

Business Finance Assignment - 1

Krishangi Tsivedi

Q.1. D

Q.2. A

Q.3. D

Q.4. C

Q.5.

(i) Cash $\uparrow$ inflow = 2500
cash outflow = 1500
total cash flow = 1000
tax rate is 40%.

$$\therefore 1000(1 - 40\%) = \underline{600}$$

$$(ii) \text{ PV of inflow } (i = 20\%) = 2500(1 + 20\%)^{-1} \\ = \underline{2083.3}$$

$$(ii) \text{ PV of outflow} = 1500(1.207)^{-1} = 1250.$$

$$\text{NPV} = \text{PV of inflow} - \text{PV of outflow}$$

(at $t=0$)

$$= 2082.55 - 1250.$$

$$= 833.33$$

(iii) If supplier allows delayed payment

$$\text{Then PV of outflow} = 1500 \times (1.2)^{-2} = 1041.6667.$$

$$\therefore \text{NPV} = 2083.33 - 1041.6667.$$

$$= 1041.6663$$

The annual guarantee

Q.6.

i) In a company there must be sufficient liquid assets available to ensure that the company can meet its short-term commitments. Otherwise the company could be forced into liquidation.

ii) The efficiency ratios are related to company's liquidity ratios.

iii) This gives insights to company's effectiveness of company's management regarding the components of working capital.

(iv) Inventory Turnover Period:

$$= \frac{\text{Inventories}}{\text{Cost of Sales}} \times 365$$

This ratio tells us about how long the inventory is held on an average. It shows how much inventory a company holds in relation to the scale of the company's operations.

An inventory turnover period that is less rapid than the period of companies in the same field may indicate that the inefficiency in efficiently large inventory holding.

One limitation of this ratio is that the figure for inventories may be subject to seasonal variation.

(v) Trade Receivables turnover period:

$$= \frac{\text{trade receivables}}{\text{credit sales}} \times 365$$

This is to measure the average length of time taken to for trade receivables to settle their balance.

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

It will be better for the company's cashflows if those owing the company pay as quickly as possible.

If the company sells goods for cash & for credit it is important to divide the trade receivables figure by credit sales only. If the sales cannot be broken then the sales will be distorted.

(vi) Payable Turnover Period:

$$\frac{\text{payables}}{\text{Credit Purchases}} \times 365$$

8.7.

(a) It directs attention from the figures & statements themselves.

(i) It is important to look at figures such as the size of the company. A larger company will have more bargaining power.

(ii) It is also important to look at the notes which are generally not reflected in the ratios.

For e.g.: if a company is being sued for damages; this will be mentioned in the notes along with the claim amount & possibly giving indication of expected outcome.

b) The statements could be deliberately distorted. This involves deliberate abuse of subjective interest in accounting to select accounting policies or make assumptions which can lead to a bias in the figures in the direction chosen by the management.

c) The peculiarities of trade can make it difficult to interpret certain ratios:

(i) A property company might have very low return on Capital Employed. One reason for this is the value of properties shown in the Statement of financial position will be updated on a regular basis. Thus making the ~~fixed~~ capital employed increase every day.

This will make it difficult to compare results with a business whose assets have not been revalued.

d) Comparisons can be affected by different accounting policies or other external factors. If for example two companies use different methods for calculation of depreciation then any ratios based on financial statements might not be comparable.

Similarly two similar businesses could be affected to different extents by currency movements.

- Q.8 (i) Beta is the measure of systematic risk.
- (ii) CAPM divides the volatility of a stock's price into two parts: specific risk & systematic risk.
- (iii) The specific risk can be diversified away.
- (iv) Systematic Risk is the volatility of the individual share compared to the market as a whole. This cannot be eliminated by diversification.

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

where σ_m^2 is the variance of market index, σ_{im} is the covariance of individual stock return & the market.

- (vi) There is an underlying cycle of business which will tend to hit/affect all the businesses at the same time. Different business sectors may be hit in different stage of business cycles.

- (vii) factors like interest rates which economically influence different businesses to different degrees depending on their level of borrowing & creating specific risk.

- (ix) Inflation Rates can affect companies in different ways.

- (x) Tax, change in tax can have an impact on all companies. Currency movements will affect all the countries.

having business in the affected country to different degrees.

(xi) Unforeseen future events could have major economic impact to different businesses

Due to these reasons the correlation of the individual stock return & the market will be different for different companies and hence the β will be different

(ii) $\beta_{\text{geared}} = 1.1$

$D:E = 1:2$

$t = 30\%$

First we will find the ungeared beta of the company:

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

$$1.1 = \beta_u \left(1 + 1.2 (1-30\%) \right)$$

$$1.1 = \beta_u \left(1 + 1.2 (70\%) \right)$$

$$\beta_u = \frac{1.1}{1.84} = 0.597826$$

Now, we will find the geared β with the revised D/E ratio.

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

$$= 0.597826 \left(1 + \frac{2}{1} (70\%) \right)$$

$$= 1.335185$$

8.9. (D) In general the market value of investment trust is not related to the net present value.

8.10.

- (i) (i) In theory, maximization of shareholder wealth offers a simple yet effective objective for evaluating managerial decisions.
- (ii) It is easy to justify a selection of measure that increases shareholder wealth because it is clearly in line with the shareholders objectives and even allows interaction between risk & return.
- (iii) In practice however, it may be difficult for the directors to do so. There are many ways in which maximization of shareholder wealth may not be in the directors' best interest.
- (iv) Shareholders can diversify risk in way that directors can't. Hence, directors may be more risk averse in decision making than shareholders would prefer.
- (v) Many directors have sufficient integrity to overcome any such pressures, but it will be difficult to distinguish them from those who have not.

(ii) current stock price = 70 current dps = 10 growth = 8% risk free rate = 6% MRP = 15%	Cost of equity = $R_f + \beta(R_M - R_f)$ $= 6\% + 5\%$ Market Price = MRP + Risk free rate $= 11\%$
---	--

Required Return on equity = $\frac{\text{dividend yield} \times 100 + \text{growth}}{\text{of company}}$

$$= \frac{10}{70} \times 100 + 8\% = 22.295\%$$

hence increase in MR is 80%.

cost of equt = $R_f + \beta \times \text{MRP} = 12.085\% + 2.88096 \times 6\% = 6\% + 6\% = 12\%$
 $\therefore \beta = 2.88096$

Systematic risk increases by 80% $\therefore \beta$ increases by 8% $\therefore$ new $\beta = 5.18571$

$\therefore$ MRP will also increase by 80% new MRP = 6.48%

$\therefore$ cost of equt = $15\% + 5.18571 \times 6.48\% = 33.60340000$

When β was 2.88096 MRP was 70

When β is 5.18571 MRP is 20 $\therefore$ $\text{MR} = \frac{5.18571 \times 70}{2.88096}$

$\rightarrow$ New MR = 12.6

Increase = $70 \times (1 + y\%) = 126 \therefore y\% = \frac{12.6}{70} = 18\%$

Q.11 (i) Beta is a way of measuring systematic risk.

(ii) It is the measure of volatility of an individual stock compared to the market as a whole.

(iii) There are two types of risk relating to stock price. Systematic Risk (non-diversifiable) & specific Risk (diversifiable).

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

here, σ_{im} is the covariance of the individual stock & the market & σ_m^2 is the variance of the market.

(ii) Beta can be determined by understanding the return provided by a stock in comparison to the return of the market as a whole.

(iii) As an active stock market investor I would ~~expect~~ invest in a stock with a beta of 1.

$\beta = 1$ means the stock will amplify the return of the market.

Hence I would expect the market prices to grow ~~and~~ in a positive direction.

A negative β means the stock would perform counter cyclical to the market; hence when market is providing higher returns the stock would ~~be~~ give less return.

I would choose a stock where β is 1.

(iv) A financial product whose β is 0 is a fixed deposit or even government treasury bonds.

$$Q.12. \quad \frac{D}{E} = \frac{1}{1}$$

R_F = Risk free return = 7%

Equity risk premium = 5%

cost of debt = 9%

$$R = 1.5$$

$$t = 25\%$$

$$\text{Cost of equity} = R_F + (\text{Equity Risk Premium} \times R)$$

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

$$= 14.5\%$$

$$(i) \text{ WACC} = \text{cost of eq}$$

$$\text{net cost of debt} = \text{gross cost of debt} (1 - \text{tax})$$

$$= 9\% (1 - 25\%)$$

$$= 6.75\%$$

$$\text{WACC} = \text{cost of equity} \times \frac{\text{Market Value of E}}{\text{MV of E} + \text{MV of debt}}$$

$$+ \text{cost of debt} \times \frac{\text{MV of debt}}{\text{MV of E} + \text{MV of debt}}$$

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

$$= 7.25 + 3.375$$

$$= 10.625\%$$

(ii) First we will calculate the ungeared β of the company.

$$\beta_A = \beta_{\text{un}} \times \left(1 + \frac{D}{E} (1 - t) \right)$$

$$1.5 = \beta_{\text{un}} \times \left(1 + 1 (1 - 25\%) \right)$$

$$\therefore \beta_{\text{un}} = 0.857142857$$

Since all the debt will be repaid the company will not have leverage. hence β_{un} will be the new β of the company.

$$R_e = R_f + \text{M\&P} \times \beta$$

$$= 7\% + 5\% \times 0.857142857$$

$$R_e = 11.28571\%$$

This will also be the WACC in this case since there is not any debt.

Q14

(i) (a) Current Ratio.

It is the ratio of current assets to current liabilities.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

This ratio is used to assess whether the company will be able to pay its bills over the next few months.

It provides a comparison of an estimate of the amount of money due to be received vs the amount of money to be paid. A low ratio might indicate that a company may have problems paying its creditors.

And an excessively high ratio may indicate that the management has too much money tied up in short term ~~up~~ unproductive assets.

b) Debtors turnover period

$$= \frac{\text{Net Credit Sales}}{\text{Average Account Receivable}}$$

This ratio indicates the average number of ~~times~~ times average debtors are turned over during the year.

(ii) To understand ~~and~~ whether the company would be able to meet its short term liabilities current Ratio could be used. This ratio is used to assess whether the company will be able to pay its bills over the next ~~to~~ few months. It provides a comparison of an estimate of the amount of money due to be received in the short term with estimate of the amount of money to be paid.

Current Ratio = $\frac{\text{Current assets}}{\text{Current liabilities}}$

Current liabilities

Q15:

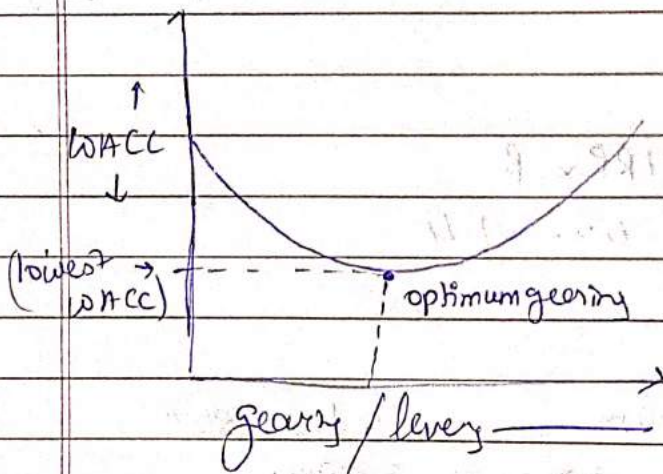
(i) Since the dividend yield ~~is~~ is a good percent an investor who wants a steady income from the ~~the~~ investment would consider buying the share of the company.

Since the gross redemption yield is 8% the cost of capital of the investor should at least be ~~be~~ equal to 8%.

8.15 (ii)

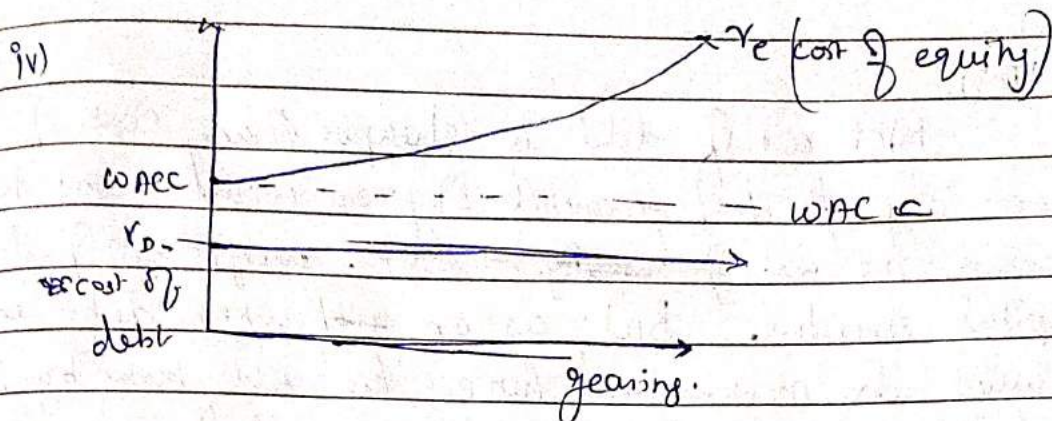
Net cost of debt is cheaper than cost of equity hence any ~~fin~~ chief financial officer would want to increase the ~~cost of equity~~ debt weight age of debt in the capital structure. But; as an ~~net~~ when debt increases gearing also increases and hence the risk borne by the shareholders & investors also increases and hence the cost of capital increases.

Hence, initially the WACC will decrease due to the favorable effect of leverage but after a certain point the WACC will start to increase. This point is called optimum gearing.



* iii) Modigliani and Miller's theory had made the following assumptions:

- There is no tax
- Unlimited borrowings allowed to corporation as well as individual investors at the same rate of interest
- Debt is risk free
- The company is funded only by debt & equity.
- There is no agency cost
- Interest rate is constant.
- No information asymmetry.



v) a) risk free rate = $R_F = 6\%$.

$MRP = 5\%$.

$\beta_{un} = 1.4$

since Beta ungeared is provided without the gearing ratio of the company it is assumed that the company is equity financed only.

$$r_e = R_F + MRP \times \beta$$

$$= 6\% + 5\% \times 1.4$$

$$r_e = 13\%$$

b) Capital Employed = 100m ; tax = 30%

MV of debt = 40% = $40\% \times 100 = 40m$.

$\therefore$ MV of equity = $100 - 40 = 60$

$$\therefore \text{gearing ratio} = \frac{D}{E} = \frac{40}{60} = 0.6667$$

$\beta_{un} = 1.4$

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

$$= 1.4 \times \left(1 + 0.6667 (1-30\%) \right)$$

$$= 1.68014$$

$$c) R_e = R_f + MRP \times \beta_e$$

$$= 6\% + 5\% \times 1.46868014.$$

$$\underline{R_e = 14.4007\%}$$