CHARTA LEARNING · LESSON NOTES

Long-term assets

CFA Level I · Financial Statement Analysis

You will learn: Explain capitalising versus expensing, compare depreciation methods and estimates, account for intangibles and goodwill, measure impairment, apply the revaluation model, and work out gains and losses on disposal.

Running example: Worked examples follow one made-up steel parts maker, Northgate Fabrication (dollars, tax ignored). Before any new spending it earns $400,000 a year.

1. Capitalising or expensing

- To capitalise is to record a cost as an asset and release it to the income statement over the years it helps (depreciation for physical assets, amortisation otherwise). To expense is to charge it at once. Benefits beyond this year: capitalise. Used up now, such as routine repairs: expense.
- Capitalising never creates profit: it moves profit from later years to earlier ones, and total profit over the asset's life is the same. Early profit, assets, equity and operating cash flow are higher; capitalised spending appears in investing cash flow, which flatters operating cash flow.
- Capitalised: purchase price plus delivery and set-up, upgrades adding capacity or life, interest on a qualifying long project (IFRS and US GAAP). Research is expensed under both. Development is capitalised under IFRS once strict tests are met; US GAAP generally expenses it.

PACKAGING LINE: $240,000, 4 YEARS, NO RESIDUAL

Year one profit if expensed	400,000 − 240,000	**160,000**
Year one profit if capitalised	400,000 − 60,000	**340,000**
Asset left on the books	240,000 − 60,000	**180,000**
Operating cash flow: expensed / capitalised		**160,000 / 400,000 (investing −240,000)**
Return on opening equity 1,000,000	160,000 or 340,000 ÷ 1,000,000	**16% / 34%**
Liabilities ÷ equity (liabilities 500,000)	500,000 ÷ 1,160,000 / 1,340,000	**0.43 / 0.37**

Watch out: Thinking capitalising creates profit.

2. Depreciation methods and estimates

- Depreciation spreads cost less residual value over useful life: an allocation of cost, not market value. Management chooses a method, a useful life and a residual value. Land is not depreciated. Under IFRS each major part with a different life is depreciated separately; US GAAP allows it too.
- Straight line: the same charge each year. Double declining balance (accelerated): rate 2 ÷ life applied to the opening carrying amount, with residual not subtracted, but never depreciating below residual. Units of production ties the charge to output.
- A change in estimate applies from now on, not by restating past years. A longer life or higher residual lifts profit with no change in the real world.

Straight line = (cost − residual) ÷ life; double declining = (2 ÷ life) × opening carrying amount; units = (cost − residual) ÷ total units × units made

PRESS: COST 300,000, RESIDUAL 30,000, 5 YEARS, 900,000 PARTS

Straight line, each year	(300,000 − 30,000) ÷ 5	**54,000**
Units, year 1 (150,000 parts)	150,000 × 0.30	**45,000**
Double declining, years 1 to 4	40% of opening carrying amount	**120,000; 72,000; 43,200; 25,920**
Double declining, year 5 (capped at residual)		**8,880**
Life extended to 8 years after 2 years	(192,000 − 30,000) ÷ 6	**27,000 a year (was 54,000)**

Watch out: Using cost, not cost minus residual, in straight line; applying the declining rate to cost minus residual.

3. Judging a company's depreciation

- Approximate the asset ages from the statements (they ignore residuals and new purchases, but allow comparison). Accumulated depreciation ÷ depreciation expense gives average age; net PP&E ÷ expense gives remaining life; gross PP&E ÷ expense gives total useful life assumed.
- A much longer total life than similar companies warns that depreciation may be too low and profit too high.

> **Average age = accumulated depreciation ÷ expense; remaining life = net PP&E ÷ expense; total life = gross PP&E ÷ expense**

NORTHGATE PP&E: COST 2,000,000, ACCUMULATED DEPRECIATION 800,000, EXPENSE 160,000

Average age	800,000 ÷ 160,000	**5.0 years**
Remaining life	1,200,000 ÷ 160,000	**7.5 years**
Total life	2,000,000 ÷ 160,000	**12.5 years**
Rival's total life (expense 250,000)	2,000,000 ÷ 250,000	**8.0 years**
Profit gap if matched	250,000 − 160,000	**90,000**

4. Intangibles and goodwill

- Intangibles are valuable things you cannot touch: customer lists, brands, patents, licences. Finite life ones are amortised. Indefinite life ones (a brand with no foreseeable end) and goodwill are not amortised; they stay at cost and are tested for impairment at least once a year. Both standards agree.
- Goodwill is the price paid above identifiable net assets (identified assets at fair value, including nameable intangibles, less liabilities). It is recorded only when one company buys another. Home grown brands are generally not recorded at all.

> **Goodwill = price paid − identifiable net assets at fair value**

NORTHGATE BUYS DELTA PARTS FOR $440,000

Identifiable net assets	300,000 + 60,000 customer list − 40,000	**320,000**
Goodwill	440,000 − 320,000	**120,000**
Customer list amortisation (6 years)	60,000 ÷ 6	**10,000 a year**
List after 2 years	60,000 − 2 × 10,000	**40,000**
Goodwill after 2 years	no amortisation	**120,000**

5. Impairment

- Accounting does not let an asset sit above what it can earn. When the carrying amount is not recoverable, the asset is written down through the income statement. It is non-cash but real information: a large goodwill loss mostly says the price paid in a past acquisition was too high.
- IFRS: impaired if carrying amount exceeds recoverable amount, the higher of fair value less costs of disposal and value in use (present value of future cash flows). US GAAP: first check carrying amount against undiscounted cash flows; only if higher, loss = carrying − fair value.
- Goodwill impairments are never reversed. Other impairments can be reversed under IFRS (up to what depreciated cost would have been), not under US GAAP. A write-down lowers future depreciation, lifting later profit. Goodwill loss is charged to goodwill first.

IFRS loss = carrying − recoverable; US GAAP loss = carrying − fair value (if undiscounted cash flows are below carrying)

PRESS AFTER 2 YEARS (CARRYING 192,000) AND DELTA GOODWILL

Fair value less costs of disposal	130,000 − 10,000	**120,000**
Value in use; recoverable amount	higher of the two	**150,000**
IFRS loss; new yearly depreciation	192,000 − 150,000; (150,000 − 30,000) ÷ 3	**42,000; 40,000**
US GAAP (undiscounted cash 170,000)	192,000 − 130,000	**62,000**
Delta unit: loss	450,000 − 380,000	**70,000 (goodwill 120,000 to 50,000)**
Liabilities ÷ equity after	400,000 ÷ 530,000 (was 0.67)	**0.75**

Watch out: Believing an impairment of goodwill can be reversed.

6. Revaluation and disposal

- Cost model: original cost less depreciation. Revaluation model (IFRS only) carries fair value, kept up to date, for the whole class of assets. An increase goes to OCI as revaluation surplus, unless it reverses an earlier loss in income. A decrease goes to income after being set against any surplus.
- Revaluing upward raises assets and equity, so ROA and ROE fall; depreciation rises, so profit falls. The surplus is equity, not profit and not cash. Compare IFRS and US GAAP firms with care.
- On disposal, depreciate to the date, remove cost and accumulated depreciation, and compare proceeds with carrying amount. The gain or loss goes to income; proceeds appear in investing cash flow, and the indirect method removes the gain from operating profit.

Gain or loss = proceeds − carrying amount (cost − accumulated depreciation)

BUILDING AND TRUCK

Building (cost 800,000, 20 years): carrying year 5	800,000 − 5 × 40,000	**600,000**
Revalued to 780,000: surplus in OCI	780,000 − 600,000	**180,000**
New depreciation	780,000 ÷ 15	**52,000 (was 40,000)**
Year 10: carrying 520,000, fair value 300,000	decrease 220,000	**180,000 to OCI; 40,000 to income**
Truck (cost 90,000, 6 years): carrying after 4	90,000 − 60,000	**30,000**
Sold for 35,000 / 24,000 / scrapped	against 30,000	**gain 5,000 / loss 6,000 / loss 30,000**

Key takeaways

- Capitalising moves profit in time and never adds it; it flatters early profit and operating cash flow.
- Straight line is (cost − residual) ÷ life; double declining uses the opening carrying amount; estimate changes apply from now on.
- Total life, average age and remaining life come from gross PP&E, accumulated depreciation and net PP&E over depreciation expense.
- Goodwill = price paid − identifiable net assets; it is tested, not amortised, and never reversed.
- Impairment: IFRS carrying − recoverable; US GAAP recoverability test then carrying − fair value.
- Revaluation is IFRS only and goes to OCI surplus; gain or loss on disposal = proceeds − carrying amount.

Quick check

1. Cost 120,000, 4-year life, no residual. Year 1 profit gain from capitalising?
   Answer: Expense 120,000 − charge 30,000 = 90,000 higher.
2. Cost 100,000, residual 10,000, life 5. Year 1 double declining?
   Answer: (2 ÷ 5) × 100,000 = 40,000.
3. IFRS revaluation increase, no earlier loss. Where is it recorded?
   Answer: OCI, in the revaluation surplus.

Summary notes for the Charta whiteboard lesson. Examples use made-up figures. Watch the full lesson at charta-learning.com.