Back to the very beginning:
Approaches to Valuation

- Discounted cashflow valuation, where we try (sometimes desperately) to estimate the intrinsic value of an asset by using a mix of theory, guesswork and prayer.

- Relative valuation, where we pick a group of assets, attach the name “comparable” to them and tell a story.

- Contingent claim valuation, where we take the valuation that we did in the DCF valuation and divvy it up between the potential thieves of value (equity) and the potential victims of this crime (lenders)
DISCOUNTED CASHFLOW VALUATION

**Cash flows**
- Firm: Pre-debt cash flow
- Equity: After debt cash flows

**Expected Growth**
- Firm: Growth in Operating Earnings
- Equity: Growth in Net Income/EPS

**Value**
- Firm: Value of Firm
- Equity: Value of Equity

**Discount Rate**
- Firm: Cost of Capital
- Equity: Cost of Equity

**Terminal Value**
- Firm is in stable growth: Grows at constant rate forever

**Length of Period of High Growth**
- CF1, CF2, CF3, CF4, CF5, CFn
Relative Valuation: The Four Steps to Understanding Multiples

- We all know what a PE ratio is, right? Do we?
  - In use, the same multiple can be defined in different ways by different users. When comparing and using multiples, estimated by someone else, it is critical that we understand how the multiples have been estimated.

- 8 times EBITDA is not always cheap...
  - Too many people who use a multiple have no idea what its cross sectional distribution is. If you do not know what the cross sectional distribution of a multiple is, it is difficult to look at a number and pass judgment on whether it is too high or low.

- You cannot get away without making assumptions
  - It is critical that we understand the fundamentals that drive each multiple, and the nature of the relationship between the multiple and each variable.

- There are no perfect comparables
  - Defining the comparable universe and controlling for differences is far more difficult in practice than it is in theory.

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Value of Stock = \( \text{DPS} \frac{1}{(k_e - g)} \)

- **PE** = Payout Ratio \( \frac{1+g}{r-g} \)
  - \( \text{PE} = f(g, \text{payout, risk}) \)

- **PEG** = Payout ratio \( \frac{1+g}{g(r-g)} \)
  - \( \text{PEG} = f(g, \text{payout, risk}) \)

- **PBV** = ROE (Payout ratio) \( \frac{1+g}{r-g} \)
  - \( \text{PBV} = f(\text{ROE}, \text{payout, g, risk}) \)

- **PS** = Net Margin (Payout ratio) \( \frac{1+g}{r-g} \)
  - \( \text{PS} = f(\text{Net Mgn, payout, g, risk}) \)

**Equity Multiples**

**Firm Multiples**

- \( \frac{\text{V/FCFF}}{\text{FCFF}} = f(g, \text{WACC}) \)
- \( \frac{\text{V/EBIT}(1-t)}{\text{EBIT}(1-t)} = f(g, \text{RIR, WACC}) \)
  - \( \text{Value/EBIT}(1-t) = (1+g) \frac{1-\text{RIR}}{(1-t)(\text{WACC}-g)} \)

- \( \frac{\text{V/EBIT}}{\text{EBIT}} = f(g, \text{RIR, WACC, t}) \)
  - \( \text{Value/EBIT} = (1+g)(1-\text{RIR})/(1-t)(\text{WACC}-g) \)

- \( \frac{\text{VS}}{\text{Oper Mgn, RIR, g, WACC}} \)
  - \( \text{VS} = \text{Oper Margin} \)
Contingent Claim (Option) Valuation

- Options have several features
  - They derive their value from an underlying asset, which has value
  - The payoff on a call (put) option occurs only if the value of the underlying asset is greater (lesser) than an exercise price that is specified at the time the option is created. If this contingency does not occur, the option is worthless.
  - They have a fixed life
- Any security that shares these features can be valued as an option.
Choices...Choices...Choices...

Asset Based Valuation
- Liquidation Value
- Replacement Cost

Discounted Cashflow Models
- Stable
- Two-stage
- Three-stage or n-stage

Relative Valuation
- Equity
- Sector
- Firm
- Market
- Current
- Normalized
- Earnings
- Book Value
- Revenues
- Sector specific

Contingent Claim Models
- Option to delay
- Option to expand
- Option to liquidate
- Young firms
- Equity in troubled firm
- Undeveloped land
- Undeveloped Reserves
- Patent

Equity Valuation Models
- Firm Valuation Models

Dividends

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Picking your approach

- Asset characteristics
  - Marketability
  - Cash flow generating capacity
  - Uniqueness

- Your characteristics
  - Time horizon
  - Reasons for doing the valuation
  - Beliefs about markets
Some Not Very Profound Advice

- Its all in the fundamentals. The more things change, the more they stay the same.
- Focus on the big picture; don’t let the details trip you up.
- Experience does not equal knowledge.
- Keep your perspective. It is only a valuation.
- Luck dominates...
Or maybe you can fly....