

DIVIDEND POLICY

affecting
MP

- 1) Gordon's growth model
- 2) Walter's model
- 3) Graham & Dodd model
- 4) hinters approach
- 5) Radical approach
- 6) Residual theory of div

not affecting
market price

- 1) Modigliani & Miller approach

$$P_e = \frac{1}{K_e}$$

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

$\beta(R_m - R_f)$ = risk premium

$R_m - R_f$ = mkt risk premium

1) Gordon's growth model

$$K_e = \frac{d_1}{P_0} + g$$

$$P_0 = \frac{d_1}{K_e - g}$$

$$g = b \times r$$

b = retention ratio

r = rate of return

$$d_1 = d_0(1+g)$$

$$P_0 = \text{CMP}_{1994} \cdot \left(\frac{\text{total}}{2000} \right)$$

$$d_0(1+g)^6 = 3(d_0)$$

value of growth opp = value (with growth) (-) value w/o growth

2) Walters model

$$MPS = \frac{DPS + \frac{IRR(EPs - DPS)}{K_e}}{K_e}$$

$$DPS = \frac{EPs \times \text{div payout}}{\text{div p.s.}} = \text{div} / \text{a.s.}$$

$$EPs = \text{earnings}$$

$$K_e = \text{cost of equity} = \text{SH generates opp'n return which SH earn in alternate source}$$

$$IRR = \text{invest ROR [Co generates]}$$

$$IRR = K_e$$

$$IRR > K_e$$

$$IRR < K_e$$

indifferent

0% DP [Co ↑↑]

100% DP

[SH generates more]

3) Graham & Dodd / Traditional

$$MPS = m \left[\frac{D + E}{3} \right]$$

$$= m \left[\frac{4D + R}{3} \right]$$

$$D = DPS$$

$$E = EPS$$

m = multiplier (how many times MPS will be of $D + E/3$)

$$E = EPS = D + R \text{ (div + retention)}$$

4) Residual theory

capital invested is first recovered out of CY profits. profits rem = div.

∴ residual theory

for loan = surplus of PY can be adjusted

5) hinters approach

fixed div payout

$$\text{div}_1 = \text{div}_0 + \text{adj rate} \times \text{div} \Delta$$

$$\text{div} \Delta = \text{new } \Delta \text{ as per fixed DPO} - \text{old div}(d_0)$$

adj rate = to adj for fluctuation (pro is same but earnings are diff)

6) Radical approach

considers tax effect

$$K_e = \text{net of tax (investment)}$$

$$\text{div tax} > \text{cap gain tax} \rightarrow \text{retain profit} \times \text{div} \uparrow$$

$$\text{div tax} < \text{cap gain tax} \rightarrow \text{pay div} \cdot \text{MP} \downarrow$$

$$\text{div rate} = \% \text{ of PDC} = \text{div rate} \times \text{PDC}$$

$$\text{div yield} = \% \text{ of MPS} = \text{div rate} \times \text{MPS}$$

$$\text{div payout} = \% \text{ of EPS} = \text{div rate} \times \text{EPS}$$

Modigliani & Miller approach

MPS per share Δ but total

MPS remains constant.

div declared

$\times$ div declared.

① Find $P_0 = \frac{d_1 + P_1}{1 + K_e}$

$P_1 = a$

$P_0 = \frac{0 + P_1}{1 + K_e}$ $\leftarrow \text{div} = 0$

$P_1 = b$

$[b > a]$

② Find new no of shares

retention + new issue = Investment = retention (div=0)

$(\text{earning} - \text{div}) +$

$n_1 \times P_1 = \text{investment}$

find $n_1 = a$

earning + $n_1 P_1 = \text{invest}$

find

$n_1 = b$

$[b < a]$

③ Find total net worth.

existing shares

n

(+) new share

$n_1(a)$

Total share

$\times$ price (P_1)

$P_1(a)$

Total NW

a

n

$(n=n)$

$n_1(b)$

$P_1(b)$

b

$a = b$