# Finance & Accounting

A-Level Business ▪ Topic 10

A-Level Business

# What we will cover

1. Financial statements
2. Depreciation
3. Profitability ratios
4. Liquidity & gearing
5. Investment appraisal
6. Recap

*statements reveal performance*

# 1 Financial statements

# The income statement

Revenue − cost of sales = **gross profit** 毛利. Then subtract expenses to get operating profit, then interest and tax to get profit for the year.

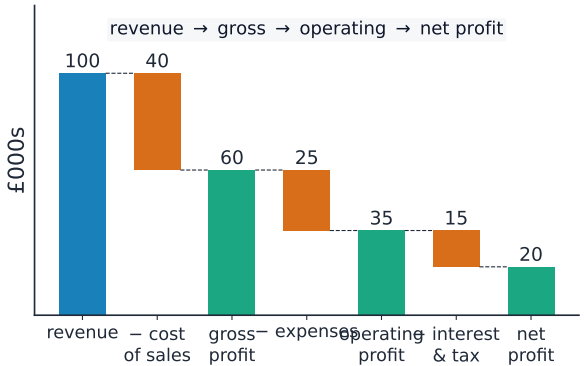
> It shows performance over a period. The statement of financial position is a snapshot of assets and liabilities on one day.

# Reading down an income statement

| | |
|---|---|
| **revenue** | the value of everything sold in the period |
| **cost of sales 销售成本** | the direct cost of the goods that were sold |
| **gross profit** | revenue minus cost of sales |
| **expenses 费用** | rent, wages, marketing – the indirect costs |
| **operating profit** | gross profit after taking off expenses |
| **profit for the year** | after interest and tax – what is available to shareholders |

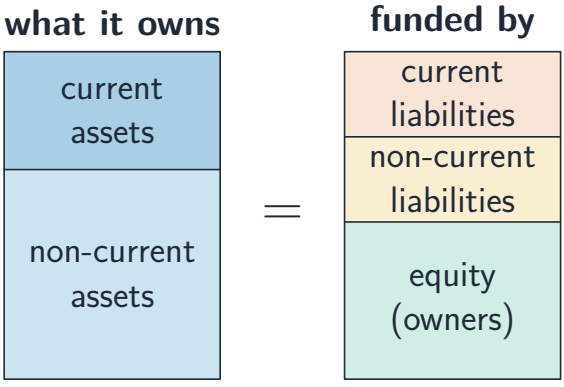
> Each line answers a different question: gross profit tests the product, operating profit the running of the business, and profit for the year the whole financing structure.

# The income statement, in detail




The income statement steps down from revenue to net profit

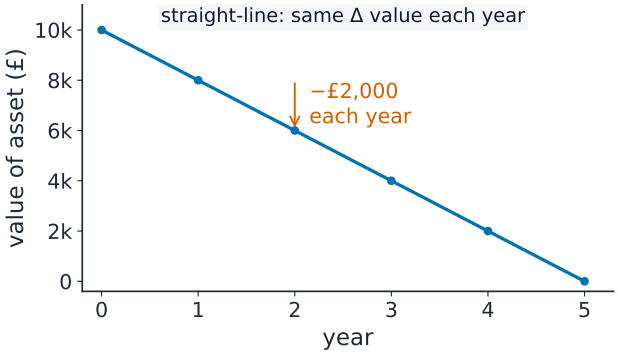
# Statement of financial position




The **balance sheet** 资产负债表 is a photo of what the firm owns and owes on one day.

> **assets** 资产 = **liabilities** 负债 + **equity** 所有者权益 – the two sides always balance.

# Depreciation




**Depreciation** 折旧 spreads a non-current asset's cost over the years it is used. A £10,000 machine over 5 years loses £2,000 a year – an expense each year, so profit is not overstated.

# 2 Ratio analysis

# Profitability ratios

$$\text{ROCE} = \frac{\text{op. profit}}{\text{capital employed}} \times 100\%$$

**Profitability** 盈利能力: how well sales & capital turn into profit.

**Worked example**

rev £500k, gross £200k, op. £80k, capital £400k

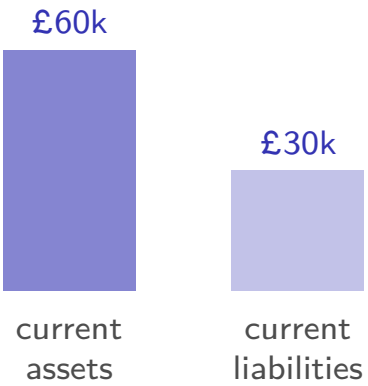
**gross margin** 毛利率 $= 40\%$; op. margin $= 16\%$; **ROCE** 资本回报率 $= 20\%$

# The efficiency and gearing ratios, and what ratios cannot do

| | |
|---|---|
| **gross profit margin 毛利率** | gross profit as a percentage of revenue |
| **efficiency 效率 ratios** | show how well the firm uses its resources – **inventory turnover** 存货周转率, receivable days, payable days |
| **acid test ratio 速动比率** | current assets minus inventory, over current liabilities – liquidity without relying on stock selling |
| **gearing** | long-term debt as a share of capital employed |
| **high gearing** | heavy borrowing – risky if interest rates rise, but it boosts returns when things go well |
| **ARR 会计收益率** | the accounting rate of return – average annual profit as a percentage of the initial investment |

> Ratios use past data, which may not predict the future, and they ignore non-financial factors – staff morale, brand, market change. Say so in any evaluation.

# Liquidity and gearing




**Liquidity** 流动性 – can it pay short-term debts?

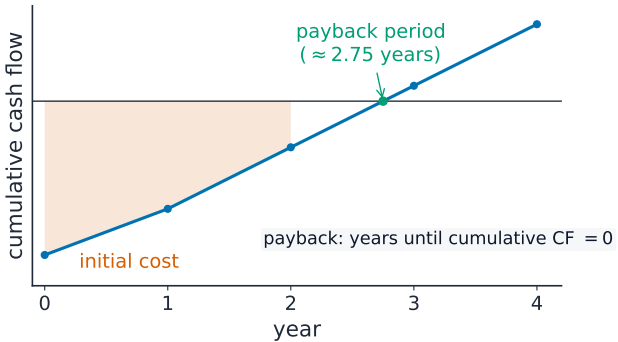
$$\text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}} = 2.0$$

**acid test** 速动比率 (drop inventory) $= 1.2$.

**Gearing** 杠杆比率 $= \dfrac{\text{non-current liabilities}}{\text{capital employed}}$ – high = heavy borrowing.

# 3 Investment appraisal

# Payback and ARR




The **payback period** 回收期 is when cumulative cash flow climbs back to zero – shorter is safer.

$$\text{ARR} = \frac{\text{avg. annual profit}}{\text{initial investment}} \times 100\%$$

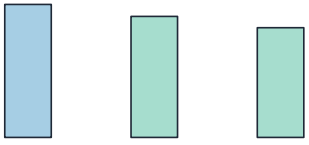
**ARR** 会计回报率: £25k profit on £100k $= 25\%$.

# Finance and accounting strategy

At the top level, managers use financial data and budgets to choose between strategies.

> Before a big decision, they ask: can we afford it, how will it affect profit, cash flow and gearing, and what is the likely return?

# Net present value and discounting




£100 received later is worth less in today's money

**Discounting** 折现 shrinks future cash to today's value – £100 next year is worth ∼£91 now.

> **NPV** 净现值 = discounted inflows − initial cost. A positive NPV adds value.

# Payback, ARR and NPV: what each is good for

| | |
|---|---|
| **payback** | how long until the investment is recovered |
| **its strength** | simple, and it focuses on risk – a short payback means less exposure |
| **its weakness** | it ignores everything after the payback point |
| **ARR** | shows profitability as a percentage, comparable with other returns |
| **its weakness** | it uses profit rather than cash, and ignores the timing of it |
| **NPV** | the most complete: it discounts future cash flows to today's value, so timing and the cost of capital both count |

> Use all three and say where they disagree. A project with a fast payback and a negative NPV is telling you something the payback alone cannot.

# Ratio analysis

**profitability** - profit from sales and capital

$$\text{margins} = \frac{\text{gross or operating profit}}{\text{revenue}} \times 100\%$$

$$\text{ROCE} = \frac{\text{operating profit}}{\text{capital employed}} \times 100\%$$

higher = more profit kept from each sale and from each dollar invested

**liquidity** - can it pay short-term debts?

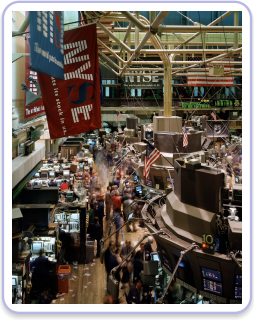
$$\text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

$$\text{acid test} = \frac{\text{current assets} - \text{inventory}}{\text{current liabilities}}$$

about 1.5–2 is usually safe; the acid test is stricter - inventory can be slow to sell

The ratio toolbox: profitability and liquidity at a glance

# Who reads the ratios, and why



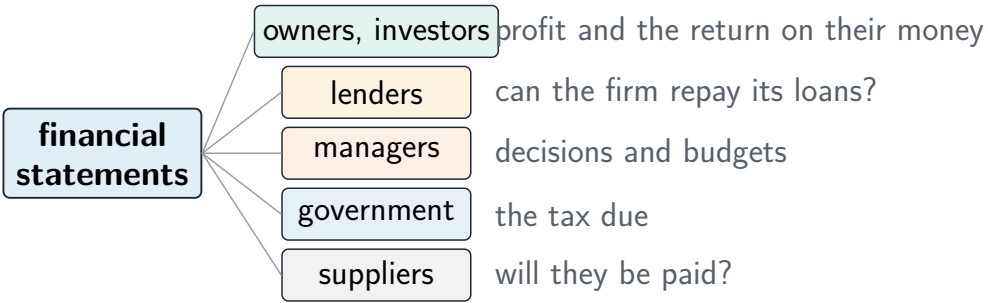
Investors use profitability, liquidity and gearing ratios to judge a firm's financial health

# Three ratios, and the numbers behind them

| | |
|---|---|
| **Operating profit margin** | **Operating profit margin** 营业利润率 $= \dfrac{\text{operating profit}}{\text{revenue}} \times 100$ – profit from trading, before interest and tax. |
| **Return on capital employed** | **Return on capital employed** 资本回报率 (ROCE) $= \dfrac{\text{operating profit}}{\text{capital employed}} \times 100$: the return earned on all the long-term money in the business. |
| **Non-current assets** | **Non-current assets** 非流动资产 are the ones kept over a year – property, machinery, vehicles – and they sit above current assets on the statement of financial position. |

A margin says how profitable each sale is; ROCE says whether the whole investment was worth making. A firm can be good at one and poor at the other.

# How stakeholders use financial statements




Each stakeholder reads the statements for a different reason

# Exam tips

- Calculate and interpret the key ratios – **gross/net profit margin, current ratio, gearing, ROCE** – always against a benchmark or a trend.
- For **investment appraisal** know **payback** (time to recover), **ARR** (average % return) and **NPV** (discounted; a positive NPV means accept).
- A **current ratio** of about 1.5–2 is healthy: too high wastes resources, too low risks liquidity problems.
- State the **limitations of ratios** (historical figures, no qualitative factors) in your evaluation.

# 4 Recap

# Topic 10 – key takeaways

**1 Statements**

income statement & balance sheet

**2 Profitability**

margins & ROCE measure profit

**3 Liquidity**

current & acid test; gearing = borrowing

**4 Appraisal**

payback, ARR, NPV judge projects

# Check yourself

1. Revenue minus cost of sales gives what?
2. Assets equal liabilities plus what?
3. Acid test drops which current asset?
4. A positive NPV means a project does what?

**Answers** **1.** gross profit **2.** equity **3.** inventory **4.** adds value