RATIO ANALYSIS

(Lecture-4)

SEMESTER – 6

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Long-term Solvency Ratios /Leverage Ratios

The leverage ratios may be defined as those financial ratios which measure the **long term stability and structure of the firm**. These ratios indicate the mix of funds provided by owners and lenders and assure the lenders of the long term funds with regard to:

a.) Periodic payment of interest during the period of the loan and

b.) Repayment of principal amount on maturity

Leverage ratios are of two types:

1.) Capital Structure Ratios

a.) Equity Ratio
b.) Debt Ratio
c.) Debt to Equity Ratio
d.) Debt to Total Assets Ratio
e.) Capital Gearing Ratio
f.) Proprietary Ratio

2.) Coverage Ratios

a.) Debt-Service Coverage Ratio (DSCR)
b.) Interest Coverage Ratio
c.) Preference Dividend Coverage Ratio
d.) Fixed Charges Coverage Ratio

The Brief discussion regarding other ratios are mentioned in the below table:

Ratio	Formulae	Interpretation
Liquidity Ratio		
Current Ratio	Current Assets / CurrentLiabilities	A simple measure that estimates whether the business can pay short term debts.
Quick Ratio	Quick Assets / CurrentLiabilities	It measures the ability to meet current debt immediately. Ideal ratio is 1

Cash Ratio	$\frac{(\text{Cash and Bank balances} + \text{Marketable Securities})}{\text{Current Liabilities}}$	It measures absolute liquidity of the business.
Basic Defense Interval Ratio	$\frac{(\text{Cash and Bank balances} + \text{Marketable Securities})}{\text{Opearing Expenses} \div \text{No. of days}}$	It measures the ability of the business to meet regular cash expenditures.
Net Working Capital Ratio	Current Assets – Current Liabilities	It is a measure of cash flow to determine the ability of business to survive financial crisis.
Capital Structure Ratio		
Equity Ratio	$\frac{\text{Shareholders' Equity}}{\text{Capital Employed}}$	It indicates owner's fund in companies to total fund invested.

Debt Ratio	$\frac{\text{Totaloutsideliabilities}}{\text{TotalDebt+Net worth}}$	It is an indicator of use of outside funds.
Debt to equity Ratio	$\frac{\text{TotalOutsideLiabilities}}{\text{Shareholders'Equity}}$	It indicates the composition of capital structure in terms of debt and equity.
Debt to Total Assets Ratio	$\frac{\text{TotalOutsideLiabilities}}{\text{TotalAssets}}$	It measures how much of total assets is financed by the debt.
Capital Gearing Ratio	$\frac{(\text{Preference Share Capital+Debentures+OtherBorrowedfunds})}{(\text{Equity Share Capital+Reserves \& Surplus-Losses})}$	It shows the proportion of fixed interest bearing capital to equity shareholders' fund. It also signifies the advantage of financial leverage to the equity shareholder.
Proprietary Ratio	$\frac{\text{Proprietary Fund}}{\text{Total Assets}}$	It measures the proportion of total assets financed by shareholders.
Coverage Ratios		
Debt Service Coverage Ratio (DSCR)	$\frac{\text{Earningsavailablefor debtservices}}{\text{Interest+Instalments}}$	It measures the ability to meet the commitment of various debt services like interest, instalment etc. Ideal ratio is 2.
Interest Coverage Ratio	$\frac{\text{EBIT}}{\text{Interest}}$	It measures the ability of the business to meet interest obligations. Ideal ratio is > 1.
Preference Dividend Coverage Ratio	$\frac{\text{NetProfit / Earning after taxes (EAT)}}{\text{Preferencedividendliability}}$	It measures the ability to pay the preference shareholders' dividend. Ideal ratio is > 1.

Fixed Charges Coverage Ratio	$\text{Interest} + \frac{\text{EBIT} + \text{Depreciation}}{\text{Re- paymentofloan}}$ / 1- taxrate	This ratio shows how many times the cash flow before interest and taxes covers all fixed financing charges. The ideal ratio is > 1.
Activity Ratio/ Efficiency Ratio/ Performance Ratio/ Turnover Ratio		
Total Asset Turnover Ratio	Sales / Costof GoodsSold Average TotalAssets	A measure of total asset utilisation. It helps to answer the question - What sales are being generated by each rupee's worth of assets invested in the business?
Fixed Assets Turnover Ratio	Sales / Costof GoodsSold Fixed Assets	This ratio is about fixed asset capacity. A reducing sales or profit being generated from each rupee invested in fixed assets may indicate overcapacity or poorer-performing equipment.
Capital Turnover Ratio	Sales / Costof GoodsSold Net Assets	This indicates the firm's ability to generate sales per rupee of long term investment.
Working Capital Turnover Ratio	Sales / COGS WorkingCapital	It measures the efficiency of the firm to use working capital.
Inventory Turnover Ratio	COGS / Sales AverageInventory	It measures the efficiency of the firm to manage its inventory.
Debtors Turnover Ratio	$\frac{\text{Credit Sales}}{\text{Average Accounts Receivable}}$	It measures the efficiency at which firm is managing its receivables.
Receivables (Debtors') Velocity	Average Accounts Receivables Average Daily Credit Sales	It measures the velocity of collection of receivables.

Payables Turnover Ratio	$\frac{\text{Annual Net Credit Purchases}}{\text{Average Accounts Payables}}$	It measures the velocity of payables payment.
Profitability Ratios based on Sales		
Gross Profit Ratio	$\frac{\text{Gross Profit}}{\text{Sales}} \times 100$	This ratio tells us something about the business's ability consistently to control its production costs or to manage the margins it makes on products it buys and sells.
Net Profit Ratio	$\frac{\text{Net Profit}}{\text{Sales}} \times 100$	It measures the relationship between net profit and sales of the business.
Operating Profit Ratio	$\frac{\text{Operating Profit}}{\text{Sales}} \times 100$	It measures operating performance of business.
Expenses Ratio		
Cost of Goods Sold (COGS) Ratio	$\frac{\text{COGS}}{\text{Sales}} \times 100$	It measures portion of a particular expenses in comparison to sales.
Operating Expenses Ratio	$\left(\frac{\text{Administrative exp.} + \text{Selling \& Distribution Overhead}}{\text{Sales}}\right) \times 100$	
Operating Ratio	$\frac{\text{COGS} + \text{Operating expenses}}{\text{Sales}} \times 100$	
Financial Expenses Ratio	$\frac{\text{Financial expenses}}{\text{Sales}} \times 100$	
Profitability Ratios related to Overall Return on Assets/ Investments		
Return on Investment (ROI)	$\frac{\text{Return /Profit /Earnings}}{\text{Investments}} \times 100$	It measures overall return of the business on investment/ equity funds/capital employed/ assets.

Return on Assets (ROA)	$\frac{\text{Net Profit after taxes}}{\text{Average total assets}}$	It measures net profit per rupee of average total assets/ average tangible assets/ average fixed assets.
Return on Capital Employed ROCE (Pre-tax)	$\frac{\text{EBIT}}{\text{Capital Employed}} \times 100$	It measures overall earnings (either pre-tax or post tax) on total capital employed.
Return on Capital Employed ROCE (Post-tax)	$\frac{\text{EBIT}(1-t)}{\text{Capital Employed}} \times 100$	It indicates earnings available to equity shareholders in comparison to equity shareholders' net worth.
Return on Equity (ROE)	$\frac{\left(\text{Net Profit after taxes} - \text{Preference dividend (if any)}\right)}{\text{Net worth / equity shareholders' fund}} \times 100$	
Profitability Ratios Required for Analysis from Owner's Point of View		
Earnings per Share (EPS)	$\frac{\text{Net profit available to equity shareholders}}{\text{Number of equity shares outstanding}}$	EPS measures the overall profit generated for each share in existence over a particular period.
Dividend per Share (DPS)	$\frac{\text{Dividend paid to equity shareholders}}{\text{Number of equity shares outstanding}}$	Proportion of profit distributed per equity share.
Dividend payout Ratio (DP)	$\frac{\text{Dividend per equity share}}{\text{Earning per Share (EPS)}}$	It shows % of EPS paid as dividend and retained earnings.
Profitability Ratios related to market/ valuation/ Investors		
Price-Earnings per Share (P/E Ratio)	$\frac{\text{Market Price per Share (MPS)}}{\text{Earning per Share (EPS)}}$	At any time, the P/E ratio is an indication of how highly the market "rates" or "values" a business. A P/E ratio is best viewed in the context of a sector or market average to get a feel for relative value and stock market pricing.

Dividend Yield	$\frac{\text{Dividend} \pm \text{Change in share peice}}{\text{Initial share price}} \times 100$ OR $\frac{\text{Dividend per Share (DPS)}}{\text{Market Price per Share (MPS)}} \times 100$	It measures dividend paid based on market price of shares.
Earnings Yield	$\frac{\text{Earnings per Share (EPS)}}{\text{Market Price per Share (MPS)}} \times 100$	It is the relationship of earning per share and market value of shares.
Market Value /Book Value per Share	$\frac{\text{Market value per share}}{\text{Book value per share}}$	It indicates market response of the shareholders' investment.
Q Ratio	$\frac{\text{Market Value of equity and liabilities}}{\text{Estimated replacement cost of assets}}$	It measures market value of equity as well as debt in comparison to all assets at their replacement cost.

SELF NOTE