

R26 Financial Analysis Techniques

Ratio analysis

Common-size analysis

- B/S 每个项目除以 total asset
- I/S 每个项目除以 total revenue
- CFS 每个项目除以 total revenue  
现金流入除以总现金流入+现金流出除以总现金流出

Inventory	A/R	A/P
<u>Inventory turnover</u> = COGS / average inventory	<u>Receivables turnover</u> = net revenue / average A/R	<u>Payables turnover</u> = purchase / average A/P
<u>Average inventory</u> processing period = 365 / inventory turnover	<u>Average receivables</u> collection period = 365 / receivables turnover	<u>Average payment period</u> = 365 / payables turnover
Operating cycle = collection period + inventory period		
Cash conversion cycle = collection period + inventory period - payment period		

Activity ratio

Corporate finance

> A firm's ability to pay short-term debt

- Current ratio** = current assets / current liabilities
- Quick ratio**  
= [cash + marketable securities + receivables] / current liabilities  
= [current asset - inventories] / current liabilities
- Cash ratio**  
= [cash + marketable securities] / current liabilities
- Defensive interval**  
= (cash + marketable securities + receivables) / average daily expenditures

Liquidity ratio

> Leverage

- Debt-to-equity ratio = D / E
- Debt-to-capital = D / (D + E)
- Debt-to-assets = D / A
- Financial leverage = A / E**

Solvency ratio

> Coverage

- Interest coverage = EBIT / interest
- Fixed charge coverage  
= (EBIT + lease payments) / (interest + lease payments)

Profitability ratios

> Profit/Net revenue

- Gross profit margin = Gross profit / net revenue
- Operating profit margin = EBIT / net revenue
- Pretax margin = EBT / net revenue
- Net profit margin = NI / net revenue

> Profit/Capital

- Return on assets (ROA) = [NI + int.(1-t)] / average total assets
- Operating return on assets = EBIT / average total assets
- [Return on total capital (ROTC) = EBIT / average total capital]
- Return on equity (ROE) = NI / average total equity
- Return on common equity = (NI - preferred dividend) / average common equity

Profitability ratio

DuPont Analysis

$$\begin{aligned} ROE &= \left( \frac{\text{net income}}{\text{sales}} \right) \left( \frac{\text{sales}}{\text{assets}} \right) \left( \frac{\text{assets}}{\text{equity}} \right) \\ &= \left( \frac{\text{net profit}}{\text{margin}} \right) \left( \frac{\text{asset}}{\text{turnover}} \right) \left( \frac{\text{leverage}}{\text{ratio}} \right) \end{aligned}$$

三分法

$$\begin{aligned} ROE &= \left( \frac{\text{net income}}{\text{EBT}} \right) \left( \frac{\text{EBT}}{\text{EBIT}} \right) \left( \frac{\text{EBIT}}{\text{revenue}} \right) \left( \frac{\text{revenue}}{\text{assets}} \right) \left( \frac{\text{assets}}{\text{equity}} \right) \\ &= \left( \frac{\text{tax}}{\text{burden}} \right) \left( \frac{\text{interest}}{\text{burden}} \right) \left( \frac{\text{EBIT}}{\text{margin}} \right) \left( \frac{\text{asset}}{\text{turnover}} \right) \left( \frac{\text{leverage}}{\text{ratio}} \right) \end{aligned}$$

五分法

	Numerator	Denominator
P / E	Price per share	Earnings per share
P / CF		Cash flow per share
P / S		Sales per share
P / BV		Book value per share

Valuation ratios

可持续增长率g

$$\begin{aligned} g &= ROE * b = ROE * (1 - P) \\ P &= DPS / EPS \end{aligned}$$

可持续增长率=开源\*节流