Exercise walk-through

3.3
Ratio analysis

International Baccalaureate · IB Diploma · Business Management · HL

Profitability and liquidity ratios

- **Ratio analysis** compares numbers from the **final accounts** so that a business can be compared with last year and with its rivals.
- **Profitability ratios** measure profit against sales or against the money invested.
- **Capital employed** is non-current **liabilities** plus **equity**: $160{,}000 + 200{,}000 = 360{,}000$.
- The **return on capital employed** (ROCE) of 25% is far above the roughly 6% interest on the bank loan, so borrowing to invest has paid off.

$$\text{gross profit margin} = \frac{\text{gross profit}}{\text{sales revenue}} \times 100 = \frac{240{,}000}{600{,}000} \times 100 = 40\%$$

Efficiency ratios and gearing (HL)

- **Efficiency ratios** show how well the business manages its stock and its credit.
- Average stock is (opening stock + closing stock) ÷ 2
  $= (18{,}000 + 30{,}000) \div 2 = 24{,}000.$
- or, in days, $\dfrac{24{,}000}{360{,}000} \times 365 = 24.3$ days.
- The business sells and replaces its stock of parts about every 24 days.

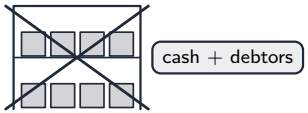
$$\text{stock turnover} = \frac{\text{cost of sales}}{\text{average stock}} = \frac{360{,}000}{24{,}000} = 15 \text{ times a year}$$

Common errors

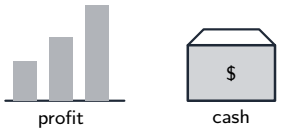
- Treating profit and cash as the same thing; a profitable business can run out of cash if customers pay late or it buys too much stock.
- Calling a loan "revenue" or the purchase of a machine "**revenue expenditure**"; a machine is **capital expenditure**.
- Leaving out the unit or the formula in a ratio answer: write the formula, the numbers and the answer (%, times or days).

Exercises 2.1·2.2

2.1 State the formula for the acid-test ratio, and explain why it leaves out inventories. [2]

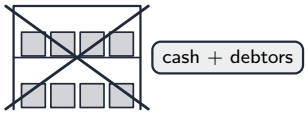


2.2 Distinguish between profitability and liquidity. [2]



Exercises 2.1·2.2

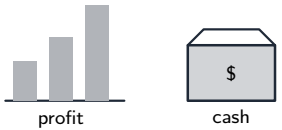
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2.1

(current assets − inventories) ÷ current liabilities; inventories may be hard to sell quickly for cash, so the ratio gives a stricter test of liquidity

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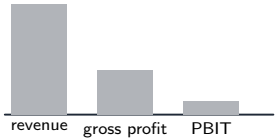


2.2

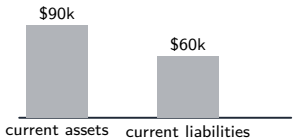
profitability: the ability to make profit from sales or capital; liquidity: the ability to pay short-term debts as they fall due

Exercises 2.3·2.4

2.3 A firm has sales revenue of $400,000, gross profit of $160,000 and profit before interest and tax of $48,000. Calculate its gross profit margin and its profit margin. [4]

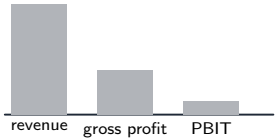


2.4 A shop has current assets of $90,000 and current liabilities of $60,000. Calculate its current ratio and comment on the result. [2]



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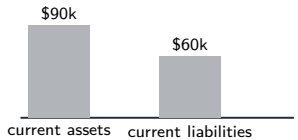
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$160\,000 \div 400\,000 \times 100 = \mathbf{40}\%$; $48\,000 \div 400\,000 \times 100 = \mathbf{12}\%$

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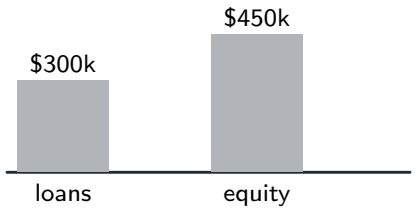
2.4

$90\,000 \div 60\,000 = \mathbf{1.5}$ (or $1.5 : 1$); within the range often seen as healthy: it can cover its short-term debts

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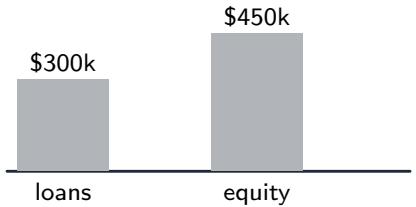
Exercise 2.5

2.5 A firm has non-current liabilities of \$300,000 and equity of \$450,000. Its trade receivables are \$50,000 and its sales revenue is \$365,000. Calculate (a) its gearing ratio and (b) its debtor days. [4]



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(a) capital employed $= 300\,000 + 450\,000 = 750\,000$; gearing $= 300\,000 \div 750\,000 \times 100 =$ **40**%; (b) $50\,000 \div 365\,000 \times 365 =$ **50** days

Exercise 3.1

3.1 Nimbus Accessories sells phone cases and chargers. Its ratios for two years are shown. In year 2 it bought a large amount of stock of a new charger, which has sold slowly.

Using the data, discuss strategies Nimbus could use to improve its profitability and liquidity. [10]

ratio	year 1	year 2
gross profit margin	45%	38%
profit margin	15%	9%
current ratio	1.6	1.1
acid-test ratio	1.0	0.6

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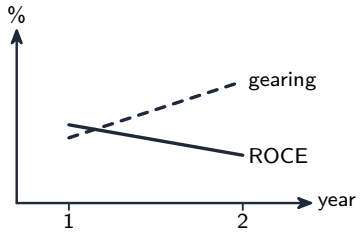
3.1

award up to [10]: profitability fell: gross profit margin 45% to 38% and profit margin 15% to 9%; possible causes: higher supplier costs or price cuts / rising expenses; liquidity fell: current ratio 1.6 to 1.1, acid-test 1.0 to 0.6, the gap shows much cash tied up in stock; strategies: sell slow charger stock at a discount: improves cash, but lowers margins further; negotiate better supplier prices or switch suppliers: improves GPM, but may affect quality; cut expenses (marketing, rent); delay payments to suppliers / collect debts faster; better stock control to avoid over-buying; judgement: liquidity is the urgent problem (acid-test 0.6), so clear the stock first

Exercise 3.2

3.2 Over the same period, Nimbus's ROCE fell from 18% to 11% and its gearing rose from 30% to 55%.

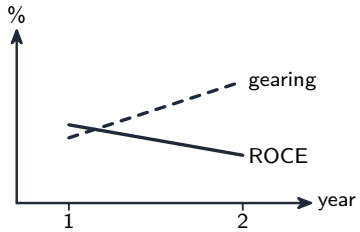
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gearing above 50% means the firm is highly dependent on long-term loans; interest payments are a fixed burden; rising interest rates raise costs; lenders may refuse further loans; shareholders face more risk; falling ROCE means less profit to cover interest; strategy, e.g. issue new shares / use retained profit to repay loans / sell unused assets; evaluated: e.g. new shares lower gearing but dilute ownership and control