

Key Accounting Ratios

Notations

- OPEX – **Operating expense (Operational expenditure)**
- CAPEX – **Capital expense (Capital expenditure)**
$$\text{Total expenses} = \text{OPEX} + \text{CAPEX}$$

- Net sales = Gross sales – (Customer discounts + Returns + Allowances)
❖ **Further on Net sales are referred as just Sales.**
- CoGS – **Cost of goods sold**
$$\text{CoGS} = \text{Opening stock} + \text{Purchases} - \text{Closing stock}$$

- Gross profit = Sales – CoGS
- PBIT – **Profit before interest and tax (Operating profit, Operating income)**
$$\text{PBIT} = \text{Gross profit} - \text{OPEX}$$
- PBT – **Profit before tax**
$$\text{PBT} = \text{PBIT} - \text{Interest expense}$$
- PAT – **Profit after tax (Net profit, Net income)**
$$\text{PAT} = \text{PBT} - \text{Tax expense}$$

❖ **Usually preference and ordinary dividends are paid out from PAT.**

- D – **Debt (Long-term liabilities)**
- E – **Total equity (Shareholders' funds)**
- CE – **Capital employed**
$$\text{CE} = \text{D} + \text{E} = \text{Total assets} - \text{Current liabilities}$$
- CA – **Current assets**
- CL – **Current liabilities**
- Inventory held =
$$\frac{\text{Opening stock} + \text{Closing stock}}{2}$$

Section I. Profitability and efficiency

- **Gross profit margin**

$$\text{GPM} = \frac{\text{Gross profit}}{\text{Sales}} (\%)$$

- **Mark-up**

$$\text{Mark-up} = \frac{\text{Gross profit}}{\text{CoGS}} (\%)$$
$$\text{Mark-up} = \frac{\text{GPM}}{1-\text{GPM}}$$

- **Net profit margin**

$$\text{NPM} = \frac{\text{PBIT}}{\text{Sales}} (\%)$$

- **Asset turnover ratio**

$$\text{Assets turnover} = \frac{\text{Sales}}{\text{CE}} (\text{x})$$

- **Return on capital employed**

$$\text{ROCE} = \frac{\text{PBIT}}{\text{CE}} (\%)$$
$$\text{ROCE} = \text{Net profit margin} \times \text{Asset turnover}$$

- **Return on equity**
(Return on shareholders' funds)

$$\text{ROE (ROSF)} = \frac{\text{PAT}}{\text{E}} (\%)$$

Section II. Liquidity

- **Current ration**

$$\text{CR} = \frac{\text{CA}}{\text{CL}} (\text{x})$$

- **Quick ratio**

$$\text{QR} = \frac{\text{CA}-\text{Inventory}}{\text{CL}} (\text{x})$$

- **Working capital**

$$\text{Working capital} = \text{CA} - \text{CL} (\text{currency units})$$

Section III. Utilization of working capital

- Inventory turnover ratio

$$\text{Inventory turnover} = \frac{\text{CoGS}}{\text{Inventory held}} \text{ (x)}$$

- Inventory holding period (Days in inventory outstanding)

$$\text{Days in inventory} = \frac{\text{Inventory held}}{\text{CoGS}} \times 365 \text{ (days)}$$

- Receivables collection period (Receivables days)

$$\text{Receivables days} = \frac{\text{Trade receivables}}{\text{Total credit sales}} \times 365 \text{ (days)}$$

- Payables payment period (Payables days)

$$\text{Payables days} = \frac{\text{Trade payables}}{\text{Total credit purchases}} \times 365 \text{ (days)}$$

❖ Purchases and CoGS can substitute each other if one of them is unknown.

- Cash conversion cycle

$$\text{CCC} = \text{Days in inventory} + \text{Receivables days} - \text{Payables days} \text{ (days)}$$

Section IV. Risk

- Gearing (Leverage)
(Debt to equity OR Debt to capital employed)

$$\text{Gearing} = \frac{D}{E} \text{ (\%)} \text{ OR } \frac{D}{CE} \text{ (\%)}$$

- Debt ratio

$$\text{Debt ratio} = \frac{\text{Total liabilities}}{\text{Total assets}} \text{ (x)} \text{ OR } \frac{D}{CE} \text{ (x)}$$

- Interest cover

$$\text{Interest cover} = \frac{\text{PBIT}}{\text{Interest expense}} \text{ (x)}$$

- Cash cover

$$\text{Cash cover} = \frac{\text{Operating cash flow}}{\text{Interest expense}} \text{ (x)}$$

Section V. Investment

❖ While using ratios from this section it is important to differentiate between two cases: only ordinary shares are present; both ordinary and preference shares were issued.

- Earnings per share

$$\text{EPS} = \frac{\text{PAT} - \text{Pref.div.}}{\text{Number of ordinary shares}} \text{ (currency units)}$$

- Price to earnings

$$\text{P/E} = \frac{\text{Market price of share}}{\text{EPS}} = \frac{\text{Market capitalization}}{\text{PAT} - \text{Pref.div.}} \text{ (x)}$$

- Dividend cover

$$\text{Dividend cover} = \frac{\text{PAT} - \text{Pref.div.}}{\text{Ordinary dividends}} \text{ (x)}$$

- Dividend payout ratio

$$\text{Dividend payout ratio} = \frac{\text{Ordinary dividends}}{\text{PAT} - \text{Pref.div.}} \text{ (x)}$$
$$\text{Dividend payout ratio} = 1 / \text{Dividend cover}$$

- Preference dividend cover

$$\text{Preference dividend cover} = \frac{\text{PAT}}{\text{Preference dividends}} \text{ (x)}$$

- Dividend yield

$$\text{Dividend yield} = \frac{\text{Dividend per share}}{\text{Market price of share}} = \frac{\text{Ordinary dividends}}{\text{Market capitalization}} \text{ (\%)}$$
$$\text{Dividend yield} = \frac{\text{Dividend payout ratio}}{\text{P/E}}$$

- Book value (also par or face value) of a share

$$\text{Book value of share} = \frac{\text{E}}{\text{Number of shares}} \text{ (currency units)}$$

- Book-to-market ratio

$$\text{BV/MV} = \frac{\text{Book value of share}}{\text{Market price of share}} = \frac{\text{E}}{\text{Market capitalization}} \text{ (x)}$$