

LM07 · FINANCIAL STATEMENT ANALYSIS · CFA LEVEL I

Analysis of Long-Term Assets

Capitalize vs. expense, depreciation & amortization, impairment, revaluation, and derecognition of long-lived tangible and intangible assets

What This Reading Covers

Long-lived assets deliver benefits over more than one reporting period. This reading walks the asset's full life: **acquisition** (capitalize vs. expense; purchase, construction, exchange), **allocation** (depreciation for tangibles / amortization for intangibles), **remeasurement** (impairment and IFRS revaluation), and **derecognition** (sale, abandonment, exchange, spin-off). Mastering the accounting effects on the three statements and key ratios is the exam payoff.

Learning Outcome Statements

- LOS a** Describe the different depreciation methods for PP&E and calculate depreciation expense
- LOS b** Describe how the choice of depreciation method and assumptions about useful life and residual value affect depreciation expense, financial statements, and ratios
- LOS c** Explain and evaluate how impairment, revaluation, and derecognition of PP&E and intangible assets affect financial statements and ratios
- LOS d** Describe the different amortization methods for intangible assets with finite lives and calculate amortization expense
- LOS e** Describe how the choice of amortization method and assumptions about useful life and residual value affect amortization expense, financial statements, and ratios
- LOS f** Describe the revaluation model
- LOS g** Compare the financial reporting of investment property with that of PP&E

Exam Tip: IFRS allows **revaluation** and **reversal of impairment** (both prohibited under US GAAP for PP&E held-for-use). IFRS **requires component depreciation**; US GAAP permits but rarely uses it. These IFRS/US GAAP contrasts are heavily tested.

LOS B, C · CAPITALIZATION DECISION

Capitalize or Expense? The First Decision

The rule: An expenditure is **capitalized** (placed on the balance sheet as an asset) if it is expected to provide economic benefits **beyond one year**. It is **expensed** (flushed through the income statement today) if the benefits are uncertain or confined to the current period.

Acquisition Accounting for PP&E and Intangibles

ACQUISITION PATH	RECORDED AT
Purchase (tangible or intangible)	Cost, plus all expenses necessary to get the asset ready for its intended use
Exchange	Fair value of asset given up (unless FV of asset acquired is more clearly evident); if no reliable FV, carrying amount of asset given up
Construction for use	All construction costs + borrowing (interest) costs during construction → PP&E, then depreciated
Construction for sale	All construction costs + borrowing costs → Inventory, then COGS when sold
Subsequent expenditures	Capitalized if they are expected to provide benefits beyond one year; otherwise expensed

Financial-Statement Effects — Capitalize vs. Expense

MIRROR-IMAGE EFFECTS OF THE CHOICE (SAME \$ ON QUALIFYING OUTLAY)

	CAPITALIZE	EXPENSE
Non-current assets	Higher (asset added)	Lower
Current-period Net Income	HIGHER (no big expense hit — only depreciation later)	LOWER (full expense today)
Retained earnings / Equity	Higher	Lower
Net Income variability	LOWER (expense spread over life)	HIGHER (lumpy expense)

Profitability ratios (early years)	Higher ROA, ROE, margins	Lower
Profitability ratios (later years)	Lower (depreciation still running)	Higher (no further expense)
CFO	HIGHER (outflow sits in CFI)	Lower (full outflow hits operating)
CFI	Lower (capex outflow here)	Same/higher (no outflow here)
Total cash flows	Identical — only classification differs	
Debt / Equity, Debt ratio	Lower (larger equity & asset base)	Higher

Why this matters to an analyst

Capitalizing is viewed as the more **aggressive** accounting choice because it defers expense recognition. Expensing is more conservative. Always compare peer companies' capitalization policies before comparing margins and ROA.

Capitalizing Interest During Construction

When a firm **constructs an asset for its own use** (or, in limited circumstances, for resale), the interest that accrues during the construction period is **capitalized as part of the asset's cost**. Once construction is complete the capitalized interest moves to the income statement through:

- **Depreciation expense** if the asset is held for use
- **COGS** if the asset is held for sale

The capitalized interest appears in the cash flow statement as an outflow from **investing activities** (CFI) — not the usual CFO (US GAAP) or CFO/CFF (IFRS) classification for interest paid. Under IFRS only, any interest *earned* on temporarily invested borrowed funds reduces the borrowing cost.

Exam Tip: Capitalized interest inflates operating cash flow relative to a firm that has to expense interest — an analyst comparing two firms with different capex intensity should reclassify capitalized interest back to CFO when stripping out this distortion.

LOS D, E · INTANGIBLE ASSETS & GOODWILL

Intangible Assets — Three Buckets

HOW AN INTANGIBLE ASSET GETS ONTO THE BALANCE SHEET

1. PURCHASED

Patents · copyrights
Trademarks · franchises
Licenses · customer lists

*Capitalized at COST (FV
if business combination)*

Finite life → amortize

2. INTERNALLY CREATED

Research & Development
IFRS: Research EXPENSED
Development may be
CAPITALIZED (6 criteria)

*US GAAP: R AND D both
expensed (software excepted)*

3. GOODWILL

Business combinations
ONLY (not internal)

*= Price paid – FV of
identifiable net assets*

Not amortized ·
Annual impairment test

IFRS Criteria for Capitalizing Development Costs

IFRS requires firms to capitalize development costs **only** once *all* of the following are established:

- 1 The process is clearly defined
- 2 Costs can be clearly identified
- 3 Technical feasibility has been established
- 4 The firm intends to produce the product
- 5 The market has been clearly defined
- 6 The firm has resources to complete the project

Software — The US GAAP Exception

SOFTWARE TYPE	TREATMENT (US GAAP)
Software for sale to others	Expensed until <i>technological feasibility</i> is established; after that, development costs are capitalized (mirrors IFRS development-cost treatment)
Software for internal use	Expensed until it is probable that the firm will complete the project and use the software as intended; subsequent costs capitalized

Always Expensed — Never On the Balance Sheet

Under both frameworks, these costs are **always expensed as incurred**:

· Start-up and training costs · Administrative overheads · Advertising and promotion · Relocation and reorganization · Termination costs

Goodwill — The Rules

$$\text{Goodwill} = \text{Purchase Price} - \text{Fair Value of Identifiable Net Assets Acquired}$$

Source	Business combinations ONLY. Internally generated "goodwill" is expensed.
Amortization	Not amortized (unidentifiable, indefinite-lived)
Impairment	Tested at least annually
Accounting vs. economic	Accounting goodwill reflects past acquisitions; economic goodwill reflects expected future performance — they are not the same.
Analyst adjustment	For comparability, analysts often strip goodwill from the balance sheet and goodwill impairment from the income statement. Allocating more of a purchase price to goodwill (less to identifiable assets) lowers future D&A and inflates NI — a warning sign.

Exam Tip: Intangibles with **finite** lives are amortized and tested for impairment (like PP&E). Intangibles with **indefinite** lives — including goodwill — are *not* amortized but *must* be tested for impairment at least annually.

LOS A, B · DEPRECIATION METHODS & FORMULAS

Allocating Cost Over Useful Life

Under the **cost model** (required by US GAAP for PP&E and available under IFRS), the capitalized cost of a long-lived asset is allocated to later periods:

$$\text{Carrying(book) value} = \text{Historical cost} - \text{Accumulated depreciation/amortization} - \text{An}$$

Three **assumptions & estimates** are required: (1) depreciation method, (2) useful life, (3) salvage (residual) value. IFRS requires an **annual review** of these estimates.

Method 1 — Straight-Line (SL)

Cost is allocated evenly over the useful life.

$$\text{Annual Dep.} = (\text{Original Cost} - \text{Salvage Value}) / \text{Useful Life}$$

Method 2 — Accelerated (Double-Declining Balance)

Depreciation is *greater in earlier years*. The most common accelerated method is DDB:

$$\text{Annual Dep.} = (2 / \text{Useful Life}) \times \text{Beginning Carrying Amount}$$

Example of the 2/life rate: a 10-year asset would get 10%/year under SL → DDB uses $2 \times 10\% = 20\%$ applied to the beginning book value. Salvage value is *ignored* in the calculation — but the asset is **not depreciated below salvage**.

Method 3 — Units-of-Production (UOP)

Based on the proportion of production during a period versus total productive capacity over useful life.

$$\text{Dep. Exp.} = (\text{Cost} - \text{Salvage}) \times (\text{Period Production} / \text{Total Capacity})$$

WORKED EXAMPLE

Depreciation on a \$100,000 Machine — Three Methods

GIVEN

Cost = 100,000 · *Salvage value* = 10,000 · Useful life = 5 years · Expected output = 90,000 units over life, with 24,000 units produced in Year 1.

FIND

Year 1 depreciation expense under (a) Straight-line, (b) Double-declining balance, (c) Units-of-production.

SOLUTION

1

Straight-line.

$$(100,000 - 10,000) / 5 = 90,000 / 5 = \$18,000 \text{ per year}$$

2

Double-declining balance (Year 1). DDB rate = $2/5 = 40\%$.

$$40\% \times 100,000 = \$40,000 \text{ (salvage ignored in Y1 calc)}$$

Year 2 would be $40\% \times (100,000 - 40,000) = 24,000$, and soon—the book value is not allowed to go below the 10,000 salvage floor.

3

Units-of-production (Year 1).

$$(100,000 - 10,000) \times (24,000 / 90,000) = 90,000 \times 0.2667 = \$24,000$$

ANSWER (YEAR 1 EXPENSE)

Straight-line	\$18,000
DDB (2× SL rate)	\$40,000
Units-of-production	\$24,000

◆ TAKEAWAY

In Year 1, an accelerated method (DDB) produces the **largest** expense — therefore the **lowest** early-year NI, ROA, and ROE. In later years, the accelerated method delivers lower expense and higher NI. Over the whole life, total depreciation (Cost – Salvage) is identical across all methods — only the *timing* differs.

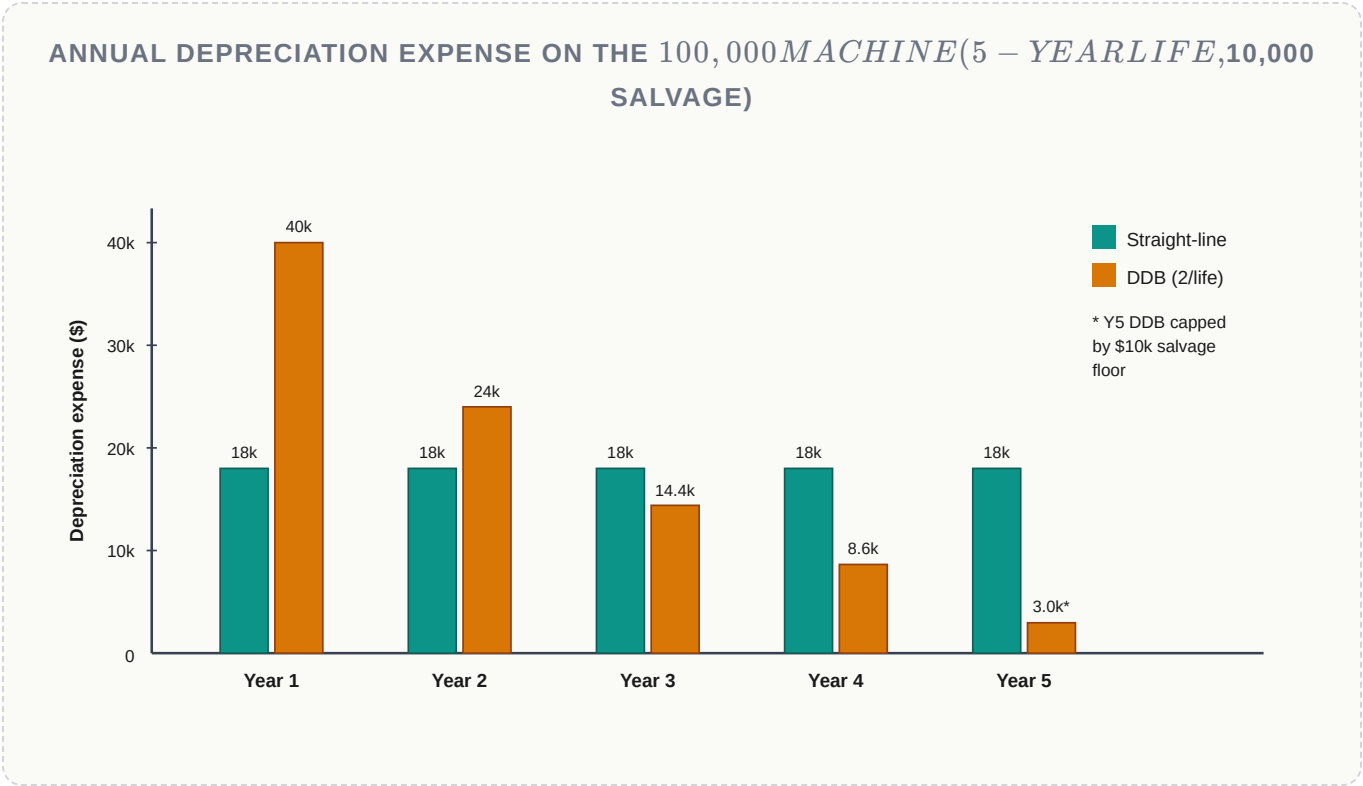
Exam Tip: Compared to straight-line, an **accelerated method** increases expense and decreases NI in early years and then reverses — lower expense and higher NI in later years.

Component Depreciation

IFRS requires component depreciation whenever a component's cost is *significant* in relation to the total cost and/or when components have *different useful lives*. **US GAAP allows** component depreciation but it is rarely used. Example: for a jetliner, separately depreciate the airframe, engines, and interior fit-out over their respective useful lives.

LOS B · DEPRECIATION METHOD IMPACT

Straight-Line vs. Double-Declining Balance — Visual



Reading the chart. DDB front-loads expense into years 1–2, crosses below SL around year 3, then falls to a small tail (capped by the salvage floor). **Total lifetime depreciation is identical:** Cost – Salvage = \$90,000 under both methods.

Assumption Effects on the Income Statement

CHANGE	EFFECT ON DEPRECIATION EXPENSE	EFFECT ON EARLY-YEAR NET INCOME
Longer useful life	Lower	Higher
Shorter useful life	Higher	Lower
Higher salvage value	Lower	Higher
Lower salvage value	Higher	Lower
Switch SL → accelerated	Higher (early years)	Lower (early years)

Exam Tip: Depreciation methods, useful lives, or salvage values out of line with industry peers are a **warning sign** of earnings manipulation — a longer life or higher salvage reduces expense and inflates NI.

Tax vs. Book Depreciation

In some countries the depreciation method must be the same for tax and financial reporting. In most major jurisdictions, companies use **accelerated depreciation for tax** and **straight-line for financial reporting** — the timing difference creates **deferred tax liabilities**.

LOS D, E · AMORTIZATION OF INTANGIBLES

Amortization — Same Mechanics, Different Asset Class

Amortization applies to **finite-lived intangible assets**: acquired customer lists, patents and copyrights with fixed expirations, licenses with fixed expirations and no right to renew, and similar items. The **acceptable methods are the same as for tangible assets** — SL, accelerated, or units-of-production — and you need the same four inputs: method, original cost, useful life, salvage value.

Which Intangibles Are Amortized?

FINITE-LIVED → AMORTIZE

Acquired patent with a specific expiration · Acquired customer list with a known decay period · Acquired license with a fixed term and no renewal right · Acquired copyrights with finite economic life.

Also test for impairment when indicators exist — same treatment as PP&E.

INDEFINITE-LIVED → DO NOT AMORTIZE

Goodwill · Trademarks that can be renewed at minimal cost · Broadcast licenses with perpetual renewal.

Must be tested annually for impairment (at a minimum) — the only write-down path.

Impact of Amortization Choices on Financials

CHOICE / ESTIMATE	EFFECT ON CURRENT-YEAR AMORTIZATION	EFFECT ON CURRENT-YEAR NI
Shorter useful life	Higher	Lower
Longer useful life	Lower	Higher
Lower salvage value	Higher	Lower
Higher salvage value	Lower	Higher
Accelerated method vs. SL	Higher (early)	Lower (early)

Exam Tip: Because goodwill is **not amortized**, managers can inflate current-period NI by allocating more of an acquisition price to goodwill (less to identifiable, amortizable intangibles). This produces lower future amortization and higher reported earnings.

QUIZ 1 · CHECKPOINT

Capitalize vs. Expense, Intangibles & Depreciation Methods

Q1. A firm that capitalizes a \$2 million expenditure rather than expensing it will most likely report, in the year of the outlay:

Q2. Under IFRS, internally developed intangible assets are:

Q3. A 200,000 asset has a 10-year useful life and 20,000 salvage value. Under the double-declining balance method, Year 2 depreciation expense is closest to:

Q4. Goodwill is *most accurately* described as:

Q5. Compared with straight-line depreciation, an accelerated method will result in, in the early years of an asset's life:

LOS C, F • THE REVALUATION MODEL (IFRS)

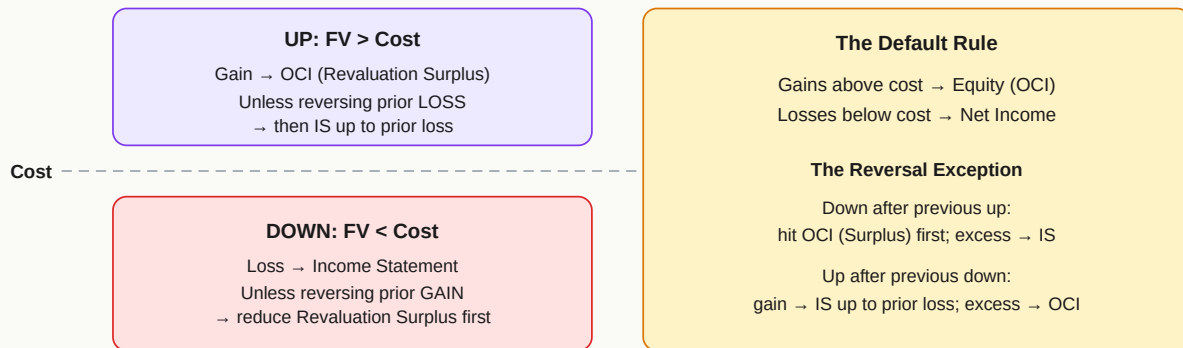
Revaluation Model — IFRS Only

Under **IFRS** (only), a firm can choose the revaluation model: carry assets at **fair value** instead of depreciated cost. Under US GAAP, revaluation is **prohibited for PP&E** (except investment property measured under the fair value model). Rules:

- Can only be used if FV can be measured reliably
- Can be applied to some classes of assets and the cost model to others — but **must be applied to all assets within a class**
- Carrying amount = FV at revaluation date less subsequent depreciation / amortization
- Rarely used in practice

The Two-Rule Revaluation Framework

WHERE A REVALUATION CHANGE LANDS — OCI (REVALUATION SURPLUS) VS. THE INCOME STATEMENT



Detailed Accounting for Revaluation Changes

SCENARIO	WHERE IT FLOWS
Revaluation ABOVE cost (no prior loss)	Gain to OCI ; adds to Revaluation Surplus account in Equity
Revaluation ABOVE cost, reversing a prior loss on the same asset	Gain to Income Statement up to the amount of the prior loss; any excess to OCI (Revaluation Surplus)

Revaluation BELOW cost (no prior gain)Loss to **Income Statement****Revaluation BELOW cost**, reversing a prior gainReduce **Revaluation Surplus** in Equity first; any excess (below cost) to IS**EXAMPLE****Revaluation Above Cost** **GIVEN**

Land purchased three years ago for €5,000,000. Current fair value = €6,200,000. Firm adopts revaluation model for land class. No prior impairment or revaluation on this asset.

? FIND

How the €1,200,000 increase is recognized.

→ SOLUTION**1**

Compare FV to historical cost: FV (€6.2m) exceeds cost (€5.0m) by €1.2m.

2

No prior loss on this asset, so default rule applies: the full €1.2m revaluation gain flows to **OCI (Revaluation Surplus)**, not to the income statement.

✓ ANSWER**Gain to OCI (Equity)****€1,200,000****Gain to Income Statement****€0****◆ TAKEAWAY**

If the same asset were *later* revalued **down** below €6.2m, the firm would first debit Revaluation Surplus in Equity (reversing the prior gain) before any excess hit the income statement.

Ratio & Financial-Statement Effects of Revaluation

Upward revaluation (above cost)

Increases assets and equity → **lowers** the leverage (debt/equity) ratio. Typically signals increased operating capacity or cash-flow potential. ROA and ROE are *lower* in the revaluation year because the denominator (assets or equity) grows.

Downward revaluation (below cost)

Loss to IS reduces profitability: ROA and ROE fall in the revaluation year. In subsequent years, the lower asset/equity base **boosts** ROA and ROE.

Exam Tip: Remember the mirror rule: upward revaluation defaults to **OCI**, downward to the **IS**. Reversals flip the default by flowing to wherever the opposite move originally hit.

LOS C · IMPAIRMENT OF LONG-LIVED ASSETS

Impairment — Unanticipated Decline in Value

Impairment is an unanticipated decline in the fair value of an asset to below its carrying amount. Both IFRS and US GAAP require a **write-down**. Only IFRS permits **reversal** of impairment for held-for-use assets.

Trigger: assessed each reporting period for indicators. Positive indication → measure recoverable amount. **No indication** → **no test**. Intangible assets with indefinite life (including goodwill) **must** be tested annually regardless of indicators.

Two Standards — Side by Side

	IFRS (ONE-STEP)	US GAAP (TWO-STEP)
Test	Carrying value > Recoverable amount → impaired	Step 1: Carrying value > undiscounted future cash flows → impaired
Measurement	Loss = CV – Recoverable amount	Step 2: Loss = CV – Fair Value (or discounted future CF if FV unknown)
Recoverable amount	HIGHER of (FV less costs to sell) and (Value-in-Use = PV of expected future CF)	N/A — use FV
Reversal (held-for-use)	Allowed, but limited to the original impairment charge (cannot exceed historical cost)	NOT permitted
Reversal (held-for-sale)	Allowed	Allowed (exception)

EXAMPLE — IFRS

Impairment Loss — XYZ Manufacturing Equipment

GIVEN

Fair value	\$160,000
Costs to sell	\$8,000

Value in use	\$140,000
Net carrying amount	\$190,000

? FIND

Impairment loss under IFRS.

→ SOLUTION

- 1 Compute FV less costs to sell.

$$160,000 - 8,000 = \$152,000$$

- 2 Recoverable amount = max(FV – costs to sell, Value-in-use).

$$\max(152,000, 140,000) = \$152,000$$

- 3 Compare carrying amount to recoverable.

$$190,000 > 152,000 \rightarrow \text{IMPAIRED}$$

- 4 Impairment loss = CV – recoverable.

$$190,000 - 152,000 = \$38,000$$

✓ ANSWER

\$38,000 impairment loss

Recognized in the income statement. Asset carrying amount reduced on the balance sheet from 190,000 to 152,000.

No effect on cash flow (non-cash charge).

Financial-Statement Effects of Impairment

Period of impairment

- Asset value **written down**
- Income **lower** due to impairment expense
- Profitability ratios (ROA, ROE, margins) **lower**
- Activity ratios (Sales/Assets) **higher**
- Cash flows **not impacted** (non-cash charge)
- Equity, deferred tax, and fixed assets all lower

Subsequent periods

- Lower depreciation base → **reduced** depreciation expense
- Net income **higher**
- Profitability ratios (ROA, ROE) **higher**
- Activity ratios **lower** (denominator rises toward next turnover cycle)

Intangibles & Held-for-Sale

Intangibles with finite life — same impairment treatment as PP&E. **Intangibles with indefinite life** (including goodwill) — **tested annually** for impairment (no indicator trigger required). **Long-lived assets held-for-sale** — if intent is to sell and a sale is highly probable, the asset is reclassified, tested for impairment on reclassification, and no longer depreciated. Held at lower of cost or (FV less selling costs).

LOS C · DERECOGNITION

Derecognition — Getting Assets Off the Balance Sheet

An asset is **derecognized** (removed from financial statements) when it is disposed of or is no longer expected to provide future benefits. Four paths:

1. Sale

$$\text{Gain/Loss on disposal} = \text{Sale Proceeds} - \text{Carrying Value}$$

Carrying value = Original cost – Accumulated depreciation – Any impairment charges. The gain/loss lands on the income statement (often in "other gains and losses" or separately if material). If the firm uses the indirect cash-flow method, **the gain/loss is removed from net income** when computing CFO because the **full proceeds** are reported in CFI.

2. Abandonment

Treatment is similar to a sale except there are **no proceeds**. The entire carrying value of the asset is removed from the balance sheet, and a **loss equal to that amount** is recognized on the income statement.

3. Exchange

Gain or loss is computed by comparing the **carrying value of the old asset** with the **fair value of the old asset** (or of the new asset, whichever is more clearly evident). The old asset is removed; the new asset is recorded at fair value.

4. Spin-Off

An entire cash-generating unit (business segment / subsidiary) is transferred into a new legal entity. Shareholders of the parent receive proportional shares in the new entity. **All the assets of the new entity are removed from the parent's balance sheet; no gain or loss is recorded** on the disposal.

Effect on financial statements: A derecognition loss reduces NI and assets. A gain increases NI and

assets. In either case, the *full cash received* — not the gain/loss — flows through CFI.

Required Disclosures

For both tangible and intangible assets, firms must disclose:

- Carrying value for each **class** of asset
- Accumulated depreciation or amortization for each class
- Title **restrictions** and assets used as **collateral**
- Impairments: loss amount, circumstances
- For revalued assets (IFRS): revaluation date, method used to determine FV, carrying amount under the cost model for comparison
- Depreciation methods, useful lives, salvage values in the MD&A and footnotes

LOS G • INVESTMENT PROPERTY (IFRS IAS 40)

Investment Property — IFRS's Third Model

Investment property under IFRS is property owned (or leased under a finance lease) for the purpose of **earning rent or capital appreciation** (or both). It is *not* owner-occupied and *not* used for producing goods or services.

US GAAP has no specific "investment property" definition — firms use the cost model.

The Two Valuation Choices Under IFRS

1. COST MODEL

Same as PP&E — depreciated cost less accumulated depreciation and impairment. Straightforward but ignores market moves.

2. FAIR VALUE MODEL

Asset carried at FV. **ALL changes in FV flow to the income statement (NI)** — NOT to OCI. This is the KEY contrast to the revaluation model for PP&E.

FV model constraints: can be used only if **reliable FV estimates are attainable continuously**. The firm must use **one model for all of its investment properties**. Once FV is chosen, the firm must **stay on FV** until disposition or reclassification — even if FV becomes difficult to determine.

Reclassifications Between Categories

FROM	TO	IF VALUED AT	THEN
Investment property	Owner-occupied or Inventory	Cost	No change in carrying value
Investment property	Owner-occupied or Inventory	Fair value	FV becomes new carrying value
Owner-occupied	Investment property (FV)	FV model for Inv. Prop.	FV – CV treated like a revaluation (to OCI, default)
Inventory	Investment property (FV)	FV model for Inv. Prop.	FV – CV recognized in P&L

Presentation & Disclosure

Investment property is reported as a **separate line item** on the balance sheet. Additional disclosures include which model is used, how FV was determined, and a reconciliation of beginning and ending carrying amounts.

Exam Tip: PP&E revaluation model (IFRS): gain to OCI (Revaluation Surplus). **Investment-property fair-value model (IFRS):** gain to Net Income. Do not confuse these two!

QUIZ 2 · CHECKPOINT

Revaluation, Impairment, Derecognition & Investment Property

Q6. An analyst gathers the following data for a piece of equipment held by an IFRS reporter: fair value 160,000, *selling costs* 8,000, value in use 140,000, *and net carrying amount* 190,000. The impairment loss reported in the income statement is:

Q7. Under US GAAP, an asset is impaired if the carrying value exceeds the:

Q8. A building valued at historical cost is revalued upward to fair value — its fair value exceeds cost and there is no prior impairment. Under IFRS, the firm will most likely recognize the gain:

Q9. An IFRS firm classifies a building as investment property and elects the fair-value model. The property's fair value increases \$500,000 during the year. The firm will most likely record:

Q10. A machine with carrying value of 40,000 *is sold for* 55,000 in cash. Using the indirect cash flow method, which adjustment is required when computing cash flow from operations?

LOS B, C, E · RATIOS FROM PP&E DISCLOSURES

Asset Age & Turnover Ratios

Financial-statement disclosures let you estimate the **age, useful life, and remaining life** of a firm's long-lived assets. Older, less efficient assets may reduce competitiveness. These estimates help forecast future capex and financing requirements — and are most accurate when the firm uses **straight-line depreciation**.

Activity (Turnover) Ratios

RATIO	FORMULA	WHAT IT TELLS YOU
Fixed asset turnover	Revenue / Average net fixed assets	Revenue generated per \$ of PP&E
Total asset turnover	Revenue / Average total assets	Overall asset efficiency

Age & Useful-Life Ratios

RATIO	FORMULA	INTERPRETATION
Average age of assets	Accumulated depreciation / Annual depreciation expense	How many years of depreciation have already been charged
Total (average) useful life	Historical (gross) cost / Annual depreciation expense	Implied asset life under SL
Remaining useful life	Ending net PP&E / Annual depreciation expense	Years of depreciation left — signals timing of replacement capex
% depreciated	Accumulated depreciation / Historical cost	Proportion of useful life already consumed

EXAMPLE — ABC INC.

Estimating Remaining Useful Life

GIVEN

End-of-year gross PP&E = 200million · Accumulated depreciation = 60 million · Annual depreciation expense = \$10 million.

? FIND

Estimated remaining useful life; average age; total useful life.

→ SOLUTION

1 Net PP&E = $200m - 60m = \$140m$.

2 Remaining useful life = Net PP&E / Depreciation expense.

$$140/10 = 14 \text{ years}$$

3 Average age = Accumulated depreciation / Depreciation expense.

$$60/10 = 6 \text{ years}$$

4 Total useful life = Historical cost / Depreciation expense.

$$200/10 = 20 \text{ years}$$

✓ ANSWER

Remaining useful life	14 years
Average age of assets	6 years
Total (implied) useful life	20 years

◆ TAKEAWAY

6 years out of 20 already used → 14 years remaining. Cross-check: Average age + Remaining life = Total life (6 + 14 = 20). These approximations assume straight-line depreciation.

Rule of Thumb: Sum Check

Average age + Remaining useful life $\approx$ Total useful life. If the sum doesn't add up, the firm probably uses accelerated depreciation, has made significant asset additions recently, or has impairment/revaluation

activity that distorts the approximation.

LOS B, C, E • RATIO & FS EFFECTS

Putting It All Together — Effects Summary

Capitalize vs. Expense — Kaplan Summary Table

	CAPITALIZE	EXPENSE
Income variability	Lower	Higher
Profitability — early years	Higher	Lower
Profitability — later years	Lower	Higher
Total cash flows	Same	Same
CFO	Higher	Lower
CFI	Lower	Same / higher
Debt/equity & debt ratio	Lower	Higher

Revaluation & Impairment Ratio Effects

EVENT	CURRENT-YEAR NI	CURRENT-YEAR ASSETS	FUTURE D&A	FUTURE ROA / ROE
Impairment	Lower	Lower	Lower	Higher
Upward revaluation (above cost)	Unchanged (gain to OCI)	Higher	Higher (depreciation base grows)	Lower (bigger denominator)
Downward revaluation (below cost)	Lower (loss to IS)	Lower	Lower	Higher (smaller denominator, lower expense)
Gain on sale (derecognition)	Higher	Higher cash / asset shift	Lower (asset gone)	Higher

IFRS vs. US GAAP Cheat Sheet for LM07

TOPIC	IFRS	US GAAP
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Revaluation model (PP&E)	Allowed (rarely used)	Prohibited (except investment property under FV model)
Component depreciation	Required	Allowed, rarely used
Development costs	Capitalized if 6 criteria met	Expensed (software for sale is an exception)
Research costs	Expensed	Expensed
Impairment test	One-step: CV vs. recoverable (higher of FV–costs, VIU)	Two-step: (1) undiscounted CF, (2) CV – FV
Impairment reversal (held-for-use)	Allowed (up to original)	Prohibited
Impairment reversal (held-for-sale)	Allowed	Allowed
Investment property	Cost model OR FV model (FV → NI)	No specific category; use cost model
Interest earned on borrowed construction funds	Reduces capitalized borrowing cost	No offset

Exam Tip: Map the four "remeasurement" events to where they land: **Revaluation up (above cost) → OCI · Revaluation down (below cost) → IS · Impairment → IS · Investment property FV change (FV model) → IS.**

QUIZ 3 · CHECKPOINT

Disclosures, Ratios, and IFRS/US GAAP Contrasts

Q11. A firm reports gross PP&E of 400 *million, accumulated depreciation of* 120 million, and annual depreciation expense of \$20 million. The estimated remaining useful life is closest to:

Q12. Under IFRS, component depreciation is:

Q13. An asset was impaired by \$100,000 in a prior year under IFRS. This year its value has recovered fully. The firm may reverse the loss:

Q14. Under IFRS, an upward revaluation on PP&E above historical cost (no prior impairment) and a fair-value gain on investment property under the fair-value model will respectively be recognized in:

Q15. A building with carrying value of \$500,000 is abandoned (no proceeds). The firm will most likely recognize:

MODULE COMPLETE

Your Scorecard

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LM07 Key Takeaways — Exam-Ready Cheat Sheet

Acquisition & the Capitalize-vs-Expense Decision

- 1 **Capitalize** if benefits exceed one year; otherwise **expense**. Capitalizing raises current NI, CFO, and equity; lowers future NI (depreciation hit) and CFI. Total cash flow is identical.
- 2 Interest during **self-construction** is capitalized as part of the asset's cost and shows up as an **investing** (CFI) outflow — not the usual CFO.
- 3 Acquisitions: tangible/intangible — **cost**; exchange — **fair value**; business combination intangibles — **fair value**; R&D internal (US GAAP) — **expensed**; R&D internal (IFRS) — research expensed, development capitalized if criteria met.

Depreciation & Amortization

- 4 **Straight-line:** $(\text{Cost} - \text{Salvage}) / \text{Life}$. **DDB:** $(2/\text{Life}) \times \text{Beginning BV}$ (salvage ignored but floors BV). **Units of production:** $(\text{Cost} - \text{Salvage}) \times (\text{units used} / \text{total capacity})$.
- 5 Accelerated → higher expense, lower NI in early years; reverses later. Total lifetime depreciation is equal across methods.
- 6 **Component depreciation:** required under IFRS, allowed under US GAAP (rare).
- 7 Intangibles with finite life are amortized (same methods). Indefinite-lived intangibles (including goodwill) are **not amortized** but tested for impairment at least annually.

Revaluation & Impairment (IFRS / US GAAP)

- 8 Revaluation model (IFRS only):** up above cost → OCI (Revaluation Surplus); down below cost → IS. Reversals go where the prior move hit first.
- 9 Impairment IFRS:** one step. Recoverable = $\max(\text{FV} - \text{costs to sell}, \text{value-in-use})$. Loss = $\text{CV} - \text{recoverable}$. **Reversible** (up to original).
- 10 Impairment US GAAP:** two steps. Step 1: CV vs. undiscounted CF. Step 2: Loss = $\text{CV} - \text{FV}$. **Not reversible** (held-for-use).

Derecognition, Investment Property & Ratios

- 11 Derecognition:** sale (gain/loss = proceeds – CV), abandonment (loss = CV), exchange (at FV), spin-off (no gain/loss).
- 12 Investment property (IFRS IAS 40):** cost model OR fair-value model. Under FV model, **all changes hit NI** (contrast with PP&E revaluation → OCI).
- 13 Asset ratios:** **Fixed asset turnover** = $\text{Rev} / \text{Avg net FA}$; **Avg age** = $\text{AccDep} / \text{Dep Exp}$; **Total life** = $\text{Historical cost} / \text{Dep Exp}$; **Remaining life** = $\text{Net PP\&E} / \text{Dep Exp}$. Most accurate under SL.

Last-Minute Formulas

SL dep = $(\text{Cost} - \text{Salvage}) / \text{Life}$

DDB dep = $(2/\text{Life}) \times \text{Beginning BV}$

UOP dep = $(\text{Cost} - \text{Salvage}) \times (\text{units} / \text{total capacity})$

IFRS impairment = $\max[\text{FV} - \text{costs}, \text{VIU}]$; Loss = $\text{CV} - \text{that max}$

US GAAP impairment Step 1: undiscounted CF vs CV; Step 2: Loss = $\text{CV} - \text{FV}$

Goodwill = Purchase price – FV of identifiable net assets

Remaining life = $\text{Net PP\&E} / \text{Dep Exp}$ · **Avg age** = $\text{AccDep} / \text{Dep Exp}$

Sale gain/loss = Proceeds – Carrying value