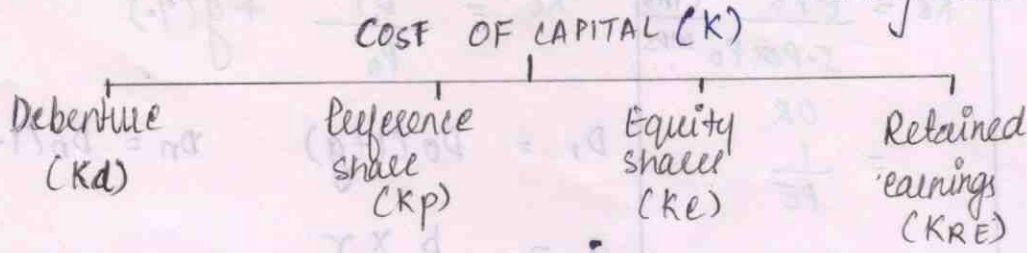


COST OF CAPITAL

COC-1

Cost is the compensation that we pay = $\frac{\text{compensation paid}}{\text{money received}}$.



COST OF DEBENTURES :- (Kd)

(i) IRREDEEMABLE DEB^N:

$$K_d = \frac{\text{int} (1 - TR)}{\text{money} - \text{floatation} \text{ servd} \text{ cost}} \times 100 \quad \text{I.P}$$

fresh issue: $\frac{\text{money} - \text{floatation} \text{ servd} \text{ cost}}{\text{cost}}$
OR take market value.

(ii) REDEEMABLE DEBENTURES :-

$$K_d = \frac{\text{int} (1 - \text{tax}) + \frac{RV - IP}{n}}{\text{I.P} + RV}$$

Don't forget the "TAX"
(RS) = $\frac{\text{int} (1 - \text{tax}) + \frac{RV - IP}{n}}{\text{I.P} + RV}$

RV = redemption value
IP = issue price net of floatation
n = life of debentures.

same for CONVERTIBLE DEB^N

COST OF PREFERENCE SHARES :- Kp

(i) IRREDEEMABLE PS :-

$$K_p = \frac{\text{pref. dividend}}{\text{money} - \text{floatation} \text{ servd} \text{ cost}} \times 100$$

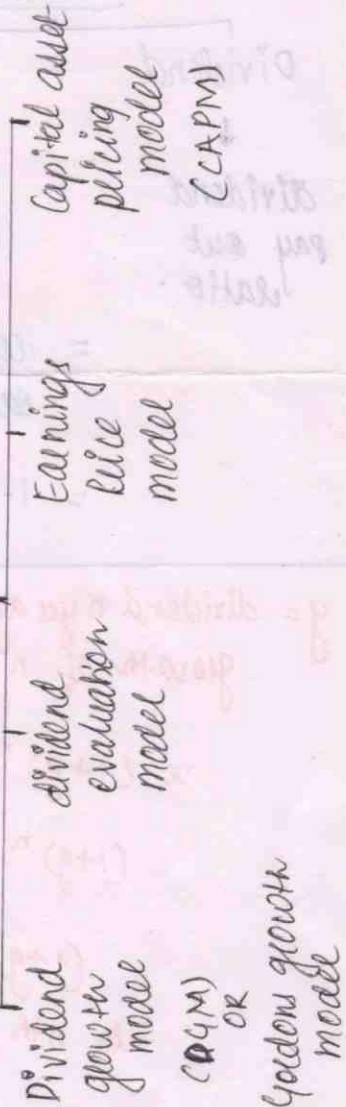
If IP not given then take market value.

(ii) REDEEMABLE PS :-

$$K_p = \frac{\text{pref. div} + \frac{RV - IP}{n}}{\frac{RV + IP}{2}}$$

RV = redemption value
IP = issue price - floatation cost
n = no. of yrs.

COST OF EQUITY : K(e)



• Floatation cost: cost incurred to issue the debⁿ, shares in market (prospectus, adv etc).

• IP:

at Par = Par
at Premium = Par + premium
at Disc = Par - Disc } - floatation cost.

(i) Dividend evaluation modl:-

$$k_e = \frac{\text{dividend}}{I \cdot P \times P_0}$$

IP - net of flotation

P_0 = current market price.

use when there is STABLE DIVIDEND.

(ii) Earning like method:

$$k_e = \frac{EPS}{I \cdot P \times P_0} \frac{EMPS}{MPS}$$

$$= \frac{1}{PE}$$

use when there is FLUCTUATING DIV

(iii) DIVIDEND GROWTH MODEL OR GORDONS GROWTH MODEL:-

constant growth in div

$$k_e = \frac{D_1}{P_0} + g(\%)$$

$$D_1 = D_0(1+g) \quad D_n = D_0(1+g)^n$$

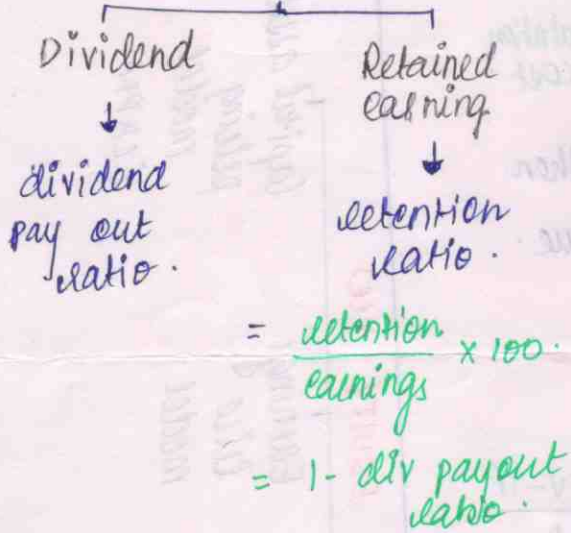
$$g = b \times r$$

b = retained earnings %

r = return of investment (ROI) %

$k_e > g$

EARNINGS:-



- anything other than paid dividend is always (D_1) [expected div] even if it is paying a dividend.
- growth is mentioned - always use Gordon's growth model.
- always put growth in decimals.
- capitalization rate = COC.
- value of growth opportunity = Price (DGM) - Price (DVM)

g = dividend n yrs ago + growth of n yrs = current div.

$$x(1+g)^n = y$$

$$(1+g)^n = \frac{y}{x} = z$$

$$(1+g)^n = z$$

take n th root

$$1+g = z$$

$$g = z - 1$$

COST OF RETAINED EARNINGS:-

- calculated using DVM or CAPM.

** no impact of flotation cost for P_0

OVERALL COC / Wtd Avg COC or COC of company

$$Wtd Avg = \frac{\sum \text{cost}}{\sum \text{capital}} \times 100$$

$$COC = \sum [\text{cost} \times \text{prop}^n \text{ of capital to total capital}]$$

Prop:- consider.

Book Value: take retained or retention earnings

Market value: no impact of retained earnings. (more appropriate)

calculate cost of retained earnings separately

(iv) CAPITAL ASSET PRICING

MODEL [CAPM]:

$$K_e = R_f + [\beta(R_m - R_f)]$$

R_f = Risk free return
[const]

R_m = Return on risky mkt.
[const]

β = systematic risk/return

$(R_m - R_f)$ = market risk premium.

TYPES OF RISKS.

Systematic
Undiversifiable
Market related

Unsystematic
Diversifiable
Company/Industry specific.

↓

β

measures volatility of securities return with that of change in market return.

$\beta = 1.2$ then mkt ↓ 1% co's return ↓ 1.2%
↑ 1% ↑ 1.2%

When, $\beta = 1$ Avg risk
 $\beta > 1$ High risk (aggressive co)
 $\beta < 1$ Low risk (conservative & defensive)

Beta

$$\beta = \frac{\Delta (\text{secu return})}{\Delta (\text{mkt return})}$$

$$\beta = \frac{\text{correlation (secu, mkt)} \times \sigma_{\text{secu}}}{\sigma_{\text{mkt}}}$$

$$\beta = \frac{\text{covariance (secu, mkt)}}{\sigma_{\text{mkt}}^2}$$

(v) K_e by realised yield approach.

$$K_e = \frac{\text{Div} + \text{Cap Approam}}{\text{Invest}}$$

$$= \frac{\text{Div} + [P_t - P_{t-1}]}{P_{t-1}}$$

P_t = Current MP

P_{t-1} = MP one year ago.