YALE
UNDERGRADUATE
DIVERSIFIED
INVESTMENTS

Meeting # 4

LBO and M&A Analyses

November 5 9 Pm

Goals of Meeting # 3

1) LBO Definition
2) Major Parts
3) M&A Definition
4) Major Parts

Definition

Leveraged Buyout (LBO)

- Financial sponsors (Private Equity - PE)
- Purchase companies with mature cash flows to pay off debt that they used to leverage their investment
- Improve operations of acquire and sell company 3 - 5 years
- Maximize RETURN (IRR) on their investment (in the form of cash)

Goal: Determine how much they would pay to get a required return (IRR) on investment - used in valuation as "floor"

Major Parts

Leveraged Buyout (LBO)

1. **Purchase Price of Acquired Company**
2. **Sources & Uses (Debt vs Equity)**
3. **Financial Projections & Debt Repayments**
4. **Exit Price**
5. **Return**

Major Parts

1. Purchase Price of Acquired Company

Purchase Price of Acquired Company

- Typical valuation methodologies to determine a general range of valuations
- Assume a purchase price as a multiple of EBITDA (8x EBITDA, etc.)
- **The potential value to be paid is determined on our assumptions in the model**

Major Parts

2. Sources & Uses (Debt vs Equity)

Sources & Uses (Debt vs Equity)

- PE firms use leverage (debt) to purchase companies
  - Bank Debt - can be paid down
  - High Yield Debt - cannot be paid down

- **Maximize return**
  - $50 million in cash (which becomes equity of the new acquired company)
  - $200 million in debt
- Combinations of various debt and equity % affect the overall return (IRR) of the model

Major Parts

3. Financial Projections & Debt Repayments

Financial Projections & Debt Repayments

- Assumptions:
  - Revenue growth
  - EBITDA growth
  - company efficiency (expenses - cutting employees, etc.)
- Interest expenses and debt repayments on principle are paid off from cash flow of the acquired company.
- Consolidation of Financial Statements

Major Parts

4. Exit Price

Exit Price

- A majority of return for the PE firm comes from exit price
  - EBITDA multiple (the same or greater)
- Subtract any outstanding debt from the sale price, and left over is return to the PE firm for their investment

Major Parts

5. Return

Return

- **Higher Returns result from:**
  - More debt % of the purchase price (more leverage)
  - Higher EBITDA / Revenue growth assumptions
  - Lower purchase price
- Return in the form of IRR or internal rate of return
  - effective interest rate on investment
- Typically, PE firms have target IRR of 15-20%
- The LBO model takes assumptions and determines what a PE firm would pay to get their desired IRR

Return

- **100% Cash (assuming no cash flows)**
  - $100 payment
  - Exit at $200 after 5 years
  - Return of 2x
  - 100(1+IRR)^5 = 200
  - **IRR = 15%**

Return

- **50% Cash, 50% Debt (cash flows to debt)**
  - $50 cash, $50 debt
  - Exit at $200 after 5 years ($30 left over in debt)
  - Return of 3.4x ($170/50)
  - 50(1+IRR)^5 = 180
  - **IRR = 27%**

Dividend Recapitalization

- **PE firms can take out additional debt after purchasing the company to pay themselves**
  - PE firms realize their return quicker
  - Example:
    - Assets: $150
    - Liabilities: $100
    - Shar. Equity: $50
    - **Issue $70 in debt**
    - Assets: $150 + $70 cash
    - Liabilities: $100 + $70 liabilities
    - Shar. Equity: $50

- PE firm removes the $70 from cash on Assets
  - forces Shar. Equity to be negative ($50-$70) in order for balance A=L+SE

Definition

M&A Analysis

- Company is trying to purchase another (merger vs acquisition)
- See if acquiring another company would be beneficial to current shareholders
  - Higher Earnings per Share (EPS)
  - Cost or Revenue Synergies
- Optimal payment structure of Cash, Stock, and Debt
- Control Premiums

Major Parts

M&A Analysis

1. **Purchase Price**
2. **Purchase Method**
3. **Project Financial Statements of buyer & seller**
4. **Combine Income Statement**
5. **Combine Balance Sheet**
6. **Calculate Accretion / Dilution**

Major Parts

1. Purchase Price

Purchase Price

- General valuation methodologies
- Control Premium: pay more for company than market value to incentivize a sale (synergies)
- Buyer tries to get low price, seller high price

Major Parts

2. Purchase Method

Purchase Method

- **Cash**
  - Cost: Foregone interest
- **Debt**
  - Cost: Interest & debt repayments
  - Dependent on company's leverage
- **Stock**
  - Trading in your shares for shares of another company
  - Cost: additional shares outstanding

- Buyers prefer CASH
  - cheapest option since interest rate on cash is lower than interest rate on debt. Stock issuance is typically always more expensive

Major Parts

3. Project Financial Statements for B & S

Project Financial Statements for Buyer & Seller

- Project each company's income statement (net income) and solve for each individual earnings per share
- Net Income / shares outstanding

Major Parts

4. Combine Income Statement

Combine Income Statement

- Combine projected income statements of buyer and seller
- Make assumptions:
- Revenue & cost synergies
- Changes in D&A (referring to pro forma balance sheet)
- New Debt payments
- New Foregone interest on cash

Major Parts

5. Combine Balance Sheet

Combine Balance Sheet

- Allocation of Purchase Price (Cash, Debt, Stock)
- Assets added to buyer's balance sheet
- Goodwill added to Intangible assets because the buyer paid more for the company than its book value of assets (paying for premium - branding, etc.)
- Example:
  - $100 purchase price represents a **-$100** on the right side of the balance sheet
  - Acquired company assets valued at **$80**
  - Goodwill of **$20** so that A=L+SE

Major Parts

6. Calculate Accretion or Dilution

Calculate Accretion / Dilution

- Pro Forma EPS:
  - Combined Net Income/ (Acquirer's Shares Outstanding + New Issued Shares)
- Compare pro forma EPS to EPS of Acquirer prior to transaction
- **Accretive**: Pro Forma EPS > EPS
- **Dilutive**: Pro Forma EPS < EPS

Calculate Accretion / Dilution

Kraft (Acquirer) & Cadbury

- Example
- Kraft wants to buy Cadbury by issuing:
  - 10 million shares
  - $100 million in debt with a 5% interest
  - $5 million cash at a 2% interest rate

Calculate Accretion / Dilution

Kraft (Acquirer) & Cadbury

- Kraft Net Income: $80 million
- **Kraft Pro Forma Net Income:**
    - + $10 million from Cadbury
    - - $5,000,000 interest payment
    - - $100,000 foregone interest
- **Pro Forma Net Income: $84.9 million**

- Kraft shares outstanding: 100 million
- **Additional shares in acquisition:** 20 million

Calculate Accretion / Dilution

Kraft (Acquirer) & Cadbury

- **Kraft EPS:** $80 million/100 million shares = **$0.80 per share**
- **Kraft Pro Forma EPS:** $84.9 million / 120 million shares = **$0.71 per share**

Dilutive: $0.8-0.71 = 0.09/0.8 = **11.25% dilutive**

Calculate Accretion / Dilution

Short Cut Example

- **Could this transaction with 50% debt, 25% cash, and 25% stock be accretive or dilutive?**
- Interest rate on Cash: 2%
- Interest rate on Debt: 5%
- Kraft's P/E ratio: 10x
- Cadbury's P/E ratio: 20x
- Tax rate: 40%

Calculate Accretion / Dilution

Short Cut Example

- **Cost of Debt:** Interest(1-tax%)
- **Cost of Cash:** Foregone interest(1-tax%)
- **Cost of Stock:** 1/10 [Kraft (P/E)^-1]
- **Yield of Seller:** 1/20 [Cadbury (P/E)^-1]

Calculate Accretion / Dilution

Short Cut Example

- **Cost of Debt:** 5%(1-40%) = 3%
- **Cost of Cash:** 2%(1-40%) = 1.2%
- **Cost of Stock:** 10%
- **Yield of Seller:** 5%

Calculate Accretion / Dilution

Short Cut Example

50%**(3%)** + 25%**(1.2%)** + 25%**(10%)**

Weighted Cost: 4.3% < **Yield of Seller: 5%**

ACCRETIVE