Financial Analysis through Ratios

Ratio Analysis

Meaning of Ratio Analysis:

One of the most important financial tools, which has come to be used very frequently for analyzing the financial strengths and weaknesses of an enterprise, is ratio analysis. Ratio analysis is the process of determining and presenting in arithmetical terms the relationship between figures and groups of figures drawn from these statements.

Ratio may be expressed in either of three ways. It may be a quotient obtained by dividing one value by the other. This unit of expression is called as 'times'. If the quotient is multiplied by one hundred, the unit of expression becomes percentage'. It may also be stated in terms of 'proportion' between the two figures. Thus, times, percentages and proportions are three forms of expressing ratio.

The ratio analysis involves two types of comparison for a useful interpretation of the financial statements. A ratio itself does not indicate favourable or unfavorable position. It must be compared with some standard. First, such comparison is comparison of present ratio with past and expected future ratios for the same firm. The second method of comparison involves comparison of ratios of the firm with those of similar firm over the period of time or with industry average at the same point of time. While the first comparison helps the analyst to determine whether there has been an improvement or deterioration in the financial position of the firm over the period of time, the second method of comparison would provide considerable insight into the relative financial condition and performance of the firm.

Significance or Importance of Ratio Analysis:

1. Analysis of Financial Statements

Interpretation of the financial statements and data is essential for all internal and external stakeholders of the firm. With the help of ratio analysis, we interpret the numbers from the balance sheet and income statements. Every stakeholder has different interests when it comes to the result from the financial like the **equity investors** are more interested in the growth of the dividend payments and the earnings power of the organization in the long run. Creditors would like to ensure that they get their repayments on their dues on time.

2. Helps in Understanding the Profitability of the Company

Profitability ratioshelp to determine how profitable a firm is. Return on Assets and **Return on Equity** helps to understand the ability of the firm to generate earnings. Return on assets is the total net income divided by total assets. It means how many does a company earn a profit for every dollar of its assets. Return on equity is net income by **shareholders equity**. This ratio tells us how well a company uses its investors' money. Ratios like the Gross profit and **Net profit margin**. Margins help to analyze the firm's ability to translate sales to profit.

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4. Liquidity of the Firms

Liquidity determines whether the company can pay its short-term obligations or not. By short-term obligations, we mean the short term debts, which can be paid off within 12 months or the operating cycle. For example, the salaries due, sundry creditors, tax payable, outstanding expenses, etc. The current ratio, quick ratio are used to **measure the liquidity of the firms**

5. Helps in Identifying the Business Risks of the Firm

One of the most important reasons to use ratio analysis is that it helps in understanding the **business risk of the firm**. Calculating the leverages (**Financial Leverage** and **Operating Leverages**) helps the firm understand the business risk, i.e., how sensitive the profitability of the company is with respect to its **fixed cost** deployment as well as debt outstanding.

6. Helps in Identifying the Financial Risks of the Company

Another importance of ratio analysis is that it helps in identifying the **Financial Risks**. Ratios like **Leverage ratio**, **interest coverage ratio**, help the firm understand how it is dependent on external capital and whether they are capable of repaying the debt using their capital.

7. For Planning and Future Forecasting of the Firm

Analysts and managers can find a trend and use the trend for future forecasting and can also be used for critical decision making by external stakeholders like the investors. They can analyze whether they should invest in a project or not.

8. To Compare the Performance of the Firms

The main use of ratio analysis is that the strengths and weaknesses of each firm can be compared. The ratios can also be compared to the firm's previous ratio and will help to analyze whether progress has been made by the company.

9. To make investment decisions:

Ratio analysis helps investors to take the investment decisions. These investment decisions are based on the condition revealed by certain ratios.

Limitations of Ratio Analysis:

Ratios should be used with extreme care and considered judgment because they suffer from certain serious drawbacks:

(1) Ratios can sometimes be misleading if an analyst does not know the reliability and soundness of the figures from which they are computed and the financial position of the business at other times of the year. A business firm, for example, may have an acceptable current ratio of 3: 1 but a larger part of the accounts receivable comprising a great portion of the current assets may be uncollectible and of no value. When these are deducted, the ratio might be 2: 1.

(2) The mechanics of ratio construction is not as important as the proper interpretation of the ratios. As a matter of fact, ratios are only a preliminary step in interpretation. They call attention to certain aspects of the business which needs detailed investigation before arriving at any final conclusion.

(3) Ratios can never be the substitute of raw figures. At the time of interpretation, therefore, raw figures should also be referred to.

(4) Inter-firm comparison on the basis of ratio analysis is distorted because of the different practices followed by different firms in respect of allocation of the cost of fixed assets and inventory utilization as also of the selling and intangible costs between different time periods. Unless there is consistency in adoption of accounting methods, ratios may not prove of great use.

(5) Price level changes make ratio analysis difficult.

Classification of ratios:

All the ratios broadly classified into four types due to the interest of different parties for different purposes. They are:

1. Liquidity Ratios
2. Activity Ratios
3. Profitability Ratios
4. Leverage Ratios

1. Liquidity Ratios:

   (a) Current ratio = current assets/Current liabilities

   The ideal ratio is 2:1. current assets should be twice the current liabilities.

(b) Quick ratio or liquid ratio or acid test ratio: quick Assets/Current liabilities

The ideal ratio is 1:1 is, quick assets should be equal to the current liabilities.

2. Activity Ratios:

(a) . Debtors turnover ratio= Credit sales/Average Debtors

Debtors collection period= 365 days/ Debtors turnover ratio

Average debtors = (opening debtors + closing debtors)/2

(b) Creditors turnover ratio = credit purchases/average creditors

(i) creditors collection period= 365 days / Creditors turnover ratio

(c) Inventory turnover ratio =

Cost of goods sold/ average inventory

(d) average inventory = (opening stock + closing stock)/2

Average creditors = (opening creditors + closing creditors)/2

3. Profitability Ratios:

(a) Gross profit ratio: Gross profit/Net Sales

(b) Net profit ratio: Net profit/net sales

(c) Operating profit ratio: operating profit/net sales

(d) Earnings per share= net profit after tax – preference dividend/ No. of Equity Shares

(e) P/E Ratio: P/E = Stock Price Per Share / Earnings Per Share

4. Leverage Ratios: outsiders funds/ insiders funds

(a) Debt – equity ratio= Debt/Equity

Liquidity ratios: It expresses the ability of the firm to meet its short-term commitments. It is of 2types-Current Ratios and Quick ratios

i. Current Ratios or working capital ratio: It is used to know the liquidity position of the firm.

ii. Quick Ratio: It measures the firm's ability to convert its current assets quickly into cash in order to meet its current liabilities

Activity ratios: It expresses how active the firm is in terms of selling its stocks, collecting its receivables and paying its creditors. It is of the following three types:

i. Inventory Turnover Ratio: It indicates the number of times the average stock is being sold during a given period

ii. Debtors Turnover Ratio: It reveals the number of times the average debtors are collected in a given period

iii. Creditors Turnover Ratio: It reveals the number of times the average creditors are paid in a given period

Capital Structure or Solvency Ratios: It measures the long term solvency of the firm.

i. Debt-Equity Ratio: It is used to measure the firm's obligations to creditors in relation to the owner's funds

Profitability Ratios: It shows how well the firm is organizing its activities in a profitable manner. The following are the profitability ratios:

i. Gross Profit ratio: It shows whether the firm has adequate gross profit to cover the operating expenses

ii. Net Profit Ratio: It indicates what portion of sales is left to the owners after operating expenses

iii. Operating Ratio: It is the ratio of Cost of Goods Sold+operating expenses to the net sales

iv. Return on Investments: It shows whether the investments are being properly used or not

v. Earnings per share: It is compared with previous years EPS to provide a basis for assessing the company's performance.

PROBLEM:

Trading a/c

Debit | Credit

Particulars		Amount	Particulars	Amount
Openings Stock	175000		Sales:	
Add Manufacturing Cost	107500 0	125000 0	Credit	120000 0
			Cash	300000
Purchases		200000		
			Closing Stock of Goods	150000
Gross Profit		200000		
		165000 0		165000 0

Profit and Loss a/c

Debit | Credit

Particulars	Amount	Particulars	Amount
Administrative Expenses	35000	Gross profit	200000
Selling Expenses	25000	Other Income	209000
Depreciation	50000		
Interest	47000		
Income Tax	126000		
Net Profit	126000		
	409000		409000

Balance Sheet

Debit | Credit

Particulars	Amount	Particulars		Amount
Equity Shares@Rs10 each	350000	Plant & machinery	1000000	
Preference Shares	200000	Less Dep	250000	750000
Reserves and surplus	200000	Goodwill		140000
Long term loans	100000	Debtors (closing balance)		100000
Debentures	250000	Closing Stock		150000
Creditors	60000	Prepaid Expenses		25000
Bills Payable	20000	Marketable Securities		75000

Outstanding or accrue expenses Provision for tax	20000 65000	Cash	25000
	126500 0		126500 0

Market price of a share is Rs 45 per share

Opening Balance of debtors is Rs 50000

Answer:

LIQUIDITY RATIOS

1. Current Ratio or Working Capital Ratio= Current Assets/ Current Liabilities= 375000/165000=25:11

Current Assets=debtors+closingstock+prepaidexpenses+marketablesecurities+cash

= 100000+150000+25000+75000+25000

Current Liabilities= Creditors+ Bills Payable + Outstanding expenses +Provision for tax

=60000+20000+20000+65000

2. Quick Ratio or acid test ratio= Quick Assets (liquid assets)/Current Liabilities

Quick Assets=Current Assets- (Closing stock + prepaid Expenses)

375000-(150000+25000)/165000=40/33=40:33

ACTIVITY RATIOS

1. Inventory turnover ratio or Stock turnover Ratio=cost of goods sold/average inventory=1100000/162500=88/33=88:33

Cost of goods sold = (Opening stock of goods +Manufacturing Costs) – Closing stock of goods

= (175000+1075000) – 150000= 1100000

If opening stock of goods is not given then in that case, Cost of goods= Sales – Gross Profit

Average inventory= (Opening stock +closing stock)/ 2

= (175000+150000)/2 = 162500

2. Debtors Turnover Ratio= Credit Sales/Average Debtors

= 1200000/75000=16

Average Debtors= (opening balance of debtors +closing balance of debtors)/2

= (50000+100000)/2=75000

If opening balance of debtors is not given, then the average debtors= closing balance of debtors

3. Average Collection Period= Days in a year/Debtors Turnover Ratio= 365/16=22.81 days

4. Creditors turnover Ratio= Purchases/average creditors= 200000/60000=10:3

Average creditors= (opening balance of creditors+closing balance of creditors)/2

Since opening balance of creditors is not given in the problem, the Average Creditors=Closing balance of Creditors

CAPITAL STRUCTURE or SOLVENCY RATIOS

1. Debt-Equity Ratio= Outsiders' funds/ Insiders' funds= 350000/750000=7:15

Outsiders' funds or Debt= Long term loans + Debentures +Bonds= 100000+250000+0=350000

Insiders' funds or Shareholder's funds= Equity shares +Preference Shares+ Reserves

= 350000+200000+200000=750000

2. Proprietor's funds to Total Assets Ratio= 876000/1265000=876:1265

Proprietor's funds= Equity Shares +Preference Shares + Reserves +Net

Profit350000+200000+200000+126000=876000

Total Assets=Fixed Assets + Current

AssetsPROFITABILITY RATIOS

2. Gross Profit Ratio= (Gross Profit/Total Sales) x 100= (400000/1500000) x 100= 26.66%

Total Sales=cash sales +credit sales= 300000+1200000=1500000

3. Net Profit Ratio= (Net Profit/ Total sales) x 100= (126000/1500000) x 100 =8.4%

4. Operating Ratio= (Operating expenses/ total sales) x 100= 1210000 / 1500000 x 100=80.60%

Operating expenses= cost of goods sold +administrativeexpenses+sellingexpenses+depreciation

=1100000+35000+25000+50000=1210000

5. Return on Investment Ratio= Net Profit /Total Investment=126000/1100000=0.11

Total Investment or total Long-term
Liabilities=
350000+200000+200000+100000+250000=1
100000

6. Earnings per share= Net Profit/ No.of. Equity shares= 126000/35000=3.6

No. of Equity Shares= total amount of equity shares/share price per equity share=350000/10=35000

7. Price Earnings Ratio= Market Price per share/ Earnings per share= 45/3.6=25:2