

Financial Statement Analysis

Analyzing Balance Sheets



Exam Focus

- Intangibles
 - Purchased
 - Internally generated
- Financial assets
- Long-term financial liabilities
- Key ratios
- Moved to prerequisites
 - Long-term tangible assets
 - Current assets
 - Current liabilities
 - Most long-term liabilities

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Intangible Assets

- Intangible assets: lack physical substance
- **Identifiable** intangible assets
 - Can be separated from, and controlled by, the firm
 - Are expected to provide probable future benefits, and their cost can be reliably measured
 - Examples: patents, franchises, licenses, trademarks, customer lists
- **Unidentifiable** intangible assets: cannot be separated from the firm (e.g., goodwill)

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Purchased Intangibles

- **Purchased intangibles** are recorded at cost
 - For a group of assets, price paid is allocated based on fair value of each asset
 - Capitalized and amortized if they result in future benefits and have a defined life
- **Intangibles obtained in a business acquisition**
 - Identifiable assets recorded at fair value
 - Difference between purchase price and fair value of identifiable net assets reported as **goodwill**

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Internally Created Intangible Assets

- Internally developed intangibles expensed as incurred **except R&D, software development costs**
- **Research** costs involve discovery of new knowledge and understanding
- **Development** costs involve translation of research findings into a plan
- **IFRS:** research costs expensed, but development costs (after technical feasibility established) may be capitalized
- **U.S. GAAP:** research and development costs expensed

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Internally Developed Software

- Exception for U.S. GAAP is software created internally
- **Software created for sale**
 - Expense costs as incurred until technical feasibility is established, then capitalize development costs
- **Software created for internal use**
 - Expense costs as incurred until probable that project will be completed and used as intended, then capitalize development costs

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Intangible Assets: **Example**

Alpha, Inc., a motor vehicle manufacturer, has a research division that worked on the following projects during the year:

- Project 1: Research aimed at finding a steering mechanism that does not operate like a conventional steering wheel but reacts to the impulses from a driver's fingers.
- Project 2: The design of a prototype welding apparatus that is controlled electronically rather than mechanically. The apparatus has been determined to be technologically feasible, salable, and feasible to produce.

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Intangible Assets: Example

The following is a summary of the expenses of the research division:

Summary of Expenses	General €'000	Project 1 €'000	Project 2 €'000
Material and services	128	935	620
Labor:			
• Direct	0	630	320
• Administrative	720	0	0
Design, construction, and testing	270	450	470

5% of administrative personnel costs can be attributed to each project (Project 1 and 2). Explain the accounting treatment of Alpha's costs for Projects 1 and 2 under IFRS and U.S. GAAP.

Intangible Assets: Solution

	IFRS	U.S. GAAP
Project 1		
Project 2		

Goodwill

Purchase price	X
FMV of identifiable net assets	(X)
Goodwill	<hr/> X

Controversial:

1. May relate to payment for off-balance-sheet items (reputation, key staff, customer relationships, strategic value)
2. May simply result from overpayment

Group financial statements:

Investment not recorded at purchase price, instead:

- Goodwill
- FMV net assets included on a line-by-line basis with parent company
- Equity = parent and % post acquisition retained earnings of subsidiary

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Goodwill

- Indefinite lived intangible (not amortized)
- Subject to annual impairment review (details at Level II)
- Impairment suggests acquired operations are expected to generate lower future benefits than the price paid to acquire them
- Analyst adjustments
 1. Remove goodwill from balance sheet assets when computing ratio
 2. Remove goodwill from impairments when examining operating performance

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Financial Instruments: Assets

Held fair value

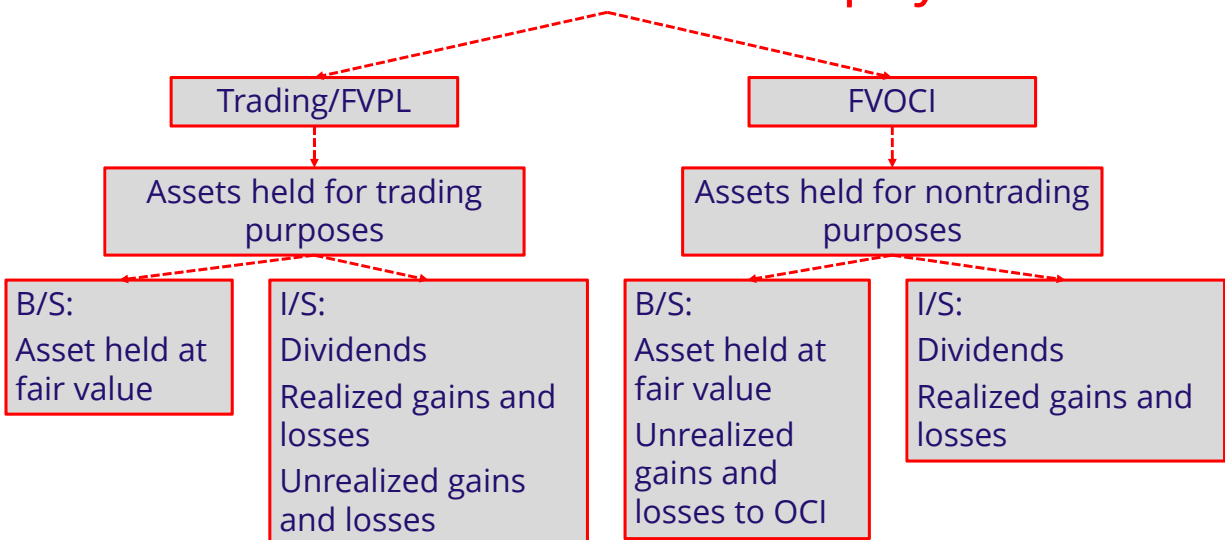
- Trading securities (U.S. GAAP), fair value through profit or loss (IFRS)
- Available-for-sale securities (U.S. GAAP), fair value through other comprehensive income (IFRS)
- Derivatives (stand-alone or embedded in a nonderivative instrument)
- Assets with fair value exposures hedged by derivatives

Cost or amortized cost

- Unlisted instruments
- Held-to-maturity investments (U.S. GAAP), amortized cost (IFRS)
- Loans
- Receivables

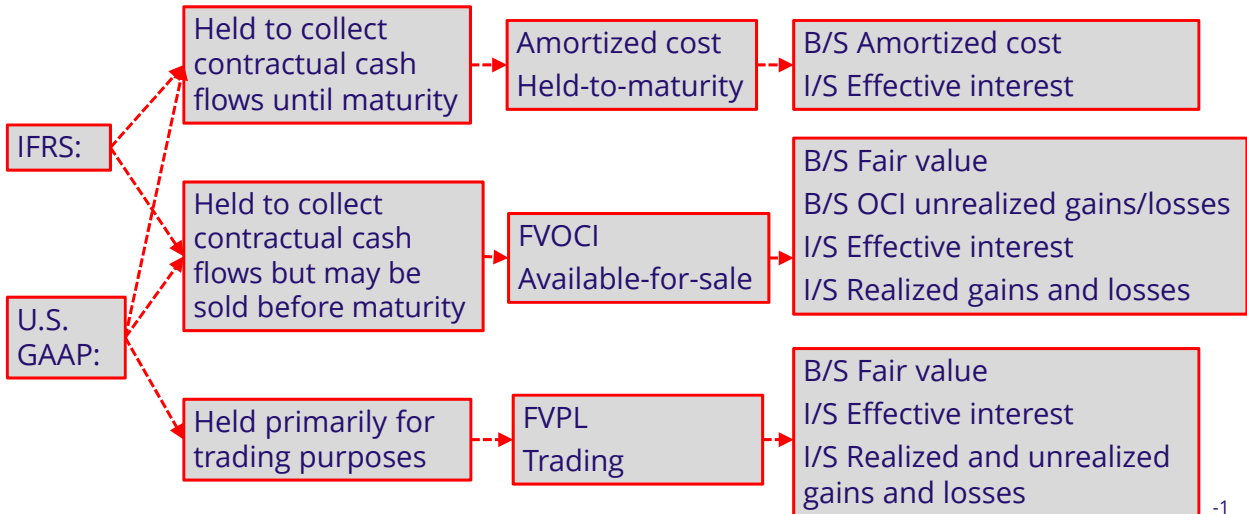
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Financial Instruments: Equity



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Financial Instruments: Debt



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Financial Instruments: Example

An entity invests €100,000,000 on 1 January 202X in a fixed-income security investment, with a 5 percent coupon paid semi-annually. After six months, the company receives the first coupon payment of €2,500,000. Additionally, market interest rates have declined such that the value of the fixed-income investment has increased by €2,000,000 as of 30 June 202X.

Illustrate the balance sheet and income statement effects if the debt is treated as:

1. FVPL/trading
2. FVOCI/available-for-sale
3. Amortized cost/held-to-maturity

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Financial Instruments: Example

	FVPL Trading	FVOCI Available-for-Sale	Amortized Cost Held-to-Maturity
B/S asset	€102,000,000	€102,000,000	€100,000,000
B/S OCI			
I/S interest	€2,500,000	€2,500,000	€2,500,000
I/S unrealized gain			

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Long-Term Financial Liabilities

- On **balance sheet**, create a liability equal to proceeds received less issuance costs
- In subsequent periods, B/S carrying value = amortized cost
- On **income statement**, interest expense =
beginning liability × effective interest rate
- On **cash flow statement**
 - CFO is reduced by cash (coupon) interest
 - CFF is increased by proceeds at issuance
 - CFF is decreased by principal paid at maturity

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Long-Term Financial Liabilities: Example

Illiquid Corporation issues a 3-year, \$1,000 par value 2% annual coupon bond for \$918.30, with an annual yield of 5%. Using the **effective interest** method for annual periods:

	Opening B/S Liability	Interest Expense	Coupon	Amort ^z
Year 1	918.30			
Year 2				
Year 3				
Redemption				

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Bond Issued at a Premium: Example

Illiquid Corporation issues a 3-year, \$1,000 par value bond with an annual coupon of 8% at \$1,053.46 and an annual yield of 6%. Using the **effective interest** method:

	Balance Sheet Liability	Interest Expense	Coupon	Amort ^z
Year 1	1,053.46	63.21	80	-16.79
Year 2	1,036.67	62.20	80	-17.80
Year 3	1,018.87	61.13	80	-18.87
Redemption	1,000			

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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:

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

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

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

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Balance Sheet Ratios

Solvency ratios:

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

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

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

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

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

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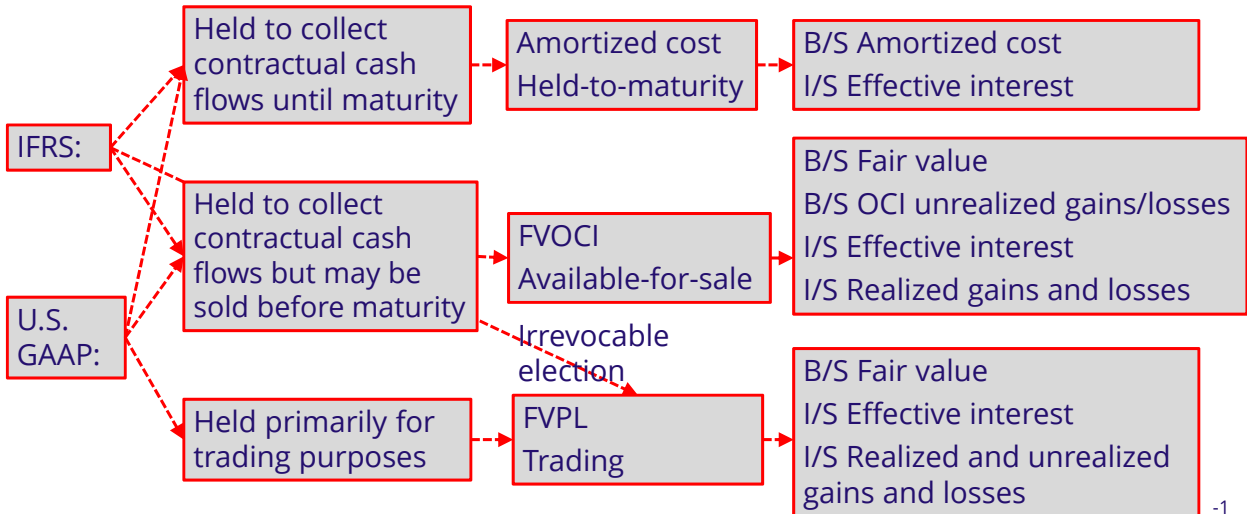
Solutions

Intangible Assets: **Solution**

	IFRS	U.S. GAAP
Project 1	Expense	Expense
Project 2	Capitalize: $620 + 320 + 470 = 1,410$	Expense

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Financial Instruments: Debt



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Financial Instruments: Example

	FVPL Trading	FVOCI Available-for-Sale	Amortized Cost Held-to-Maturity
B/S asset	€102,000,000	€102,000,000	€100,000,000
B/S OCI	0	€2,000,000	
I/S interest	€2,500,000	€2,500,000	€2,500,000
I/S unrealized gain	€2,000,000	0	0

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Long-Term Financial Liabilities: Example

Illiquid Corporation issues a 3-year, \$1,000 par value 2% annual coupon bond for \$918.30, with an annual yield of 5%. Using the **effective interest** method for annual periods:

	Opening B/S Liability	Interest Expense	Coupon	Amort ^z
Year 1	918.30	45.92	20	25.92
Year 2	944.22	47.21	20	27.21
Year 3	971.43	48.57	20	28.57
Redemption	1,000			

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