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28/3 Business Finance II Assignment:

1. D. IRR is the most realiable method of choosing between mutually exclusive projects.

2. A. Market price of share / EPS

3. D. All of the above

4. D. 10,00,000

5- Efficiency ratios:
→ tend to be multiplied by 365 eg: expressed as a period of time

1. Inventory turnover period
= $\frac{\text{inventory}}{\text{cost of sales}} \times 365$

- attempts to show how long the inventory is held on a average
- less rapid inventory turnover period will indicate an inefficiently large inventory holding (stock piling)

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

- measure of the average length of time taken for trade recievables

to settle their balance.
- it is desirable for this period to be as short as possible.
- it is also called 'collection period'.

3. Trade payables turnover period

$$= \frac{\text{trade payables}}{\text{credit purchases}} \times 365$$

- indicates the average no. of credit days that a company has from its suppliers.
- high ratio indicates the company is taking time to pay its bills, maybe because of allowance from suppliers facilitating the company's cash flow.

7. Limitations of ratio analysis:
- diverts attention from figures & statements themselves & ignores the rest of company.
- doesn't reflect all the important information from the notes.
- comparisons can be affected by different accounting policies or other external factors.
- Similar businesses can be affected by economic environment.

- Statements could have been deliberately distorted by so called creative accounting.
- There may be difficulties in comparing ratios of 2 different businesses due to peculiarities of the trade.

8.(i) Reasons why stocks trade at different betas in stock market:

- Beta is a measure of systematic risk associated with market volatility. It indicates how volatile a stock's price is in comparison to the overall stock price.

(ii)

$$\text{geared beta} = \text{ungeared beta} \times \left(1 + \text{debt/equity ratio}\right)\left(1 - \text{tax rate}\right)$$

$$1.1 = \text{ungeared beta} \times (1 + 0.5 \times 0.7)$$

$$\text{ungeared beta} = \frac{1.1}{1.35} = \boxed{0.8148}$$

$$\text{geared beta} = 0.8148 \times (1 + (0.7))$$

$$= \boxed{1.385}$$

9. (b) market value of investment trust is higher than the net present value.

10. (i) - Although shareholder value approach is very well ~~reiser~~ recieved by the stock market, a disadvantage is that it involves rating a project on a number of different criteria; some of which we may be percieved as more important or less. - when debating, there may be no clear winner or loser. Rating the factors' ~~to~~ according to importance level is essential.

(ii) DPS = ₹10 MPS = ₹70 g = 8%

R_F = 6% R_E = 5%

$d = (DPS/MPS) \times 100 = \frac{10}{70} \times 100 = \boxed{14.28\%}$

cost of eq. = $d + g$ = 14.28% + 8% = $\boxed{22.28\%}$

cost of eq = $R_F + (\beta_u \times R_E)$

$\Rightarrow \boxed{\beta_u = 3.25}$

∵ systematic risk ↑ 80%, β ↑ 80%.

new β = 3.25 × (1.8) = $\boxed{5.86}$

new cost of eq. = 6% + (5.86 × 5%) = $\boxed{35.31\%}$

∴ 35.31 = (DPS/MPS) × 100 + 8%,

$\boxed{MPS = 36.61}$, Ans. ∴ it falls by ₹36.61

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11. (i) Beta is a way of measuring a stock's volatility compared with the overall market volatility.

(ii) A security's beta of is calculated by dividing the product of the covariance of the security's returns and the market's returns by the variance of the market's returns over a specified period.

$$\beta = \frac{cov(R_e, R_m)}{var(R_m)}$$

(i)

$\beta \Rightarrow$ beta

$R_e \Rightarrow$ return on individual stock

$R_m \Rightarrow$ return on overall market

(iii) Beta 1 option will be better because $\beta = 1$ as it indicates that its price activity is strongly correlated with the market. Adding stock with beta 1 doesn't add any risk to the portfolio but it also doesn't increase the likelihood that the portfolio will provide excess return.

(iv) eg. of ~~beta~~ beta zero bonds: government bonds.

12. debt : equity ⇒ 1 : 1 R_F = 7% R_e = 5%

beta = 1.5

(i) WACC = $\frac{\text{cost of eq.} \times \text{eq. capital} + \text{net cost of debt} \times \text{debt cap.}}{\text{total capital}}$

cost of equity = R_F + beta × (equity risk premium)

= 7% + 1.5 × (5%)

= 14.5% ——— (1)

cost of debt = gross cost of debt × (1 − t)

= 9% × (1 − 25%)

= 6.75% ——— (2)

WACC = (0.5 × 14.5%) + (0.5 × 6.75%)

= 10.625%

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

$1.5 = \beta_{ung} \times (1 + (1 - 0.25))$

β_{ung} = 0.85714 ——— (3)

New cost of equity = $R_f + \beta_{mg}$ (equity risk premium)

$= 7\% + (0.85714)(8\%)$

$= 0.11285 = \boxed{11.285\%}$ Ans.

13. Annual cost saving = ₹40,000
Useful life = 4 years
IRR = 15%
PI = 1.064 Salvage value = 0

(i) NPV at IRR 20 at IRR = 15%

$\therefore 0 =$ init. inv $+ 40000\left((1.5)^{-1} + (1.5)^{-2} + (1.5)^{-3} + (1.5)^{-4}\right)$

Initial inv = $\boxed{-₹114200}$

PI = PV of Inflow / initial inv

PV of Inflow = $\boxed{₹121508.8}$

NPV = NPV of Inflow − NPV of outflow

= 121508.8 − 114200 = $\boxed{₹7308.8}$

(ii) Let cost of capital be 'i'.

$NPV = \text{initial inv} + 40000\left((1+i)^{-1} + (1+i)^{-2} + (1+i)^{-3} + (1+i)^{-4}\right)$

$\frac{7308.8 + 114200}{40000} = (1+i)^{-1} + (1+i)^{-2} + (1+i)^{-3} + (1+i)^{-4}$

$\therefore \boxed{i = 12\%}$ ∴ req. cost of cap. = $\boxed{12\%}$

(iii) cost of project = $\boxed{₹114200}$

(iv) payback period = initial inv / amt. of annuity per year.

= 114200 / 40000

payback period = $\boxed{2.855 \text{ years}}$

14. (i) (a) current ratio = $\frac{\text{current assets}}{\text{current liabilities}}$

- it is used to asses whether the company will be able to pay its bills over the next few months.
- provides a comparison of an estimate of the amt. of money due to be recieved & in the short term with an estimate of the amt. of money to be paid.

(b) Debtors turnover period (also called trade recievables turnover period)

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

- measure of the average length of time taken for trade recievables to settle their balance.
- desirable for period to be as short as possible ~~for~~ to ~~to~~ balance their cashflow, at the earliest.

(ii) The ratio the finance manager should keep a track of ~~stock~~ is:
Trade payables turnover period

$$= \frac{\text{trade payables}}{\text{credit purchases}} \times 365$$

it is used to asses how long it takes for the company to pay its creditors.

15.

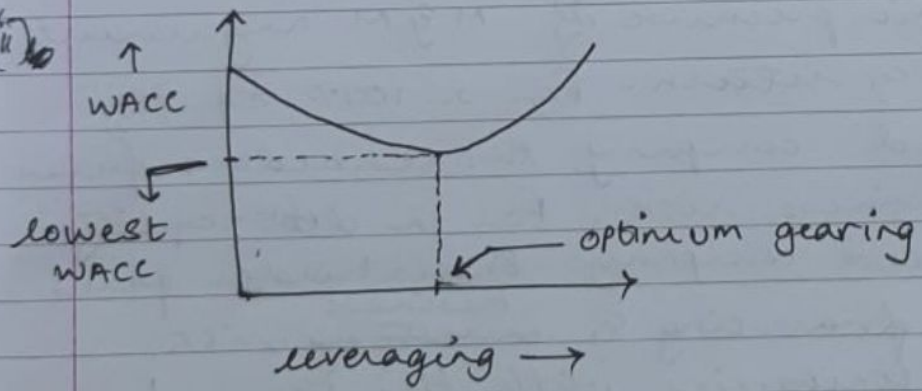
(a) (i) debt-equity ⇒ 1:1 GRY of debt = 8%
div. yield = 4%

$$COC = \left(8\% \times \frac{1}{2}\right) + \left(4\% \times \frac{1}{2}\right) = 4\% + 2\% = \boxed{6\%}$$

∴ suitable coc must be higher than 6%.

an investor would choose to invest since the dividend yield = 4% is pretty high even though the inv. is risky, investor will expect higher returns to compensate.

(ii)



Normally, the net cost of debt is cheaper than the net cost of equity, ∴ the finance manager would want to increase the weightage of debt in the capital structure to lower the WACC. But as debt increases, the leveraging also increases, hence the risk to investors risk also increases & so will their required rate of returns.

Therefore initially when the company borrows, the WACC decreases ~~but~~ due to favourable leverage but not beyond a point, when it starts increasing.

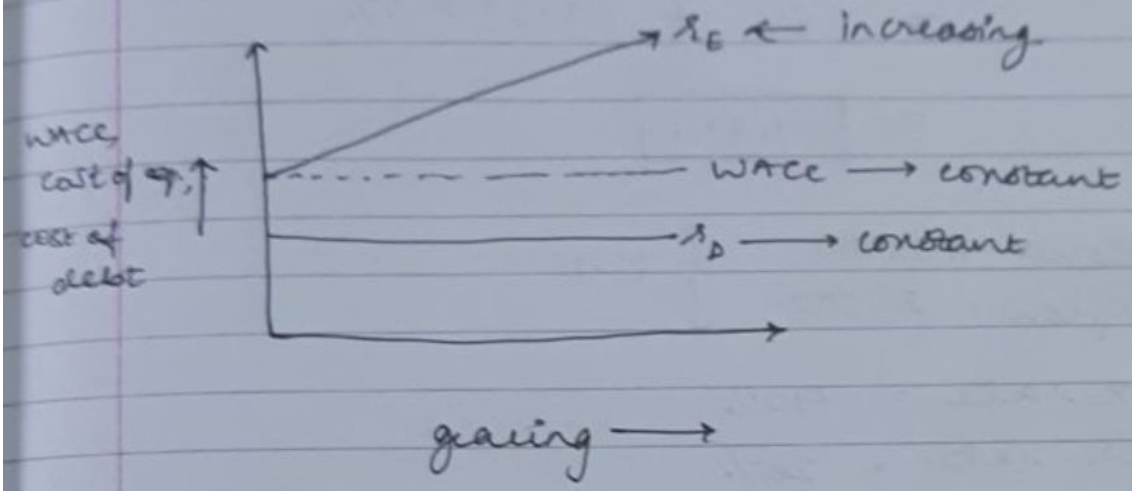
(iii) Miller & Modigliani

assumptions:

- market value of a company is primarily dependent on its investing decisions.
- no taxes
- unlimited borrowing allowed to corporations & individual investors at same interest rate
- debt is risk free
- perfect market

The basic premise of M & M argument is risk & return. For a 100% equity financed company, shareholders faces only business risk. For a debt-equity financed company, shareholder faces both financing & ~~investing~~ business risk.
If two companies with the same business risks, same operating profits but different market values, then according to M & M, ~~do~~ arbitrage opportunity exists; if ~~capal~~ exploited the value will become equal.

(iv) MG M model



(v)

(a) $R_F = 6\%$ $R_E = 5\%$ $f_0 = 1.4$

Cost of equity $= R_F + (R_E \times f_0)$

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

$= \boxed{13\%}$

(b) total market capitalisation = 100M
MV of debt = 50%
∴ debt : equity = 1 : 1
tax rate = 30%

geared beta = $f_u \times (1 + ((D:E) \times (1 - t)))$

$= 1.4 \times ((1 \times (1 - 30\%)))$

$= 1.4 \times 2 \times 70\% (1.4 \times 1.7)$

$= \boxed{2.38}$

(iv) cost of equity = $R_f + (\beta \times R_E)$

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

$= \boxed{17.9\%}$

5. inflow = ₹2500
outflow = ₹1500
} t=1

tax rate = 40%
disc rate = 20%

(i) net cashflow at t=1 = inflow − outflow
= 2500 − 1500
= ₹1000

after tax = 1000 × (1 − t)
= 1000 × 60%
= ₹600

(ii) NPV = 600 × (1 + 20%)$^{-1}$
= ₹500

(iii) t=1
inflow = 2500
outflow = 0
net cashflow = 2500
after tax = 2500 × (1 − 60%)
= ₹1500

t=2

outflow = 1850

Inflow = 0

net cashflow = -1850

∴ NPV = $1580 \times (1.2)^{-1} - 1580 (1.2)^{-2}$

= £ 208.34