

- **Three main types of corporate finance decisions;** These decisions are made to maximize the value of the company.
 1. Investment decision/capital budgeting - which project to invest in
 2. Financing decision - how to finance the projects we selected (debt vs equity)
 3. Payout policy - how much of our profit should be distributed to our investors.
- **Risk and return trade off;** there is a reward for bearing risk and thus the greater the risk the greater the return.
 - Risk aversion - assumes investors dislike risk and require higher return for this risk.
 - Risk premium - the additional return earned for taking risk, is the additional risk above the risk free rate.
- **Constant chain of replacement assumption;** each project is assumed to be replaced with an identical project at the end of its economic life until project chains are of equal length and a valid comparison between them can be made. This is done through
 1. Equivalent Annual Value (EAV) - EAV method involves calculating the annual cash flow of an annuity which has the same life and NPV as the project. Choose the highest EAV.
 - $$EAV\ NPV = \frac{NPV}{\frac{1-(1+r)^{-n}}{r}}$$
 2. The constant chain of replacement in perpetuity method - This method assumes that both chains continue *indefinitely*. The lengths are the same (infinity). the NPV of the chain comprises \$N at 0 plus a perpetuity of \$N payable every *n* years
 - $$NPV_{\infty} = NPV_0 \left[\frac{(1+r)^n}{(1+r)^n - 1} \right]$$
 3. The lowest common multiple method - Also assumes projects can be constantly replaced. See Book
- **Relationship between EAV & Constant chain of replacement;**
 - $$NPV_{\infty} = \frac{EAV}{r}$$
 - $$\therefore EAV = r \times NPV_{\infty}$$
- **NPV decision rule;** take the investment with the highest NPV and more specifically,
 - Accept a project if its NPV is positive which indicates it is adding value to the firm.
 - Reject a project if its NPV is negative which indicates it is reducing the value of the firm.
- **Sources of finance for private companies;**
 - Angel investors - often rich, successful entrepreneurs who are willing to help new companies get started for equity.
 - Venture capital - a venture capital firm is a limited partnership that specialises in raising money to invest in the private equity of young firms.
 - invests in privately held firms which are in a later stage rather than start-ups.
 - Institutional investors - pension funds, insurance companies, endowments, and foundations invest money in private companies.
 - Corporate investors - corporations that invest in younger companies for return but also for strategic reasons.
- **Methods of calculating project cost of capital;**
 1. Estimation - if the firm is all equity financed we use an all equity comparable investment/firm who have similar characteristics and we then use their bet and cost of capital estimates. same process applies of the use of debt and equity we would use a levered comparable.
 2. Ru formula - if the firm is 100% equity financed (unlevered) we calculated with;
 - $$R_a = r_u = \frac{E}{D+E} \times r_e + \frac{D}{D+E} \times r_d = \text{Pretax WACC}$$
 - And we can calculate beta with;
$$b_u = \frac{E}{D+E} \times b_e + \frac{D}{D+E} \times b_d$$
 3. Weighted average cost of capital (WACC) - also known as the marginal cost of capital (MCC)
 - $$WACC = [(1 - \tau) \times R_d \times W_d] + (R_{ps} \times W_{ps}) + (R_e \times W_e)$$
 or
$$WACC = \frac{E}{D+E} \times r_e + \frac{D}{D+E} \times r_d (1 - \tau)$$
 - $$W_d = \frac{D}{D+E+P} \quad W_{ps} = \frac{P}{D+E+P} \quad W_e = \frac{E}{D+E+P}$$
 - Debt capacity; The amount of debt at a particular date that is required to maintain the firm's target debt-to-value ratio.
 - $$D_t^L = d \times V_t^L$$
 where;
 - d = target D/E ratio.
 - $$V_t^L = \frac{FCF_{t+1} + V_{t+1}^L}{1 + r_{WACC}}$$
 - V_{t+1}^L = value of FCF in year t + 2 and beyond.
- **Types of mergers;**
 - Horizontal merger - target and acquirer are in the same industry
 - Vertical merger - a situation in which the target's industry buys or sells the acquirer's industry
 - Conglomerate merger - if the target and acquirer are in unrelated businesses.
- **Dividend discount model;** This price is calculated by summing the present value of all future dividends the stock will pay.
 - Constant dividends (preference shares) =
$$P_0 = \frac{D}{r_e}$$
 - Constantly growing dividends =
$$P_0 = \frac{D_0(1+g)}{r_e - g}$$
 - Estimating cost of ordinary shares with constant growth =
$$r_e = \frac{d_1}{P_0} + g$$
 - Estimating cost of preference shares =
$$r_{ps} = \frac{D}{P_0}$$
- **A comparison of discounted cash flow models of stock valuation;**

Present Value of...	Determines the...
Dividend payments	Stock price
Total payments (all dividends and repurchases)	Equity value
Free cash flow (cash available to pay all security holders)	Enterprise value