Ratio Analysis and the Interpretation of Financial Statements

Objective of Ratio Analysis

- Use key ratios to analyse the performance of the company from one year to the next
- Use ratios to measure trends and patterns
- Use trends to assist with decision making
- To make comparisons between various companies

Users of Ratio Analysis

- Management
- Shareholders, both existing and potential
- Lenders, both existing and potential
- Customers both existing and potential
- Competitors

Classification of Ratios

- Profitability and Efficiency Ratios
- Working Capital Ratios
- Liquidity/Solvency Ratios
- Gearing Ratios
- Investment Ratios

Profitability and Efficiency Ratios

Return on Capital Employed (ROCE)	Profit (Before Interest and Tax) / Capital Employed x 100	%
Return on Shareholders' Funds (ROSF)	Profit (After Tax and Preference Dividends) / Ordinary Shares + Reserves x100	%
Gross Profit Mark Up	Gross Profit /	%

	Cost of Sales X100	
Gross Profit Margin	Gross Profit Cost of Sales X 100	%
Total Expenses to Sales	Total Expenses Sales X100	%
Asset Turnover	Sales Total Assets	Times
Fixed Asset Turnover	Sales Fixed Assets	Times
Working Capital Turnover	Sales Working Capital	Times
Net Profit Margin	Net Profit Before Interest and Tax Sales	%

1.Return on Capital Employed (ROCE)

The Return on Capital Employed measures profit as a percentage of the capital invested in the company. This ratio should be compared with the return on a Risk Free Investment i.e. bank deposit account.

2. Return on Shareholder Funds (ROSF)

The Return on Shareholder Funds Ratio measures a company's return to its ordinary shareholders on the capital they have invested.

3. Gross Profit Mark-up/Margin

Both measure the efficiency of production

4. Net Profit Margin

Profitability of a company relative to sales after deducting all operating expenses.

5. Total Expenses to Sales

Measures the efficiency of management in controlling costs.

6. Asset Turnover, Fixed Asset Turnover and Working Capital Turnover

Measures the efficiency of the company in using its various classes of assets to generate profits.

Working Capital Ratios

Stock Turnover	Cost of Sales / Average Stock(Opening Stock +Closing Stock/2)	Times
Average period of Credit Allowed	Trade Debtors x 365 (or12) / Credit Sales	Days or Months
Average Period of Credit received	Trade Creditors x 365 (or 12) / Credit Purchases	Days or Months

Stock turnover measures the number of times stock is sold during a trading period. It is necessary only to compare firms in the same industry.

An unfavourable comparison of stock turnover ratios may indicate:

- Inefficiency in production
- Poor stock control
- Obsolete stock lines
- A drop in sales demand

Average Period of Credit Allowed

Measures the time in days/months between credit sales to debtors and cash receipts from them. A long credit period to indicate poor credit control

Average Period of Credit Received

Measures the time in days (or months) between credit purchases from creditors and cash payments to them. This may be used as a short term source of finance

Liquidity/Solvency Ratios

Current Ratio	Current Assets Current Liabilities	Ideal 2:1
Liquid Ratio (Acid Test)	Current Assets Less Closing Stock Current Liabilities	Ideal 1:1

Liquidity measures the ability of a company to pay its short term debts as they fall due.

Solvency is the ability of a company to pay all its debts as they fall due for payment. A business is solvent if its total assets exceed its outside liabilities.

Current Ratio

Measures a company's ability to pay its current liabilities in less than 1 year. The ideal ratio here is 2:1

Liquid Ratio (Acid Test)

A more severe test of liquidity as it excludes closing stock (as this must be sold before it is cash) The ideal here is 1:1

Liquidity problems and overtrading

Overtrading occurs when the business is trying finance too high a volume of sales with too little working capital.

A business which is overtrading can appear to be performing well. However, on closer examination there will be a large increase in debtors and creditors and a shortage of cash. When this happens creditors may insist on payment and this may eventually lead to liquidation.

Steps to solve a liquidity problem

- Operate a strict credit policy and make sure debtors pay earlier – offer cash discounts
- Issue any remaining shares from authorised share capital
- Take out a company loan
- Keep stock levels to a minimum
- Use sale and leaseback of assets
- Postpone any planned capital projects
- Avoid paying dividends.

Gearing Ratios

Debt/Equity Ratio	Debt Capital : Equity Capital	Ratio
Debt/Total Capital Percentage	$\frac{\text{Debt Capital x100}}{\text{Total Capital}}$	%
Interest Cover	$\frac{\text{Operating Profit (Net Profit + Interest)}}{\text{Interest Charges}}$	Times

Debt/Equity Ratio

The Debt/Equity Ratio measures the ratio between Debt Capital (which loans, debentures and preference shares) and Equity Capital (which is shareholder funds) If the ratio is greater than 1:1 the company is said to be highly geared, less than 1:1 low geared and at 1:1 neutral.

Debt /Total Capital Percentage

The Debt/total Capital Percentage is the same information on capital structure, expressed differently. This shows what percentage of total capital is represented by Debt Capital Over 50 % is highly geared and less than 50 % is low geared. 50 % is neutral.

Interest Cover

This measures a company's ability to meet its fixed interest cover commitments. A high cover indicates the company has no issue paying.

Investment Ratios

Earnings Per Share (EPS)	$\frac{\text{Profit(After Tax and Preference Dividends)}}{\text{Number of Issued Ordinary Shares}}$	Cent
Dividend Per Share (DPS)	$\frac{\text{Total Ordinary Dividend}}{\text{Number of Issued Ordinary Shares}}$	Cent
Price Earnings Ratio (P/E)	$\frac{\text{Market Price Per Share}}{\text{Earnings Per Share(EPS)}}$	Years
Price Dividend Ratio(period to recoup price at present payout rate)	$\frac{\text{Market Price per Share}}{\text{Dividend per Share}}$	Years
Dividend Yield	$\frac{\text{Dividend Per Share (DPS)}}{\text{Market Price per Share}}$	%
Dividend Cover Dividend Payout Rate	$\frac{\text{Profit (After Tax and Preference Dividends)}}{\text{Total Ordinary Dividend}}$	Times

Earnings Per Share (EPS)

Measures the earnings in cent of each issued ordinary share.

Dividend per Share (DPS)

The Dividend per Share is the amount of dividend for the year expressed in cent on each ordinary share.

Price Earnings Ratio (P/E Ratio)

The Price Earnings Ratio measures the number of years it would take a share to recoup (Recover) its share price if current profit performance is maintained into the future.

Price Dividend Ratio

The Price Dividend Ratio measures how long it would take one ordinary share to recoup its value at the present payout rate.

Dividend Yield

Dividend Yield is the dividend paid by the company, expressed as a percentage of the market price. It allows shareholders to compare earnings on their shares with returns from alternate investments.

Limitations of Ratio Analysis

- Ratios deal with figures from Financial Statements therefore cannot be considered in isolation.
- Always consider that different accounting methods may be used eg straight line depreciation or reducing balance method.
- When comparing one company over a number of years ratios do not measure if the environment has changed.
- Inflation will distort the ratios

Reasons for reduction in Gross Profit Mark-Up/Margin

- Stock Losses –Theft of Stock, obsolescence, wastage
- Cash Losses – Theft of Cash by employees
- Errors in valuation of Stock- Undervaluation of closing stock reduces gross profit
- Increases in production costs not passed on to the customers
- A change in the sales mix – selling a smaller percentage of high profit goods and a larger percentage of low profit goods.
- A change in government legislation
- Lowering of Selling price

Student checklist

I can :

Interpret financial statements under various headings

Calculate all ratios

Comment on ratios

Compare ratios

Understand the limitations of ratios

Understand and explain liquidity, solvency, profitability, gearing, dividend policy and investment policy

Understand and comment on trends