Financial Accounting Recitation 5

MIT Sloan School of Management

Finance at MIT

Where ingenuity drives results

Recitation Agenda

Acquisitions & Goodwill

Investments

Mergers and Acquisitions

- Companies often engage in business combinations. This is informally referred to as M&A activity (Mergers & Acquisitions).

- We will often use the term ‘net assets’. Net assets = A – L. Remember from the BSE that A – L = E.

How Do We Account for Acquisition?

Under purchase accounting the entire acquisition payment is added to the acquirer's balance sheet, and distributed across:

1. Fair value of tangible assets and liabilities
   - PPE, financial assets, other assets, and liabilities
2. *Identifiable* intangible assets
   - Customer relationships, trade names, patents, etc.
3. Goodwill (an intangible asset that is not separately identifiable)
   - Everything else (the plug)

This is called "allocating the purchase price"

Goodwill and intangibles

- If you see goodwill on the Balance Sheet, it represents **purchased** goodwill. Firms are not allowed to estimate and report their own goodwill.

- Likewise, Identifiable Intangibles on balance sheet (e.g., Patents) are the result of a purchase from another company. The only exception is certain software development costs.

- Identifiable Intangibles are subject to **amortization**
  - With intangibles we assume **zero** salvage value!

Question 1: Acquisition

- Suppose Big Company buys Little Company for $2,000. Little Company Balance Sheet is as follows:

Assets	
Cash	$100
Net AR	$200
Inventory	$50
Land	$300
Goodwill	$100
Total Assets	$750
Liabilities	
Accounts Payable	$50
Long-term Debt	$400
Stockholders' Equity	
Common Stock	$10
Paid in Capital	$190
Retained Earnings	$100
Total Liabilities and Equity	$750

Allocating the purchase price

	BV before merger	MV after merger
Tangible Assets	650	1,150
Intangible Assets	0	
Goodwill	100	
Total assets	750	
-Total liabilities	-450	-450
Book value of net assets (SE)	300	2,000

1. Little Company's land is valued at $800 (vs. $300). All other tangible assets and liabilities have not changed in value.

Allocating the purchase price

	BV before merger	MV after merger
Tangible Assets	650	1,150
Intangible Assets	0	
Goodwill	100	
Total assets	750	2,450
-Total liabilities	-450	-450
Book value of net assets (SE)	300	2,000

1. Fair value of tangible assets, total assets and liabilities.

Allocating the purchase price

	BV before merger	MV after merger
Tangible Assets	650	1,150
Intangible Assets	0	100
Goodwill	100	
Total assets	750	2,450
-Total liabilities	-450	-450
Book value of net assets (SE)	300	2,000

2. Big Company identifies intangible assets valued at $100.

Allocating the purchase price

	BV before merger	MV after merger
Tangible Assets	650	1,150
Intangible Assets	0	100
Goodwill	100	1,200
Total assets	750	2,450
-Total liabilities	-450	-450
Book value of net assets (SE)	300	2,000

3. Solve for goodwill.

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Question 1: Acquisition

Use the BSE to record the acquisition of Little Company.

	BV before merger	MV after merger
Tangible Assets	650	1,150
Intangible Assets	0	100
Goodwill	100	1,200
Total assets	750	2,450
-Total liabilities	-450	-450
Book value of net assets (SE)	300	2,000

Cash (A) + AR (A) + Invent. (A) + Land (A) + Intangibles (A) + Goodwill (A) = AP (L) + LT Debt (L) + (E)

-1,900 +200 +50 +800 +100 +1,200 +50 +400

cash: 100 tangible: 1150=200+50+800+100

Note cash is $2,000 paid for Little minus $100 Little cash acquired.

Suppose Big Company previously had $1,000 of goodwill on their balance sheet. What is the new amount of goodwill on the balance sheet?

Assets	
Cash	$100
Net AR	$200
Inventory	$50
Land	$300
Goodwill	$100
Total Assets	$750
Liabilities	
Accounts Payable	$50
Long-term Debt	$400
Stockholders' Equity	
Common Stock	$10
Paid in Capital	$190
Retained Earnings	$100
Total Liabilities and Equity	$750

$1,000 Beg + $1,200 new = $2,200

Investments

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- Cash is often referred to as an ‘unproductive asset’. This is because, cash by itself, does not generate any return

- Mature companies will often invest this cash in equity or debt securities, rather than hold a surplus

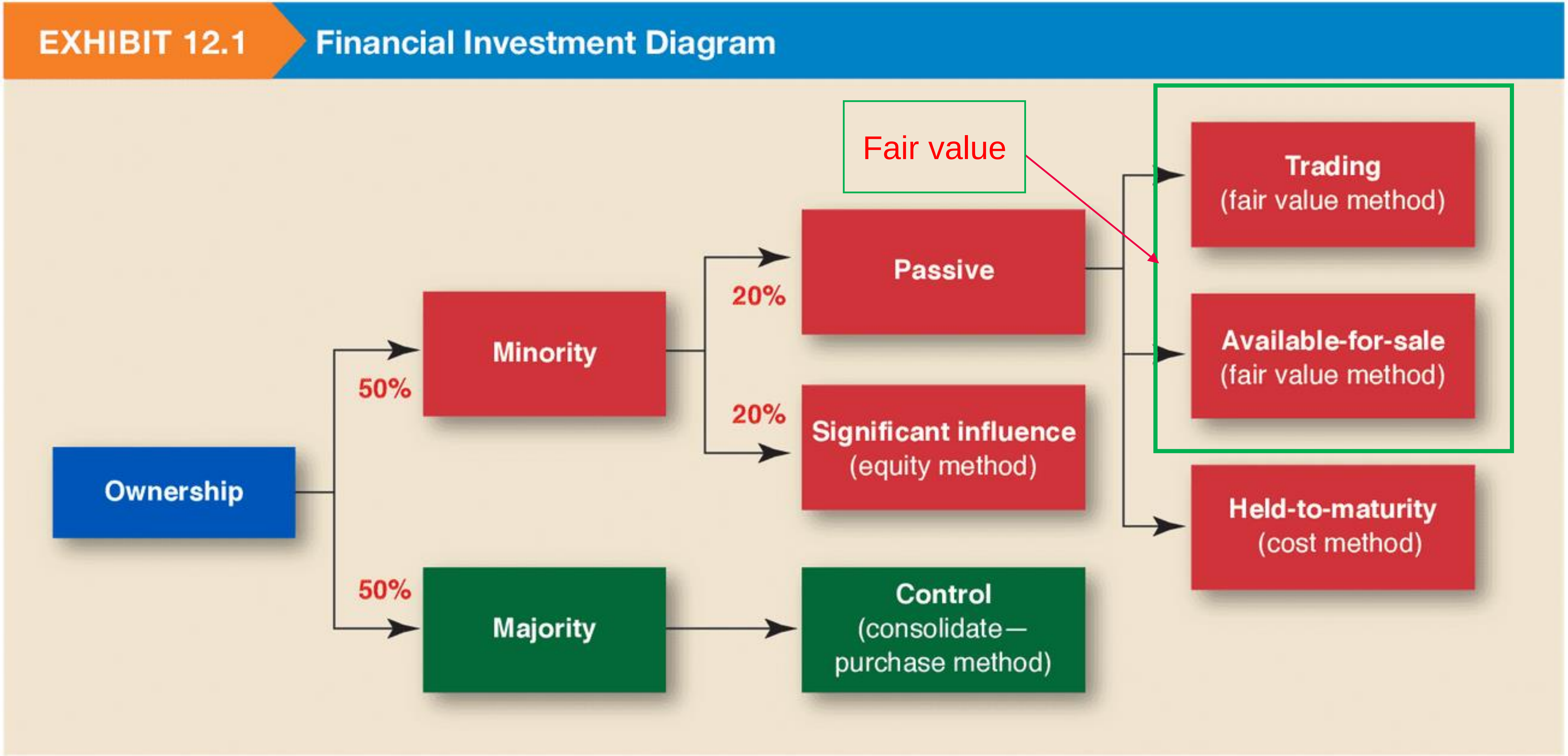
- Because these securities are highly liquid and have quoted market prices, GAAP has stated that they will be held on the balance sheet at **fair value**.

Investments

- The accounting for these investments will depend on several factors including:
  - The investment horizon
  - The ownership stake
  - The nature of the security (debt vs. equity)

Fair value vs. historical cost accounting

classification is determined by the firm's discretion



Investments: Debt

- Debt/Equity Securities
  - > 50% ownership
    - Consolidation

  - 20-50% ownership
    - Equity method

  - < 20% ownership (passive)
    - Trading security
    - Available for Sale (AFS) security
    - Held to Maturity (HTM) security

Accounting treatment of unrealized gains/losses varies across categories of passive investments

	B/S Effect	I/S Effect
▪ **Held-to-maturity (debt only)**	(Q1) no	
▪ **Available for sale (debt only)**	(Q1) yes	(Q2) no
▪ **Trading securities (debt and equity)**	(Q1) yes	(Q2) yes

Changes in market value affect the balance sheet for available for sale **AND** trading securities

Changes in market value affect the income statement **ONLY** for trading securities

Question 2: Debt (HTM)

- Trek Company purchases 100 par bonds with face value of $10. This is a 10% stake. Trek intends to hold the bonds until maturity.

  Cash (A) + Investment (A) = (L) + (E)

  -1,000 +1,000

- A year later, bonds are trading at $15 each. Trek Company does not sell.

  No change

- The following year, the bonds issue a coupon payment totaling $100.

  Cash (A) + Investment (A) = (L) + Ret. Earnings (E)

  +100 +100 (interest income)

- At maturity, the bonds are trading at $10 each. Trek Company receives back principal in cash.

  Cash (A) + Investment (A) = (L) + Ret. Earnings (E)

  +1,000 -1,000

Question 3: Debt (Trading)

- Trek Company purchases 100 par bonds with face value of $10. This is a 10% stake. Trek classifies the bonds as trading.

  Cash (A) + Investment (A) = (L) + (E)

  -1,000 +1,000

- A year later, bonds are trading at $15 each. Trek Company does not sell.

  Cash (A) + Investment (A) = (L) + Ret. Earnings (E)

  +500 +500 (unrealized gain)

- Later, the bonds issue a coupon payment totaling $100.

  Cash (A) + Investment (A) = (L) + Ret. Earnings (E)

  +100 +100 (interest income)

- The following day, bonds are trading at $13 each. Trek Company sells all of their bonds for cash.

  Cash (A) + Investment (A) = (L) + Ret. Earnings (E)

  +1,300 -1,500 -200 (realized loss)

Question 4: Debt (AFS)

- Trek Company purchases 100 par bonds with face value of \$10. This is a 10% stake. Trek classifies the bonds as available for sale.

Cash (A)	+ Investment (A)	= (L)	+ (E)
-1,000	+1,000		

- A year later, bonds are trading at \$15 each. Trek Company does not sell.

Cash (A)	+ Investment (A)	= (L)	+ OCI (E)	+ Ret. Earnings (E)	
	+500		+500		(unrealized gain)

- The following year, the bonds issue a coupon payment totaling \$100.

Cash (A)	+ Investment (A)	= (L)	+ OCI (E)	+ Ret. Earnings (E)	
+100				+100	(interest income)

- The following day, bonds are trading at \$13 each. Trek Company sells all of their shares for cash.

Cash (A)	+ Investment (A)	= (L)	+ OCI (E)	+ Ret. Earnings (E)	
+1,300	-1,500		-500	+300	(realized gain)

Investments: Equity (Equity Method)

Equity Method (Equity)

- Changes in market prices **do not affect** the balance sheet or the income statement unless the gain/loss has been realized.

- Dividends received affect the investment account directly, but not retained earnings.

- The companies’ earnings affect both the investment account and retained earnings.

Question 5: Equity (Equity Method)

- Trek Company purchases 100 shares of Stark Company for $10 each. This is a 30% stake.

  Cash (A) + Investment (A) = (L) + (E)

  -1,000 +1,000

- A year later, Stark Company shares rise to $15 each. Trek Company does not sell any of their shares.

  No entry

- The following year, Stark Company issues a dividend of $1.00 per share

  Cash (A) + Investment (A) = (L) + Ret. Earnings (E)

  +100 -100

- The following day, Stark Company announces earnings of $1,000. Trek Company sells all of their shares for cash at $13 each.

  Cash (A) + Investment (A) = (L) + Ret. Earnings (E)

Cash (A)	Investment (A)	(L)	Ret. Earnings (E)	
	+300		+300	(1,000 * 0.30)
+1,300	-1,200		100	(realized gain)

Equity (Consolidation)

- Suppose firm A owns 55% of the shares of firm B. In this case, firm A exhibits control over firm B and we refer to firm A as the **parent** and firm B as the **subsidiary.**

- GAAP requires that the parent report **consolidated financial statements**. This means that the parent's B/S must include the sub's assets and liabilities (and similarly for other financial statements such as the I/S, SCF, etc.)

Question 6: Equity (Consolidation)

AT&T acquired 100% of DirecTV stake, and AT&T needs to make adjustments using the consolidation method. The following table is AT&T and DirecTV's balance sheet, post acquisition, reported in fair values. How does AT&T's consolidated balance sheet look like post acquisition?

	Balance Sheets	
	AT&T	DirecTV*
Cash	6,578	5,061
Investment in DirecTV	47,763	
Other Tangible Assets	147,306	14,943
Intangible Assets	87,307	36,195
Goodwill	70,920	34,427
Total assets	359,874	90,626
-Total liabilities	-238,988	-42,863
Book value of net assets	120,886	47,763

*Note: This column represents DirecTV's balance sheet **after** AT&T makes all fair market value adjustments, and accounts for all intangible assets and goodwill.

Question 6: Equity (Consolidation)

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AT&T acquired 100% of DirecTV stake, and AT&T needs to make adjustments using the consolidation method. The following table is AT&T and DirecTV's balance sheet, post acquisition, reported in fair values. How does AT&T's consolidated balance sheet look like post acquisition?

already incorporated all other assets and liabilities into the consolidated AT&T balance sheet

Balance Sheets				
	AT&T	DirecTV*	Consolidating Adj.	AT&T Consolidated
Cash	6,578	5,061		11,639
Investment in DirecTV	47,763		-47,763	
Other Tangible Assets	147,306	14,943		162,249
Intangible Assets	87,307	36,195		123,502
Goodwill	70,920	34,427		105,347
Total assets	359,874	90,626		402,737
-Total liabilities	-238,988	-42,863		-281,851
Book value of net assets	120,886	47,763	-47,763	120,886

*Note: This column represents DirecTV's balance sheet **after** AT&T makes all fair market value adjustments, and accounts for all intangible assets and goodwill.