

Business Finance Assignment - 2

Roll No. - 80

Section - B

Q1) D) IRR is the most reliable means of choosing between mutually exclusive projects.

Q2) A) Market price of share / Earning Per share

Q3) D) All of the above

Q4) D) 10,00,000

Q5) i) There is a positive cash flow of 2500, two negative cashflow of 1500 and

$[(2500 - 1500) \times 0.4] 400$ on date 1

ii) $NPV = 600 \times V1 = 600 \times (1 - 0.2) = 480$

iii) If the supplier allows to pay them at date 2 then the new $NPV = 2500 \times V1$
~~15~~

$$= 2500 \times V1 - 1500 \times V2 - 400 \times V$$
$$= 720$$

Therefore, NPV will increase

Q6) If we want to measure the efficiency of business, we need following ratio:

i) Inventory turnover period.

It is defined as $\text{stock turnover period} = \frac{\text{inventories}}{\text{cost of sales}} \times 365$

The lower this ratio the more efficient the business.

ii) Trade receivable turnover period = $\frac{\text{trade receivables}}{\text{credit sales}} \times 365$

It is desirable for this period to be as short as possible.

Q7) The limitations of ratio ~~and~~ analysis are:

- i) Different accounting policies can affect comparisons.
- ii) It removes attention from different accounting policies.



Q8) The possible reasons why stock trade at different betas in the market are:

- i) $\text{Beta} > 1$ - The stock has ~~to~~ previously increased the return of the whole market.
- ii) $\text{Beta} < 1$: The stock performance was counter-cyclical, hence offsetting the market experience.
- iii) When beta is close to zero - The stock has provided a stable return compared to the market as whole.

$$8a) \text{ Geared Beta} = \text{ungeared beta} \times \left[1 + \text{debt : equity ratio} \times (1 - \text{tax rate}) \right]$$

$$\text{Current geared beta} = 1.1$$

$$\text{current debt : equity} = 1:2$$

$$\text{tax rate} = 30\%$$

$$1.1 = \text{Ungearred beta} \times \left[1 + 1:2 (1 - 30\%) \right]$$

$$\text{Ungearred beta} = \frac{1.1}{1 + \frac{1}{2} (1 - 0.3)}$$

$$= \frac{1.1}{1.35}$$

$$\text{Ungearred beta} = 0.815$$

$$\text{New debt : equity} = 2:2$$

$$\text{New geared beta} = (0.815) (1 + 2:2 (1 - 30\%))$$

$$= (0.815) (1 + 0.7)$$

$$= (0.815) (1.7)$$

$$= 1.3855$$

$$\text{New geared beta} = 1.4$$

Q9) D) In general the market value of investment trust is not correlated to the NPV.

10) i) The stockholders wealth can be increased by increasing stock price. Stock price depends on beta of the company. ~~the~~ Higher the beta ~~the~~ higher the returns. So, companies should try to increase their ~~beta~~ beta by either increasing their debt, equity risk or their risk.

Q.11) i) Beta is a numeric value that measures the ~~fluct~~ fluctuations of a stock to changes in the overall stock market.

$$\text{Formula} = \frac{\text{Covariance of the Individual Company}}{\text{Variance of the market}}$$

ii) Beta can be determined by the given formula:

$$= \frac{\text{Covariance of the Individual Company}}{\text{Variance of the market}}$$

iii) In my opinion, ~~B~~ I would invest in a stock with a beta 1. Beta ~~@~~ ~~close~~ close to one will indicate a stock that provided a more stable return than the market as whole.

iv) Treasury Bills and Government Issued Bonds are financial instruments that have beta 0.

Q 12) i)
$$WACC = (\text{cost of equity}) \times (\% \text{ equity}) + (\text{cost of debt}) \times (\% \text{ debt}) / \text{equity} + \text{debt}$$

Cost of equity = $r_f + \text{beta} \times (r_m - r_f)$

$= 7\% + 1.5 \times 5\% = 0.145$

Cost of debt = cost of debt depending on rating of company $\times (1 - \text{tax rate})$

$$WACC = 0.145 \times 0.5 + 9\% \times 0.5 \times (1 - 25\%)$$

 $= 10.625\%$

ii) Ungeared beta needs to be computed

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

$1.5 = \text{Ungeared beta} \times (1 + 1/1 \times (1 - 25\%))$

$= \text{Ungeared beta} \times 1.75$

Ungeared beta $= 1.5 / 1.75$ $\therefore = 0.857143$

New cost of equity = Risk free rates + Ungeared Equity ~~beta~~ risk premium $\times$

$= 7\% + 0.857143 \times 5\%$
 $= 11.29\%$

13) i) At IRR, present value of cash outflow
 = present value of cash inflow

$$\text{Cost of project} = 40,000 \times 2.855$$

$$= 1,14,200$$

ii) Cost of capital = $160000 / 121509^{1/4-1}$

$$= 7.129\%$$

iii) ~~PBO~~ profitability index at cost of capital

$$= 1.064 = \frac{\text{present value of cash inflow at cost of capital}}{114200}$$

PV. of cash inflow = 121509

NPV at cost of project = $121509 - 114200$

$$= 7309$$

iv) Cost of capital payback period

$$= \frac{114200}{40000} = 2.855$$

14) i) a) Current ratio - It measures a company's ability to pay short term loans. To achieve high current ratio, companies need high current assets and low current liabilities.

b) Debtors turnover ratio - It ~~measures~~ ^{shows} how quickly credit sales are converted into cash. It measures efficiency of a firm in managing & collecting credit.

ii) A high turnover ratio indicates that company has low amount of inventory for sale which may lose its potential sales. I think we should judge company's ability to pay short term loans using quick ratio because it measures the inventory the company holds.

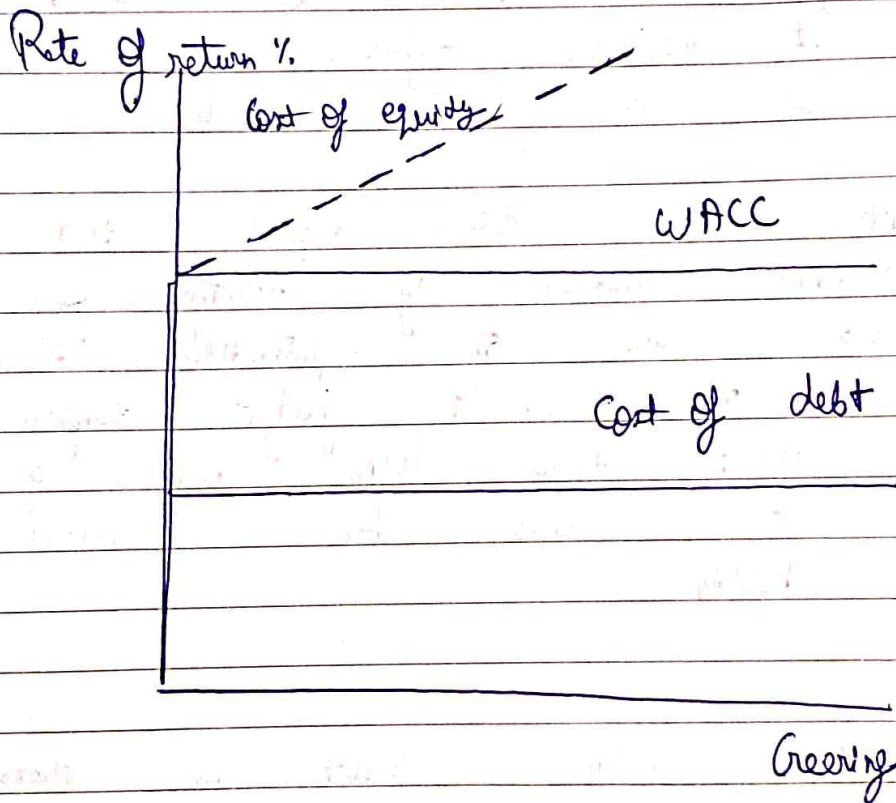
15) i) i) Investor may invest in shares of this company:

- To diversify the portfolio.
- To maximize return.

The suitable cost of capital is higher than 6%.

ii) On increase of company gearing, WACC is constant. Cost of debt is deeper than cost of equity.

Modigliani & Miller proposition states that for companies with equal earnings WACC remains constant.



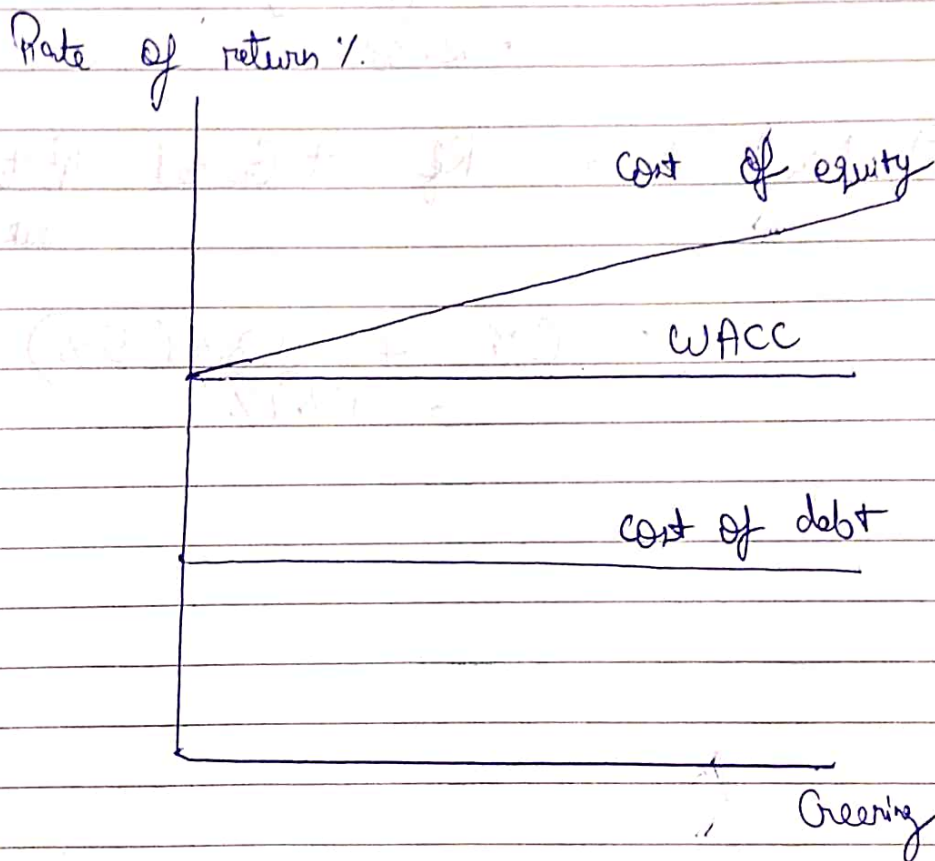
iii) ~~increase~~ First relevance proposition
a) Market value of firm is independent of its structure.

Assumptions -

- Debt is risk free.
- No taxes
- No agency cost

d) Unlimited personal & corporate borrowing at same rate of symmetry.

iv) WACC remains constant as gearing increase. As gearing increase cost of equity increase only enough to offset the increasing proportion of cheaper debt.



v) 1) $R_f = 6\%$

Equity risk premium = 5%
Beta = 1.4

$$\begin{aligned} \text{Cost of equity (} K_e \text{)} &= R_f + B(\text{Equity Risk Premium}) \\ &= 6\% + 1.4(5\%) \end{aligned}$$

Cost of equity (K_e) = 13%

ii) Market Cap = 100mn

Debt / Equity ratio = 0.5 / 0.5 = 1

Gearred Beta = Ungeared Beta $\times$ $\left(1 + \frac{\text{Debt}}{\text{equity ratio}}\right) \times (1 - \tau_c)$

$$= 1.4 \times [1 + 1 \times 0.7]$$

$$= 2.38$$

iii) New $K_e = R_f + \text{Gearred Beta} \times (\text{Equity risk premium})$

$$= 6\% + 2.38 (5\%)$$

$$= 17.9\%$$