

Dividend Discount Model (DDM)

Gordon's Model

Def:

- share of profits that is distributed to shareholders
- reward/return that shareholders

receive for their investment in the company.

Types of dividend

- 1) Cash dividend
- 2) Stock dividend

Important Dates

- 1) Declaration Date

- 2) Date of Record / Ex div date
- 3) Payment date

Dividend Policy

- dictates amt of dividend paid out
- dictates freq. with which div. are paid out.

- When company makes profit.

- 1) they can keep profits for themselves

- 2) They can distribute among shareholder in form of dividend.

Importance of div. policy

- 1) Build Shareholder's trust
- 2) Future profits
- 3) Discipline Management
- 4) Influence stock price & value.
- 5) Influence Institutional Investors

Types of dividend Policies

- 1) No div policy
- 2) Stable div policy
- 3) Regular div
- 4) Irregular

Factors affecting div decisions

- 1) legal rules
- 2) funding requirements
- 3) Investment opportunities
- 4) contractual restriction
- 5) Liquidity position
- 6) Access to Capital Mkt
- 7) Stability of Earning
- 8) Type of industry
- 9) Stage of business

- DDM shares price is worth sum of present value of all of its future div payment.

$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} + \dots + \frac{P_{\infty}}{(1+K)^n}$$

P_0 = price / share

D_1, D_2, \dots, D_n = div / share / year

K = Cost of capital

Variations of DDM

- 1) Walter's model
- 2) Gordon's model

Walter's model

Assumpt:

- internal financing
- const. return & cost of capital
- const. earning & div / share (EPS/div)
- infinite life.

Mkt P / share

$$P_0 = \frac{D}{K} + \frac{(E-D) \times R/K}{K}$$

P_0 = Market Price Per share

D = Div / share

K = cost of capital of firm

E = Earning / share

R = internal return of rate

Implications of Walter Model

- 1) For growth firms, $r > K$
- 2) For normal firm, $r = K$
- 3) For declining firm, $r < K$

Limitations of Walter Model

- 1) No external financing
- 2) Constant rate of return & Cost of capital

Modigliani-Miller Approach (MM)

Assumpt:

- Perfect capital market
- No taxes
- Investors is in \neq btw div income & capital gain
- No risk or uncertainty
- Investment policy.

$$P_0 = \frac{D_1 + P_1}{1+K}$$

P_1 = mkt price of share at end of period
 P_0 = mkt price of share at beginning of period
 K = cost of capital
 D_1 = div received at end of period

Assumptions:

- internal finance
- const. return & cost of capital
- const. retention
- const. rate of growth ∞ life

- $K >$ rate of growth
- no taxes

$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} + \dots + \frac{P_{\infty}}{(1+K)^n}$$

$$P_0 = \frac{D(1+g)}{(1+K)} + \frac{D(1+g)^2}{(1+K)^2} + \dots + \frac{D(1+g)^n}{(1+K)^n}$$

P = price / share

D = div / share

g = rate of growth in div

K = cost of capital

$D = EPS \times \text{div payout}$

payout = $1 - \text{retention} \therefore 1 - b$

b = retention ratio

$g = ROE \times b$

$EPS = ROR \times \text{asset / share}$

Implicat° of Gordon's Model

- 1) For growth firm,

- $r > K$

- P_0 will \nearrow with \nearrow in b .

- 2) For normal firm,

- $r = K$

- 3) For declining firms,

- $r < K$

- Value of firm will \searrow with \nearrow in b .

Limitat° of Gordon's model

- No external financing
- const. ROR & const. K

Limitat° of MM Approach

- 1) Perfect capital mkt & info asymmetry & taxes are present.

- 2) No \neq between internal & external financing.

- 3) Div are taxed differently.