UNIT VI

FINANCIAL ANALYSIS THROUGH RATIO ANALYSIS

INTRODUCTION

- RATIO is a simple mathematical expression, which explains Quantitative Relationship between the two.

- RATIO ANALYSIS is a technique of interpretation of financial statements.

CLASSIFICATION OF RATIOS

1. Liquidity Ratios (short term solvency)
2. Leverage Ratios (long term solvency)
3. Turnover Ratios (performance)
4. Profitability Ratios

LIQUIDITY RATIOS

- Also called as short term solvency ratios.
- These ratios are used to measure the short term solvency of the firm.

Following are liquidity ratios

1. Current ratio
2. Quick ratio

CURRENT RATIO

- Also called as working capital ratio.
- It is the ratio of current assets and current liabilities.
- Current ratio = C.A / C.L
- A current ratio of 2:1 is usually considered as ideal.
- If it is less than 2, it indicates there is no adequate liquidity.
- If it is greater than 2, it indicates funds are idle and are not invested properly.

WORKING CAPITAL

- Also called as circulating capital.
- It is minimum amount of money or finances that are required to meet regular operating expenses of business.
- It should be neither excess nor inadequate.
- From accounting point of view working capital is difference between current assets (C.A) and current liabilities (C.L)
- Working capital = C.A – C.L

ASSETS

- Assets are resources that add value to the business and helps in generating income.
- Assets are classified in to fixed assets and current assets. (Assets = F.A +C.A)
- Current assets are also called as short term assets.
- Current assets are assets that are expected to be converted into cash within one year.
- They possess high liquidity.

CURRENT ASSETS

- Cash
- Cash in hand
- Cash at bank
- Closing stock
- Sundry debtors
- Bills receivables
- Prepaid expenses
- Outstanding incomes
- Short term investments.

FIXED ASSETS

- They are acquired to use for long period of time.
- They possess less liquidity compared to current assets.
- Plant and machinery
- Land and buildings
- Furniture and fittings
- Motor van
- Good will
- Intellectual property
- Long term investments

LIABILITIES

- A company's debts or obligations that arise during the course of business operations.
- Liabilities = Current liabilities + long term liabilities.
- Current liabilities are debts payable within one year, while long-term liabilities are debts payable over a longer period.

CURRENT LIABILITIES

- Bank over draft
- Sundry Creditors
- Bills payable
- Outstanding expenses
- Income received in advance
- Short term loans
- Provision for taxation
- Proposed dividends

LONG TERM LIABILITIES

- Share capital
- Debentures
- Term loans

QUICK RATIO

- Also called as acid test ratio.
- It is the ratio of quick assets to current liabilities. (Quick ratio = Q.A / C.L)
- Quick assets or liquid assets = Current assets – (stock + prepaid expenses).
- A quick ratio of 1, is usually considered ideal.
- If it is less than 1, it is indication of inadequate liquidity.
- A high quick ratio is not advisable, as funds can be more profitably employed.

Absolute liquid Ratio or Super Quick Ratio:

$$= \frac{\text{Absolute liquid Assets}}{\text{Current Liabilities}}$$

Absolute Liquid Assets: Cash in hand, Cash at Bank and short term Investments.

Leverage Ratios (long term solvency)

Debt Equity Ratio

Proprietary Ratio

Fixed Assets Ratio

Interest Coverage Ratio

Dividend Coverage Ratio

1. **Debt-Equity Ratio** = (Debt/Equity) or (Outsiders fund/ Insider's fund)

- Debt Equity Ratio = long term liabilities/ share holders fund
- Ideal Debt Equity Ratio is 2 : 1
- Debt equity ratio indicates relative claim of debenture holders and share holders against the assets of the business.

2. **Interest Coverage Ratio =** Profit before Interest and taxes/Fixed interest charges

- Ideal Interest Coverage Ratio is 6 times
- The higher the ratio the better it is for the firm
- The above ratio indicates firms ability to pay interest to debenture holders out of available profits

3. Ratio of Proprietors funds to total Assets = proprietors funds/total Assets × 100

- Above ratio indicates financial strength of a firm
- Proprietor fund also referred as share holders fund
- The higher the ratio the better it is for the firm

4. Fixed Assets Ratio = Fixed Assets / capital employed

- Above ratio indicates mode of financing fixed assets
- A financially well managed company always uses long term source of finance for financing its fixed assets
- Ideal fixed assets ratio is 0.67

5. Dividend Coverage Ratio = PAT/Preference Dividend

- It indicates firms ability to pay dividends out of its profits

Turnover Ratios (performance)

1. Inventory Turn over ratio or Stock Turnover ratio
2. Debtors Turn over ratio
3. Creditors Turn over ratio
4. Working Capital Turn over ratio
5. Fixed assets turnover ratio

1. Stock Turnover Ratio: $\dfrac{\text{Cost of Goods sold}}{\text{Avg stock}}$

Cost of Goods sold: Opening stock+ Net Purchases+ All Direct Expenses - Closing stock

Average Stock: $\dfrac{\text{Opening stock + Closing stock}}{\mathbf{2}}$

- Ideal inventory turnover ratio is 8 times

2. Inventory holding Period **=** 365/Stock Turnover Ratio

- ideal Inventory holding Period is 45 days

3. Debtors Turnover Ratio = $\dfrac{\text{Credit Sales}}{\text{Trade Debtors}}$

Credit sales = Sales – Sales Returns

Trade Debtors = (Sundry Debtors + Bills Receivables)/2

- Ideal debtor turnover ratio is 10 -12 times
- Also consider if any opening and closing debtors*

4. Debt Collection Period = 365/ Debtors Turnover Ratio

- Ideal debt collection period id 30 – 37 days

4. Creditors Turnover Ratio = $\frac{\text{Credit Purchases}}{\text{Trade Creditors}}$

Credit Purchase = Credit Purchase – Purchase return

Trade Creditors = Sundry Creditors + Bills Payables/2

- Ideal creditor turnover ratio is 12 times

Debt payment Period = 365/ creditor Turnover Ratio

- Ideal debt payment period is 30 days

5. Fixed Assets Turnover Ratio =

Net sales / fixed assets

- This ratio indicates how well a firm is utilizing its fixed assets

- Ideal fixed assets turnover ratio is 5 times

- The higher the ratio, the better it is for the firm.

PROFITABILITY RATIOS

Gross Profit Ratio
Net Profit Ratio
Operating Ratio
Return on investment or Capital Employed
Return on equity capital
Earning Per Share (EPS)
Price Earning Ratio (P/E Ratio)
Earning yield ratio
Dividend yield ratio
Dividends Per Share (DPS)

1. **Gross profit Ratio =** (Gross profit / net sales) × 100

2. **Net profit Ratio =** (Net profit after taxes/ Net sales) × 100

3. **Operating Ratio =** (Operating expenses / Net sales) × 100

Net sales = Sales – Sales Return

Where operating expenses = (Cost of goods sold+ Administrative expenses+ selling and distribution expenses)

Administrative expenses = expenses cover all office and management expenses such as salaries, office rent, insurance, director's fee, legal expenses, and so on.

Selling and distribution expenses include salaries to sales staff, advertising expenses, travelling expenses, and cost of samples and so on.

4. **Return on Investment (ROI)** =Profit before interest and tax / Total Investment

5. **Return on Equity (ROE)** = (Net profits- Dividends payable to Preference shareholders) / Equity share capital.

6. **Earnings per Share (EPS)** = Net profit after taxes – preference dividend /Number of equity shares outstanding

7. **Price/Earnings Ratio** = Market price per share/ Earning per share

8. **Earnings yield ratio** = Earning per share / Market price per share

LIMITATIONS OF RATIO ANALYSIS

Limitations should be kept in mind while making use of ratio analyses for interpreting the financial statements. The following are the main limitations of ratio analysis.

1. False results if based on incorrect accounting data: Accounting ratios can be correct only if the data (on which they are based) is correct. Sometimes, the information given in the financial statements is affected by window dressing, i.e. showing position better than what actually is.

2. No idea of probable happenings in future: Ratios are an attempt to make an analysis of the past financial statements; so they are historical documents. Now-a-days keeping in view the complexities of the business, it is important to have an idea of the probable happenings in future.

3. Variation in accounting methods: The two firms' results are comparable with the help of accounting ratios only if they follow the some accounting methods or bases. Comparison will become difficult if the two concerns follow the different methods of providing depreciation or valuing stock.

4. Price level change: Change in price levels make comparison for various years difficult.

5. Only one method of analysis: Ratio analysis is only a beginning and gives just a fraction of information needed for decision-making so, to have a comprehensive analysis of financial statements, ratios should be used along with other methods of analysis.

6. No common standards: It is very difficult to by down a common standard for comparison because circumstances differ from concern to concern and the nature of each industry is different.

7. Different meanings assigned to the same term: Different firms, in order to calculate ratios may assign different meanings. This may affect the calculation of ratio in different firms and such ratio when used for comparison may lead to wrong conclusions.

PRACTICE PROBLEMS

1.) Following is the balance sheet of xyz ltd, you are required to comment on liquidity of the firm.

Liabilities	Amount	Assets	Amount
Equity share capital	5,00,000	good will	1,00,000
Preference share capital	3,00,000	Premises	3,00,000
		Machinery	4,50,000
Long term loans	3,25,000	Investments	1,00,000
Debentures	1,50,000	Short term investments	44,000
Sundry creditors	75,000		
Bills payable	30,000	Stock	1,75,000
Provision for taxation	70,000	Debtors	1,75,000
Proposes dividend	24,000	Bills receivable	1,25,000
Bank over draft	20,000	Cash	10,000
		Prepaid expenses	15,000
	14,94,000		**14,94,000**

2.Calculate Turnover ratios from the given below information.

Profit & Loss Account

Particulars	Amount	Particulars	Amount
To opening stock	80,000	By sales 10,40,000	
To purchases		(-) returns 40,000	10,00,000
Cash	96,000	By closing stock	1,20,000
Credit	7,00,000		
To administration expenses	1,69,000		
Profit c/d	75,000		
	11,20,000		11,20,000

Liabilities	Amount	Assets	Amount
Share capital	3,00,000	Buildings	2,50,000
reserves	1,50,000	Plant	2,10,000
Debentures	2,00,000	Investments	80,000
Creditors	1,30,000	(within business)	
Bills payable	70,000	Stock	1,20,000
Provisions	60,000	Debtors 50,000	40,000
		Less provisions 10,000	1,60,000
		Bills receivable 1,75,000	50,000
		Less provisions 15,000	
		cash	
	9,10,000		**9,10,000**

3. Following is the balance sheet of xyz ltd as on 31st March, 2005

Liabilities	amount	Assets	amount
Equity share capital	2,00,000	Fixed assets	17,50,000
		Current assets	2,00,000
9% Preference share capital	1,00,000	Miscellaneous expenses	75,000
Reserves	8,00,000		
12% debentures	8,00,000		
Current liabilities	81,000		
provisions	44,000		
	20,25,000		20,25,000

Additional Information:

- During the year ended xyz ltd reported a profit before tax of 2,00,000, after providing for interest on debentures.

- Assuming tax rate 50%, you are required to calculate relevant solvency ratios.

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