

# 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:

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

## 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.

## Question 1: Acquisition

Use the BSE to record the acquisition of Little Company.

$$\begin{array}{ccccccccccc}
 \text{Cash (A)} & + & \text{AR (A)} & + & \text{Invent. (A)} & + & \text{Land (A)} & + & \text{Intangibles (A)} & + & \text{Goodwill (A)} & = & \text{AP (L)} & + & \text{LT Debt (L)} & + & \text{(E)} \\
 -1,900 & & +200 & & +50 & & +800 & & +100 & & +1,200 & & +50 & & +400 & & 
 \end{array}$$

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?

$$\$1,000 \text{ Beg} + \$1,200 \text{ new} = \$2,200$$

## Investments

- 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**.

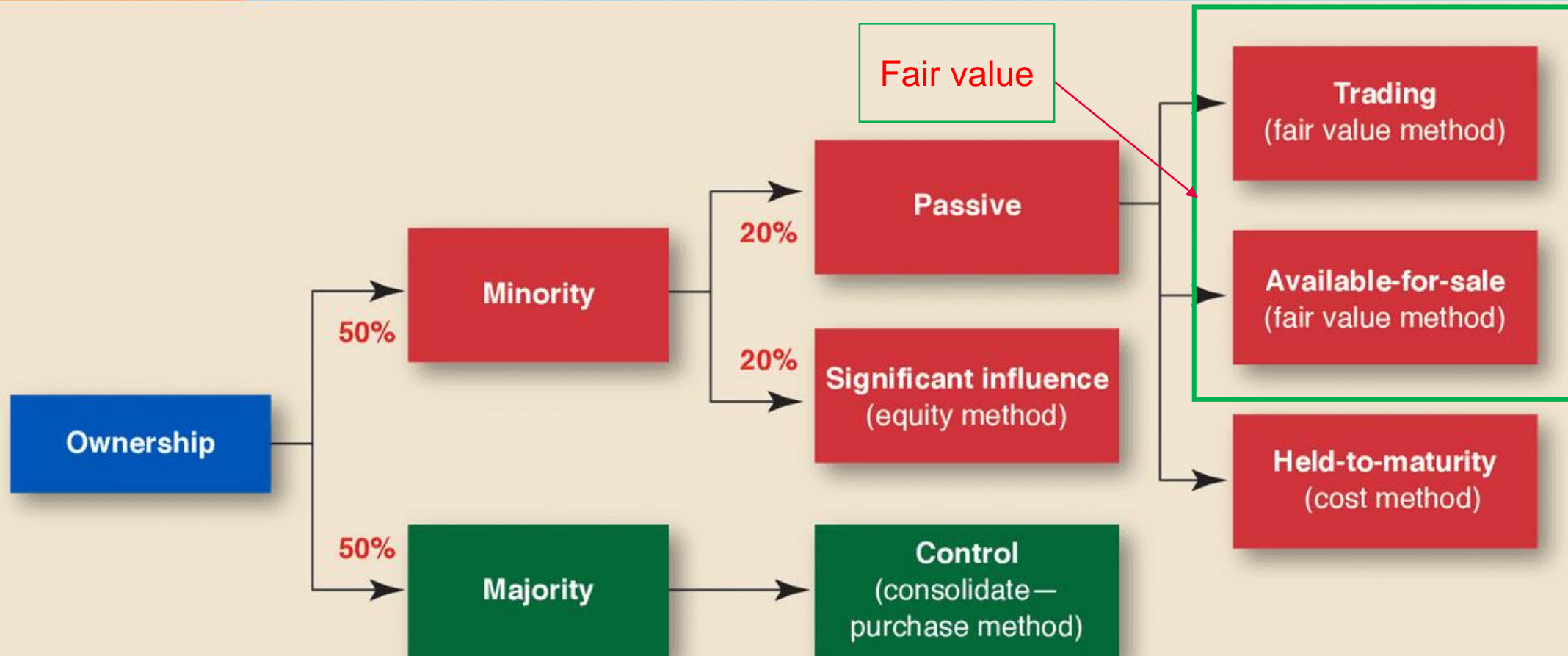
# Investments

- 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

## EXHIBIT 12.1

## Financial Investment Diagram



## 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	I/S
	Effect	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.

$$\begin{array}{lcl} \text{Cash (A)} & + & \text{Investment (A)} = (L) + (E) \\ -1,000 & & +1,000 \end{array}$$
- 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.

$$\begin{array}{lcl} \text{Cash (A)} & + & \text{Investment (A)} = (L) + \text{Ret. Earnings (E)} \\ +100 & & +100 \quad (\text{interest income}) \end{array}$$
- At maturity, the bonds are trading at \$10 each. Trek Company receives back principal in cash.

$$\begin{array}{lcl} \text{Cash (A)} & + & \text{Investment (A)} = (L) + \text{Ret. Earnings (E)} \\ +1,000 & & -1,000 \end{array}$$

## 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.

$$\begin{array}{lcl} \text{Cash (A)} & + & \text{Investment (A)} = (\text{L}) + (\text{E}) \\ -1,000 & & +1,000 \end{array}$$
- A year later, bonds are trading at \$15 each. Trek Company does not sell.

$$\begin{array}{lcl} \text{Cash (A)} & + & \text{Investment (A)} = (\text{L}) + \text{Ret. Earnings (E)} \\ & +500 & +500 \quad (\text{unrealized gain}) \end{array}$$
- Later, the bonds issue a coupon payment totaling \$100.

$$\begin{array}{lcl} \text{Cash (A)} & + & \text{Investment (A)} = (\text{L}) + \text{Ret. Earnings (E)} \\ +100 & & +100 \quad (\text{interest income}) \end{array}$$
- The following day, bonds are trading at \$13 each. Trek Company sells all of their bonds for cash.

$$\begin{array}{lcl} \text{Cash (A)} & + & \text{Investment (A)} = (\text{L}) + \text{Ret. Earnings (E)} \\ +1,300 & & -1,500 \quad -200 \quad (\text{realized loss}) \end{array}$$

## 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.

$$\text{Cash (A)} + \text{Investment (A)} = (\text{L}) + (\text{E})$$

$$-1,000 \qquad +1,000$$

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

$$\text{Cash (A)} + \text{Investment (A)} = (\text{L}) + \text{OCI (E)} + \text{Ret. Earnings (E)}$$

$$+500 \qquad +500 \qquad (\text{unrealized gain})$$

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

$$\text{Cash (A)} + \text{Investment (A)} = (\text{L}) + \text{OCI (E)} + \text{Ret. Earnings (E)}$$

$$+100 \qquad \qquad +100 \qquad (\text{interest income})$$

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

$$\text{Cash (A)} + \text{Investment (A)} = (\text{L}) + \text{OCI (E)} + \text{Ret. Earnings (E)}$$

$$+1,300 \qquad -1,500 \qquad -500 \qquad +300 \qquad (\text{realized gain})$$

## 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.  

$$\text{Cash (A)} + \text{Investment (A)} = (\text{L}) + (\text{E})$$

-1,000	+1,000		
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- 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  

$$\text{Cash (A)} + \text{Investment (A)} = (\text{L}) + \text{Ret. Earnings (E)}$$

+100	-100		
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- The following day, Stark Company announces earnings of \$1,000. Trek Company sells all of their shares for cash at \$13 each.  

$$\text{Cash (A)} + \text{Investment (A)} = (\text{L}) + \text{Ret. Earnings (E)}$$

	+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.

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	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.