

→ Company may distribute the dividend, when they make profit.

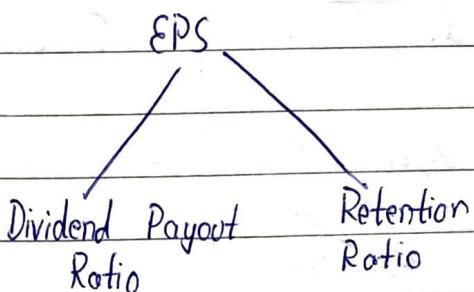
## Dividend Decision.

Main Obj :-

- Increase the wealth of shareholders.
- To find out if the company pays dividend what will be impact on share price.

## ⇒ Dividend Models

$$\text{EPS} = \frac{\text{PAT}}{\text{No. of shares}}$$



### i) Walter's Model

- Acc. to Walter's Model, dividend is a relevant & active variable that affects price of the company's shares & value of firm.
- The optimum dividend decision is taken based on the relationship b/w Rate of Investment ( $\gamma$ ) & cost of

Equity (IPR)  $\rightarrow k_e$

- i) Growth Firms ( $\gamma > k_e$ ) (<sup>opportunities of earnings higher than cost</sup>  
<sub>total</sub>)
- ii) Declining Firms ( $\gamma < k_e$ ) (<sup>No such opportunities in near future</sup>  
<sub>of Earnings higher than cost</sub>)
- iii) Normal firms ( $\gamma = k_e$ ) (Indifferent)

- $\rightarrow$  In case of growth firms we should ~~invest~~ retain & invest
- $\rightarrow$  In case of declining firms " " distribute -the dividends

- i) Growth firms  $\rightarrow$  Retain 100%, Dividend 0%
- ii) Declining firms  $\rightarrow$  Distribute 100%, Retain 0%

Walter's Model  $P = \frac{\text{Div} + \frac{\gamma}{k_e} (\text{EPS} - \text{Div})}{k_e}$

Q 1	A Ltd.	B Ltd.	C Ltd.
	$\gamma = 15\%$ , $k_e = 10\%$ , $\text{EPS} = 8$	$\gamma = 10\%$ , $k_e = 15\%$ , $\text{EPS} = 8$	$\gamma = 15\%$ , $k_e = 15$
Dividend Payout ratio	i) $D/P \text{ Ratio} = 25\%$ . $\text{Div} = 8 \times 25\% = 2$ $P = 2 + \frac{0.15}{0.1} (8-2) = 0.1$ $P = \text{Rs } 110$	$D/P \text{ Ratio} = 50\%$ . $\text{Div} = 8 \times 50\% = 4$ $P = 4 + \frac{0.15}{0.1} (8-4) = 0.10$	$D/P \text{ Ratio}$

~~i) D/P Ratio~~

Q1

- i) A Ltd,  $\gamma = 15\%$ ,  $k_e = 10\%$ ,  $EPS = 8$
- ii) B Ltd,  $\gamma = 10\%$ ,  $k_e = 15\%$ ,  $EPS = 8$
- iii) C Ltd,  $\gamma = 15\%$ ,  $k_e = 15\%$ ,  $EPS = 8$

i) A Ltd

$$1.1) \quad \text{D/P Ratio} = 25\% \\ \text{Div} = 8 \times 25\% = 2 \quad \left( \text{Out of whole profit we give } 25\% \right)$$

$$P = \frac{2 + \frac{0.15}{0.1} (8 - 2)}{0.1} = Rs 110$$

1.2) D/P Ratio = 50%

$$\therefore \text{Div} = 8 \times 50\% = 4$$

$$\therefore P = \frac{4 + \frac{0.15}{0.1} (8 - 4)}{0.1} = Rs 100$$

1.3) D/P ratio = 75%

$$\text{Div} = 8 \times 75\% = 6$$

$$P = \frac{6 + \frac{0.15}{0.1} (8 - 6)}{0.1} = Rs 90$$

- Optimum policy for A Ltd (growth firm) is to retain all the profit & should not distribute dividend because if the co-pays more dividend its share price decreases.
- As D/P ratio increases &  $P \downarrow$ , we should retain.

→ Gordon's Model (Same as Walter's Model)

$$P = \frac{EPS(1-b)}{k_e - (b \times \gamma)}, \quad b = \text{retention ratio}$$

→ Previous Ques (A Ltd)

~~$k_e = 12\%, \gamma = 15\%, EPS = 8$~~

Div. Pay Out Ratio = 25%, 50%, 75%.

i)  $1-b = 25\%$ ,  
 $b = 75\%$ .  $\curvearrowright$  Retention Ratio

$$P = \frac{8(0.25)}{0.12 - (0.75 \times 0.15)} = \text{Rs } 266.67$$

ii)  $1-b = 50\%, b = 50\%.$

$$P = \frac{8(0.5)}{0.12 - (0.5 \times 0.15)} = \text{Rs } 88.89$$

iii)  $b = 25\%, 1-b = 75\%.$

$$P = \frac{8(0.75)}{0.12 - (0.25 \times 0.15)} = \text{Rs } 72.727$$

→ Here in this model we will say ~~we will~~ we will retain the profit & ~~in~~ in Gordon we will say we will not distribute the dividends.

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→ Acc. to Gordon's Model , the optimum policy for A Ltd is to retain max. profits , because as the firm's retention ratio (b) decreases , the price also decreases .

## ⇒ Principles of Working Capital Management.

- Capital Management in order to fulfill the day to day req. of a company
- It is a management of current assets & current liabilities
- Gross Working capital = Current Assets
- Net " " = " " - Current Liabilities

## \* Operating cycle (OC) & Cash conversion cycle

1) Purchase of raw materials on credit

Sales to

customers on credit

Collection of receivables from customers

Inventory conversion period (ICP)

Accounts Receivable Period (ARP/ACP)

Accounts Payable Period (APP)

Operating Cycle (OC) = ICP + APP

Cash Conversion cycle (CCC) = OC - APP

Receive the invoice

ICP + APP

Cash conversion cycle.

$$\Rightarrow \text{Inventory Conversion Period (ICP)} = \frac{\text{Avg Inventory}}{\text{COGS}} \times 360$$

$$\text{Avg. Inventory} = \frac{\text{Open Inventory} + \text{Closing Inventory}}{2}$$

COGS = Cost of Goods Sold.

$$\Rightarrow \text{Accounts Receivable Period} = \frac{\text{Avg. Debtors} (\text{Avg. Receivables})}{\text{Credit Sales}} \times 100$$

$$\text{Avg. Debtors} = \frac{\text{Open debtors} + \text{Closing debtors}}{2}$$

$$\text{Credit Sales} = \text{Total Sales} - \text{Cash Sales}$$

$$\Rightarrow \text{Accounts Payable Period} = \frac{\text{Avg. Creditors (Avg. Payables)}}{\text{COGS} \times 360}$$

$$\text{Avg. Creditors} = \frac{\text{Op. Bal} + \text{Cl. Bal}}{2}$$

WCP, Numericals

Q1

$$1) \text{ Avg. Inventory} = \frac{\text{Op. Bal} + \text{Cl. Bal}}{2}$$

$$= \frac{168000 + 600000}{2} = 3,84,000.$$

$$2) \text{ Inventory Conversion Period} = \frac{384,000}{24,00,000} \times 360 = 57.6 \text{ days}$$

≈ 58 days  
approx.

3) A/c Receivables period

$$\text{Avg. Receivables} = \frac{\text{Op} + \text{Cl}}{2} = \frac{600000 + 500000}{2}$$

$$= 5,50,000$$

$$\text{A/c Rec Period} = \frac{5,50,000}{80,00,000} \times 360$$

$$= 24.75 \approx 25 \text{ days.}$$

3) A/c Payable Period

$$\text{Avg. Payables} = \frac{\text{Op} + \text{Cl}}{2} = \frac{4,80,000 + 2,40,000}{2}$$

$$= 3,60,000$$

$$\frac{\text{A/c Payable}}{\text{Period}} = \frac{3,60,000}{24,00,000} \times 360 = 54 \text{ days}$$

$$\text{Operating Cycle} = \text{TCP} + \text{ARP} = 58 + 25 = 83 \text{ Days}$$

$$\begin{aligned}\text{Cash Conversion cycle} &= \text{OC} - \text{APP} \\ &= 83 - 54 = 29 \text{ Days}\end{aligned}$$

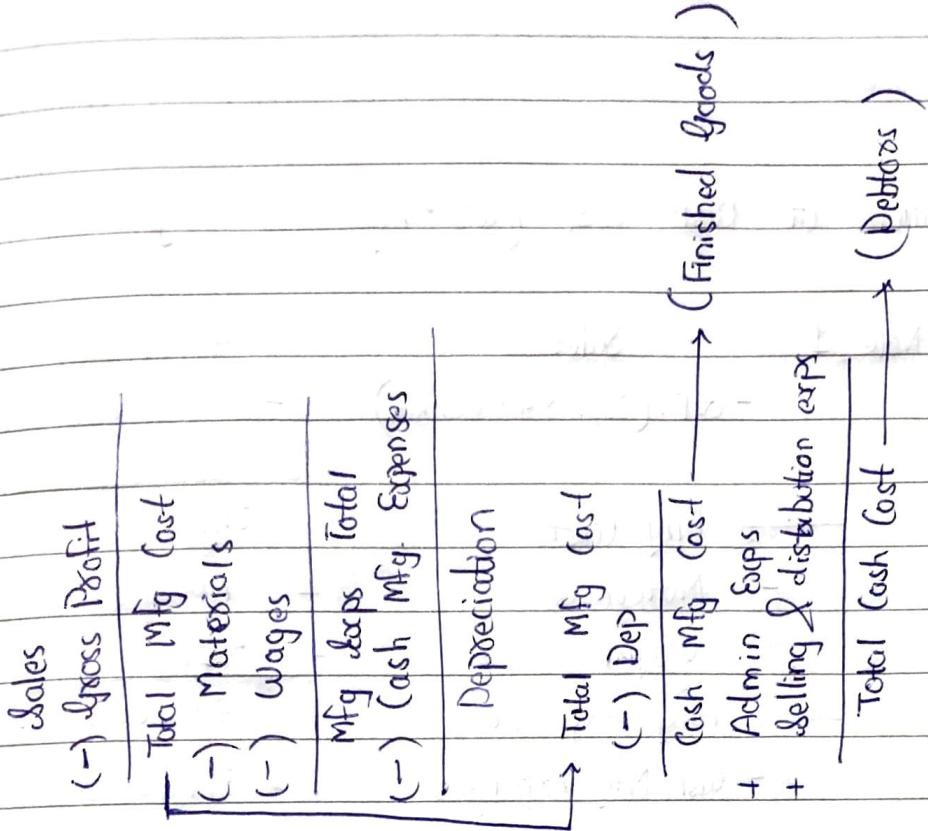
→ Estimation of working capital requirement

→ You need to have extra liquidity in your hand.

In particular we will have 2 categories  
 1) Current Liabilities & 2) Current Assets

Particulars

→ Calculation of Cash Cost



### Particulars

- i) Current Assets
- Raw Materials ( $\text{Prod. units} \times \text{R.M./unit} \times \text{Time}$ )
  - Work in Progress ( $\text{Prod. units} \times \text{WIP/unit} \times \text{Time}$ )
  - Finished Goods ( $\text{Units} \times \text{Mfg cost/unit} \times \text{Time}$ )
  - Debtors ("  $\times \text{cash cost/unit} \times \text{Time}$ )
  - Cash Balance
  - Prepaid Expenses
  - Outstanding Incomes
- ⇒ Total current Assets

- ii) Current Liabilities
- Wages ( $\text{Sec'tees} / \text{Suppliers} \times \text{R.M./unit} \times \text{Time}$ )
  - Outstanding expenses ("  $\times \text{Exp/unit} \times \text{Time}$ )
- ⇒ Total current liabilities

$$\text{So } (\text{Net Working Capital} = (A - B)) + \text{Safety Margin}$$

will be given straightaway  
or calculate  $(\% \text{ of NWC})$

This is working capital requirement

WCP - Numericals

Q-2

## Calculation of Cash Cost (Working)

Working Note I

Sales	40,00,000
- G.P. ( $22\% \times 40,00,000$ )	- 8,80,000
→ Mfg Cost	31,20,000
- Materials	- 9,00,000
- Wages	- 5,20,000
→ Mfg Expenses	17,00,000
- Cash Mfg Expenses $(65000 \times \frac{12}{2}) \rightarrow$ given 65k for 2 months	- 3,90,000
→ Depreciation	13,10,000

## Calc" of Cash Cost

Mfg Cost	31,20,000
- Dep	13,10,000
→ Cash Mfg Cost	18,10,000
+ Admin expenses	1,60,000
+ S&D expenses	2,50,000
Total Cash Cost <del>(Debtors)</del>	22,20,000
	(Debtors)

## Particulars

### A) Assets

Amt

Materials  $(9,00,000 \times \frac{2}{12})$  → For month 1,50,000

Finished goods  $(18,10,000 \times \frac{2}{12})$  3,01,667

Debtors  $(22,20,000 \times \frac{2}{12})$  3,70,000

Prepaid S&D exp  $(2,50,000 \times \frac{3}{12})$  62,500

Cash Balance 1,20,000

Total Current Assets 10,04,167

### B) Liabilities

Creditors  $(9,00,000 \times \frac{1}{12})$  75,000

Wages  $(5,20,000 \times \frac{1}{12})$  43,333

Outstanding Mfg Exp. (given) 65,000 (Doubt  
why not  
took month  
wise amf)

Total Current Liabilities 1,83,333

NWC

$$WCR = (A - B) + \text{Safety Margin (15%)} \\ WCR = (A - B) + \frac{15}{100} \times A$$

$$= 8,20,834 + \frac{15}{100} \times 8,20,834 = 9,43,959.1$$

HW  
Q3&4

## Receivables Management

- Credit Standards (<sup>% of</sup> Surety that customers will pay how much the amt is)
- Either V or 1-V will be given in que.

$$Q1 \quad AS = 10 \text{ million}$$

$$b = 0.08$$

$$1-V \text{ (Contribution Margin Ratio)} : 0.15 \quad \therefore V = 0.85$$

$$ACP_n = 60 \text{ days}$$

$$k = 15\% \quad (\text{cost of capital})$$

$$\Delta I = ACP_n \times \frac{AS}{360} \times V$$

$$= 60 \times \frac{10}{360} \times 0.85 = 1.4167$$

$$\Delta RI = [(10 \times 0.15) - (10 \times 0.08)] (1 - 0.4) - (0.15)(1.4167)$$

$$= 0.207495 \text{ Mn}$$

As  $\Delta RI$  is +ve, policy is favourable

2) Credit Period

Q2 See ~~we~~ pdf notes

Here  $\Delta RI = 0$ , whether you extend your credit period or not

→ It means that your sales will increase after extending credit period, but your profit will be constant.

### 3) Cash Discount

→ If credit limit is for eg. 10 days, but if seller tells the customer that if you do payment in 3 days he will give 5% disc. So early payment will be received & most of the times sales is increased, even after amount received is less comp. to original

$$\Delta RI = [AS(1-v) - \Delta DIS] (1-t) + k\Delta I$$

where  $\Delta DIS \xrightarrow{\text{discount}} P_n (S_0 + \frac{AS}{360}) d_n - P_0 S_0 d_0$

$$\Delta I = \frac{S_0}{360} \times (ACP_0 - ACP_n) - \left( v \times \frac{AS}{360} \times ACP_n \right)$$

$P_0$  = Proportion of discounted sales before

$P_n$  = % of discounted sales now

$d_n$  = new disc. %

$d_0$  = old " %

Q3  $\frac{1}{10}$ , net 30 meaning

Total credit period is 30 days but if you pay within first 10 days you will get 1% disc.

$$S_0 = 12 \text{ M}$$

$$ACP_0 = 24 \text{ days}, \quad ACP_n = 16 \text{ days}$$

$$V = 0.8, \quad 1-V = 0.2$$

$$k = 15\%$$

$$\Delta S = 1.2 \text{ M}, \quad P_0 = 0.3, \quad P_n = 0.7$$

$$d_0 = 0.01, \quad d_n = 0.02$$

$$\begin{aligned} \Delta DIS &= (0.7)(13.2)(0.02) - (0.3)(12)(0.01) \\ &= 0.1488 \text{ Mn} \end{aligned}$$

$$\Delta I = \frac{12}{360} \times (24 - 16) - (0.8 \times \frac{1.2}{360} \times 24) = 0.284$$

$$ARI = 0.0792 \text{ Mn}$$

~~Q4~~

#### 4) Collection Efforts

$$Q4 \quad S_0 = 50 \text{ Mn}$$

$$ACP_0 = 25 \text{ day}$$

$$1-V = 0.75, \quad V = 0 \rightarrow V = 0.75$$

$$ACP_n = 40 \text{ days}$$

$$1-V = 0.25$$

$$k = 15\%$$

$$b_0 = 0.04, \quad b_n = 0.06$$

$$t = 0.3$$

$$ARI = -0.28945$$

→ As  $ARI$  is  $-ve$ , company should not relax its collection efforts.