

# Cheat Sheet: FIE402 Corporate Finance - Spring 2025

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**Textbook:** Jonathan Berk and Peter DeMarzo, *Corporate Finance*, 6th Global Edition, Pearson.

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# 1 Introduction & Basic Concepts (L1)

## 1.1 Two Key Questions in Corporate Finance

- **Valuation:** How do we distinguish between good and bad investment projects?
- **Financing:** How should we finance the investment projects we choose to undertake?

## 1.2 Net Present Value (NPV) Rule

- Evaluate investment opportunities by calculating the Net Present Value (NPV) of future cash flows.
- **Decision Rule:** Choose the alternative with the highest NPV. Invest if  $NPV > 0$ .
- **Fisher Separation Theorem:** The NPV rule is appropriate even if shareholders have different time preferences for consumption, assuming perfect capital markets. Investment decisions can be separated from financing decisions and shareholder consumption preferences.

## 1.3 Free Cash Flow (FCF)

- FCF is the cash flow available for distribution to all investors (debt and equity holders) after funding all worthwhile investment activities.
- Focus on **incremental** cash flows. Ignore sunk costs. Include indirect effects (e.g., cannibalization, synergies).
- Calculation (ignoring financing effects for now):

$$FCF = EBIT(1 - \tau_C) + \text{Depreciation} - \text{CapEx} - \Delta NWC + \text{Other}$$

where  $\tau_C$  is the corporate tax rate.

- **Net Working Capital (NWC):** Current Assets - Current Liabilities.  $\Delta NWC$  is the change (investment) in NWC.

## 1.4 Cost of Capital

- The appropriate discount rate reflects the opportunity cost of capital – the return investors could earn on an alternative investment with similar risk and timing.
- **Total Risk** = Idiosyncratic (Unique/Diversifiable) Risk + Systematic (Market/Non-Diversifiable) Risk.
- Investors are only compensated for bearing systematic risk.
- **Capital Asset Pricing Model (CAPM):**

$$E[R_i] = r_f + \beta_i(E[R_{Mkt}] - r_f)$$

where  $r_f$  is the risk-free rate,  $\beta_i$  is the asset's beta (measure of systematic risk), and  $(E[R_{Mkt}] - r_f)$  is the market risk premium.

- Beta ( $\beta_i$ ) measures the sensitivity of an asset's return to the market portfolio's return.

$$\beta_i = \frac{\text{Cov}(R_i, R_{Mkt})}{\text{Var}(R_{Mkt})} = \frac{\text{SD}(R_i)}{\text{SD}(R_{Mkt})} \text{Corr}(R_i, R_{Mkt})$$

## 1.5 Law of One Price and Value Additivity

- **Law of One Price:** Two assets (or portfolios) with the identical risk and future cash flows must trade at the same price today. Implies no arbitrage opportunities.
- **Value Additivity:** The value of a sum of cash flow streams equals the sum of the values of each cash flow stream.  $PV(A+B) = PV(A) + PV(B)$ . The price of a portfolio equals the sum of the prices of the individual securities.

## 2 Capital Structure (L2, L3, L4, L5)

### 2.1 Modigliani-Miller (MM) Propositions (Perfect Capital Markets)

#### Assumptions of a Perfect Capital Market:

- No taxes (corporate or personal).
- No transaction costs or security issuance costs.
- Investors and firms can borrow/lend at the same risk-free rate.
- Financing decisions do not change the cash flows generated by the firm's assets (investments) or reveal new information.
- Symmetric information.

#### MM Proposition I (Value Irrelevance):

- In a perfect capital market, a firm's total value is unaffected by its capital structure.
- Value is determined solely by the cash flows generated by the firm's assets (investments).

$$V_L = V_U = A$$

where  $V_L$  is the value of the levered firm,  $V_U$  is the value of the unlevered firm, and  $A$  is the market value of the firm's assets.

- **Implication:** Financing decisions (right side of balance sheet) do not create value. Focus on investment decisions (left side).
- **Homemade Leverage:** Investors can replicate the firm's leverage choice in their own portfolios, making the firm's choice irrelevant to them.

#### MM Proposition II (Cost of Capital):

- The cost of equity ( $r_E$ ) of a levered firm increases linearly with the firm's market value debt-to-equity ratio ( $D/E$ ).

$$r_E = r_U + \frac{D}{E}(r_U - r_D)$$

(Assuming  $r_D$  is constant, but the principle holds even if  $r_D$  increases with  $D/E$ ).

- Increased leverage increases the risk borne by equity holders (financial risk), who therefore demand a higher return.
- **WACC (Weighted Average Cost of Capital) in Perfect Markets:**

$$r_{WACC} = \frac{E}{E+D}r_E + \frac{D}{E+D}r_D = r_A = r_U$$

The WACC is independent of capital structure and equals the cost of capital of the unlevered firm ( $r_U$ ). The benefit of cheaper debt ( $r_D < r_E$ ) is exactly offset by the increased cost of equity ( $r_E$ ).

#### Capital Structure and Beta (CAPM):

- Unlevered Beta (Asset Beta,  $\beta_U$ ) measures the systematic risk of the firm's assets (business risk).

$$\beta_U = \frac{E}{E+D}\beta_E + \frac{D}{E+D}\beta_D$$

- Levered Beta (Equity Beta,  $\beta_E$ ) increases with leverage:

$$\beta_E = \beta_U + \frac{D}{E}(\beta_U - \beta_D)$$

- Equity beta reflects both business risk ( $\beta_U$ ) and financial risk (from leverage).

#### Capital Structure Fallacies:

- **EPS Fallacy:** While leverage might increase expected EPS, it doesn't increase shareholder value. The higher EPS compensates for higher risk (higher  $r_E$ ). Share price remains unchanged (in MM world).
- **Dilution Fallacy:** Issuing new shares doesn't "dilute" existing shareholders' value if shares are sold at a fair price. The capital raised increases the firm's assets.
- **ROE Fallacy (Banking):** Increasing equity requirements doesn't necessarily hurt shareholders, even if ROE falls. Lower ROE reflects lower risk, and the required return ( $r_E$ ) also falls. WACC remains unchanged (absent taxes).

## 2.2 Capital Structure with Corporate Taxes

- Interest payments are generally tax-deductible, while dividends are not.
- **Interest Tax Shield (ITS):** The tax savings resulting from the deductibility of interest payments.

$$ITS_t = \tau_C \times \text{Interest Payment}_t$$

- **MM Proposition I with Taxes:** The value of a levered firm equals the value of an unlevered firm plus the present value of the interest tax shield (PVTs).

$$V_L = V_U + PV(ITS)$$

- **Valuing PV(ITS):**

- **Permanent Debt (D constant):** Assume ITS has the same risk as debt. Discount at  $r_D$ .

$$PV(ITS) = PV(\tau_C \times r_D \times D) = \frac{\tau_C \times r_D \times D}{r_D} = \tau_C D$$

- **Constant D/V ratio (or D/E):** Assume ITS has the same risk as the firm's assets (unlevered). Discount at  $r_U$ .

$$PV(ITS) = PV(\text{Expected ITS}) \text{ discounted at } r_U$$

- **Constant Interest Coverage Ratio:** Interest =  $k \times \text{FCF}$ . Tax shield has same risk as FCF (unlevered).

$$PV(ITS) = PV(\tau_C \times k \times \text{FCF}) = \tau_C k \times PV(\text{FCF}) = \tau_C k V_U$$

$$V_L = V_U + \tau_C k V_U = V_U(1 + \tau_C k)$$

- **WACC with Taxes (for constant D/V):**

$$r_{WACC} = \frac{E}{E+D} r_E + \frac{D}{E+D} r_D (1 - \tau_C)$$

$$r_{WACC} = r_U - \frac{D}{E+D} r_D \tau_C \text{ (If } r_D \text{ is constant). WACC decreases with leverage due to the tax benefit.}$$

- **Effective vs. Statutory Tax Rate:** Actual tax savings might be less than  $\tau_C$  due to NOLs, other tax shields (depreciation).
- **Personal Taxes:** Can reduce (or enhance) the net advantage of debt depending on relative tax rates on interest, dividends, and capital gains. Difficult to estimate precisely.

## 2.3 Costs of Financial Distress

- If debt burden is too high, firm may have trouble servicing its debt (financial distress).
- **Direct Bankruptcy Costs:** Legal fees, court fees, administrative costs. Relatively small % of firm value for large firms, but can be significant for small ones.
- **Indirect Costs (often larger):**
  - Loss of customers, suppliers, employees.
  - Fire sales of assets.
  - Inefficient liquidation.
  - Weakening of competitive position.
  - Management time and focus diverted to creditor negotiations.
  - Agency costs of debt (see below).
- Expected costs of financial distress reduce the value of leverage.

## 2.4 Agency Costs and Benefits of Debt

- **Agency Costs of Debt:** Conflicts between shareholders and creditors when firm is in financial distress.
  - **Excessive Risk-Taking (Asset Substitution):** Shareholders (with limited liability) may have incentives to undertake very risky projects (even negative NPV ones), as they capture the upside while creditors bear the downside in bankruptcy.
  - **Debt Overhang (Underinvestment):** Shareholders may refuse to invest in positive NPV projects if a large fraction of the benefits goes to creditors (because debt is risky and the project reduces default risk).
- **Agency Benefits of Debt (Free Cash Flow Theory - Jensen):**
  - **Discipline:** Debt commits management to pay interest and principal, reducing the "free cash flow" available for wasteful spending, overinvestment, or perks.
  - **Concentration of Ownership:** Debt financing may allow founders/managers to retain larger equity stakes, strengthening their incentives to maximize value.

## 2.5 Asymmetric Information and Capital Structure

- Management often has better information about the firm's value and prospects than outside investors.
- **Signaling:** Financing choices can signal management's private information to the market.
  - Equity issuance often signals management believes the stock is overvalued (negative signal, stock price drops).
  - Share repurchases or debt issuance often signals management believes the stock is undervalued (positive signal).
- **Pecking Order Theory (Myers & Majluf):** Due to asymmetric information, firms prefer financing sources in this order: 1. Internal funds (retained earnings) - no information problems. 2. Safe Debt - least sensitive to asymmetric information. 3. Risky Debt. 4. Hybrid Capital (convertible debt). 5. Equity - most sensitive to asymmetric information (adverse selection problem).
- Implication: No well-defined optimal capital structure, but rather a financing hierarchy.

## 2.6 Trade-Off Theory

- Combines the effects of taxes, distress costs, and agency costs/benefits.
- Firms choose a capital structure that balances the tax benefits of debt against the expected costs of financial distress and agency costs.
$$V_L = V_U + \text{PV}(\text{ITS}) - \text{PV}(\text{Costs of Financial Distress}) - \text{PV}(\text{Agency Costs of Debt}) + \text{PV}(\text{Agency Benefits of Debt})$$
- The optimal leverage ratio varies across firms and industries, depending on profitability, risk, asset types, growth opportunities, etc.

## 3 Valuation with Leverage (L7, L8)

Three methods for valuing projects/firms when leverage is present and creates value (primarily via tax shields):

### 3.1 Weighted Average Cost of Capital (WACC) Method

- **Key Assumption:** Firm maintains a *constant* market debt-to-value (or debt-to-equity) ratio.
- **Method:** 1. Calculate the project's (unlevered) Free Cash Flows (FCF), as if it were 100%. 2. Calculate the after-tax WACC:

$$r_{WACC} = \frac{E}{E+D}r_E + \frac{D}{E+D}r_D(1-\tau_C)$$

where  $r_E$  and  $r_D$  are the costs of equity and debt *at the target leverage ratio*. 3. Discount the FCFs using the WACC to find the project's levered value ( $V_L$ ).

$$V^L = \sum_{t=1}^N \frac{FCF_t}{(1+r_{WACC})^t} + \frac{\text{Terminal Value}_N}{(1+r_{WACC})^N}$$

- **Pro:** Relatively simple when the target leverage ratio is constant.
- **Con:** Requires constant leverage ratio. WACC needs re-estimation if leverage changes significantly. Requires calculating FCF as if unlevered.

### 3.2 Adjusted Present Value (APV) Method

- **Idea:** Separate the value of the project's operations from the value of financing effects.
- **Method:** 1. Calculate the project's unlevered value ( $V_U$ ) by discounting the (unlevered) FCFs using the unlevered cost of capital ( $r_U$ ).

$$r_U = \frac{E}{E+D}r_E + \frac{D}{E+D}r_D \quad (\text{Pre-tax WACC})$$

2. Calculate the present value of financing side effects, primarily the PV(ITS). Other effects (issue costs, subsidized debt, bankruptcy costs) can also be added/subtracted. 3. Sum the components:

$$V_L = APV = V_U + PV(\text{Financing Side Effects})$$

Often:  $V_L = V_U + PV(ITS)$ .

- **Discounting ITS:** Depends on the risk of the tax shield, which depends on the debt policy.
  - Constant D/V: Use  $r_U$ .
  - Constant D (predetermined debt): Use  $r_D$ .
  - Constant Interest Coverage:  $PV(ITS) = \tau_C k V_U$ .
- **Pro:** More flexible than WACC; handles changing leverage ratios and other financing effects directly.
- **Con:** May require forecasting debt levels and interest payments to value PV(ITS) accurately. Circularity problem if debt is tied to  $V_L$ .

### 3.3 Flow-to-Equity (FTE) Method

- **Idea:** Value the equity directly by discounting the cash flows available to equity holders.
- **Method:** 1. Calculate Free Cash Flow to Equity (FCFE):

$$FCFE = FCF - (1 - \tau_C) \times \text{Interest} + \Delta \text{Net Debt}$$

$$FCFE = \text{Net Income} + \text{Depreciation} - \text{CapEx} - \Delta \text{NWC} + \Delta \text{Net Debt}$$

where  $\Delta \text{Net Debt}$  is net new debt issued (issuance - repayment). 2. Determine the cost of equity ( $r_E$ ), adjusted for project risk and leverage. Use MM Prop II or CAPM.

$$r_E = r_U + \frac{D}{E}(r_U - r_D)(1 - \tau_C) \quad (\text{with taxes, simpler form})$$

3. Discount the FCFEs using  $r_E$  to find the value of equity ( $E$ ).

$$E = \sum_{t=1}^N \frac{FCFE_t}{(1 + r_E)^t} + \frac{\text{Terminal Value}_N^{(E)}}{(1 + r_E)^N}$$

4. Total Value:  $V_L = E + D_0$ .

- **Pro:** Useful when the debt-equity ratio changes in such a way that  $r_E$  is easier to estimate/keep constant than WACC. Can be more direct for LBO analysis.
- **Con:** Requires accurate forecasts of debt levels and interest payments.  $r_E$  is very sensitive to leverage changes.

### 3.4 Project-Based Cost of Capital

- If a project has different risk than the overall firm:
- Find comparable publicly traded firms operating purely in the project's industry.
- Calculate the comparables' unlevered beta ( $\beta_U$ ) or unlevered cost of capital ( $r_U$ ) by removing the effect of their leverage.

$$\beta_U = \frac{\beta_E}{1 + (1 - \tau_C)D/E} \quad (\text{assuming } \beta_D = 0)$$

$$r_U = \frac{E}{E+D}r_E + \frac{D}{E+D}r_D \quad (\text{Pre-tax WACC})$$

- Use the average  $\beta_U$  or  $r_U$  of the comparables as an estimate for the project's unlevered risk.
- Re-lever this risk based on the project's own target leverage ratio to find the project-specific  $r_E$  (for FTE) or  $r_{WACC}$  (for WACC).

## 4 Payout Policy (L5, L6)

### 4.1 Methods of Payout

- **Dividends:** Direct cash payment to shareholders.
  - Cash dividend, stock dividend (stock split), special dividend.
  - Cum-dividend vs. Ex-dividend date.
- **Share Repurchases:** Firm buys back its own shares from the market.
  - Open market purchase, fixed price tender offer, Dutch auction, greenmail.

### 4.2 MM Payout Irrelevance

- In a perfect capital market, the firm's choice of payout method (dividend vs. repurchase) is irrelevant to firm value.
- Similarly, the choice between paying out cash or retaining it (and investing in financial assets) is irrelevant.
- **Logic:** If cash is retained, value per share increases. If paid out, shareholders receive cash directly. Total return is the same. Repurchases reduce share count but increase value per remaining share proportionally.

### 4.3 Payout Policy with Market Imperfections

#### Taxes:

- If dividend tax rate  $>$  capital gains tax rate (often true, or cap gains tax can be deferred), shareholders prefer repurchases.
- Firms paying dividends may attract a "clientele" of low-tax or tax-exempt investors (e.g., pension funds, corporations).

#### Asymmetric Information (Signaling):

- Dividends are "sticky". Management is reluctant to cut them.
- Dividend increases can signal management's confidence in future earnings (positive signal).
- Dividend cuts signal pessimism (negative signal).
- Repurchases are more flexible but can also signal that management views the stock as undervalued.

#### Agency Costs (Free Cash Flow):

- Paying out excess cash (via dividends or repurchases) reduces management's ability to waste funds on empire building or perks.

#### Transaction Costs:

- Retaining cash avoids the costs of raising new capital later.

#### Financial Distress:

- Retaining cash provides a buffer against future downturns, reducing the probability of costly financial distress.

## 5 Security Issues (L6)

### 5.1 Equity Issues

- **Initial Public Offering (IPO):** A private company goes public by selling shares to the public for the first time.
  - **Underwriter:** Investment bank assisting with the process (due diligence, pricing, marketing, selling).
  - **Underpricing Puzzle:** IPO shares often experience a significant price increase on the first day of trading. Average first-day return around 18
    - \* Explanations: Asymmetric information (Winner's Curse), investment bank conflicts, signaling, behavioral finance.
  - **Long-Run Underperformance Puzzle:** IPO stocks tend to underperform the market over the long run (3-5 years).

- **Seasoned Equity Offering (SEO):** An already public company issues additional shares.
  - **Negative Price Reaction:** The market typically reacts negatively to SEO announcements.
  - Explanation: Asymmetric information – management issues equity when they believe the stock is overvalued.
  - **Rights Offer:** Offers new shares to existing shareholders first. Protects against dilution from underpricing.

## 6 Options in Corporate Finance (L11, L12, L13, L14, L15)

### 6.1 Option Basics

- **Option:** A contract giving the holder the right, but not the obligation, to buy (call) or sell (put) an underlying asset at a specified price (strike price,  $K$ ) on or before a specified date (expiration date,  $T$ ).
- **Call Option Payoff at Expiration (T):**  $\max(0, S_T - K)$
- **Put Option Payoff at Expiration (T):**  $\max(0, K - S_T)$
- **European vs. American:** European options can only be exercised at expiration. American options can be exercised anytime up to expiration.

### 6.2 Put-Call Parity

- For European options on a non-dividend-paying stock:

$$C + PV(K) = P + S_0$$

where  $C$  is call price,  $P$  is put price,  $S_0$  is stock price today,  $PV(K)$  is present value of strike price ( $K/(1+r_f)^T$ ).

### 6.3 Binomial Option Pricing

- Assumes the price of the underlying asset can move to only two possible values in the next period (up or down).
- **Replicating Portfolio:** Construct a portfolio of the underlying stock and risk-free borrowing/lending that exactly matches the option's payoff in both states. The option's value must equal the cost of the replicating portfolio (Law of One Price).
- **Formula (1 period):**  $C_0 = \Delta S_0 + B$  where  $\Delta = \frac{C_u - C_d}{S_u - S_d}$  (number of shares) and  $B = \frac{C_d - S_d \Delta}{1 + r_f}$  (amount borrowed/lent).
- **Risk-Neutral Valuation:** An alternative method. 1. Calculate the risk-neutral probability ( $\rho$ ) of an up move:

$$\rho = \frac{(1 + r_f)S_0 - S_d}{S_u - S_d}$$

2. Calculate the expected payoff of the option using the risk-neutral probabilities. 3. Discount the expected payoff at the risk-free rate.

$$C_0 = \frac{\rho C_u + (1 - \rho)C_d}{1 + r_f}$$

### 6.4 Corporate Securities as Options

- **Equity:** Can be viewed as a call option on the firm's assets ( $V$ ), with a strike price equal to the face value of debt ( $K$ ).  $E = \max(0, V - K)$ .
- **Debt:** Can be viewed as:
  - Firm's assets minus a call option on the assets:  $D = V - C(K)$ .
  - Risk-free debt minus a put option on the assets:  $D = PV(K) - P(K)$ .
- **Implications for Agency Conflicts:**
  - Since Equity is a call, its value increases with risk ( $\sigma$ ). This can incentivize shareholders towards risk-shifting.
  - Since Debt = RiskFree - Put, and Put value increases with risk, the value of risky debt decreases as risk increases.
- **Credit Default Swaps (CDS):** Essentially insurance against default, economically similar to a put option on the value of the debt or the firm's assets.



## 6.5 Real Options

- Applying option theory to real investment projects, which often contain flexibility.
- Standard NPV may undervalue projects by ignoring the value of this flexibility.
- **Types of Real Options:**
  - **Option to Wait/Delay:** Ability to postpone an investment decision until more information is available. Valuable under uncertainty. Invest only if  $NPV > \text{value of waiting}$ .
  - **Option to Expand/Growth Option:** Opportunity to make further investments if a project proves successful.
  - **Option to Abandon:** Flexibility to shut down a project if it performs poorly, limiting losses.
  - **Staged Financing:** Investing in phases, with the option to stop after each stage based on outcomes. Common in venture capital.
- **Valuation:** Use option pricing techniques (e.g., binomial model, risk-neutral valuation) where applicable. Standard NPV is a lower bound.

## 7 Special Topics (L16, L17)

### 7.1 Mergers & Acquisitions (M&A)

- **Motives for M&A:**
  - *Sensible (Value Creating):* Synergies (economies of scale/scope, vertical integration, complementary resources), industry consolidation, improved management (corporate control), market power (can be problematic).
  - *Dubious:* Diversification (investors can diversify themselves), increasing EPS (accounting artifact), lower borrowing costs (often a wealth transfer from existing bondholders), management motives (empire building).
- **Value Creation:** Empirical evidence suggests M&A creates some value overall, but most gains accrue to target shareholders. Acquirer shareholders often experience near-zero or negative returns.
- **Method of Payment:**
  - **Cash Payment:**  $NPV(\text{Acquirer}) = S - (P - T)$ .  $NPV(\text{Target}) = P - T$ . Acquirer's cost is independent of synergies.
  - **Stock Swap:** Target shareholders receive a fraction ( $y$ ) of the combined firm.  $NPV(\text{Acquirer}) = (1-y)(A+T+S) - A$ . Cost depends on synergies ( $S$ ). Preferred by acquirer if own stock is overvalued.
- **Takeover Defenses:** Poison pills, staggered boards, white knight, greenmail etc. Can either protect shareholder value or entrench inefficient management.
- **Risk Arbitrage:** Exploiting the price spread between the target's stock price and the implied offer value to profit from the probability of deal completion.

### 7.2 Project Finance

\*(Note: Mentioned in syllabus, not detailed in provided slides)\*

- Financing structure where debt is primarily serviced by cash flows from a specific, often large-scale, long-term project (e.g., infrastructure, power plant).
- Debt typically has limited or no recourse to the sponsors (non-recourse or limited recourse debt).
- Project is often set up as a separate legal entity (Special Purpose Vehicle - SPV).
- High leverage is common.
- Focus on risk allocation among parties (sponsors, lenders, suppliers, customers, government) via complex contracts.

## 8 Formula Summary (Selection)

- **NPV:**  $\sum_{t=0}^N \frac{E[CF_t]}{(1+r)^t}$
- **FCF:**  $EBIT(1 - \tau_C) + \text{Depr} - \text{CapEx} - \Delta\text{NWC}$
- **CAPM:**  $E[R_i] = r_f + \beta_i(E[R_{Mkt}] - r_f)$
- **MM II (no tax):**  $r_E = r_U + \frac{D}{E}(r_U - r_D)$
- **Unlevered Beta:**  $\beta_U = \frac{E}{E+D}\beta_E + \frac{D}{E+D}\beta_D$
- **Levered Beta:**  $\beta_E = \beta_U + \frac{D}{E}(\beta_U - \beta_D)$
- **MM I (with tax):**  $V_L = V_U + PV(ITS)$
- **PV(ITS) (permanent debt):**  $\tau_C D$
- **WACC (with tax):**  $r_{WACC} = \frac{E}{E+D}r_E + \frac{D}{E+D}r_D(1 - \tau_C)$
- **APV:**  $V_L = V_U + PV(ITS) \pm PV(\text{Other Side Effects})$
- **FCFE:**  $FCF - (1 - \tau_C) \times \text{Interest} + \Delta\text{Net Debt}$
- **Put-Call Parity:**  $C + PV(K) = P + S_0$
- **Binomial Option Value (Risk-Neutral):**  $C_0 = \frac{\rho C_u + (1-\rho)C_d}{1+r_f}$
- **Risk-Neutral Probability:**  $\rho = \frac{(1+r_f)S_0 - S_d}{S_u - S_d}$

## 9 Course Schedule Overview (from Syllabus)

Based on Berk & DeMarzo, Corporate Finance, 6th Global Edition.

L/T	Date (approx.)	Topic	Book Ch
L1	Jan 10	Introduction	Review of
1 to 12			
L2	Jan 15	Capital Structure	14 to 16
L3	Jan 24	Capital Structure	14 to 16
L4	Jan 29	Capital Structure	14 to 16
L5	Feb 07	Capital Structure	14 to 16
L6	Feb 12	Payout Policy	17
T1	Feb 14	Tutorial Session 1	
L7	Feb 19	Security Issues	23
L8	Feb 21	Valuation	18
L9	Feb 26	Valuation	18
L10	Feb 28	Valuation	18
L11	Mar 07	Valuation	18
L12	Mar 12	Options	20 to 22
T2	Mar 14	Tutorial Session 2	
L13	Mar 21	Options	20 to 22
L14	Mar 26	Options	20 to 22
L15	Apr 04	Options	20 to 22
L16	Apr 09	Mergers and Acquisitions	28
T3	Apr 11	Tutorial Session 3	
L17	Apr 23	Project Finance	
L18	Apr 25	Wrap up	

Note: Dates and exact content coverage might vary slightly.

### Disclaimer

This document is intended as a study aid and is based on the provided materials. No guarantee is made for its completeness or accuracy. Always refer to the textbook and your own notes as primary sources. Good luck with the exam!