

BUSINESS FINANCE

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ASSIGNMENT

- 1) D
- 2) A
- 3) D
- 4) C

5)

$$\begin{aligned} \text{EBIT} &= \text{Sales} - \text{Costs} = 2500 - 1500 \\ &= 1000 \end{aligned}$$

$$\begin{aligned} \text{Less Taxes (40\% of 1000)} &= 400 \\ \text{NOPAT} &= 600 \end{aligned}$$

$$\begin{aligned} \text{(ii) PV of Inflow} &= 600 / 1.2 = 500 \\ \text{NPV} &= \text{PV of outflow} - \text{PV of Inflow} \end{aligned}$$

(iii) NPV will go up

6) Efficiency ratios give insight into the effectiveness of company's management of the components of working cap. Ratios to analyse:

1) Inventory turnover:

It shows how long inventory is held for on average

2) Trade Receivable turnover period

Average length of time for trade receivables to settle their balance

3) Trade Payables turnover period

The average no of days credit that a comp has from its suppliers

7) Limitations of Ratio Analysis

→ Directs Attention:

It directs attention from figures & statements themselves

→ Appropriate comparison

If diff comp use diff method of dep then any ratios based on financial methods won't be comparable

→ Diff Industries

Peculiarities in trade make it diff to interpret certain ratios

→ Creative Accountancy

This involves deliberate abuse of subjectivity inherent to select accountancy policies

8)

8)

→ (i) Beta Indicates how volatile a stock's price is in comparison to the overall stock market
Diff stocks trade at diff betas because of the companies

→ Nature of business

→ Financial leverage

→ operating leverage.

(ii) $\beta_g = 1.1$.

$D:E = 1:2$

$t = 30\%$.

calculate β of debt: equity = 2:2

$$\text{Geared beta} = \text{ungeared beta} \times \left\{ 1 + \frac{\text{Debt} (1-t)}{\text{Equity}} \right\}$$

$$\text{ungeared Beta} = \beta_g / \left(1 + \frac{D}{E} (1-t) \right)$$

$$= \frac{1.1}{(1 + 0.5(30\%))} = 0.8148$$

New geared beta:

$$\beta_g = 0.8148 \left(1 + \frac{2}{2} (1 - 0.3) \right)$$

$$= 0.8148 (1 + 1 - 0.3)$$

$$= 1.3852$$

9) D

10) (i)

→ Risks of maximising shareholders value

→ Bad business practices:

It can lead to poor or unsustainable business practices

→ Forgetting about customers

For eg: A corp may choose to cut down on ~~stock~~ production costs by using low quality products which might boost profits and stock prices but won't be beneficial for the consumers

⇒ Employment & outsourcing:

To lower costs they can cut down employees or outsource to cheaper countries

⇒ Corporate involvement in politics

Govt reg or taxes ~~help~~ ^{can} reduce shareholder value
Corp often contribute money to help certain politicians or parties so they can get them to pass regulations that will benefit them.

(ii)

Stock = Rs 70

Dividend / share = 10

Growth rate = 8%

$r_f = 6\%$, $r_m = 5\%$

Systematic risk increased $\rightarrow 80\%$

Cost of equity = $r_f + r_m = 6\% + 5\% \times 80\%$

Expected growth = $0.1 - \frac{10}{70} = -0.04$

Price of stock = $70(8\%) - 0.04\%$
 $= 72.56$

11.

2(i) Beta is a measure of systematic risk associated with a particular risk.

$$\beta_i = \frac{\sigma_{im}}{\sigma_m^2}$$

Where:

σ_m^2 = variance of market Index

σ_{im} = covariance b/w individual stock return & that of market

(ii) To calculate beta we need covariance b/w return on security & return on market & variance of market return

(iii) If I am an active stock investor I would choose beta greater than 1 as that would indicate stock is more volatile compared to market and I can book profits (higher)

IV Treasury bills

12) Debt to Equity = 1:1

$$r_f = 7\%$$

$$r_m = 5\%$$

$$\text{Cost of debt} = 9\%$$

$$\beta = 1.5$$

$$t = 25\%$$

(i)

$$\begin{aligned}\text{Cost of equity} &= r_f + \beta(r_m) \\ &= 7\% + 1.5(5\%) \\ &= 0.145 = 14.5\%\end{aligned}$$

$$\begin{aligned}\text{Net cost of debt} &= \text{gross cost of debt} \times (1-t) \\ &= 9\% \times 75\% \\ &= 6.75\%\end{aligned}$$

$$\begin{aligned}\text{WACC} &= \left(\frac{1}{2} \times 14.5\% \right) + \left(\frac{1}{2} \times 6.75\% \right) \\ &= 10.625\%\end{aligned}$$

(ii)

The required return to equity if Spire plc were to repay all its debt

$$\beta_E = \beta_U \times \left(1 + \frac{D}{E}(1-t) \right)$$

$$1.5 = \beta_U (1 + 1(0.75))$$

$$\beta_U = 0.8571$$

New cost of equity:

$$\begin{aligned}&\Rightarrow r_f + r_m \times \beta_U \\ &= 7\% + (5\%)(0.8571) \\ &= 11.2857\%\end{aligned}$$

(3)	Annual cost of salvage	=	40000
	Useful life	=	4y
	IRR	=	15%
	PI	=	1.064
	Salvage value	=	0

(i) At IRR Cost of Project

At IRR, PV of cash outflow = PV cash Inflow

$$= 40000 \left(\frac{1}{1+15\%} + \frac{1}{(1+15\%)^2} + \frac{1}{(1+15\%)^3} + \frac{1}{(1+15\%)^4} \right)$$

$$= 40000 \times 2.855$$

$$= 114200$$

(ii) Cost of Capital. NPV

$$PI = \frac{\text{P.V of cash In at c.o.c}}{\text{Cost of Project}}$$

$$1.064 = \frac{COC}{114200} \Rightarrow 121509$$

$$NPV = 121509 - 114200 = 7309$$

(iii) Cost of Capital = $\frac{\text{P.V of cash Inflows}}{\text{Annual cash In}}$

$$= \frac{121509}{40000}$$

$$= 3.038$$

(iv) Payback period = $\frac{114200}{40000} = 2.855$ years

14)

(1) a) Current Ratio : $\frac{\text{current Assets}}{\text{current liabilities}}$

The ratio is used to assess if it can meet its short term obligations

b) Debtors turnover period = $\frac{\text{Net credit sales} \times 365}{\text{Debtors}}$

It indicates how quickly credit sales are converted into cash

(ii) The finance manager should track :

Quick Ratio = $\frac{\text{current Assets} - \text{inventories}}{\text{current liabilities}}$

15)

- (i) Investors will invest in the shares of this company :
- to diversify the portfolio (minimise systematic risk)
 - to maximise return as they would be willing to earn higher returns (increasing systematic risk)
 - other reason specific to the investor e.g. strategic holding, personal attachment with the company own faith & beliefs

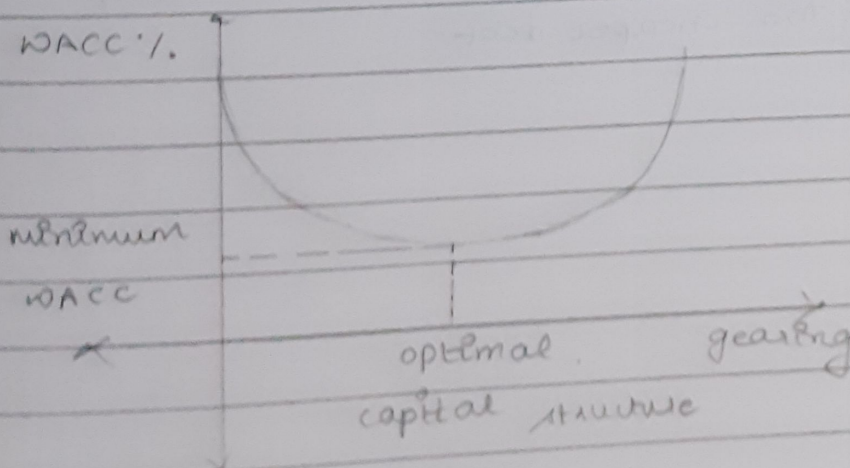
The suitable cost of capital is anything slightly higher than 6%.

$$\Rightarrow 6\% (8\% \times 0.5 + 4\% \times 0.5)$$

$$\Rightarrow 0.0036$$

- (ii) Debt is cheaper than equity finance, so as gearing increases, the WACC should fall. However, increasing the proportion of debt finance increases the risk to shareholders so shareholders demand a greater return for this increased risk.

Therefore beyond a certain level of gearing, the downward effect on the WACC of increasing the debt finance in the business will be more than offset by the increase in return required by shareholders.



(iii)

First proposition of Modigliani & Miller

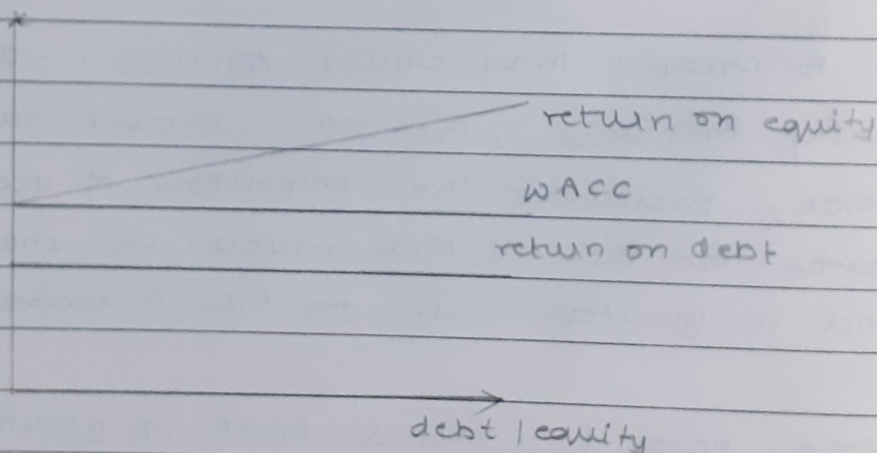
The market value of any firm is independent of its capital structure

The following are the assumptions:

- There are no taxes in the economy
- Unlimited personal & company borrowing is possible at the same rate of interest
- Debt is risk-free
- There are no agency costs
- There are no information asymmetries

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(iv)

rate of
return

WACC remains constant as gearing increases
 As gearing increases, the cost of equity
 increases by just enough to offset the increasing
 proportion of the cheaper debt

v)

$$\begin{aligned} \text{a) cost of equity} &= r_f + \beta * (r_m) \\ &= 6\% + 1.4 * 5\% \\ &= 13\% \end{aligned}$$

$$\begin{aligned} \text{b) Geared Equity Beta} &= \beta_u \left(1 + \frac{D}{E} (1-t) \right) \\ &= 1.4 \left(1 + \frac{0.5}{0.5} (1-0.3) \right) \\ &= 1.4 (1 + 0.7) \\ &= 2.38 \end{aligned}$$

$$\begin{aligned} \text{c) cost of equity} &= r_f + \beta * r_m \\ &= 6\% + 2.38 * 5\% \\ &= 17.9\% \end{aligned}$$