Financial Statement Analysis

Analysis of Long-term Assets

Exam Focus

- Intangibles
  - Purchased
  - Internally generated
- Impairments
- Derecognition
- Using disclosures

- Moved to prerequisites:
  - Long-term tangible assets: cost and revaluation models
  - Depreciation computations

Intangible Assets

This material is a replication of the material included in the module on analyzing balance sheets.

Impairment of Assets

IFRS

- Annually assess indications of impairment (e.g., decline in market value or physical condition)
- Asset is impaired when carrying value > recoverable amount
- Recoverable amount is greater of "fair value less selling costs" and "value in use" (present value of future cash flows)
- If impaired, write down asset to recoverable amount and recognize loss in the income statement
- Loss reversal is allowed up to original impairment loss

Impairment of Assets

U.S. GAAP (two-step process)

1. Identification of impairment: asset is impaired when book value > asset's estimated future undiscounted cash flows
2. Loss recognition: if impaired, write down asset to fair value (or discounted present value of future cash flows if fair value unknown); recognize loss in income statement
   - Loss reversal prohibited for assets *held for use*

Impairments: Example

Sussex, a fictional manufacturing company in the United Kingdom, owns a machine it uses to produce a single product. The demand for the product has declined substantially since the introduction of a competing product. The company has assembled the following information with respect to the machine:

	£
Carrying amount	18,000
Undiscounted expected future cash flows	19,000
Present value of expected future cash flow	16,000
Fair value if sold	17,000
Cost to sell	2,000

Impairments: Example

1. Under IFRS, what would the company report for the machine?

Recoverable amount: higher of:

Present value of future cash flows =

Fair value – selling costs = =

Impairment = £18,000 =

2. Under US GAAP, what would the company report for the machine?

Step 1: Carrying value £18,000 undiscounted CFs £19,000

Impairments: Example

Essex, a fictional manufacturing company in the United Kingdom, owns a machine it uses to produce a single product. The demand for the product has declined substantially since the introduction of a competing product. The company has assembled the following information with respect to the machine:

	£
Carrying amount	18,000
Undiscounted expected future cash flows	16,000
Present value of expected future cash flow	14,000
Fair value if sold	10,000
Cost to sell	2,000

Impairments: Example

1. Under IFRS, what would the company report for the machine?

Recoverable amount—higher of:

Present value of future cash flows =

Fair value – selling costs = =

Impairment = £18,000 =

2. Under U.S. GAAP, what would the company report for the machine?

Step 1: Carrying value: £18,000 undiscounted

Step 2: Carrying value – fair value = £18,000 =

Impairment: Impacts

Reduces balance sheet assets and equity

- Leverage and fixed-asset/total asset turnover ratios increased
- Future depreciation decreased
- Future net income, ROA, and ROE increased

Reported as expense on income statement

- Reduces current-year net income, ROA, ROE
- Can be reversed under IFRS
- Can be reversed under U.S. GAAP for held-for-sale assets, not for held-for-use assets

Cash flows unaffected—impairment not a deduction for tax

Impact of Asset Derecognition

- Carrying value removed from balance sheet
- Cash or new asset added to balance sheet
- Gain or loss reported on income statement

	$m
Proceeds	X
Carrying value	(X)
Gain/(loss)	X/(X)

- On balance sheet, gain increases assets and equity; loss decreases assets and equity
  - Sales proceeds = zero for abandoned assets
  - Sales proceeds = fair value if exchanged
  - Discussed in MD&A and/or footnotes

Derecognition: Example

Moussilauke Diners Inc., a fictional company, is revamping its menus to focus on healthier food items. The company sells 450 used pizza ovens for $3.1 million. At the time of sale, the oven had a carrying amount that reflected an original cost of $5.1 million and $3.2 million in accumulated depreciation. What would be the reported gain or loss from selling the ovens?

	$'m
Proceeds	
Carrying value	
Gain	

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Disclosure Requirements

Asset disclosure requirements include the following:

- Carrying values, accumulated depreciation/amortization expense
- Depreciation/amortization expense methods, estimates, amounts, classes of assets, useful lives
- Impairment circumstances, amounts of impairments/reversals, fair value, and estimation method
- For revalued assets (IFRS): revaluation date, fair value determination, carrying value using historical cost model

Using Fixed Asset Disclosures

Analysts can use financial statement disclosures to estimate the **average age** of fixed assets and the **average depreciable life** of fixed assets:

- Identify firms with older, inefficient assets
- Identify need for major capital investments
- Identify firms with inflated earnings

$$\text{estimated useful life} = \frac{\text{historical cost}}{\text{annual depreciation expense}}$$

$$\text{estimated age} = \frac{\text{accumulated deprecation}}{\text{annual depreciation expense}}$$

$$\text{estimated remaining life} = \frac{\text{net PP\&E}}{\text{annual depreciation expense}}$$

Using Fixed Asset Disclosures: Example

Use the selected data from Ruby Dog Toys AG accounts to estimate the useful life, average age, and remaining life on PP&E.

Selected Data: Ruby Dog Toys AG	€
Gross cost of PP&E	309,000
Accumulated depreciation	88,000
Carrying value	221,000
Depreciation expense	34,000
Depreciation method	Straight-line

Estimated useful life= _____ ≈

Estimated age = _____ ≈

Estimated remaining life = _____ ≈

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Balance Sheet Ratios

Common size statements:

- Vertical = all items as a % of total assets
- Time series and cross-sectional uses

Liquidity ratios:

$$\text{current} = \frac{\text{current assets}}{\text{current liabilities}}$$

$$\text{quick (acid test)} = \frac{\text{cash + marketable securities + receivables}}{\text{current liabilities}}$$

$$\text{cash} = \frac{\text{cash + marketable securities}}{\text{current liabilities}}$$

Balance Sheet Ratios

Solvency ratios:

$$\text{long-term debt-to-equity} = \frac{\text{long-term debt}}{\text{total equity}}$$

$$\text{debt-to-equity} = \frac{\text{total debt}}{\text{total equity}}$$

$$\text{debt-to-capital} = \frac{\text{total debt}}{\text{total debt + total equity}}$$

$$\text{total debt} = \frac{\text{total debt}}{\text{total assets}}$$

$$\text{financial leverage} = \frac{\text{total assets}}{\text{total equity}}$$

Solutions

Impairments: Example

1. Under IFRS, what would the company report for the machine?

Recoverable amount—higher of:

Present value of future cash flows = £16,000

Fair value – selling costs = £17,000 – £2,000 = £15,000

Impairment = £18,000 – £16,000 = £2,000

2. Under U.S. GAAP, what would the company report for the machine?

Step 1: Carrying value: £18,000 < undiscounted CFs: £19,000

No impairment

Impairments: Example

1. Under IFRS, what would the company report for the machine?

Recoverable amount—higher of:

Present value of future cash flows = £14,000

Fair value – selling costs = £10,000 – £2,000 = £8,000

Impairment = £18,000 – £14,000 = £4,000

2. Under U.S. GAAP, what would the company report for the machine?

Step 1: Carrying value: £18,000 > undiscounted CFs: £16,000

Step 2: Carrying value – fair value = £18,000 – £10,000 = £8,000

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Derecognition: Example

Moussilauke Diners Inc., a fictional company, is revamping its menus to focus on healthier food items. The company sells 450 used pizza ovens for $3.1 million. At the time of sale, the oven had a carrying amount that reflected an original cost of $5.1 million and $3.2 million in accumulated depreciation. What would be the reported gain or loss from selling the ovens?

	$'m
Proceeds	3.1
Carrying value ($5.1m – $3.2m)	(1.9)
Gain	1.2

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Using Fixed Asset Disclosures: Example

Use the selected data from Ruby Dog Toys AG accounts to estimate the useful life, average age, and remaining life on PP&E.

Selected Data: Ruby Dog Toys AG	€
Gross cost of PP&E	309,000
Accumulated depreciation	88,000
Carrying value	221,000
Depreciation expense	34,000
Depreciation method	Straight-line

Estimated useful life= $\frac{€309,000}{€34,000} \approx 9.1$ years

Estimated age = $\frac{€88,000}{€34,000} \approx 2.6$ years

Estimated remaining life = $\frac{€221,000}{€34,000} \approx 6.5$ years