Long-term creditors are financial institutions, debenture holders, mortgage creditors etc., they are interested in analyzing the capacity of the unit to repay periodical interest and repayment of loans on schedule. Ratio analysis provides, both type of creditors, answers to their questions.

Usefulness to Employees

Employees are interested in fair wages: adequate fringe benefits and bonus linked with productivity/profitability. Ratio analysis provides them adequate information regarding efficiency and profitability of the unit. This knowledge helps them to bargain with the management regarding their demands for improved wages, bonus etc.

Usefulness to the Government

Govt. is interested in the financial information of the units both at macro as well as micro levels. Individual unit's information regarding production, sales and profit is required for excise duty, sales tax and income tax purposes. Group information for the industry is required for formulating national policies and planning. In the absence of dependable information, Govt. plans and policies may not achieve desired results

2.6 Factors That Distort Ratio Analysis

A. Seasonal Products and Services

An off-season lull in business may distort analysis of activity or profitability ratios for companies that sell seasonal products or services. Seasonal inventory or revenue fluctuations that are not based on sales can artificially inflate or deflate the value of the company’s assets. For instance, the financial statements of a company that waits to purchase large amounts of inventory during the off-season to benefit from lower prices might appear to show poor sales when inventory is high or poor liquidity when inventory is intentionally low. Avoid devaluing company assets and distorting inventory turnover rates by using an average monthly inventory instead of beginning and ending inventories to calculate activity or asset management ratios.

B. Weather

Predictable extreme weather or seasonal changes can distort analysis of financial ratios,

especially with comparisons of companies from different geographical regions. A lumber company that supplies the construction industry might expect a decrease in revenue during normal, seasonal weather conditions in one part of the country. The financial information used to calculate ratios for a lawn care or roofing business might reflect low revenue or increased expenses during certain seasons of the year. Analysis of financial ratios must include consideration of weather-related factors. Companies can address distortion of revenue and expenses by performing historical comparisons of the same accounting period over a period of a few years.

C. Holidays

Companies that focus on the sale of holiday items or services often have a limited period of activity reflected in financial statements. Financial statements will not reflect a balance of financial activity throughout the year. The company can adopt a fiscal year, or accounting periods that help showcase its most active periods. To calculate financial ratios, accountants can use formulas to distribute sales, expenses and inventory turnover rates over the fiscal year or accounting periods. Choosing reference points that are relevant to the business type prevents distortion when comparing companies.

D. Others: other factors are:

- Inflation
- External factors eg pollution
- Management changes
- Yearly comparisons
- Performance
- State of the economy
- Performance of competitors

2.7 Users of Financial Ratios

Financial ratio analysis is aimed to assess the financial performance and determine the financial position of an organization through its profitability, liquidity, activity, leverage and other relevant indicators. There are many groups and individuals with diverse and conflicting interests but want to know about the business performance or position. In the following table major users of financial statements with their areas of interest are described.

(1) Bankers and Lenders: Use profitability, liquidity and investment because they want to know the ability of the borrowing business in regular scheduled interest payments and repayments of principal loan amount.

(2) Investors: Use profitability and investment because they are more interested in profitability performance of business and safety & security of their investment and growth potential of their investment.

(3) Government: Use profitability because government may use profit as a basis for taxation, grants and subsidies.

(4) Employees: Use profitability, liquidity and activity because employees will be concerned with job security, bonus and continuance of business and wage bargaining.

(5) Customers: Use liquidity because customers will seek reassurance that the business can survive in the short term and continue to supply.

(6) Suppliers: Use liquidity because suppliers are more interested in knowing the ability of the business to settle its short-term obligations as and when they are due.

(7) Management: Use all ratios because management is interested in all aspects i.e., both financial performance and financial condition of the business.

2.8 Important Factors for Understanding Ratios Analysis

1.Quality of Financial Statements :

The reliability of ratios is linked with the quality of financial statements. Financial statements which have been prepared by faithful adherence to generally accepted accounting principles (GAAP). Generally accepted accounting principles are likely to contain reliable data. Calculation of ratios from such financial statements is bound to be more useful and trustworthy.

2. Purpose of Analysis:

Users of accounting information are different such as short-term and long-term creditors; owners and would be investors; trade unions; tax authorities; competitors etc., object of each group of interested parties is also different such as liquidity or solvency or profitability, etc. So, before undertaking the analysis, one should be clear about the object of analysis. It is the object of analysis which determines the area (liquidity, solvency, profitability, leverage, activityetc.) to be studied, analyzed and interpreted.

3.Selection of Ratios:

There is no end to the number of ratios which can be calculated. In 1919, Alexander Wall developed an elaborated system of ratio analysis. The same has been extended and modified over the period of time. So the ratios to be calculated should be selected judiciously taking into consideration the object of analysis. The ratios selected should serve the purpose of analysis. For example, short term creditors 'purpose is liquidity whereas owners' purpose may be served by solvency.

4.Standards to be Applied:

Any ratio in itself i.e. in isolation is meaningless. It must be compared with some standard to arrive at any logical conclusion. The analyst can choose the comparing standard from (a) Rule of thumb (b) past ratios (c) projected standards or (d) industry standards. Selection of standards for the purpose of interpretation will also depend upon the object of the analysis and the capacity of the analyst. For example, management (being the insider) can opt. for project standards whereas any outsider's choice shall be limited to the published information of the unit.

5.Capability of the Analyst:

Analysis is a tool in the hands of the analyst. Knife (as a tool) in the hands of a criminal may take the life but the knife (as a tool) in the hands of a surgeon may give new life to a patient. Interpretation depends on the educational background; professional skill; experience and intuition of the professional conducting it.

6.Ratios to be used only as Guide:

Ratios can provide, at the best, the starting point. The analyst, before arriving at the conclusion, should take into consideration all other relevant factors financial and non-financial; macro and micro. For example, general condition of economy; values of society; priorities of the government etc., are the important factors

2.9. Interpretation of Accounting Ratios

Calculation of ratios is comparatively simple, routine clerical in nature but interpretation of ratios is highly sophisticated and intricate phenomenon. The benefit of ratio analysis depends a great deal upon the correct interpretation. It needs skill, intelligence, training, farsightedness and intuition of high order on the part of the analyst. The following are different ways in which ratios may be interpreted:

Individual Ratio:

Individual ratio may have significance of its own. For example, if the current ratio unit continuously falls, it may indicate probable insolvency. But generally single ratio may not convey any sense. However single ratio may be studied with reference to certain popular rules of thumb which can only give approximations. Care must be exercised because such comparison may be erroneous or unrealistic.

Group Ratios:

Ratios may be interpreted by considering group of several related ratios. Such interpretation may be more meaningful. For example, current ratio may be studied along with liquid ratio. Similarly profitability ratios may be studied along with return on investment.

Comparison with Past:

Ratios may be interpreted by making comparison over a period of time i.e. the same ratio be studied over a period of years of the same unit. It will highlight the significant trend revealing use, decline or stability of the phenomenon. Average value of the ratio for the past number of years can serve as a standard against which current performance may be measured. While interpreting ratios from comparison over a period of time one should be careful about the changes which might have taken place during the time. For example, price index; changes in managerial policies or changes in accounting practices etc.

Comparison with Projections:

In a business unit where system of budgetary control and forecast is in existence, projected financial statements are usually drawn. Ratios calculated based on such projected financial statements shall act as the standards with which the ratios calculated from the present financial statements shall be compared. Variances shall be calculated and analyzed by reasons and persons. It shall enable to take corrective action wherever required.

Inter-firm or Inter-Industry Comparison:

Ratios of one unit may be compared with the ratios of another identical unit or with the industry average at the same point of time. Such comparison is useful for evaluating relative financial position of the unit vis-à-vis other units or industry. While making such comparison, care must be taken regarding the difference of accounting methods, policies, procedures and terminology being followed by different units

2.10. Application of Ratio Analysis

Ratio analysis is a tool used to determine the financial health and operational efficiency of a company. Top management utilizes it to gauge the performance of the company and it helps investors analyze the business from various angles and make an informed choice before investing in it. Ratio analysis offers a number of other advantages.

A. In the view point of the company:

1. Inter-Company Comparison : Ratio analysis can be a great tool for companies to benchmark their performances against the best in the business. If your competitors are doing well, analyzing their financial statements will give you an idea as to which areas are you lacking as against your competitors. This way, you can point out your weak areas or the areas of improvement.

2. Intra-company Comparison : Ratio analysis can also be used to compare the performance of various departments within the same company. This can be used by the management to find out the departments that are pulling the overall performance of the entire company.

3. Establishing Future Trends : Although ratios analysis is analyzing past data, it can be helpful in establishing a future trend based on the belief – 'history repeats itself'.

B. In the view point of the company :

Investors can use ratio analysis to measure the performance of various companies. Ratio analysis can be used to measure the profitability of various companies, their credit policies, how solvent the company is, how liquid its assets are, is the company management efficient enough etc. Using all this data, the investors can make an informed choice before investing in a company.

1. **Assessment of Liquidity :** Liquidity ratios are classes of financial metrics that help determine the ability of a company to meet its immediate short-term debt obligations. Higher is the value of this class of ratios, better is the company in a position to meet its debt obligations. On the other hand, a very high value of this class may suggest that company is not making prudent investment decisions and sitting on a pile of un-invested cash.
Liquidity ratios make use of current assets and current liabilities. Some of the common liquidity ratios are given below.

a. Current Ratio = Current Assets / Current Liabilities
b. Acid Test Ratio = (Current Assets – Stocks) / Current Liabilities

2. Assessment of Long-Term Solvency : Solvency ratios help to determine the ability of a company to meet its long-term obligations. If a company has the low value of solvency ratios, it may cast a doubt in the minds of investors whether the company is capable of meeting its debts and that it may default on its obligations.

Some of the commonly used solvency ratios are given below.
1. Debt Ratio = Total Debt / Total Assets
2. Debt-Equity Ratio = Total Liabilities / Total Owner's Equity
3. Indebtedness Ratio = Total Debts / Total Liabilities

3. Assessment of Profitability : One of the most widely used ratios is the profitability ratios. At the end of the day, no matter what company tries to do, its eventual goal is to maximize its profits and wealth. Profitability ratios analyze how profitable is the company in comparison to the investments it has made and the revenue it generates.

Some of the commonly used profitability ratios are as given below.
1. Net Profit Margin = Net Income / Total Revenue
2. Return on Equity = Net Income / Average Owner's Equity
3. Return on Assets = Net Income / Average Total Assets

4**.** Assessment of Operating Efficiency : Efficiency ratios measure how effectively a company utilizes its assets and manages its debts. Efficiency ratios measure the pace of cycle of accounts receivable, accounts payable and the inventory.

Some of the common ratios in this category are given below.
1. Inventory Turnover Ratio = Cost of Goods Sold / Average Inventory

2. Accounts Receivable Turnover = Revenue / Average Accounts Receivable
3. Accounts Payable Turnover = Cost of Goods Sold / Average Accounts Payable

2.11 Characteristics of a Ratio

A ratio is a sort of mathematical metaphor, an analogy used to compare different amounts of the same measure. You could almost consider any type of measurement a ratio, since every measurement in the world has to have some sort of reference point. This fact alone makes measurement by ratio one of the most basic of all forms of quantification.

1. Units of Measure : A ratio compares two things in the same unit of measure. It doesn't matter what that unit of measure is -- pounds, cubic centimeters, gallons,meters -- it matters only that the two are measured in the same units. For instance, you can't compare 1 part fuel to 14 parts of air if you're measuring fuel in pounds and air in cubic feet.

2.Modes of Expression : You can express a ratio either in narrative form or in symbolic mathematical notation. You can express ratio as "the ratio of A to B," "A is to B," "A : B" or the quotient of A divided by B. For example, you can express a ratio of 1 to 4 as 1:4 or 0.25 (1 divided by 4).

3. Equality of Ratios : You can use ratios as direct analogies to compare one thing to another, notating it either with an "=" sign or verbally. For instance, you can say "A is to B as C is to D," or you can say, "A:B = C:D." In this instance, A and D are the "extremes" and B and C are called the "means." For example, you can say, "1 is to 4 as 3 is to 12," or you can say "1:4 = 3:12."

4. Ratios as Fractions : In practice, ratios act something like fractions. You can replace the colon with a division sign and still arrive at the same result. As in the previous example, 1/4 (1 divided by 4) and 3/12 (3 divided by 12) both come out to 0.25. This is consistent with the last mode of expression. So any ratio may be expressed as A divided by B.

5. Continued Proportions : Any series of three or more ratios can string together to create a continued or serial proportion. As an example, "1 is to 4 as 3 is to 12 as 4 is to 16" and "1:4 = 3:12 = 4:16" are both continued proportions. Expressing them as decimal figures (dividing the first number by the second in each proportion), you indeed find that 0.25 = 0.25 = 0.25

2.12 Sum Up

A ratio is defined as “the indicated quotient of two mathematical expressions” and as “the relationship between two or more things”. In financial analysis, a ratio is used as an

index or yardstick for evaluating the financial position and performance of a firm.Analysis of financial statements is a process of evaluating relationship between component parts of financial statements to obtain a better understanding of the firm's position and performance. Financial analysis is used as a device to analyse and interpret the financial health of enterprise.The absolute accounting figures reported in the financial statements do not provide a meaningful understanding of the performance and financial performance of a firm. An accounting figure conveys meaning when t is related to some other relevant information. Just like a doctor examines his patient by recording his body temperature, blood pressure etc., before making his conclusion regarding the illness and before giving his treatment, a financial analyst analyses the financial statements with various tools of analysis before commenting upon the financial health or weaknesses of an enterprise. A ratio is known as a symptom like blood pressure, the pulse rate or the temperature of an individual

2.13 Key Words

Liquidity Ratios: are classes of financial metrics that help determine the ability of a company to meet its immediate short-term debt obligations. Higher is the value of this class of ratios, better is the company in a position to meet its debt obligations.

Solvency Ratios: it help to determine the ability of a company to meet its long-term obligations. If a company has the low value of solvency ratios, it may cast a doubt in the minds of investors whether the company is capable of meeting its debts and that it may default on its obligations.

Profitability Ratio: One of the most widely used ratios is the profitability ratios. At the end of the day, no matter what company tries to do, its eventual goal is to maximize its profits and wealth. Profitability ratios analyze how profitable is the company in comparison to the investments it has made and the revenue it generates**.**

Efficiency ratios: It measure how effectively a company utilizes its assets and manages its debts. Efficiency ratios measure the pace of cycle of accounts receivable, accounts payable and the inventory.

2.14 Self Assessment Questions

1. Discuss the importance of ratio analysis.

Ans :

2. State the Nature of ratio analysis.
Ans :

3. Describe the significance of ratio analysis.
Ans :

4. Mention the users of ratio analysis.
Ans :

5. Highlights the character of ratio analysis.
Ans :

2.15 Model Questions

1. Briefly describe the steps of ratio analysis.
2. Narrate the factors of ratio analysis.

3. State the application of ratio analysis.

4. Write the factors which distort ratio analysis.

2.16 Further Readings

(i) Gupta S.K and Sharma R.K, Management Accounting, Kalyani Publishers, 2nd Edition, New Delhi

(ii) Rao P.M., Financial Statement Analysis and Reporting, PHI, 1st Edition, New Delhi

(iii) Arora, M.N, Cost and Management Accounting, Himalaya Publishing House, 3rd Edition, Mumbai

Unit – III
Ratio Analysis-III

Learning Objectives: After studying this lesson, you will be able to know :

Importance of ratio analysis, nature of ratio analysis, significance of ratio analysis, users of financial ratios, characteristics of ratio analysis, factors affecting ratio analysis, steps of ratio analysis and etc.

Structure:

3.1 Introduction

Ratio analysis is also used to assess the long-term debt-paying capacity of a firm. Long-term solvency position of a borrower is a prime concern to the long-term creditors, security analysts and the present and potential owners of a business. It is measured by the leverage/capital structure and profitability ratios which indicate the earning power and operating efficiency. Ratio analysis shows the strength and weakness of a firm in this respect. The management is always concerned with the overall profitability of the firm. They want to know whether the firm has the ability to meet its short-term as well as long-term obligations to its creditors, to ensure a reasonable return to its owners and secure optimum utilisation of the assets of the firm. This is possible if all the ratios are considered together.

3.2 Steps Involved in Financial Ratio Analysis

The following are the steps involved in the financial ratio analysis.

1. An analyst should decide the objectives of ratio analysis.

2. Select th0 appropriate ratios on the basis of objectives of ratio analysis.

3. Calculation of the selected such ratios.

4. Comparison of the calculated ratios with the ratios of the same business concern in the past.

5. Comparison of the calculated ratios with the same type of ratios of other similar business concern.

6. Comparison of the calculated ratios with the same type of ratios of the industry to which the business concern belongs.

7. Interpretation of the ratios.

3.3 Qualitative Factors of Ratio Analysis

External Reputation

Small business owners should be aware how managerial-accounting-based decisions affect the external reputation of the firm. Often, quantitative analysis suggests a clear choice between two decision alternatives. However, this type of analysis does not always take into account all factors. For example, a manufacturing company may consider outsourcing the assembly of electronic parts overseas. While examining projected income statements outlining the quantitative effects of the change shows increased profitability, the analysis is unable to take into consideration consumer backlash related to moving jobs out of the U.S.

Labor Relations

Nearly any quantitative analysis will demonstrate that spending less money on employees increases profits. However, this may be shortsighted. Quantitative analysis usually does not take into account the importance of healthy relations with your labor force. For example, a company may decide that to save costs it will discontinue an annual holiday bonus that has been offered for the last 20 years. While there is no doubt that this will reduce costs, it could be perceived by employees as antagonistic or heartless. Small business owners may consider other ways to cut costs. In this case, it might be better to reduce annual pay increases by a fraction of a percent or to reduce the bonus rather than eliminate it.

Creditor Effects

While most managerial accounting figures are not released to the public, qualitative information about a company's operations may be inadvertently revealed to creditors.

This includes the opening and closing of plants and retail stores, management turnover information and rumors about new products. In many cases, it is difficult to predict the effect that qualitative information has on a creditor's perception of the company. An owner's best bet may be to recognize that some effect will occur and be upfront with third parties if damaging qualitative information is revealed.

Quality

In most cases, quantitative information neglects to provide information on quality. Businesses, smartly looking to reduce costs, must be cautious to avoid sacrificing the long-term benefit of being associated with quality products and services for the short-term quantitative benefit of cutting costs. For example, a clothing manufacturer may source thinner and lower cost denim for use in making jeans. Even if the company is able to pass some of these cost savings on to consumers, the association with lower quality products may be detrimental to the company

3.4 Leverage Ratio

A **leverage ratio** is meant to evaluate a company's debt levels. The most common leverage ratios are the debt ratio and the debt-to-equity ratio. A debt ratio is simply a company's total debt divided by its total assets. The formula is:

Debt Ratio = Total Debt / Total Assets

For example, if Company XYZ had 10 million of debt on its balance sheet and 15 million of assets, then Company XYZ's debt ratio is:

Debt Ratio = 10,000,000 / 15,000,000 = 0.67 or 67%

This means that for every dollar of Company XYZ assets, Company XYZ had 0.67 of debt. A ratio above 1.0 indicates that the company has more debt than assets.

The **debt-to-equity ratio** is a measure of the relationship between the capital contributed by creditors and the capital contributed by owners. It also shows the extent to which shareholders' equity can fulfill a company's obligations to creditors in the event of a liquidation.

Here is the formula for the debt-to-equity ratio:

Debt-to-Equity Ratio = Total Debt/Total Equity

For example, if Company XYZ had 10 million of debt on its balance sheet and 10 million of total equity, then Company XYZ's debt ratio is:

Debt-to-Equity Ratio = $10,000,000/$10,000,000 = 1.0 times or 100%

This means that for every dollar of Company XYZ owned by the shareholders, Company XYZ owes 1 to creditors.

It is important to note that there are many ways to calculate the debt-to-equity ratio, and therefore it is important to be clear about what types of debt and equity are being used when comparing debt-to-equity ratios. There is also some debate over whether the book value or the market value of a company's debt and equity should be used when calculating a company's debt-to-equity ratio.

Why it Matters:

Leverage ratios measure how leveraged a company is, and a company's degree of leverage (that is, its debt load) is often a measure of risk. When the debt ratio is high, for example, the company has a lot of debt relative to its assets. It is thus carrying a bigger burden in the sense that principal and interest payments take a significant amount of the company's cash flows, and a hiccup in financial performance or a rise in interest rates could result in default. When the debt ratio is low, principal and interest payments don't command such a large portion of the company's cash flow and the company is not as sensitive to changes in business or interest rates from this perspective. However, a low debt ratio may also indicate that the company has an opportunity to use leverage as a means of responsibly growing the business.

In general, a high debt-to-equity ratio indicates that a company may not be able to generate enough cash to satisfy its debt obligations. However, low debt-to-equity ratios may also indicate that a company is not taking advantage of the increased profits that financial leverage may bring.It is important to note that the timing of asset purchases and differences in debt structures can generate differing debt ratios for similar companies. This is why comparison of debt ratios is generally most meaningful among companies within the same industry, and the definition of a "high" or "low" ratio should be made within this context.

Lenders and investors usually prefer low leverage ratios because the lenders' interests are better protected in the event of a business decline and the shareholders are more likely to receive at least some of their original investment back in the event of a liquidation. This is generally why high leverage ratios may prevent a company from attracting additional capital.

3.5 Assets Management Ratio

Asset Management Ratios attempt to measure the firm's success in managing its assets to generate sales. For example, these ratios can provide insight into the success of the firm's credit policy and inventory management. These ratios are also known as Activity or Turnover Ratios.

Receivables Turnover and Days' Receivables

The Receivables Turnover and Days' Receivables Ratios assess the firm's management of its Accounts Receivables and, thus, its credit policy. In general, the higher the Receivables Turnover Ratio the better since this implies that the firm is collecting on its accounts receivables sooner. However, if the ratio is too high then the firm may be offering too large of a discount for early payment or may have too restrictive credit terms. The Receivables Turnover Ratio is calculated by dividing Sales by Accounts Receivables. (Note: since Accounts Receivables arise from Credit Sales it is more meaningful to use Credit Sales in the numerator if the data is available.)

The Days' Receivables Ratio is calculated by dividing the number of days in a year, 365, by the Receivables Turnover Ratio. Therefore, the Days' Receivables indicates how long, on average, it takes for the firm to collect on its sales to customers on credit. This ratio is also known as the Days' Sales Outstanding (DSO) or Average Collection Period (ACP).

Inventory Turnover and Days' Inventory

The Inventory Turnover and Days' Inventory Ratios measure the firm's management of its Inventory. In general, a higher Inventory Turnover Ratio is indicative of better performance since this indicates that the firm's inventories are being sold more quickly. However, if the ratio is too high then the firm may be losing sales to competitors due to inventory shortages. The Inventory Turnover Ratio is calculated by dividing Cost of Goods Sold by Inventory. When comparing one firms's Inventory Turnover ratio with that of another firm it is important to consider the inventory valuation methid used by the firms. Some firms use a FIFO (first-in-first-out) method, others use a LIFO (last-in-first-out) method, while still others use a weighted average method.

The Days' Inventory Ratio is calculated by dividing the number of days in a year, 365, by the Inventory Turnover Ratio. Therefore, the Days' Inventory indicates how long, on average, an inventory item sits on the shelf until it is sold.

Fixed Assets Turnover

The Fixed Assets Turnover Ratio measures how productively the firm is managing its Fixed Assets to generate Sales. This ratio is calculated by dividing Sales by Net Fixed Assets. When comparing Fixed Assets Turnover Ratios of different firms it is important to keep in mind that the values for Net Fixed Assets reported on the firms' Balance Sheets are book values which can be very different from market values.

Total Assets Turnover

The Total Assets Turnover Ratio measures how productively the firm is managing all of its assets to generate Sales. This ratio is calculated by dividing Sales by Total Assets.Entering the stock market, either by investing in individual stocks on your own or by contributing to index funds within your employer-sponsored 401K, can be overwhelming and frustrating. The stock market has its own vocabulary and language, and it can be difficult to understand all of the different nuances.But by taking the time to learn the lingo and how the market works, you can ensure your money works harder for you.

3.6 Market Value Ratios

Market value ratios evaluate the economic status of your publicly-traded company in the wider marketplace — in other words, whether your company's stock is overvalued, undervalued or priced fairly. Although there are a wide variety of market value ratios in use, the most popular include earnings per share, book value per share and the price-earnings ratio. Others include the price/cash ratio, dividend yield, market value per

share and the market/book ratio.Each of these measures is used in a different way, but combined, they offer a pretty accurate financial portrait of a publicly-traded company.

How Are Market Value Ratios Used?

Potential and current investors use market value ratios to see how a company's current share price stacks up to its various metrics. In addition, market value ratios give management an idea of what the firm's investors think of the firm's performance and future prospects. They're also useful to analyze stock trends, although some context is necessary. For example, a company's low price-earnings ratio may indicate the stock is an undervalued bargain in a stable industry, but it also could indicate the company's earnings prospects are relatively uncertain, and the stock may be a risky bet.That's why you should consider various factors, including a range of market value ratios, when making a decision about an investment. A stock with one great-looking measure could be an undiscovered gem, or it could be a dud that's underpriced for a reason.

Common Market Value Ratios

Here's some additional information on the most common market value ratios in use:

Earnings per share: This measures a company's net income per share of outstanding stock, indicating a company's profitability to investors.

Book value per share: Book value per share measures shareholders' common equity in the company, divided by the shares outstanding.

Price-earnings ratio: As discussed above, the price-earnings ratio is the current price of one share of stock divided by the company's earnings. Earnings generally are calculated by looking at the last four quarters of financial results, although analysts also may talk about a "forward price-earnings ratio," which is the estimated price-earnings ratio for the next four quarters.

Price/cash ratio: This ratio compares the price of a company's stock to its cash flow. Lower may be better — it may indicate a company is undervalued and is generating plenty of cash — but investors should look at other metrics to confirm this

3.7 Dupont Analysis

Dupont analysis is an extended examination of return on equity (ROE) of a company which analysis net profit margin, asset turnover and financial leverage. This analysis was developed by the Dupont Corporation in the year 1920.

In simple words, it breaks down the ROE to analyse how corporate can increase the return for their shareholders.

Return on Equity= Net Profit margin x Asset turnover ratio x Financial leverage

= (Net Income / Sales) x (Sales / Total Assets) x (Total Assets / Total Equity)

The company can increase its return on equity if it-

1. Generates a high net profit margin. The company can increase its return on equity if it-

2. Effectively uses its assets so as to generate more sales

3. Has a high financial leverage

DuPont analysis examines the return on equity (ROE) analyzing profit margin, total asset turnover, and financial leverage. It was created by the DuPont Corporation in the 1920s.

How it works:

The DuPont analysis is also referred to as the DuPont identity.

In a DuPont analysis, the formula for ROE is:

ROE = Profit Margin x Total Asset Turnover x Leverage Factor

The formula breaks down further to:

ROE = (Net Income/Revenues) x (Revenues/Total Assets) x (Total Assets/ Shareholders' Equity)

For example, let's consider the following information for Company XYZ:

Using the formula above, we can calculate that Company XYZ's ROE is :

ROE = (2,000/10,000) x (10,000/25,000) x (25,000/5,000) = 0.20 x 0.40 x 5 = 0.40 or 40%.

The DuPont analysis analyzes the numbers shown in profit margin (2,000/10,000), total asset turnover (10,000/25,000) and leverage factor (25,000/5,000) to find Company XYZ's ROE.

Why it Matters:

The *DuPont Analysis* is important determines what is driving a company's ROE; Profit margin shows the operating efficiency, asset turnover shows the asset use efficiency, and leverage factor shows how much leverage is being used. The method goes beyond profit margin to understand how efficiently a company's assets generate sales or cash and how well a company uses debt to produce incremental returns. Using these three factors, a DuPont analysis allows analysts to dissect a company, efficiently determine where the company is weak and strong and quickly know what areas of the business to look at (i.e., inventory management, debt structure, margins) for more answers. The measure is still broad, however, and is not a substitute for detailed analysis. The DuPont analysis looks uses both the income statement as well as the balance sheet to perform the examination. As a result, major asset purchases, acquisitions, or other significant changes can distort the ROE calculation. Many analysts use average assets and shareholders' equity to mitigate this distortion, although that approach assumes the balance sheet changes occurred steadily over the course of the year, which may not be accurate either

DuPont analysis interpretation :

DuPont analysis gives a broader view of the return on equity of the company. It highlights the company's strength and pin points the area where there is a scope for improvement. Say if the shareholders are dissatisfied with lower ROE, the company with the help of Du Pont analysis formula can assess whether the lower ROE is due to low profit margin, low asset turnover or poor leverage.

Once the management of the company has found the weak area, it may take steps to correct it. The lower ROE may always not be a concern for the company as it may also happen due to normal business operations. For instance, the ROE may come down due to accelerated depreciation in the initial years. The Dupont equation can be further decomposed to have an even deeper insight where the net profit margin is broken down into EBIT margin, tax burden and interest burden.

Return on Equity= EBIT margin x Interest burden x Tax burden x Asset turnover ratio x Financial leverage

ROE = (EBIT / Sales) x (EBT / EBIT) x (Net Income / EBT) x (Sales / Total Assets) x (Total Assets / Total Equity)

DuPont analysis example:

Let's analyze the return on equity of company A and B. Both the companies are into electronic industry and have the same ROE of 45%. The ratios of the two companies are as follows-

Ratio	Company A	Company B
Profit margin	30%	15%
Asset turnover	0.5	6
Financial leverage	3	0.5

Even though both companies have the same ROE, however the operations of the companies are totally different.

Company A is able to generate higher sales while maintaining lower cost of goods which can be seen from its high profit margin. On the other hand, company B is selling its products at lower margin but having very high asset turnover ratio indicating that the company is making large amount of sales. Moreover, company B seems less risky since its financial leverage is very low.Thus Dupont analysis helps compare similar companies with similar ratios. It will help investors to measure the risk associated with the business model of each company.

Problem 1. ***From the data calculate :***

(i) Gross Profit Ratio (ii) Net Profit Ratio (iii) Return on Total Assets

(iv) Inventory Turnover (v) Working Capital Turnover (vi) Net worth to Debt

Sales	*25,20,000*	*Other Current Assets*	*7,60,000*
Cost of sale	*19,20,000*	*Fixed Assets*	*14, 40,000*
Net profit	*3,60,000*	*Net worth*	*15,00,000*
Inventory	*8,00,000*	*Debt.*	*9,00,000*
Current Liabilities	*6,00,000*		

Solution:

1. Gross Profit Ratio = (GP/ Sales) * 100 = 6

Sales – Cost of Sales Gross Profit - 25,20,000 – 19,20,000 = 6,00,000

2. Net Profit Ratio = (NP / Sales)* 100 = 3

3. Inventory Turnover Ratio = Turnover / Total Assets) * 100= 1920000/800000= 2.4 times

Turnover Refers Cost of Sales

4. Return on Total Assets = NP/ Total Assets = (360000/3000000)*100 = 12%

FA+ CA +inventory [14,40,000 + 7,60,000 + 8,00,000] = 30,00,000

5. Net worth to Debt = Net worth/ Debt= (1500000/900000)* 100 = 1.66 times

6. Working Capital Turnover = Turnover/Working capital

Working Capital = Current Assets – Current Liabilities

= 8,00,000 + 7,60,000 – 6,00,000

15,60,000 – 6,00,000= 9,60,000

Working Capital Turnover Ratio = 19,20,000 = 2 times.

Problem 2. ***Perfect Ltd. gives the following Balance sheet. You are required to compute the following ratios.***

(a) Liquid Ratio

(b) Solvency Ratio

(c) Debt-Equity Ratio

(d) Stock of Working Capital Ratio

Balance Sheet

Equity share capital	*1500000*	*Fixed Assets*	*1400000*
Reserve fund	*100000*	*Stock*	*500000*
6% Debentures	*300000*	*Debtors*	*200000*
Overdraft	*100000*	*Cash*	*100000*
Creditors	*200000*		*2200000*

Solution :

(a) Liquid Ratio= Liquid Assets / Liquid Liabilities

(or)

Liquid Assets / Current Liabilities

LA Debtors = 2,00,000 i.e., 3,00,000 / 200000 = 1.5

Cash = 1,00,000

= 3,00,000

Liquid Liabilities : Creditors = 2,00,000

(b) Debt – Equity Ratio = External Equities / Internal Equities

External Equities:

All outsiders loan Including current liabilities

3,00,000 + 1,00,000 + 2,00,000 = 6,00,000

Internal Equities :

It Includes share holders fund + Reserves

15,00,000 + 1,00,000 = 16,00,000

Debt – Equity Ratio = 600000/ 1600000 = 0 · 375

Solvency Ratio = Outside Liabilities / Total Assets

Outside Liabilities = Debenture + Overdraft + Creditors

= 3,00,000 + 1,00,000 + 2,00,000 = 6,00,000

*Solvency Ratio =(600000 / 2200000) * 100*

= 27.27%

(d) Stock of Working Capital Ratio = Stock / Working Capital

Working Capital = Current Assets – Current Liabilities

= 8,00,000 – 3,00,000 = 5,00,000

Stock of Working Capital Ratio =* 100 = 100%

Problem 3. Calculate the following ratios from the balance sheet given below :

(i) Debt – Equity Ratio (ii) Liquidity Ratio

(iii) Fixed Assets to Current Assets (iv) Fixed Assets Turnover

Balance Sheet

Liabilities		Assets	
Equity shares of $ 10 each	1,00,000	Goodwill	60000
Reserves	20,000	Fixed Assets	140000

P.L. A/c	30,000	Stock	30000
Secured loan	80,000	Sundry Debtors	30000
Sundry creditors	50,000	Advances	10000
Provision for taxation	20,000	CashBalance	10000
	3,00,000		300000

The sales for the year were 5,60,000.

Solution:

Debt – Equity = Long – Term Debt / Shareholders Fund

Ratio = Secured loan $. 80,000

Shareholder's Fund= Equity Share Capital + Reserves + P.L.A/c

= 1,00,000 + 20,000 + 30,000 = 1,50,000

Debt-Equity Ratio = 80,000 / 1,50,000=.53

Liquidity Ratio = Liquid Assets / Liquid Liabilities

Liquid Assets = Sundry Debtors + Advances + Cash Balance

30,000 + 10,000 + 30,000 = 70,000

Liquid Liabilities = Provision for Taxation + sundry creditors

= 20,000 + 50,000 = 70,000

Liquid Ratio = 70,000 / 70,000= 1

Fixed Assets to Current Assets

= Fixed Assets / Current Assets= 1,40,000/ 100000 = 1.4

Fixed Assets Turnover =Turnover / Fixed Assets= 5,60,000/1,40,000 = 4

Problem 4. The Balance sheet of Naronath & Co. as on 31.12.2000 shows as follows:

Liabilities	$	Assets	$
Equity capital	1,00,000	Fixed Assets	1,80,000
15% Preference shares	50,000	Stores	25,000
12% Debentures	50,000	Debtors	55,000
Retained Earnings	20,000	Bills Receivable	3,000
Creditors	45,000	Bank	2,000
	2,65,000		2,65,000

Comment on the financial position of the Company i. e., Debt – Equity Ratio, Fixed Assets Ratio, Current Ratio, and Liquidity.

Solution:

Debt – Equity Ratio = Debt – Equity Ratio / Long – Term Debt

Long-term Debt = Debentures

= 50,000

Shareholder's Fund = Equity + Preference + Retained Earnings

= 1,00,000 + 50,000 + 20,000

= 50,000

= 1,70,000

= ·29

Fixed Assets Ratio= Fixed Assets / Proprietor's Fund= -1,80,000

Proprietor's Fund=Equity Share Capital + Preference Share Capital+ Retained Earnings

=1,00,000 + 50,000 + 20,000 = 1,70,000

Fixed Assets Ratio = 1,80,000 / 1,70,000= 1.05

Current Ratio = Current Assets / Current Liabilities

Current Assets = Stores + Debtors + BR + Bank= 25,000 + 55,000 + 3,000 + 2,000 = 85,000

Liquid Ratio=45,000 / 85,000= 1.88

Liquid Assets = 45,000

Liquid Liabilities = Debtors + Bill Receivable + Cash=55,000 + 3,000 + 2,000 = 60,000

Liquid Ratio = 60,000 / 45,000 = 1.33

Problem 5: From the following particulars pertaining to Assets and Liabilities of a company calculate :

(a) Current Ratio (b) Liquidity Ratio (c) Proprietary Ratio

(d) Debt-equity Ratio (e) Capital Gearing Ratio

Liabilities		Assets	
5000 equity shares 10 each	500000	Land & Building	500000
8% 2000 pre shares 100		Plant & Machinery	600000
Each	200000	Debtors	200000
9% 4000 Debentures of		Stock	240000
$ 100 each	400000	Cash and Bank	55000
Reserves	300000	Prepaid expenses	5000
Creditors	150000		
Bank overdraft	50000		
	1600000		1600000

Solution :

Current Ratio = Current Assets / Current Liabilities

Current Assets = Stock + Cash + Prepaid Expenses + Debtors

= 2,40,000 + 55,000 + 5,000 + 2,00,000 = 5,00,000

Current Liabilities = Creditors + Bank Overdraft

=1,50,000 + 50,000 = 2,00,000

=5,00,000 / 2,00,000

= 2.5 : 1

Liquid Ratio = Liquid Assets / Liquid Liabilities

Liquid Assets = Cash and Bank + Debtors

=55,000 + 2,00,000 = 2,55,000

Liquid Liabilities : Creditors = 1,50,000

Liquid Ratio = 2,55,000 / 1,50,000

= 1.7 : 1

Proprietor's Ratio = Proprietor's Fund / Total Tangible Assets

Proprietor's Fund = Equity Share Capital + Preference

Share Capital + Reserves and Surplus

=5,00,000 + 2,00,000 + 3,00,000

Proprietary Ratio=10,00,000 / 16,00,000

= 0.625 : 1

Debt – Equity Ratio = External Equities / Internal Equities

External Equities = Long-term Liabilities + Short-term Liabilities

= 4,00,000 + 2,00,000 = 6,00,000

Internal Equities = Proprietor's funds

= 6,00,000 / 10,00,000

= 0.6 : 1

Capital Gearing Ratio = Fixed Interest Bearing Securities / Equity Share Capital + Reserves

Fixed Interest Bearing Securities = Preference Shares 2,00,000

Debentures 4,00,000

6,00,000

= 6,00,000 / 8,00,000

= 0.75 : 1

Problem 6. From the following details of a trader you are required to calculate :

(i) Purchase for the year.

(ii) Rate of stock turnover

(iii) Percentage of Gross profit to turnover

Sales	33,984	Stock at the close at cost price	1814
Sales Returns	380	G.P. for the year	8068
Stock at the beginning at cost price	1378		

Solution :

Trading Account

To Opening stock	1378	By Sales	33984
To Purchase (BD	25972	Sales Return	380
To gross profit	8068		33604
By closing Stock	1814		
	35418		35418

(i) Purchase for the year 25,972

(ii) Stock Turnover = Cost of Goods Sold

Cost of Goods Sold = Cost of Goods Sold / Average Stock

Average Stock = (Opening Stock + Closing Stock)/ 2

= (1372 + 1814)/2= 25916/1596

=16.23 times

(iii) Percentage of Gross Profit to Turnover = Gross Profit / Sales *100

= 8068 / 33 ,984 * 100

= 23.74%.

Problem 7. Calculate stock turnover ratio from the following information :

Opening stock	58,000
Purchases	4,84,000
Sales	6,40,000

Gross Profit Rate – 25% on Sales.

Solution :

Stock Turnover Ratio = Cost of Goods Sold / Average Stock

Cost of Goods Sold = Sales- G.P

= 6,40,000 – 1,60,000 = 4,80,000

Stock Turnover Ratio= 4,80,000 /58000

= 8.27 times

Here, there is no closing stock. So there is no need to calculate the average stock.

Problem 8. Calculate the operating Ratio from the following figures.

Items	(in Lakhs)
Sales	17874
Sales Returns	4
Other Incomes	53
Cost of Sales	15440
Administration and Selling Exp.	1843
Depreciation	63
Interest Expenses (Non- operating	456

Solution:

Operating Ratio = (Cost of Goods Sold + Operating Expenses * 100) / Sales

= ((15,440 + 1,843)/ 17,870)*100

= 97%

Problem 9. The following is the Trading and Profit and loss account of Mathan Bros Private Limited for the year ended June 30,2001.

To Stock in hand	76250	BySales	500000
To Purchases	315250	By Stock in hand	98500
To Carriage and Freight	2000		
To Wages	5000		
To Gross Profit	200000		
_	598500		598500

To Administration Expenses		1,01,000	By Gross profit		2,00,000
To Finance Expenses. :			By Non-operating Incomes		
Interest		1200	Interest on Securities		1,500
Discount		2400	Dividend on Shares		3, 750
Bad Debts	3400	7000	Profit on Sale of Shares	750	6,000

To Selling Distribution Expenses 12000

To Non-operating expenses

Loss on sale of securities 350

Provision for legal suit 1,650 2000

To Net profit 84000

206000 206000

You are required to calculate :

(i) Gross profit Ratio (ii) Expenses Ratio (individual)

(iii) Net profit Ratio (iv) Operating profit Ratio

(v) Operating Ratio (vi) Stock turnover Ratio

Gross Profit Ratio =Gross Profit/ Sales * 100 = 2,00,000 / 500000 * 100

Expenses Ratio =Individual Expenses / Sales

Administration Expenses / Sales *100 =101000/500000 *100= 2.02%

Finance Expenses/ Sales *100 = 7000/ 500000 * 100=1.04 %

Selling and Distribution Expenses / Sales* 100= 12 000/ 500000 *100= 2.40%

Non- Operating Expenses / Sales * 100 = 2000/ 500000 * 100= 0.4%

Net Profit Ratio :

Net Profit/ Sales *100 = 84000/ 500000 *100= 16.8%

Operating Profit Ratio =Operating Profit / Sales *100

Operating Profit = Net Profit + Non-Operating Expenses – Non Operating Incomes

= 84,000 + 2,000 – 6,000 = 80,000

= 80•000 / 5000000* 100 = 16%

Operating Ratio = (Cost of Goods Sold + Operating Expenses)/Sales* 100

Cost of Goods Sold = Sales – Gross profit

5,00,000 – 2,00,000= 3,00,000

Operating Expenses

All Expenses Debited in the Profit & Loss A/c Except Non-Operating Expenses

[including Finance expense]

1,01,000 + 7,000 + 12,000 = 1,20,000

Operating Ratio = (3,00,000 + 1,20,0000) 500000 * 84%

Stock Turnover Ratio = Cost of Goods Sold / Average Stock

Costs of Goods Sold = 3, 00,000

Average Stock = (Opening Stock + Closing Stock)/2

=(76,250 + 95,500) / 2

= 85,875

3.8 Sum Up

In financial analysis, a ratio is used as an index or yardstick for evaluating the financial position and performance of a firm. Analysis of financial statements is a process of evaluating relationship between component parts of financial statements to obtain a better understanding of the firm's position and performance. Financial analysis is used as a device to analyse and interpret the financial health of enterprise. The absolute accounting figures reported in the financial statements do not provide a meaningful understanding of the performance and financial performance of a firm. An accounting figure conveys meaning when t is related to some other relevant information. Just like a doctor examines his patient by recording his body temperature, blood pressure etc., before making his conclusion regarding the illness and before giving his treatment, a financial analyst analyses the financial statements with various tools of analysis before commenting upon the financial health or weaknesses of an enterprise.

3.9 Key Words

Earnings per share: This measures a company's net income per share of outstanding stock, indicating a company's profitability to investors.

Book value per share: Book value per share measures shareholders' common equity in the company, divided by the shares outstanding.

Price-earnings ratio: As discussed above, the price-earnings ratio is the current price of one share of stock divided by the company's earnings. Earnings generally are calculated by looking at the last four quarters of financial results, although analysts also may talk about a "forward price-earnings ratio," which is the estimated price-earnings ratio for the next four quarters.

Price/cash ratio: This ratio compares the price of a company's stock to its cash flow. Lower may be better — it may indicate a company is undervalued and is generating plenty of cash — but investors should look at other metrics to confirm this

3.10 Self Assessment Question

1 Discuss the steps of ratio analysis.

2.State the qualitative factors of ratio analysis.

3.What is leverage ratio? What are the importances of it?

4. What is assets management ratio? Give the details of it.

3.11 Model Questions

1.Write a detailed note on dupont analysis.

2.What is market value ratio? Write the applicability of it.

3.Narrate the significance of dupont analysis

4.Difference between three stage and five stage dupont analysis.

3.12 Further Reading

(i) Gupta S.K and Sharma R.K, Management Accounting, Kalyani Publishers, 2nd Edition, New Delhi

(ii) Rao P.M., Financial Statement Analysis and Reporting, PHI, 1st Edition, NewDelhi

(iii) Arora, M.N, Cost and Management Accounting, Himalaya Publishing House, 3rd Edition, Mumbai

❑❑❑