soleadea

LEVEL 1:
FINANCIAL REPORTING & ANALYSIS

Reading 22 (8th out of 12): LONG-LIVED ASSETS

Difficulty: **medium**

Benchmark Study Time: **5.75h**

2022

THIS E-BOOK:

- ❖ is a selective summary of the corresponding Reading in your CFA® Program Curriculum,
- ❖ provides place for your own notes,
- ❖ helps you structure your study and revision time!

How to use this e-book to maximize your knowledge retention:

1. **Print** the e-book in duplex and bind it to keep all important info for this Reading **in one place.**
2. **Read** this e-book, best twice, to grasp the idea of what this Reading is about.
3. **Study** the Reading from your curriculum. **Here add** your notes, examples, formulas, definitions, etc.
4. **Review** the Reading using this e-book, e.g. write your summary of key concepts or revise the formulas at the end of this e-book (if applicable).
5. **Done?** Go to your study plan and change the Reading's status to **green**:
   (it will make your Chance-to-Pass-Score™ grow ☺).
6. **Come back** to this e-book from time to time to **regularly review for knowledge retention!**

NOTE: While studying or reviewing this Reading, you can use the tables at the end of this e-book and mark your study/review sessions to hold yourself accountable.

CAPITALIZING AND EXPENSING THE COST OF LONG-LIVED ASSETS

Basics

A long-lived asset is an asset for which it is expected that it will generate future economic benefits for more than one year.

long-lived assets = non-current assets = long-term assets

Costs of acquiring long-lived assets can be divided into:

- costs that are capitalized, and expensed in future periods or
- costs that are expensed as incurred.

If the cost of a long-lived asset is capitalized, after acquisition an asset is recorded. In the subsequent periods, the value of the asset will be reduced gradually until the end of the asset's useful life or until the asset is sold.

When a given expenditure does not fulfill asset recognition criteria, costs related to long-lived assets are not capitalized, but rather expensed as incurred.

If the cost is capitalized, it is included in the income statement as depreciation or amortization later on.

In the case of tangible assets, we talk about depreciation, while in the case of intangible assets with a finite useful life, we talk about amortization.

goodwill and land are not amortized (depreciated)

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Property, Plant & Equipment (PP&E)

acquisition cost of a tangible long-lived asset = purchase price + delivery charges +

+ installation costs

Ongoing cost is expensed in a given period if it is related to the maintenance of the asset.

If ongoing costs result either in:

- an extension of the useful life of an asset, or
- increase in the value of an asset,

they are usually capitalized.

If the company creates an asset, among acquisition costs the company will include:

- raw materials,
- labor,
- the interest on debt used to finance the construction of the asset.

If the company takes a loan to finance the construction of a building, the interest will be capitalized over the period of time in which the building is being erected.

According to IFRS, money from the short-term investing of the loan proceeds during the construction of the building reduces the amount of borrowing costs capitalized as part of the asset cost. (According to U.S. GAAP – it doesn't)

Intangible assets

3 different situations:

1. an intangible asset is purchased from the third party,
2. an intangible asset is developed internally,
3. an intangible asset is purchased in a business combination.

intangible asset is purchased from the third party and the purchase isn't a part of a business combination → the same rules as in the case of tangible assets

intangible asset is developed internally → expense the cost as incurred

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Business combinations and goodwill

For business combinations, an acquisition method is used. The algorithm of acquisition method:

1. Record the value of every acquired asset at its fair value.
2. Sum up the total value of the assets.
3. If the purchase price is greater than the sum from Step 2, goodwill is recorded.

$$\text{goodwill} = \text{purchase price} - \text{total fair value of acquired assets}$$

Under IFRS, an asset will be included in goodwill if it cannot be recognized as:

- a tangible asset, or
- an identifiable intangible asset.

According to U.S. GAAP, an intangible asset will be included in goodwill if it:

- doesn't arise from contractual or legal rights, and if it
- cannot be separated from the acquired company.

Research and development costs

Under **IFRS**:

- expenditures on research are expensed, and
- expenditures on development can be capitalized.

Under **U.S. GAAP**, both expenditures on research and development should be expensed (exception: costs of software development).

Software development under **U.S. GAAP**:

- costs incurred to develop software for sale → are expensed as incurred until reaching technological feasibility → then capitalized,
- costs of developing software for internal use → are capitalized from the very beginning.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

NET BOOK VALUE OF LONG-LIVED ASSETS

Cost model vs. Revaluation model

Accounting standards distinguish between two models used for determining the net book value of long-lived assets. These are:

- cost model,
- revaluation model.

IFRS ←→ cost model OR revaluation model

U.S. GAAP ←→ cost model

According to the **cost model**:

- a long-lived asset is reported at historical cost and its value is adjusted down by amortization or depreciation expenses,
- the net book value of cannot be greater than its historical cost.

According to the **revaluation model**:

- a long-lived asset is reported at its fair value at the date of revaluation less any subsequent depreciation or amortization,
- the net book value of the asset can be greater than its historical cost.

net book value = carrying amount = carrying value

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

The effect of revaluation on the company's income statement

The effect of revaluation may or may not affect the company's income statement:

1. **Revaluation affects the income statement:**

- if after revaluation the asset's carrying amount decreases → it is included in the income statement,
- if then the asset's fair value increases → it is reported in the income statement up to the value of the historical cost less accumulated depreciation,
- if the fair value is bigger than this amount → the excess is reported as other comprehensive income (in accumulated other comprehensive income in equity under revaluation surplus).

2. **Revaluation does not affect the income statement:**

- if after revaluation the asset's carrying amount increases → it will not be recognised in the income statement, but it will be recorded as other comprehensive income,
- subsequent downward revaluations reduce equity (not more than to the value of the previous revaluation).

Assets revaluation and ratios

If the upward revaluation impacts other comprehensive income rather than net income, it leads to lower ROA and ROE ratios.

If the upward revaluation affects net income because it is a reversal of the previous downward revaluation, such upward revaluation may result in higher ROA and ROE ratios.

Also financial ratios are affected by assets revaluation.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

DEPRECIATION

depreciation = the allocation of the purchase price or production cost throughout the useful life of a long-lived asset

expected useful life of a long-lived asset = an estimated period of time in which the asset is going to bring an economic benefit to the company

expected residual value = the value of a long-lived asset when its useful life is over

There are 3 basic methods of depreciation and amortization:

- the straight-line method,
- accelerated methods,
- the units of production method.

According to the **straight-line method**, all depreciation expenses have the same value:

$$\text{depreciation expense} = \frac{\text{historical cost} - \text{expected residual value of the asset}}{\text{expected useful life of the asset}}$$

According to **accelerated methods**, depreciation expenses are lower from period to period.

When calculating a depreciation expense by means of accelerated methods, don't take the expected residual value into account.

According to the **units of production method**, a depreciation expense in a given period relates to the estimated amount of the productivity of the long-lived asset in this period.

the longer the expected useful life → the lower the depreciation expense →

→ the lower costs → the higher net profit

the higher residual value → the lower the depreciation expense →

→ the higher net profit

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

IMPAIRMENT OF ASSETS

Depreciation and amortisation are planned reductions of an asset's value. **Impairment** is all about the decline in an asset's value, which cannot be anticipated.

Under IFRS:

- companies are obliged to assess whether their long-lived tangible assets held for use are impaired or not every year → if indication of impairment occurs, the assets are tested for impairment;
- an asset is considered to be impaired when its carrying amount exceeds its **recoverable amount**, i.e. the greater of:
  - ✓ net selling price (the asset's fair value less costs to sell), or
  - ✓ value in use (the present value of the expected future cash flows generated by the asset);
- if the asset is impaired, the asset's value is written down to the recoverable amount and the impairment loss is reported in the income statement;
- **impairment reversal** is allowed if the value of the asset increases in the future.

Under U.S. GAAP:

- impairment reversal of long-lived tangible assets held for use is prohibited;
- impairment testing process is divided into two steps:
  - ✓ first, the company performs a **recoverability test**,
  - ✓ then, it measures the **impairment loss**;
- if a recoverability test indicates that the asset's carrying amount is greater than undiscounted expected future cash flows, impairment is recognised → the asset is written down to the asset's fair value and the impairment loss is reported in the income statement;
- as an exception, impairment reversal is allowed for non-current assets held for sale.

Impairment of intangible assets

Impairment of an intangible asset depends on whether it is:

- an intangible asset with a **finite life** → it will be tested for impairment only if there is an indication of impairment,
- an intangible asset with an **indefinite life** → it should be tested for impairment at least annually.

Impact of impairment

Impairment influences:

- the asset's carrying amount,
- profit or loss reported in the income statement,
- retained earnings,
- financial ratios.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

DERECOGNITION OF ASSETS

If an asset is disposed of, it should be **derecognized in the balance sheet.**

Asset disposals:

- sale,
- abandonment,
- exchange for other assets,
- spin-off (when a new entity is separated from a parent company).

If the company decides to abandon or exchange assets or if it spins off its part into a separate company, the assets will be reclassified as long-lived assets held for use until disposal.

If a long-lived asset is sold, the company will usually record a gain or loss, depending on the relation between sales proceeds and the carrying amount of the asset.

LONG-LIVED ASSETS – CLASSIFICATION

Classification of long-lived assets:

- long-lived assets held for use (depreciated and tested for impairment),
- long-lived assets held for use until disposal (depreciated and tested for impairment),
- non-current assets held for sale (not depreciated or tested for impairment).

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

INVESTMENT PROPERTY

How to classify a building?

A building possessed by a company can be classified as:

- property, plant and equipment (PP&E),
- inventory,
- investment property.

Defining investment property

Investment property is not defined under U.S. GAAP.

IAS 40:

Investment property – property held by the owner or by the lessee under a finance lease in order to earn rentals or for capital appreciation or both.

Valuation of investment property

Under U.S. GAAP:

- to value investment properties → the **cost model** is used.

Under IFRS:

- to value investment properties → either the **cost model** or the **fair value model** can be used.

Investment property valuation rules

If a company chooses **one of the models**, i.e. either the cost model or the fair value model, it should apply it **to all investment properties**.

If the company uses the **fair value model**, it should use it **until the property is disposed or until there is a change of the classification** of the property.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Investment property valuation rules – reclassification

If investment property is reclassified as owner-occupied property or inventory and if the company was using the cost model – nothing changes, i.e. the carrying amount of the investment property becomes the carrying amount of the property under new classification. If, however, the company was using the fair value model, the fair value of the investment property becomes the new carrying amount of the property under new classification.

If owner-occupied property is reclassified as investment property and if the fair value model is used for the investment property, the difference between the fair value and carrying amount is treated like revaluation.

If inventory is reclassified as the investment property and if the fair value model is used for the investment property, the difference between the fair value and the carrying amount is recognized as profit or loss.

Investment property disclosures

If the fair value model is used:

- disclosures related to model specification (e.g. how fair value is established) are required,
- reconciliation between the beginning-of-period and end-of-period carrying values of investment property should be disclosed.

If the cost model is used:

- depreciation method, useful life and fair value of the property should be disclosed.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Summarizing key concepts:

☐ Capitalizing and expensing the cost of long-lived assets

My summary:

☐ Net book value of long-lived assets: Cost model vs. Revaluation model

My summary:

☐ Depreciation of assets

My summary:

☐ Impairment of assets

My summary:

☐ Derecognition of assets

My summary:

☐ Investment property

My summary:

Keeping myself accountable:

TABLE 1 | STUDY

When you sit down to study, you may want to **try the Pomodoro Technique** to handle your study sessions: study for 25 minutes, then take a 5-minute break. Repeat this 25+5 study-break sequence all throughout your daily study session.

✓ Tick off as you proceed.

POMODORO TIMETABLE: study-break sequences (25' + 5')													
date		date		date		date		date		date		date	
25'		25'		25'		25'		25'		25'		25'	
5'		5'		5'		5'		5'		5'		5'	
25'		25'		25'		25'		25'		25'		25'	
5'		5'		5'		5'		5'		5'		5'	
25'		25'		25'		25'		25'		25'		25'	
5'		5'		5'		5'		5'		5'		5'	
25'		25'		25'		25'		25'		25'		25'	
5'		5'		5'		5'		5'		5'		5'	

TABLE 2 | REVIEW

Never ever neglect revision! Though it's not the most popular thing among CFA candidates, regular revision is what makes the difference. If you want to pass your exam, **schedule & do your review sessions.**

REVIEW TIMETABLE: When did I review this Reading?													
date		date		date		date		date		date		date	
date		date		date		date		date		date		date	