



## **ACCOUNTING RATIOS – II**

You have learnt in the previous lesson that accounting ratios can be classified into five major groups viz. liquidity ratios, activity ratios, solvency ratios, profitability ratios and leverage ratio. You have already learnt the meaning, computations and significance of liquidity and activity ratios. In this lesson, you will learn about the various solvency ratios, profitability ratios and leverage ratio and their significance.



### **OBJECTIVES**

After studying this lesson you will be able to :

- explain various types of accounting ratios i.e. solvency, profitability and leverage ratios;
- calculate the various ratios on the basis of given information;
- describe the limitations of accounting ratios.

### **29.1 SOLVENCY RATIOS**

The term 'solvency' refers to the ability of a concern to meet its long term obligations. The long-term liability of a firm is towards debenture holders, financial institutions providing medium and long term loans and other creditors selling goods on credit. These ratios indicate firm's ability to meet the fixed interest and its costs and repayment schedules associated with its long term borrowings.

The following ratios serve the purpose of determining the solvency of the business firm.

- Debt equity ratio
- Proprietary ratio



### Debt-equity ratio

It is also otherwise known as external to internal equity ratio. It is calculated to know the relative claims of outsiders and the owners against the firm's assets. This ratio establishes the relationship between the outsiders funds and the shareholders fund. Thus,

$$\text{Debt-equity ratio} = \frac{\text{Outsiders' funds}}{\text{Share holders' funds}}$$

The two basic components of the ratio are outsiders' funds and shareholders' funds. The outsiders' funds include all debts/liabilities to outsiders i.e. debentures, long term loans from financial institutions, etc. Shareholders' funds mean preference share capital, equity share capital, reserves and surplus and fictitious assets like preliminary expenses. This ratio indicates the proportion between shareholders' funds and the long-term borrowed funds. In India, this ratio may be taken as acceptable if it is 2 : 1. If the debt-equity ratio is more than that, it shows a rather risky financial position from the long term point of view.

### Significance

The purpose of debt equity ratio is to derive an idea of the amount of capital supplied to the concern by the proprietors. This ratio is very useful to assess the soundness of long term financial position of the firm. It also indicates the extent to which the firm depends upon outsiders for its existence. A low debt equity ratio implies the use of more equity than debt.

### Illustration 1

From the following, calculate the debt-equity ratio

|                        | Rs.      |
|------------------------|----------|
| Equity Shares Capital  | 1,00,000 |
| General Reserve        | 45,000   |
| Accumulated Profits    | 30,000   |
| Debentures             | 75,000   |
| Sundry trade creditors | 40,000   |
| Outstanding expenses   | 10,000   |

### Solution :

$$\begin{aligned} \text{Debt-equity ratio} &= \\ &= \frac{\text{Rs } 75,000}{\text{Rs } 1,75,000} = 3 : 7 \end{aligned}$$

Notes



**Notes**

**Working Notes :** Shareholders' fund = Equity share capital + Reserves + Accumulated profits

(i)  $Rs100000 + Rs45000 + Rs30000 = Rs175000$

(ii) Long term debt = Debentures = Rs75000

**Illustration 2**

Calculate the debt-equity ratio from the following data :

Total Assets Rs1,20,000. Total debt Rs1,00,000 current liabilities Rs 60,000.

**Solution :**

Calculation of debt-equity ratio

$$\text{Long term debt} = \text{Total debt} - \text{current liabilities}$$

$$= Rs\ 1,00,000 - Rs\ 60,000$$

$$= Rs\ 40,000$$

$$\text{Shareholders' fund} = \text{Total Assets} - \text{total debt}$$

$$= 1,20,000 - Rs\ 1,00,000$$

$$= Rs\ 20,000$$

$$\text{Debt equity ratio} = \frac{\text{Debt}}{\text{Equity}}$$

$$= \frac{Rs\ 40,000}{Rs\ 20,000} = 2$$

**Proprietary ratio**

It is also known as equity ratio. This ratio establishes the relationship between shareholders' funds to total assets of the firm. The shareholders' fund is the sum of equity share capital, preference share capital, reserves and surpluses. Out of this amount, accumulated losses should be deducted. On the other hand, the total assets mean total resources of the concern. The ratio can be calculated as under :

|   |
|---|
| $\text{Proprietary ratio} = \frac{\text{Shareholders' funds}}{\text{Total assets}}$ |
|---|



Notes

**Significance**

Proprietary ratio throws light on the general financial position of the enterprise. This ratio is of particular importance to the creditors who can ascertain the proportion of shareholders' funds in the total assets employed in the firm. A high ratio shows that there is safety for creditors of all types. Higher the ratio, the better it is for concerned.

A ratio below 50% may be alarming for the creditors since they may have to lose heavily in the event of company's liquidation on account of heavy losses.

**Illustration 3**

From the following calculate the proprietary ratio :

|                          |          |                     |
|--------------------------|----------|---------------------|
|                          | Rs       |                     |
| Equity share capital     | 1,00,000 |                     |
| Preference share capital | 50,000   |                     |
| Reserves and surpluses   | 25,000   |                     |
| Debentures               | 60,000   |                     |
| Creditors                | 15,000   |                     |
| Total                    | 2,50,000 | Shareholders' funds |
| Fixed assets             | 1,25,000 | Rs 1,50,000 assets  |
| Current Assets           | 50,000   |                     |
| Investment               | 75,000   |                     |
| Total                    | 2,50,000 |                     |

**Solution :**

$$\text{Proprietary ratio} = \frac{\text{Shareholders' funds}}{\text{Total Assets}} = \frac{1,50,000}{2,15,000} = 0.7 \text{ or } 70\%$$



**INTEXT QUESTION 29.1**

Fill in the blanks with suitable word/words/figures :

- (i) Debt equity ratio = .....
- (i) ..... ratio measures the long term obligation of a firm.



**Notes**

(iii) ..... =  $\frac{\text{Shareholders' fund}}{\text{Total Assets}}$

(iv) Debt equity ratio =

**29.2 PROFITABILITY RATIOS**

The main aim of an enterprise is to earn profit which is necessary for the survival and growth of the business enterprise. It is earned with the help of amount invested in business. It is necessary to know how much profit has been earned with the help of the amount invested in the business. This is possible through profitability ratio. These ratios examine the current operating performance and efficiency of the business concern. These ratios are helpful for the management to take remedial measures if there is a declining trend. The important profitability ratios are :

- (i) Gross profit ratio
- (ii) Net profit ratio
- (iii) Operating profit ratio  $\frac{2,00,000}{3,00,000}$
- (iv) Return on investment ratio

**(i) Gross profit ratio**

It expresses the relationship of gross profit to net sales. It is expressed in percentage. It is computed as

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

where Net sales = Total sales – (sales returns + excise duty)

Gross profit = Net sales – Cost of goods sold.

**Significance**

Gross profit ratio shows the margin of profit. A high gross profit ratio is a great satisfaction to the management. It represents the low cost of goods sold. Higher the rate of gross profit, lower the cost of goods sold.

**Illustration 4**

From the following detail of a business concern ascertain the gross profit ratio :

| Details      | 2005<br>(Rs) | 2006<br>(Rs) |
|--------------|--------------|--------------|
| Sales        | 120,000      | 160,000      |
| Gross profit | 40,000       | 60,000       |

**Notes****Solution :**

$$2005 \quad \text{Gross profit ratio} = \frac{\text{Rs } 40,000}{\text{Rs } 120,000} \times 100 = 26.67\%$$

$$2006 \quad \text{Gross profit ratio} = \frac{\text{Rs } 60,000}{\text{Rs } 160,000} \times 100 = 37\frac{1}{2}\%$$

**Illustration 5**

Calculate the gross profit ratio from the following data :

Sales Rs.3,25,000 sales returns Rs.25,000 and cost of goods sold 2,40,000

**Solution.**

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

$$\begin{aligned} \text{Gross Profit} &= \text{Net sales} - \text{cost of goods sold} \\ &= 300,000 - 2,40,000 = 60,000 \end{aligned}$$

$$\text{Gross Profit Ratio} = \frac{60,000}{3,00,000} \times 100 = 20\%$$

**(ii) Net profit ratio**

A ratio of net profit to sales is called Net profit ratio. It indicates sales margin on sales. This is expressed as a percentage. The main objective of calculating this ratio is to determine the overall profitability. The ratio is calculated as :



## Notes

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

**Significance**

Net profit ratio determines overall efficiency of the business. It indicates the extent to which management has been effective in reducing the operational expenses. Higher the net profit ratio, better it is for the business.

**Illustration 6**

Calculate Net profit ratio from the following :

|               |            |
|---------------|------------|
| Net profit    | Rs 45,000  |
| Sales         | Rs 640,000 |
| Sales Returns | Rs 40,000  |

**Solution :**

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

$$\begin{aligned} \text{Net sales} &= \text{Sales} - \text{Sales returns} \\ &= \text{Rs } 640,000 - \text{Rs } 40,000 = \text{Rs } 600,000 \end{aligned}$$

$$\text{Net profit ratio} = \frac{\text{Rs } 45,000}{\text{Rs } 600,000} \times 100 = 7.5\%$$

**Illustration 7**

Calculate gross profit ratio and net profit ratio from the following figures.

|                    |            |
|--------------------|------------|
| Sales              | Rs 150,000 |
| Cost of goods sold | Rs 120,000 |
| Operating expenses | Rs 12,000  |

**Solution :**

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

$$\begin{aligned} \text{Gross profit} &= \text{Sales} - \text{Cost of goods sold} \\ &= \text{Rs } 150,000 - \text{Rs } 120,000 \\ &= \text{Rs } 30,000 \end{aligned}$$



Notes

$$\text{Gross profit ratio} = \frac{\text{Rs } 30,000}{\text{Rs } 150,000} \times 100 = 20\%$$

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

$$\begin{aligned} \text{Net profit} &= \text{Gross profit} - \text{operating expenses} \\ &= \text{Rs } 30,000 - \text{Rs } 12,000 \\ &= \text{Rs } 18,000 \end{aligned}$$

$$\text{Net profit ratio} = \frac{\text{Rs } 18,000}{\text{Rs } 150,000} \times 100 = 12\%$$

### (iii) Operating profit ratio

Operating profit is an indicator of operational efficiencies. It reveals only overall efficiency. It establishes relationship between operating profit and net sales. This ratio is expressed as a percentage. It is calculated as :

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

$$\text{Operating Profit} = \text{Gross Profit} - (\text{Administration expenses} + \text{selling expenses})$$

### Significance

It helps in examining the overall efficiency of the business. It measures profitability and soundness of the business. Higher the ratio, the better is the profitability of the business. This ratio is also helpful in controlling cash.

### Illustration 8

From the following details of a business concern ascertain the operating profit ratio

| Details                | 2005<br>Rs | 2006<br>Rs |
|------------------------|------------|------------|
| Sales                  | 60,000     | 80,000     |
| Interest on debentures | 1,000      | 2,000      |
| Net profit             | 3,800      | 6,000      |



**Notes**

**Solution :**

2005

$$\begin{aligned} \text{Net profit before interest} &= \text{Net profit} + \text{Interest} \\ &= \text{Rs } 3,800 + \text{Rs } 1,000 \\ &= \text{Rs } 4,800 \end{aligned}$$

$$\text{Operating profit ratio} = \frac{\text{Rs } 4,800}{\text{Rs } 60,000} \times 100 = 8\%$$

2006

$$\begin{aligned} \text{Net profit before interest} &= \text{Rs } 6,000 + \text{Rs } 2,000 \\ &= \text{Rs } 8000 \end{aligned}$$

$$\begin{aligned} \text{Operating profit ratio} &= \frac{\text{Rs } 8,000}{\text{Rs } 80,000} \times 100 \\ &= 10\% \end{aligned}$$

Some firms take profit before tax but usually companies take profit after tax.

**Illustration 9**

Calculate operating profit ratio from the following data :

|                                   | Rs       |
|-----------------------------------|----------|
| Sales                             | 3,00,000 |
| Gross profit                      | 1,20,000 |
| Administration expenses           | 35,000   |
| Selling and distribution expenses | 25,000   |
| Income on investment              | 15,000   |
| Loss by fire                      | 9,000    |

**Solution :**

$$\text{Operating profit Ratio} = \frac{\text{Net operating profit}}{\text{Net sales}} \times 100$$



$$= \frac{\text{Rs}60,000}{\text{Rs } 3,00,000} \times 100 = 20\%$$

**Note :** Operating profit = Gross profit – (Administration expenses + Selling expenses)

$$\begin{aligned} &= 1,20,000 - (35,000 + 25,000) \\ &= 1,20,000 - 60,000 \\ &= 60,000 \end{aligned}$$

Notes

#### (iv) Return on investment ratio (ROI)

ROI is the basic profitability ratio. This ratio establishes relationship between net profit (before interest, tax and dividend) and capital employed. It is expressed as a percentage on investment. The term investment here refers to long-term funds invested in business. This investment is called capital employed.

where Capital employed = Equity share capital + preference share capital  
+ Reserve and surplus + long term liabilities  
– fictitious assets – Non trading investment

or Capital employed = (Fixed asset – depreciation) + (Current Asset – Current liabilities)

or Capital employed = (Fixed Assets – Depreciation) + (Working capital)

This ratio is also known as Return on capital employed ratio. It is calculated as under

$$\text{ROI} = \frac{\text{Net profit before interest, tax and dividend}}{\text{Capital employed}} \times 100$$

**Note :** If net profit after interest, tax and dividend is given, the amount of interest, tax and dividend should be added back to calculate the net profit before interest, tax and dividend.

#### Significance

ROI ratio judges the overall performance of the concern. It measures how efficiently the sources of the business are being used. In other words, it tells what is the earning capacity of the net assets of the business. Higher the ratio the more efficient is the management and utilisation of capital employed.



**Notes**

**Illustration 10**

Following is the Balance sheet of X Ltd. as on 31st December 2006.

| Liabilities         | Amount<br>Rs | Assets                  | Amount<br>Rs |
|---------------------|--------------|-------------------------|--------------|
| Share capital       | 20,00,000    | Fixed Assets net        | 29,00,000    |
| Reserves            | 6,00,000     | Current Assets          | 25,00,000    |
| 10% loan            | 10,00,000    | Underwriting commission | 100,000      |
| Current liabilities | 14,00,000    |                         |              |
| Profit for the year | 5,00,000     |                         |              |
|                     | 55,00,000    |                         | 55,00,000    |

Find out the return on investment for the year 2006.

**Solution :**

|   |           |
|---|-----------|
|   | Rs        |
| Profit before interest : Profit as given                          | 500,000   |
| Add : Interest  | 100,000   |
| NPBI tax & Dividend   | 600,000   |
| Capital employed : Net Fixed Assets                               | 29,00,000 |
| Working capital   | 11,00,000 |
| Current Assets – Current liabilities (i.e. 25,00,000 – 14,00,000) |           |

$$\begin{aligned}
 \text{ROI} &= \frac{\text{Net Profit before Interest and Dividend}}{\text{Capital employed}} \times 100 \\
 &= \frac{60,00,000}{40,00,000} \times 100 = 15\%
 \end{aligned}$$

**Alternatively**

|                                 |           |
|---------------------------------|-----------|
| Share capital                   | 20,00,000 |
| Reserves                        | 11,00,000 |
| Loans                           | 10,00,000 |
| Less : Under writing commission | 1,00,000  |
| Capital employed                | 40,00,000 |

$$\begin{aligned}
 \text{ROI} &= \frac{\text{Net Profit before interest and dividend}}{\text{Capital employed}} \times 100 \\
 &= \frac{6,00,000}{40,00,000} \times 100 = 15\%
 \end{aligned}$$



Notes

**Illustration 11**

From the following data, calculate the return on capital employed : Net fixed assets Rs 100,000 current assets Rs 50,000, current liabilities Rs 25,000, Gross profit Rs 32,500, Interest on long-term debt Rs 7500 tax Rs 8750, office and administrative expenses Rs 2500, selling and distribution expenses Rs 5000. There were no long term investments.

**Solution :**

Calculation of return on capital employed :

Net profit before interest and tax = Gross profit – office and Administrative expenses – selling and distribution expenses

$$= \text{Rs } 32,500 - \text{Rs } 2500 - \text{Rs } 5000$$

$$= \text{Rs } 25000$$

Capital employed = Net fixed Assets + Current Assets – Current liabilities

$$= \text{Rs } 100,000 + 50,000 - 25,000$$

$$= 1,25,000$$

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

$$= \frac{\text{Rs } 25,000}{\text{Rs } 125,000} \times 100 = 20\%$$

**Illustration 12**

Given below is the Balance Sheet of M/s ABC Ltd, calculate return on investment (ROI).

| Liabilities          | Amount<br>Rs | Assets                             | Amount<br>Rs |
|----------------------|--------------|------------------------------------|--------------|
| Equity share capital | 10,00,000    | Net fixed assets                   | 15,00,000    |
| Reserves             | 2,50,000     | Current Assets                     | 12,50,000    |
| Profit for the year  | 2,50,000     | Discount on issue<br>of Debentures | 50,000       |
| 10% debentures       | 5,00,000     |                                    |              |
| Current liabilities  | 8,00,000     |                                    |              |
|                      | 28,00,000    |                                    | 28,00,000    |



**Notes**

**Solution :**

$$\text{Return on investment} = \frac{\text{Net Profit before Interest, Tax and Dividend}}{\text{Capital Employed}} \times 100$$

Net profit before interest, tax and dividend

$$= \text{Profit} + \text{Interest on debentures}$$

$$= \text{Rs } 2,50,000 + \text{Rs } 50,000$$

$$= \text{Rs } 3,00,000$$

$$\text{Capital employed} = \text{Equity share capital} + \text{Reserves and surplus} + \text{Debentures} - \text{Discount on debentures}$$

$$= \text{Rs } 10,00,000 + \text{Rs } 2,50,000 + \text{Rs } 2,50,000 + 5,00,000 - 50,000$$

$$= \text{Rs } 19,50,000$$

or Capital employed = Net fixed Assets + (current assets – current liabilities)

$$= \text{Rs } 15,00,000 + (\text{Rs } 12,50,000 - \text{Rs } 8,00,000)$$

$$= \text{Rs } 15,00,000 + \text{Rs } 4,50,000$$

$$= \text{Rs } 19,50,000$$

$$\text{Return on investment} = \frac{\text{Rs } 300,000}{\text{Rs } 19,50,000} \times 100 = 15.4\%$$

**Illustration 13**

From the following information, calculate return on investments

| Information  | Amount (Rs) |
|--|-------------|
| Share capital                                      | 1,60,000    |
| General reserve                                    | 60,000      |
| Profit and Loss A/c                                | 1,00,000    |
| Loan @ 15% Interest                                | 2,00,000    |
| Sales for the year                                 | 5,60,000    |
| Tax paid during the year                           | 40,000      |
| Profit for the current year after interest and tax | 80,000      |

**Solution :**

$$\begin{aligned} \text{Return on investment} &= \frac{\text{Profit before interest and tax}}{\text{Capital employed}} \times 100 \\ &= \frac{1,50,000}{(80,000 + 40,000 + 30,000)} \times 100 \\ &= \frac{\text{Rs } 1,50,000}{\text{Rs } 5,20,000} \times 100 \\ &= \frac{150,000}{5,20,000} \times 100 \\ &= 28.84\% \end{aligned}$$

**Notes****INTEXT QUESTIONS 29.2**

Fill in the blank with suitable word/words :

- (i) Return on investment is a ..... ratio.
- (ii) Gross profit ratio = .....  $\times 100$
- (iii) Capital employed = .....
- (iv) ..... =  $\frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$
- (v) Name the ratios that relate to the profitability of a business concern  
.....

**29.3 LEVERAGE RATIO**

Leverage ratio is otherwise known as capital structure ratio. The term capital structure refers to the relationship between various long term forms of financing such as debentures (long term), preference share capital and equity share capital including reserves and surpluses. Financing the firm's assets is a very crucial problem in every business and as a rule there should be a proper mix of debt and equity capital in financing the firm's assets. Leverage or capital structure ratios are calculated to test the long term financial position of a firm. Generally capital gearing ratio is mainly calculated to analyse the leverage or capital structure of the firm

**Capital gearing ratio**

The capital gearing ratio is described as the relationship between equity share capital including reserves and surpluses to preference share capital and



**Notes**

other fixed interest bearing loans. If preference share capital and other fixed interest bearing loans exceed the equity share capital including reserves, the firm is said to be highly geared. The firm is said to be low geared if preference share capital and other fixed interest bearing loans are less than equity capital and reserves.

Capital gearing ratio

$$= \frac{\text{Equity share capital + reserves and surpluses}}{\text{Preference share capital + long term debt bearing fixed interest}}$$

**Significance**

Capital gearing ratio is very important ratio. Gearing should be kept in such a way that the company is able to maintain a steady rate of dividend. High gearing ratio is not good for a new company or a company of which future earnings are uncertain.

**Illustration 14**

From the following information find out capital gearing ratio.

| Source                      | 2005   |  | 2006              |                   |
|-----------------------------|--|--|-------------------|-------------------|
|                             | 500,000 + 250,000  | 500,000 share capital + Reserves and surplus | 500,000 + 250,000 | 400,000 + 200,000 |
|                             | Preference share capital + Long term debt bearing fixed interest | Amount (RS)                                  | Amount (RS)       |                   |
| Equity share capital        |  | 500,000                                      | 400,000           |                   |
| Reserves & surplus          |  | 300,000                                      | 200,000           |                   |
| 8% preference share capital |  | 250,000                                      | 300,000           |                   |
| 6% Debentures               |  | 250,000                                      | 400,000           |                   |

**Solution :**

Capital gearing ratio

=

For the year 2005 = (Low geared)

For the year 2006 =  $\frac{400,000 + 200,000}{300,000 + 400,000} = 8 : 7$  (High geared)

**INTEXT QUESTION 29.3**

Fill in the blanks with suitable word/words :

- (i) Leverage ratio is also known as ..... ratio.
- (ii) ..... ratio is calculated to test the long term financial position of a firm.
- (iii) ..... = 
$$\frac{\text{Equity share capital} + \text{Reserve and Surpluses}}{\text{Preference share capital} + \text{Long term debt bearing fixed interest}}$$
- (iv) To study capital structure of the firm ..... ratio is used.

**29.4 LIMITATION OF ACCOUNTING RATIOS**

Accounting ratios are very significant in analysing the financial statements. Through accounting ratios, it will be easy to know the true financial position and financial soundness of a business concern. However, despite the advantages of ratio analysis, it suffers from a number of disadvantages. The following are the main limitations of accounting ratios.

- **Ignorance of qualitative aspect**

The ratio analysis is based on quantitative aspect. It totally ignores qualitative aspect which is sometimes more important than quantitative aspect.

- **Ignorance of price level changes**

Price level changes make the comparison of figures difficult over a period of time. Before any comparison is made, proper adjustments for price level changes must be made.

- **No single concept**

In order to calculate any ratio, different firms may take different concepts for different purposes. Some firms take profit before charging interest and tax or profit before tax but after interest tax. This may lead to different results.

- **Misleading results if based on incorrect accounting data**

Ratios are based on accounting data. They can be useful only when they are based on reliable data. If the data are not reliable, the ratio will be unreliable.



**Notes**



**Notes**

- **No single standard ratio for comparison**

There is no single standard ratio which is universally accepted and against which a comparison can be made. Standards may differ from Industry to industry.

- **Difficulties in forecasting**

Ratios are worked out on the basis of past results. As such they do not reflect the present and future position. It may not be desirable to use them for forecasting future events.



**WHAT YOU HAVE LEARNT**

- The term solvency ratio means ability of a concern to meet its long-term obligations. The solvency ratios are :

Debt-equity ratio

Proprietary ratio

- The purpose of debt equity ratio is to derive an idea of the amount of capital supplied to the concern by the proprietary.

$$\text{Debt equity ratio} = \frac{\text{Shareholders' fund} + \text{Outsiders' fund}}{\text{Shareholders' fund}}$$

- Proprietary ratio establishes relationship between shareholders' funds to total assets of the firm

Proprietary ratio

- Profitability ratio assesses the overall efficiency of the business concern.

- Important profitability ratios are :

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

$$\text{Net profit ratio} = \frac{\text{Net Profit}}{\text{Net sales}} \times 100$$

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

$$\text{Return on investment ratio} = \frac{\text{Net profit before interest, tax and dividend}}{\text{capital employed}} \times 100$$



**Notes**

- Leverage ratio establishes the relationship between various long term forms of financing such as debentures, preference share capital and equity share capital including reserves and surpluses.
- Capital gearing ratio establishes relationship between equity share capital including reserves and surpluses to preference share capital and other fixed interest bearing loans.

Capital gearing ratio

$$= \frac{\text{Equity share capital + reserve and surplus}}{\text{Preference share capital + Long term bearing fixed interest}}$$

- Limitations of accounting ratios are
  - ignorance of price level charges
  - ignorance of qualitative factors
  - no single concept
  - misleading result if based on incorrect accounting data
  - difficulties in forecasting



### TERMINAL QUESTIONS

1. Explain solvency ratios in brief.
2. What are profitability ratios? Explain the ratios in brief.
3. What are the limitations of ratio analysis?
4. What is meant by gross profit and net profit?
5. Explain capital gearing ratio.
6. From the following data, calculate (a) Gross profit ratio (b) Net profit ratio.

|               | Rs        |
|---------------|-----------|
| Sales         | 25,20,000 |
| Cost of sales | 19,20,000 |
| Net profit    | 3,60,000  |

7. Total assets Rs 12,50,000, Total debt Rs 10,00,000 current liabilities Rs500,000. Calculate debt-equity ratio.



**Notes**

8. Following is the Profit and Loss account of M/s Bunu Ltd for the year 31st December, 2006.

|                                   |         |                              |         |
|-----------------------------------|---------|------------------------------|---------|
| Opening stock                     | 100000  | Sales                        | 560000  |
| Purchases                         | 350000  | Closing stock                | 100000  |
| Wages                             | 9000    |                              |         |
| Gross profit c/d                  | 201000  |                              |         |
|                                   | 660,000 |                              | 660,000 |
| Administrative expenses           | 20000   | Gross profit b/d             | 201,000 |
| Salary and administrative expense | 89000   | Interest on investment       | 10000   |
| Non-operating expenses            | 30000   | Profit on sale of investment | 8000    |
| Net Profit                        | 80000   |                              |         |
|                                   | 219000  |                              | 219000  |

You are required to calculate (a) Gross profit ratio (b) Net profit ratio (c) Operating profit ratio.

9. Following particulars pertaining to assets and liabilities of a XYZ Ltd. are given :

| Liabilities              | Amount (Rs) | Assets            | Amount (Rs) |
|--------------------------|-------------|-------------------|-------------|
| Equity share capital     | 250000      | Land and Building | 450000      |
| Preference share capital | 200000      | Plant             | 400000      |
| Reserves                 | 200000      | Stock             | 150000      |
| Debentures               | 300000      | Sundry debtors    | 100000      |
| Current liabilities      | 200000      | Cash              | 45000       |
|                          |             | Prepaid expenses  | 5000        |
|                          | 1150000     |                   | 1150000     |

Calculate (a) debt equity ratio (b) proprietary ratio.



**ANSWERS TO INTEXT QUESTIONS**

**Intext Questions 29.1**

- I. (i)  $\frac{\text{Outsiders' funds}}{\text{Shareholders' funds}}$       (ii) Solvency
- (iii) Proprietary ratio      (iv) 2 : 3



Notes

**Intext Questions 29.2**

- (i) Profitability ratio
- (ii)
- (iii) Fixed assets – Depreciation + current asset – current liabilities
- (iv) Operating profit ratio
- (v) Gross profit ratio, Net profit ratio, Return on investments, operating profit ratio

**Intext Questions 29.3**

- (i) Capital structure
- (ii) Leverage
- (iii) Capital gearing ratio
- (iv) Capital gearing

**Answers to Terminal Questions**

- 6. (a) 23.8% (b) 14.29%
- 7. 2 : 1
- 8. (a) 35.9%, (b) 14.3% (c) 16.4%
- 9. (a) 1 : 1.3, (b) 1 : 1.77

**Activity**

Visit the office of a stock broker in the nearby market and ask annual report of two joint stock companies. Study the Balance Sheets of the two companies and compute the following ratios :

- (a) Debt Equity Ratio
- (b) Gross Profit Ratio
- (c) Net Profit Ratio
- (d) Return on investment

Compare and comment on the profitability and solvency efficiency of the two companies.