



SECTION - 3

FINANCIAL RATIO ANALYSIS

This Section includes

- **Analysis of Financial Performance**
- **Financial ratio analysis**
- **Dupont Control Chart**
- **Limitations of ratio analysis**
- **Identification of information required to assess financial performance**

3.1 ANALYSIS OF FINANCIAL PERFORMANCE

- 3.1.1 The main task of financial accounting is to communicate financial information to enable users to take reasonable decisions. Accounting is the activity of identifying, measuring, recording and reporting on the resources and performance of an enterprise based on financial parameters.
- 3.1.2 While recognizing that financial information is a vital part of information for management decision making it is equally important to recognize that true analysis will necessitate looking behind and beyond the figures to ascertain what is actually represented. *“Drawing quick conclusions is to be resisted as the information must be related to the situation in which the enterprise is, in terms of its competitive environment or stage of development”*. (– Bowman and Asch, 1987). Decisions have to be taken only after properly interpreting the financial data to the specific needs of the case under consideration.
- 3.1.3 The common techniques of financial analysis are:
- a. Profitability analysis
 - b. Ratio analysis
 - c. Funds flow analysis
 - d. Cash flow analysis

3.2 FINANCIAL RATIO ANALYSIS

- 3.2.1 Ratios are worked out in a number of areas relating to an organization. These include an analysis of the following:
- a. Capital structure
 - b. Asset deployment
 - c. Liquidity

- d. Utilization
- e. Expenses
- f. Coverage
- g. Profitability
- h. Analysis from different stakeholders' perspective
- i. Shareholder wealth creation

Ratio Summary	
Areas of concern for management	Purpose
Analysis of Capital structure	
Debt/Equity	Assess Financial risk and debt capacity
Analysis of deployment of funds	
Fixed assets/Long term funds Inventory/Current assets Receivables/Current assets Loans&Advances/Current assets	Extent of diversion of long term funds to short term assets and vice versa Feel for the application of funds in these areas
Analysis of liquidity	
Current Ratio Quick Ratio	Ability to meet the immediately maturing obligations
Analysis of Utilisation	
Sales/Total assets Sales/Fixed assets Sales/Current assets Sales/Inventory Sales/Debtors Operating Cycle Inventory Days Debtors Days	Efficiency in utilising assets Achieving higher turnover for a given level of investment Optimising investments Monitor idle funds Efficiency in utilising assets Monitor idle funds
Ratio Summary	
Analysis of expense	
Raw material cost/sales Power & Fuel cost/sales Employee cost/sales Selling and adm/sales Operating cost/sales	Keep track of the trend in expenses and exercise cost control
Analysis of coverage	
Interest coverage	Ability to service lenders
Analysis of Profitability	
Return on investment Return on sales Return on equity	Overall performance evaluation from business point of view Efficiency in cost management and margin realisation Performance evaluation from equity shareholders point of view
Analysis-Shareholders perspective	
Earnings Per Share Price/Earnings	Performance evaluation from equity shareholders point of view Market perception and valuation
Dividend Yield	

3.2.1 Some of the important financial ratios and their formulas are given below:

Ratio	Calculation
Capital Structure	Debt is long term debt, and Equity is shareholders' funds. Measures long term solvency and risk, Debt capacity, Financial leverage, Trading on equity
Debt equity ratio	$\frac{\text{Long term debt} + \text{Value of Leases}}{\text{Equity}}$
Long term debt ratio	$\frac{\text{Long term debt}}{\text{Long term debt} + \text{Equity}}$
Total debt ratio	$\frac{\text{Total Liabilities}}{\text{Total Assets}}$
Asset deployment	
	Fixed assets/long term funds
	Current assets/total assets
	- Inventory/current assets
	- Receivables/current assets
	- Cash/current assets
Efficiency Ratios	
Asset Turnover ratio	Sales / Average total assets
Net Working Capital Turnover ratio	Sales / Average Net Working Capital
Inventory Turnover ratio	Cost of Goods sold / Average Inventory
Days' sales in inventory	$\frac{\text{Average Inventory}}{\text{Cost of Goods sold} / 365}$
Average Collection period	Average Receivables / Average daily sales
Coverage	
Cash Coverage ratio	$\frac{\text{EBIT} + \text{Depreciation}}{\text{Interest payments}}$
Times interest earned	$\frac{\text{EBIT}}{\text{Interest payments}}$
Total coverage	EBI-Tax/(interest + instalment)

Profitability Ratios	
Net Profit Margin	$(\text{EBIT} - \text{tax}) / \text{Sales}$
Return on assets	$(\text{EBIT} - \text{tax}) / \text{Average total assets}$
Return on equity (ROE)	$\text{PAT} / \text{Equity}$
Return on Sales (ROS)	$\text{PAT} / \text{Sales}$
Return on investment (ROI)	$\text{PBIT} / \text{Capital employed}$
Payout ratio	$\text{Dividends} / \text{Earnings}$
Plowback ratio	$1 - \text{Payout ratio}$
Liquidity Ratios	
Net Working Capital to Total assets	$\text{Net Working Capital} / \text{Total assets}$
Current Ratio	$\text{Current Assets} / \text{Current Liabilities}$
Quick Ratio	$\text{Current Assets less Inventories} / \text{Current Liabilities}$
Cash Ratio	$\text{Cash} + \text{Marketable securities} / \text{Current Liabilities}$
Market Value Ratios (Analysis from Shareholder's perspective)	
Earnings Per Share (EPS)	$\text{Profit after tax} / \text{No. of. Equity shares}$
Price Earnings (P/E) Ratio	$\text{Market Price} / \text{EPS}$
Dividend Yield	$\text{Dividend per share} / \text{Market price}$
Market to book ratio	$\text{Stock price} / \text{Book value per share}$
Tobins Q	$\text{Market Value of assets} / \text{Estimated replacement cost}$

3.3 DUPONT CONTROL CHART

3.3.1 The Dupont Corporation developed in 1930s a reporting system for management of its multi-product, multi-location businesses, and it has retained its pre-eminence over the years as an important framework for reviewing performance. It is a break-down of ROE and ROA into component ratios:

$$\text{ROA} = (\text{EBIT} - \text{Taxes}) / \text{Assets}$$

$$\text{ROE} = (\text{EBIT} - \text{Taxes} - \text{Interest}) / \text{Equity}$$

$$\text{ROA} = (\text{Sales} / \text{Assets}) \times [(\text{EBIT} - \text{Taxes}) / \text{Sales}]$$

$$\text{Asset Turnover} \times \text{Profit Margin}$$

$$\text{ROE} = (\text{Assets} / \text{Equity}) \times (\text{Sales} / \text{Assets}) \times [(\text{EBIT} - \text{T}) / \text{Sales}] \times [(\text{EBIT} - \text{T} - \text{I}) / (\text{EBIT} - \text{T})]$$

$$\text{Leverage} \times \text{Asset Turnover} \times \text{Profit Margin} \times \text{Debt burden}$$



3.4 LIMITATIONS OF RATIO ANALYSIS

- 3.4.1 Financial ratio analysis and comparison of same with benchmark figures has its limitations due to a number of factors. These include the following:
1. Variations in accounting policies among various companies
 2. Window dressing
 3. Lack of understanding of basic principles
 4. Current economic and industry scenario
 5. Interpretation of results
 6. changes made in groupings in expenses in different years and most importantly
 7. Ratios change from company to company based on the mix of capital and the structuring of capital even when the level of revenue mains the same.
- 3.4.2 It is therefore suggested that a longer term view is taken by doing a trend analysis, looking at comparative / benchmark industry performance, and evaluating the extent of correlation among various ratios. It may be noted that 'one swallow does not make a summer'.

3.5 IDENTIFICATION OF INFORMATION REQUIRED TO ASSESS FINANCIAL PERFORMANCE

- 3.5.1 Information is available in a number of places and number of sources. These are given below:
1. The company's Annual Report: This is the most vital source, as it offers a wealth of information about a company's performance. The Directors' Report; Management discussion on business environment and prospects, Report on corporate governance, Auditor's Report with qualifications if any; audited Balance Sheet; audited Profit & Loss Account; Schedules & Notes to accounts; Accounting policies; Trend analysis and past performance data; etc.
 2. Company's website.
 3. Company's filings with statutory authorities such as Registrar of Companies, SEBI, RBI etc
 4. Company's returns filed with various authorities such as Income Tax, Excise, Sales Tax, PF Departments etc.
 5. Information provided to Banks and financial institutions.
 6. Information available with industry bodies and trade associations, Chambers of Commerce etc.
 7. Information published in financial newspapers and magazines by experts in the industry etc.
- 3.5.2 A financial analyst should look at multiple sources of information to obtain as much information as possible to enable completeness as well as cross-validation.