

Unit-2

Share Valuation

Dividend Discount Model

Calculate the value of an equity share as the total present value of all future expected cash flows.

Present value is calculated using discount rate or required rate of return on equity (K_e) which is the minimum required return.

Intrinsic value of share is what value of share should be not the current value.

In real life there is no specific holding period and we consider it infinite so we do not consider expected selling price.

So we value using the dividends to be received throughout the life.

As dividends are inconsistent we have following conditions:

(i) No growth in dividends

$$P_0 = \frac{D_0}{K_e}$$

(ii) Constant Growth Rate

It is not possible that a company provides constant growth rate dividend mostly provides growing growth rate.

$$\text{Current Price} \leftarrow P = \frac{D_1}{K_e - g}$$

g is constant growth rate

D_1 is dividend at 1st year

K_e is required rate

$$D_1 = D_0(1+g)$$

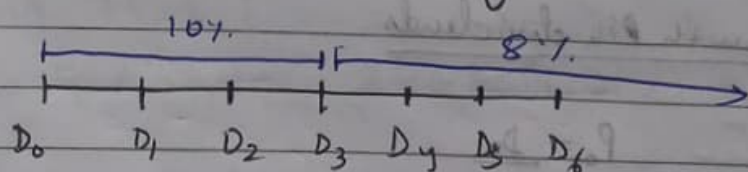
$$K_e (\text{cost of equity}) = \frac{D_1}{P} + g$$

Terminal Value $\Rightarrow P_n = \frac{D_{n+1}}{K_e - g}$ Constant rate

$$\text{Intrinsic Value} = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \dots + \frac{P_n}{(1+r)^n}$$

Two Stage Growth Model

Interest for 3 years is 10%. then 8% for rest.
Dividend is 15 and required rate is 15%.



So now calculate till D_4 and P_3 as we have to calculate till D_3 as the total cash flows

$$D_0 = 15$$

$$D_1 = D_0 (1 + 0.15) = 17.25$$

$$D_2 = D_0 (1 + 0.15)^2 = 19.83$$

$$D_3 = D_0 (1 + 0.15)^3 = 22.81$$

$$D_4 = D_0 (1 + 0.15)^4 = 26.23$$

Pay attention

$$P_3 = \frac{D_4}{15 - 8} = \frac{26.23}{7} = 3.74 \quad \text{(Terminal value formula)}$$

This is required rate
↓
This rate will be of constant

Now add P_3 and D_3 and put values in intrinsic value formula also can be done separately.

$$P = \frac{17.25}{1.15} + \frac{19.83}{(1.15)^2} + \frac{22.81}{(1.15)^3} + \frac{3.74}{(1.15)^3}$$

$$= 15 + 14.99 + 2.46 + 2.48$$

$$= 29.5 + 276.47$$

Relative Valuation Model

$$1) \text{ EPS} = \frac{\text{Profit Available for holders}}{\text{No. of Shares}}$$

or

$$= \frac{\text{Market Price}}{\text{P/E Ratio}}$$

$$\text{P/E Ratio} = \frac{\text{Market Price}}{\text{EPS}}$$

$$\text{Dividend Yield} = \frac{\text{Dividend}}{\text{Market Price}}$$

$$\text{Earning Yield} = \frac{\text{EPS}}{\text{Market Price}}$$

Gordon Model

EPS is how much earning is there on per share whereas K_e is cost in word of earning that return.

$$P(\text{intrinsic value}) = \frac{D}{K_e - g}, \text{ not valid if } D=0 \text{ or } K_e \leq g$$

$g = b \times r$
 Retention Rate $\rightarrow$ Rate of Interest

Payout Ratio: Is what company is giving to shareholders and remaining will be retention rate.

2. $EPS = ₹10$ $r = 10\%$ Payout = 40%
 $K_e = 10\%$

$$b = 60\%$$

$$P = \frac{4}{0.1 - (0.6)(0.1)} = \frac{4}{0.1 - 0.06} = \frac{4}{0.04} = 100$$