CHARTA LEARNING · LESSON NOTES

The income statement

CFA Level I · Financial Statement Analysis

You will learn: Read an income statement line by line, apply revenue and expense recognition, separate recurring from one-off items, calculate basic and diluted earnings per share, and use common-size statements and margins.

Running example: Worked examples follow one made-up company, Kestrel Cycles ($ millions). Year: revenue 2,000, cost of goods sold 1,200, operating expenses 360 (selling and administration 300, depreciation 60), gain 20, interest 60, tax rate 25%, net income 276.

1. The statement from top to bottom

- The income statement reports performance over a period, unlike the balance sheet, which is a photograph of one day. It uses accrual accounting: revenue is counted when earned and costs when they help earn that revenue, so profit and cash flow routinely differ.
- Gross profit (revenue − cost of goods sold, COGS) shows whether the product pays: pricing power and production cost. Operating profit (gross profit − operating expenses) shows how well the business is run before financing and tax, the fairest base for comparing firms that borrow differently.
- Below operating profit sit gains and losses from outside ordinary activities (not revenue), interest (a financing cost) and tax. Net income is what is left for the owners.
- Most exam mistakes are about where an item belongs.

> **Gross profit = revenue − COGS; operating profit = gross profit − operating expenses**

KESTREL CYCLES

Gross profit	2,000 − 1,200	**800**
Operating profit	800 − (300 + 60)	**440**
Profit before tax	440 + 20 gain − 60 interest	**400**
Income from continuing operations	400 − 100 tax at 25%	**300**
Net income	300 − 24 scooter loss, net of tax	**276**

Watch out: Putting gains or interest in the wrong place: a gain on selling equipment is not revenue and interest is not an operating cost; both sit below operating profit.

2. Revenue recognition

- Revenue is recognised when control of a good or service passes to the customer, in the amount the seller expects to receive. IFRS and US GAAP share five steps: identify the contract, identify the promises (performance obligations), set the price, allocate it, recognise revenue as each promise is kept.
- Judgement hides in three places: a contract may hold several promises, a promise kept at one moment is recognised then and an ongoing one over time, and variable prices (rebates, returns) must be estimated. Optimistic estimates pull revenue forward.
- One price for several promises is shared in proportion to standalone prices; a bundle discount is spread across every item.

Allocated price = transaction price × standalone price ÷ total of standalone prices

BIKE ($900 ALONE) PLUS TWO YEAR PLAN ($300 ALONE), SOLD ON 1 JULY FOR $1,000

Bike share	1,000 × 900 ÷ 1,200	**$750**
Plan share	1,000 × 300 ÷ 1,200	**$250**
Plan earned in 6 months	250 × 6 ÷ 24	**$62.50**
Year one revenue	750 + 62.50	**$812.50**
Still owed as service (liability)	250 − 62.50	**$187.50**
Dealer order $200,000, 5% returns expected	200,000 − 10,000	**$190,000 revenue; $10,000 refund liability**
If 8% returns were used	92% × 200,000	**$184,000**

Watch out: Recognising revenue when cash arrives or the contract is signed.

3. Expense recognition and estimates

- Matching: an expense is recognised in the same period as the revenue it helped earn, so COGS follows sales, not purchases. Costs with no link to revenue are expensed as incurred. Costs that benefit many years are capitalised (recorded as an asset) and spread by depreciation, or amortisation for intangibles.
- Straight line depreciation needs a salvage value and a useful life. Both are estimates: a longer life or higher salvage value gives a smaller yearly charge and a higher profit.
- Defensible choices shift profit between periods without fraud, so compare a company's choices with its peers.
- IFRS and US GAAP: revenue recognition is the same; research costs are expensed under both; development costs are capitalised under IFRS once feasible but generally expensed under US GAAP; an inventory write-down (to lower of cost and net realisable value) may be reversed under IFRS only, up to original cost.

Annual depreciation = (cost − salvage value) ÷ useful life

MACHINE OF $500M, 5 YEAR LIFE, NO SALVAGE VALUE

Expensed at once, year one	all cost now	**−$500m**
Capitalised: yearly charge	500 ÷ 5	**$100m**
Machine on books at year end	500 − 100	**$400m**
8 year life instead	500 ÷ 8	**$62.5m a year**
Doubtful accounts 3% vs 5% of 400	12 vs 20	**lift of $8m**
Total profit lift	37.5 + 8 = 45.5; 45.5 ÷ 440	**10.3% of operating profit**

4. One-off items and accounting changes

- Investors forecast, so separate what will recur from what will not. A discontinued operation (sold or shut down) is shown on its own line below continuing operations, net of tax, and past years are restated. Unusual or infrequent items stay in continuing operations but must be disclosed.
- A change in accounting principle (a different method, such as FIFO to weighted average) is applied retrospectively: past years are restated. A correction of an error is also restated. A change in estimate applies from now on only. IFRS and US GAAP agree.
- Ask what will actually recur, whatever the label. A charge that returns most years is a normal cost of business and stays in.

SCOOTER DIVISION AND RECURRING INCOME

Scooter loss net of tax	32 − (25% × 32)	**−$24m**
Net income	300 − 24	**$276m**
Estimate change: machine 500, 5 years, after 2 years	book value 300 ÷ 6 more years	**$50m a year from now on**
Remove one-off gain	400 − 20	**$380m**
Restructuring $30m booked in 5 of last 6 years	recurs, so no add-back	**stays in**
Recurring income	380 − 95 tax	**$285m (add-back would show $307.5m)**

Watch out: Confusing a change in principle (restate) with a change in estimate (from now on); trusting the label non-recurring.

5. Earnings per share

- Preferred shareholders are paid first, so income to common is net income minus preferred dividends. Basic EPS divides it by weighted average common shares, each batch counted for the part of the year it existed. A stock split is applied to the whole year and prior years.
- Diluted EPS assumes securities that could become shares do so. Convertible bonds: add back after-tax interest and the new shares. Convertible preferred: add back the dividend and the new shares. Options (treasury stock method): net new shares = options × (1 − exercise price ÷ average price).
- Include a security only if it lowers EPS; one that would raise it is antidilutive and left out. A big gap between basic and diluted EPS is a warning.

> **Basic EPS = (net income − preferred dividends) ÷ weighted average shares**

KESTREL EPS (NET INCOME 276, PREFERRED DIVIDENDS 30)

Weighted average shares	100 + 24 × 6/12	**112m**
Basic EPS	(276 − 30) ÷ 112	**$2.20**
Options: 10m at $20, price $25	10 − 10 × 20 ÷ 25	**2m shares, dilute**
Convertible bonds	after-tax interest 6 ÷ 4m shares	**$1.50, dilute**
Convertible preferred	30 ÷ 12m shares	**$2.50, above 2.20: excluded**
Diluted EPS	(246 + 6) ÷ (112 + 2 + 4)	**$2.14**

6. Common-size statements and margins

- A common-size income statement shows every line as a percentage of revenue, removing the effect of size. Read across years to see where margin is won or lost, and across peers to see whether the cost structure differs.
- Gross margin reflects pricing power and production cost. Operating margin reflects efficiency before financing and tax. Net margin is after everything, so it mixes operating performance with financing and tax, and is the weakest for judging how well the business is run.
- The gap between margin levels shows where a difference arises: production, overhead, or financing and tax.

> **Margin = profit measure ÷ revenue (gross profit, operating profit or net income)**

KESTREL AGAINST LAST YEAR AND AGAINST RIDGEBACK (REVENUE 500, NO DEBT)

Margins this year	800, 440, 276 ÷ 2,000	**40.0%, 22.0%, 13.8%**
Last year (revenue 1,800)	opex 270 ÷ 1,800	**15.0% vs 18.0% now**
Operating margin	last year 25.0%	**22.0% now**
Ridgeback gross margin	225 ÷ 500	**45.0%**
Ridgeback operating margin	100 ÷ 500	**20.0%**
Ridgeback net margin	75 ÷ 500	**15.0%**

Key takeaways

- The statement is a waterfall: revenue, gross profit, operating profit, net income.
- Revenue is recognised when control passes (five steps); costs are matched to that revenue.
- Estimates such as asset lives and bad debt allowances move profit, so compare choices with peers.
- Principle changes and errors are restated; estimate changes apply from now on; ask what will really recur.
- Basic EPS uses time-weighted shares; diluted EPS includes only securities that lower EPS.
- Common-size margins show whether a difference comes from production, overhead, or financing and tax.

Quick check

1. Revenue 500, COGS 300, operating expenses 100. Gross and operating margins?
   Answer: Gross 200 ÷ 500 = 40%. Operating 100 ÷ 500 = 20%.
2. Net income 90, preferred dividends 10, weighted average shares 40. Basic EPS?
   Answer: (90 − 10) ÷ 40 = $2.00.
3. 6 options, exercise price $10, average price $15. Net new shares?
   Answer: 6 × (1 − 10 ÷ 15) = 2 shares.