

Financial ratio formulas

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1. Operating cycle

$$\text{Number of days of inventory} = \frac{\text{Inventory}}{\text{Average day's cost of goods sold}} = \frac{\text{Inventory}}{\text{Cost of goods sold} / 365}$$

$$\text{Number of days of receivables} = \frac{\text{Accounts receivable}}{\text{Average day's sales on credit}} = \frac{\text{Accounts receivable}}{\text{Sales on credit} / 365}$$

$$\text{Number of days of payables} = \frac{\text{Accounts payable}}{\text{Average day's purchases}} = \frac{\text{Accounts payable}}{\text{Purchases} / 365}$$

$$\text{Note: Purchases} = \frac{\text{Cost of goods sold} + \text{Ending inventory} + \text{Beginning inventory}}{}$$

$$\text{Operating cycle} = \frac{\text{Number of days of inventory}}{+} \frac{\text{Number of days of receivables}}{+}$$

$$\text{Net operating cycle} = \frac{\text{Number of days of inventory}}{+} \frac{\text{Number of days of receivables}}{+} - \frac{\text{Number of days of purchases}}{-}$$

2. Liquidity

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}$$

$$\text{Net working capital to sales ratio} = \frac{\text{Current assets} - \text{Current liabilities}}{\text{Sales}}$$

3. Profitability

$$\text{Gross profit margin} = \frac{\text{Gross income}}{\text{Sales}}$$

$$\text{Operating profit margin} = \frac{\text{Operating income}}{\text{Sales}}$$

$$\text{Net profit margin} = \frac{\text{Net income}}{\text{Sales}}$$

4. Activity

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Inventory}}$$

$$\text{Accounts receivable turnover} = \frac{\text{Sales on credit}}{\text{Accounts receivable}}$$

$$\text{Total asset turnover} = \frac{\text{Sales}}{\text{Total assets}}$$

$$\text{Fixed asset turnover} = \frac{\text{Sales}}{\text{Fixed assets}}$$

5. Financial leverage

$$\text{Total debt to assets ratio} = \frac{\text{Total debt}}{\text{Total assets}}$$

$$\text{Long - term debt to assets ratio} = \frac{\text{Long - term debt}}{\text{Total assets}}$$

$$\text{Total debt to equity ratio} = \frac{\text{Total debt}}{\text{Total shareholders' equity}}$$

$$\text{Equity multiplier} = \frac{\text{Total assets}}{\text{Shareholders' equity}}$$

$$\text{Times - interest - coverage ratio} = \frac{\text{Earnings before interest and taxes}}{\text{Interest}}$$

$$\text{Fixed - charge coverage ratio} = \frac{\text{Earnings before interest and taxes} + \text{Lease payment}}{\text{Interest} + \text{Lease payment}}$$

6. Shareholder ratios

$$\text{Earnings per share} = \frac{\text{Net income available to shareholders}}{\text{Number of shares outstanding}}$$

$$\text{Dividends per share} = \frac{\text{Dividends paid to shareholders}}{\text{Number of shares outstanding}}$$

$$\text{Dividend payout ratio} = \frac{\text{Dividends}}{\text{Earnings}}$$

$$\text{Price-earnings ratio} = \frac{\text{Market price per share}}{\text{Earnings per share}}$$

7. Return ratios

$$\text{Basic earning power ratio} = \text{Operating return on assets} = \frac{\text{Operating income}}{\text{Total assets}}$$

$$\text{Return on assets} = \frac{\text{Net income}}{\text{Total assets}}$$

$$\text{Return on equity} = \frac{\text{Net income}}{\text{Shareholders' equity}}$$