

Assignment 1 → BF

Q1] D

Q2] A

Q3] D

Q4] D

$$\begin{aligned} \text{Q5] i) CF} &= \text{Inflow} - \text{Outflow} \\ &= 2500 - 1500 \\ &= 1000 \end{aligned}$$

$$\begin{aligned} \text{Net CF} &= 1000 (1 - t) \\ &= 600 \end{aligned}$$

$$\text{ii) NPV} = 600 \times (1 + 0.2)^{-1} = 500$$

$$\text{iii) } \cancel{\text{NPV}} = \cancel{2500} \times (1 + 0.2)^{-1}$$

NPV will go up due to delay in outflow.

Q6] The three ratios that help assess ~~effice~~ efficiency are:

① Inventory turnover period =

$$\frac{\text{Inventories}}{\text{cost of sales}} \times 365$$

This ratio helps us understand how long does the company hold inventory on an average. The ratio lower than industry means company is efficient in selling products and managing

inventory

$$\textcircled{2} \text{ Trade receivables turnover period} = \frac{\text{trade receivables}}{\text{credit sales}} \times 365$$

This measures average length of time taken by debtors to settle their debts. It is desirable for this to be lower.

$$\textcircled{3} \text{ Trade payable turnover period} = \frac{\text{trade payables}}{\text{credit purchase}} \times 365$$

Helps measures days taken by the company to settle its creditors.

Q7] Limitation of ratio analysis :

- Information is historic / not current
- Doesn't measure the human element
- Creative accounting
- Used to compare companies in same industry

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Q8] i) If β is less than 1 then risk rate is less than market risk premium and if it is more than 1 risk rate is higher than market risk premium. If it's equal the business is stable. As β indicates fluctuation of stock price compared to market.

$$\text{Geared} = 1 + \frac{D}{E} \quad \text{tax} = 30\%$$

$$D:E = 7:2$$

$$\text{Geared Beta} = \beta_{UG} (1 + (D/E (1 - \text{tax})))$$

$$1.1 = \beta_{UG} (1 + \frac{7}{2} \times (1 - 0.3))$$

$$\beta_{UG} = 0.8148$$

$$D:E = 2:2$$

$$\therefore \beta_G = 0.8148 (1 + (1 - 0.3))$$

$$= 1.385$$

Q9] D

Q10] i) The principal goal of an organization is wealth maximisation. But many times this is not followed due to the divorce of ownership and control (principal agent agency problems) in which managers might pursue independent goals which are not maximizing wealth or there might be information asymmetries in which not all relevant stakeholders have same information. Maximization goal can lead management to put false numbers etc

$$\text{Q12] } MP = 70 \quad COE = \frac{10}{70} \times 100 + 8\% = 22.285\%$$

$$DP = 10$$

$$R_F = 6\%$$

$$ERP = 5\%$$

$$\text{Growth} = 8\%$$

$$COE = R_F + \beta(ERP)$$

$$22.285\% = 6\% + \beta(5\%)$$

$$\beta = 3.25714$$

$$\beta_{New} = 3.25 \times (1.8) = 5.8629$$

$$\text{New COE} = 6\% + 5.8629 \times (5\%) = 35.314\%$$

$$COE = d + g$$

$$35.314 = (10/MSP) \times 100 + 8\%$$

$$MSP = 36.610$$

Hence market price of stock falls.

(R11) a) β measures the systematic risk factor used in calculating cost of equity.

$$\beta = \frac{\text{COV}(R_e, R_M)}{\text{VAR}(R_M)}$$

ii) As an investor a β of 1 is preferable as then the stock will follow market trend and markets have historically gone upwards.

iii) Government Bonds and Securities as they are used as risk free rates.

i) Net
WACC = Cost of Debt $\times$ weight of Debt + Cost of eq $\times$ weight of eq

$$\text{Net COD} = 9\% (1 - 0.25) \quad COE = 7\% + 1.5(5\%)$$

$$= 6.75\% \quad = 14.5\%$$

$$= 6.75\% \times \frac{1}{2} + 14.5\% \times \frac{1}{2}$$

$$= 10.625\%$$

$$ii) \beta_G = \beta_{UG} (1 + (D/E)(1 - \text{tax}))$$

$$1.5 = \beta_{UG} (1 + 0.75)$$

$$\beta_{UG} = 0.85714$$

$$\% \text{ COE} = 5\% + 0.85714 (5\%)$$

$$= 11.2875\%$$

$$Q13] a) \text{IRR} = 15\%$$

$$40,000 \times a_{\overline{4}|} - x = 0$$

$$x = 40,000 \left[\frac{1 - (1.15)^{1/4}}{0.15} \right]$$

$$= 114,200$$

$$\text{Project cost} = 1,14,200$$

$$\text{Cost of Capital} = 12\% \text{ (calculator)}$$

$$\text{Payback} = \frac{1,14,200}{40,000} = 2.85 \text{ years}$$

$$\text{NPV} = 121507.89 - 114200$$

$$= 7307.89$$

$$Q14] a) \text{Current ratio} = \frac{\text{Current asset}}{\text{Current liability}}$$

Current ratio helps assess liquidity of company and whether or not it has enough

assets to cover its short term liabilities

$$b) \text{ Debtors turnover Period} = \frac{\text{Trade Payables}}{\text{Credit Purchases}} \times 365$$

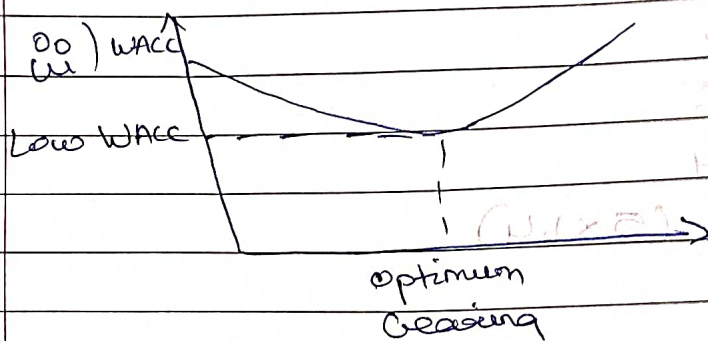
Shows the number of days a company takes to settle its debtors

ii) Xyle should use the quick ratio to check if company can meet its short term liabilities.

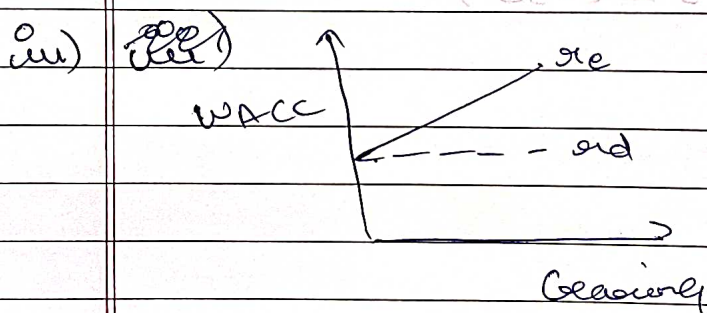
Q15) i) Shareholders will buy the share after seeing an equal debt: equity ratio showing a low geared company. The company also offers great dividend yield which has been stable. The shareholders will look at future prospects and business model potential.

$$\text{Cost of Capital} = \left(8 \times \frac{1}{2}\right) + \left(4 \times \frac{1}{2}\right) = 6\%$$

Suitable CoC should be higher than 6%.



Traditional school focuses on finding optimum level of geasing / leverage that allows company to lower WACC. This is because debt is cheaper than equity finance, but after taking on too much debt equity shareholders feel the heat and COE increases hence WACC stops falling.



Assumption

- i) There are no taxes
- ii) Unlimited personal and company borrowing at same rate
- iii) debt is risk-free
- iv) no agency cost
- v) no information asymmetries

MM disagreed with traditional and said $\uparrow$ debt doesn't affect WACC.

$$\begin{aligned} \text{v) a) } R_F &= 6\% \\ \text{MRP} &= 5 \\ \beta &= 1.4 \end{aligned}$$

$$\begin{aligned} \text{COE} &= 6 + (5 \times 1.4) \\ &= 13\% \end{aligned}$$

$$\text{b) } t = 30\%$$

$$\text{D/E} = 1.9$$

$$\beta_G = \beta_{UG} [1 + \text{D/E} (1 - t)]$$

$$1.4 = \beta_{UG} [1 + (1 - 0.3)]$$

$$\beta_{UG} = 2.38$$

$$\begin{aligned} \text{c) COE} &= 6 + (5 \times 2.38) \\ &= 17.9\% \end{aligned}$$