

Assignment-2

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Subject: Business Finance-2

Section: FY-B

- ① Which of the following statement is not true about Internal Rate of Return method of Project Appraisal.

Solⁿ (D) IRR is the most reliable means of choosing between mutually exclusive events.

- ② Which one of the following is correct formula for price earning ratio?

Solⁿ (A) Market Price of Share / Earning per share.

- ③ While calculating Inventory turnover period, Inventories include.

Solⁿ (D) All of the Above.

- ④ The following figure were taken from company account.

	2018	2019
Operating Profit	10,00,000	8,00,000
Depreciation	1,00,000	1,20,000
Working Capital	3,50,000	2,50,000

What is the company's cash inflow from operating activities for the year ended 2019?

Solⁿ

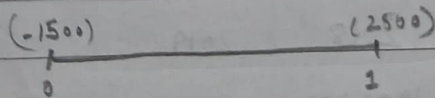
⇒ 10 000 000

- ⑤ The project generate 2500 in sales in lost of 1500 at date 1, with the tax rate 40%.

The discount rate of Project is 20%.

- (i) What is cashflow from the project at date 1.
 (ii) What is NPV of the Project.
 (iii) Now assume that your supplier allow you to pay them with a one year delay, i.e at date 2. How does NPV of the project change compare with previous one.

Soln



- (i) Cashflow from the project at date 1 is $+2500 - 1500 = 1000$
 including tax rate $= 1000 - (1000 \times 40\%)$
 $= 1000 - 400 = 600$

(ii) $NPV = 2500(1-20\%)^1 - 1500(1-20\%)^0$
 $= 800$

(iii) $NPV = 2500(1-20\%)^1 - 1500(1-20\%)^2$
 $= 1040$. NPV of the Project Increase.

⑥ If you want to measure any business efficiency, what ratios you will analysis & why?

Sol^m

The efficiency ratios give the insight of the effectiveness of the company's management of the working capital components.

$$\text{Inventory T/o period} = \frac{\text{Inventory}}{\text{Cost of sale}} \times 365$$

$$\text{Trade Credit T/o period} = \frac{\text{Trade receivable}}{\text{Credit Sale}} \times 365$$

1 year

→ These ratios are generally measure in ~~the~~ time period.

⑦ State limitation of the Ratio Analysis.

Sol^m → It ignores the qualitative aspect of the business. It only accounts for the accounting or inventory aspect of the business.

→ It ignores price-level changes owing to the historical cost principle.

→ Accounting ratios are prepared based on accounting information. Thus if the account are subjected to window dressing, personal bias & judgement, it will point a false picture.

→ The variation in accounting practice, eg, straight line depreciation written down method could affect the number & hence the ratio.

⑧ (i) State Possible reason why stock trade at different betas in the stock market.

(ii) A company has a geared beta of 1.1 on a debt equity ratio 1:2 & Corporate tax rate of 30%. Calculate the geared Beta if equity ratio is 2:2.

Solⁿ

(i) If $B < 1$, RR is less than MRP.

If $B > 1$, RR is more than MRP

$B = 1$, hence the business is average.

(ii) $B = 1.1$

$t = 30\%$

equity to debt ratio = 1:2.

$$B_{\text{gear}} = B_{\text{ungear}} \left[1 + \frac{1}{2} (1 - 0.3) \right]$$

$$B_{\text{ungear}} = 0.8148.$$

$$B_{\text{gear}} = B_{\text{ungear}} [1 + (1 - 0.3)]$$

$$B_{\text{geared}} = 1.38516$$

Q) Which of the following Statement is true?

Solⁿ. (b) In general the market value of investment trust is not correlated to the net Present Value.

(10) i) In theory, companies exist to maximize the wealth of their owner. Explain the Problem associated with demonstrating that companies actually do operate in such a way as to maximise their shareholder wealth.

ii) The Stock of XYZ Ltd is Presently trading at Rs. 70. The current dividend per share Rs. 10. The company is assumed to grow sustainably at the rate of 8%. Currently the risk free rate is 6% & market risk Premium is 5%. If systematic risk is increased by 80% calculate the effect on the share Price.

Solⁿ.

(i) There may be conflicts of the interest in the company.

→ Manager has lots of Information which they might use to maximise shareholder wealth.

→ There also be chance that there is ~~leak~~ leak of information from the company.

$$(ii) \text{ MPS} = 70$$

$$\text{DPS} = 10$$

$$R_F = 6\%$$

$$\text{MRP} = 5\%$$

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

$$R_e = \frac{10}{70} + 8\%$$

$$\text{Cost of equity} = \text{div} \times \text{growth} = \frac{10}{70} + 8\% = 22.285\% = R_e$$

$$R_e = R_F + \text{MRP} \times \beta$$

$$22.285 = 6 + 5 \times \beta$$

$$\beta = \frac{16.285}{5}$$

$$\boxed{\beta = 3.257}$$

$$\text{New } \beta = \text{old } \beta + 80\% \text{ of old } \beta$$

$$= 3.257 + (0.8 \times 3.257)$$

$$= 5.8626$$

$$R_e = 6 + (5 \times 5.8626) = 35.313\%$$

$$\frac{10 \times 100}{\text{MPS}} = 27.81426$$

$$\text{MPS} = \frac{1000}{27.81426} = 36.6109$$

$$\boxed{\text{New MPS} = 36.6109}$$

(11)

- (i) Explain the Beta of a stock along with formula.
 (ii) How can beta be determined.
 (iii) As an active stock market investor, would you invest in a beta 1 to -1?
 (iv) Name a financial instrument that is likely to have a beta 0.

Solw

- (i) Beta is the measure of the systematic risk.

$$\beta = \frac{\text{Cov}(i, \text{mkt})}{V_{\text{mkt}}} = \frac{\sigma_{im}}{\sigma_m^2}$$

$$\beta = \frac{\sigma_i \times \rho_{im}}{\sigma_m}$$

(ii)

$$\beta = \frac{\text{Cov}(i, \text{mkt})}{V_{\text{mkt}}} = \frac{\sigma_{im}}{\sigma_m^2}$$

- (iii) As an active stock market, I would invest in $\beta =$.

(iv) Cash.

(12) The following ABC Pvt Ltd has a debt: equity ratio 1:1.

The risk-free rate of return is 7%, the equity risk premium derived from the market is 5% & gross cost of debt is 9%. Its β is 1.5 & assume any profit is taxed 25%.

- (i) Calculate WACC.
 (ii) ABC is concerned about the high debt: equity ratio. If ABC were to repay all debt, what would be required return to equity?

Solⁿ

$$R_f = 7\%$$

$$MRP = 5\%$$

$$\beta = 1.5$$

$$t = 25\%$$

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

$$\text{gross debt} = 9\%$$

$$(i) \text{ WACC} = (r_d \times w_d) + (r_e \times w_e)$$

$$\begin{aligned} r_e &= R_f + MRP \times \beta \\ &= 7 + 5 \times 1.5 \\ &= 14.5\% \end{aligned}$$

$$\begin{aligned} r_d &= 9 (1 - 0.25) \\ &= 6.75 \end{aligned}$$

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

$$(ii) \beta_g = \beta_{unlevered} \left[1 + \frac{D}{E} (1 - t)\right]$$

$$1.5 = \beta_{unlevered} \left[1 + \frac{D}{E} (1 - 0.25)\right]$$

$$\beta_{unlevered} = 0.8571$$

$$\begin{aligned} R_e &= R_f + MRP \times \beta \\ &= 7\% + 5\% \times 0.8571 \end{aligned}$$

$$R_e = 11.2855\%$$

- (13) The following data relates to a capital Project being evaluated by Management of X Ltd.

Project M.	
Annual Cost Saving	Ruppees 40,000
Useful life	4 years.
I. R. R.	15%
Profitability Index.	1.064
Salvage Value.	0

Solve Calculate for Project M:

- (i) NPV
- (ii) Cost of Capital
- (iii) Cost of Project
- (iv) Payback.

Solve

- (i) ~~NPV~~ IRR = 15%

$$40,000 \times \frac{1}{1.15^t} - x = 0$$

$$x = 40000 \cdot \left[\frac{1 - (1.15)^{-4}}{0.15} \right]$$

$$\boxed{x = 114199.1345}$$

Cost of Project = 114199.1345 Rs.

Cost of Capital = $114199.1345 \times 1.064 = 3.037725$

$$3.037697 = \frac{1 - (1+i)^{-4}}{i}$$

$$3.037697 \cdot i \cdot (1+i)^4 - 1 = 0$$

Using the table function in calculator

$$i = 11.94\% \approx \boxed{12\%}$$

$$\text{Payback period} = \frac{1,14,199.14}{40104} = 2.85 \approx \boxed{3 \text{ years}}$$

$$\text{NPV} = 121507.89 - 114,199.14 = \boxed{7308.75}$$

14) (i) Define the following ratio & state its uses-

- Current ratio.
- Debtor turnover Period.

(ii) Xylo Ltd deals in a goods with a high inventory turnover period. Its finance manager wishes to ascertain whether the company would be able to meet its short term liabilities explain which Ratio should be back on a regular basis & state the equation for the ratio suggested.

Solⁿ (i)

a) Current Ratio $\Rightarrow \frac{\text{Current assets}}{\text{Current liability}}$

→ This ratio is used to assess whether the company will be able to pay bill over few months.

b) Debtor Turnover Ratio :-

$$\frac{\text{debt}^{\text{receivable}} \text{ payable}}{\text{Credit purchase Sales}} \times 365,$$

Time taken to convert your receivable to cash.

(ii) $\text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liability}} \times 365$

It is used to check whether the company has sufficient assets available with the business to pay off all the creditors.

→ $\text{Debtor Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Receivable Accounts}} \times 365$

It is used for measure the efficiency from which the company is able to collect on its receivable from its creditors.

(iii) To check the daily basis, the one can use the quick Ratio or Super Quick Ratio. It is ratio of readily convertible current Assets to Current liabilities.

It is used to check whether the company has enough cash bank balance, stocks to repay any current liabilities.

- (15) (i) A Company has debt:equity ratio of 1:1, the gross redemption yield on debt is 8% & the dividend yield is 4%. explain why an investor might buy share in this company, & suggest a suitable cost of capital for investor, assuming the debt is held till maturity.
- (ii) Explain the traditional view of the effect of gearing on the cost of capital, including why the cost of equity increase with an increase in gearing. You should produce an appropriate diagram to illustrate your answer.
- (iii) Identify Modigliani & Miller first irrelevance proposition, & describe its underlying assumption.
- (iv) Draw a diagram showing the effect of gearing on the cost of capital using Modigliani & Miller first proposition.
- (v) Beta is a measure of risk positioning.
- (a) If the risk free rate of return is 4% & equity risk premium 5%, what is the cost of equity for company with β of 1.4?
- (b) The total market capitalization of a company is 100m, whose debt has a book value of 40% & a market value of 50%. The tax rate is 30%. Determine the geared β of company.
- (c) Determine the cost of equity of the company.

Sol^m

(D) The Shareholders may buy the share by ~~see~~ seeing that the equity & debt of the company is equal.

→ Also the dividend yield is good.

→ To diversify portfolio & reduce their risk.

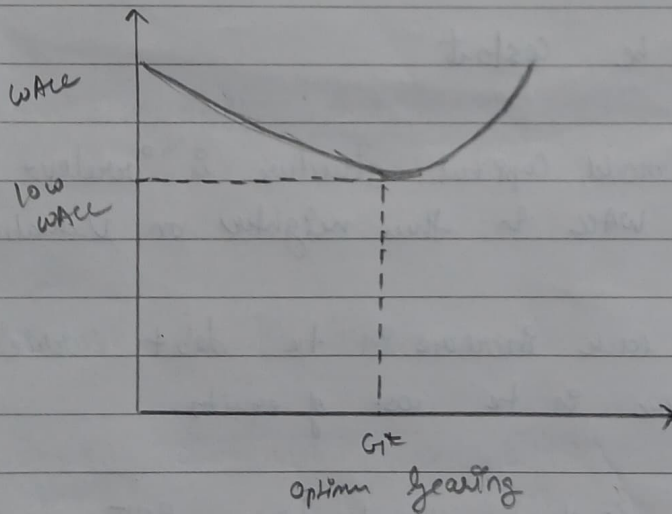
→ Business Prospect, potential etc.

$$COC = \left(8 \times \frac{1}{2}\right) + \left(4 \times \frac{1}{2}\right)$$

$$= 12/2 = 6\%$$

The suitable WACC should be higher than 6%.

(ii)



→ Generally Cost of Debt is cheaper than cost of equity.

$$\rightarrow WACC = \left[\frac{\text{Net cost of debt} \times \text{market value of debt}}{\text{market value of debt} + \text{market value of equity}} \right] +$$

$$\left[\frac{\text{Net cost of equity} \times \text{market value of equity}}{\text{market value of debt} + \text{market value of equity}} \right]$$

→ WACC & gearing are inversely proportional to each other.

→ The Cost of equity increase at faster rate than cost of equity.

(iii)

→ Assumption

① Debt + equity

② No tax

③ Perfect Information is available to all

④ No Asymmetric Information

⑤ Loan is available to all at same rate

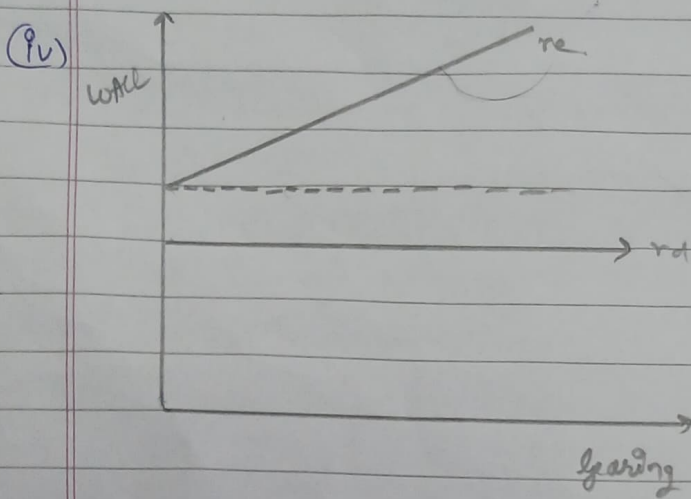
⑥ No Agency Cost

⑦ Interest rate will be constant

→ According to this model, capital structure is irrelevant & won't have an impact on WACC & thus neither on valuation.

→ They held that each increase in the debt carried a compensating increase in the cost of equity.

→ A highly geared company offered higher ROE but also has higher cost of equity, the 2 factors will cancel each other, hence value remains the same.



(v)

(a) $R_F = 6$

$MRP = 5$

$\beta = 1.4$

$$\text{Cost of equity} = 6 + (5 \times 1.4)$$

$$= \boxed{13\%}$$

(b) $t = 30\%$

$D:E = 1:1$

$$B_{\text{levered}} = B_{\text{unlevered}} \left[1 + \frac{D}{E} (1-t) \right]$$

$$1.4 = B_{\text{unlevered}} \left[1 + \frac{1}{1} (1-0.3) \right]$$

$$\cancel{B_{\text{unlevered}}} = B_{\text{levered}} = 1.4 \times 1.7 = \boxed{2.38}$$

(c) Cost of equity = $6 + (5 \times 2.38)$

$$= \boxed{17.9\%}$$

————— X ————— X ————— X —————