

BF Assignment - 1



- 1) D. IRR is the most reliable means of choosing between mutually exclusive projects.
- 2) A. Market price of share / Earning per share
- 3) D. All of the above.
- 4) A. 12,00,000

5) Sales = 2500
 Costs = 1500 (excluding depreciation).
 tax = 40% $i = 20\%$

i) $CF = 2500 - 1500 = 1000$

∴ cashflow from project at date 1 is 1000.

ii) ~~$NPV = 1000 \times \frac{1}{1.2} = 833.33$~~ NPV :-

~~$tax = (sales - cost)(40\%) = 400$~~

~~$NPV = (1000 - 400) \left(\frac{1}{1.2} \right)^1 = 500$~~

iii) $NPV = \frac{2500}{1.2} - \left(\frac{1500}{(1.2)^2} \right) - \frac{400}{1.2}$
 $= 708.333$

∴ 208.333 is the increase in the NPV if the supplier allows to pay with one year delay.

6) P/E ratio = $\frac{\text{Market price of ordinary share}}{\text{earning per share}}$

The market price of the share encapsulates everything that the market knows about the company.

If P/E ratio is high, it may suggest that the company is relatively attractive when considered as source of revenue.

2. Inventory turnover period

$$\text{Stock turnover period} = \frac{\text{inventories}}{\text{cost of sales}} \times 365$$

This is an attempt to access how much inventory the company holds in relation to the scale of the company's operations, how long the inventory is held on an average.

3. Trade receivables turnover period

$$= \frac{\text{trade receivables}}{\text{credit sales}} \times 100$$

It is a measure of average length of time taken for trade receivables to settle their balance.

It is desirable for this period to be short.

7) Limitation of Ratio Analysis

1) It diverts attention from the figures and statements themselves.

- It is important to look at the information in the notes and which is usually not reflected in the ratios.

2) Comparisons can be affected by different accounting policies or by other external factors.

- If two companies use different methods for calculation of depreciation then any ratio based on their financial statement might not be comparable.

3) There could be peculiarities of the trade which make it difficult to interpret certain ratios.

4) The statements could have been deliberately distorted by so-called creative accounting. This involves the deliberate abuse of subjectivity inherent in accounting to select accounting policies or make assumptions which tend to ~~xxx~~ bias the figures in the direction ~~by~~ chosen by managements.

8. i. stocks trade at different betas in the stock market.

Beta has nothing is a measurement of market risk or volatility. It indicates how much the price of a stock tends to fluctuate up and down compared to other stocks. It indicates how volatile the ~~overall~~ ~~overall~~ stock's market is price is in comparison to overall stock market.

$$ii) \beta_{geared} = \left(1 + \frac{D}{E} (1 - \text{tax}) \right) \beta_{ungeared}$$

$$1.1 = \left(1 + \frac{70\%}{2} \right) \beta_{un}$$

$$\beta_{ungeared} = 0.8148$$

$$\beta' = 0.8148 (1 + 70\%)$$

$$\beta' = 1.38516$$

9. A) In the general the market value of investment trust is lower than the net present value.

$$10. ii) \beta_{geared} \neq \beta_{ungeared} \left(1 + \frac{D}{E} (1 - \text{tax}) \right)$$

$$1.1 \neq \beta_{ungeared} \left(1 + \frac{1}{2} (1 - 0.3) \right)$$

$$\beta_{ungeared} \neq$$

10) ii) $EMP = 70$ growth = 8%
 $r_f = 6\%$ $r_r = 5\%$

Dividend = 10

Growth = Retention Rate $\times$ ROE
 $= (1 - D.Y.) \times ROE$

$ROE = \frac{\text{Growth}}{1 - D.Y.} = \frac{8\%}{85.7143\%}$

$D.Y. = \frac{100}{7} = 14.2857\%$

$1 - D.Y. = 85.7143\%$

$ROE = 9.33\%$

$ROE = 6\% + (5\% \times \beta)$

$ROE = R_f + (R_r \times \beta)$

$9.33\% = 6\% + (5\% \times \beta)$

$\beta = \frac{3.33}{5} = 0.666$

= If systematic risk increases by 80%
 $\beta' = 0.666 \times 1.8 = 1.1988$

$ROE' = 6\% + (5\% \times \beta')$
 $= 0.11994$

$1 - D.Y. = \frac{\text{Growth}}{ROE} = \frac{8\%}{11.994\%} = 0.667$

$D.Y. = 0.33299 = 33.299\%$

$D.Y. = \frac{\text{Div}}{EMP}$

$MP = 30.0309$

$\therefore$ The effective share price is 30.0309
 Assuming dividend is still £10

11. i) Beta ~~is~~ can be regarded as the measure of systematic risk associated with a particular stock $\beta_{im} = \sigma_{im} / \sigma_m^2$

ii) $\beta_i = \sigma_{im} / \sigma_m^2$

Here σ_m^2 is the variance of market index
 σ_{im} is the covariance between individual stock's return and market.

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

iv) Government bonds are a financial instrument that are likely to have a beta of 0.

12. i) $d:e = 1:1$, $r_d = 7\%$, $r_f = 5\%$.

Current cost of debt = 9% , $\beta = 1.5$, $t = 25\%$.

→ RO cost of equity = $r_f + r_f \times \beta$
 $= 7\% + 5\% (1.5)$
 $= 14.5\%$

Net cost of debt = $9\% (1 - t) = 9\% \times 75\%$
 $= 6.75\%$

WACC = $\frac{(14.5)(1)}{2} + \frac{(6.75)(1)}{2}$

WACC = 10.625%

ii) If ABC repays all the debt

Blevered = $B_{unlevered} \left(1 + \frac{D}{E} (1 - t)\right)$

$1.5 = B_{ug} (1 + (0.75)) = B_{ug} (1.75)$

$B_{ug} = 0.857$

Return on equity if ABC repays all debt is

ROE = $r_f + r_f \times B_{ug} = 7\% + 5\% (0.857)$

ROE = ~~8.43%~~ $0.11285 = 11.285\%$

14. 1) a) current ratio

$$\text{Current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

It provides ~~an~~ a comparison of an estimate of the amount of money due to be received in the short term with an estimate of the amount of money to be paid.

b) Debtors turnover ratio

$$\frac{\text{Net credit sales}}{\text{Average account receivable}}$$

It is used to quantify how well companies are managing the credit that they extend to their costumers by evaluating how long it takes to collect the outstanding debt throughout the period

ii) quick ratio = $\frac{\text{current assets} - \text{inventories}}{\text{current liabilities}}$

It looks at short term liquidity. A quick ratio of less than 1 might sign that company may struggle to pay its creditors. It focuses on readily realisable cash.

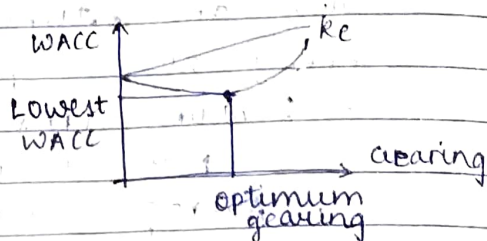
15) ii) Traditional view of effect of gearing on cost of capital.
Normally cost of debt is cheaper than cost of equity.

∴ CFO would want to increase the weightage of debt in capital structure to decrease WACC.

But as and when

gearing increases the risk to the investors also

increases. So their required return also increases.

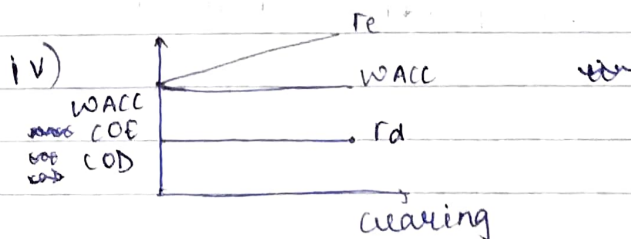


ii) Miller-Modigliani's first irrelevance proposition

The market value of firm is independent of its capital structure

Assumptions:

- 1) only debt and equity financing
- 2) No tax
- 3) No information asymmetry
- 4) No agency cost
- 5) Interest rate is constant.



v) $r_f = 6\%$, $r_r = 5\%$
 $COE = r_f + r_r (\beta)$
 $= 6\% + 5\% (1.4) = 13\%$

b. $M_{cap} = 100m$, $bv\ debt = 40\%$, $t = 30\%$

$$\beta_{gearing} = \left(1 + \frac{D}{E} (1-t) \right) \beta$$

$$= \left(1 + \frac{4}{6} (70\%) \right) 1.4$$

$$= 2.053$$

$$COE = 6\% + 5\% (2.053)$$

$$= 0.16267 = 16.267\%$$