

BF2 Assignment 1

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1. D) IRR is the most reliable means of choosing betⁿ mutually exclusive projects.

2. A) Market price of share / EPS.

3. D) All of the above

4. c) 9,00,000

5. (i) we know that $\text{cashflow} = \text{Inflow} - \text{Outflow}$
 $= 2500 - 1500$
 $= 1000$

Tax rate @ 40% = 400

$\therefore \text{Net cashflow} = 1000 - 400$
 $= 600$

(ii) $\text{NPV} = 2500(1-20\%)^1 - 1500(1-20\%)^1$
 $= 800$

(iii) $\text{NPV} = 2500(1-20\%)^1 - 1500(1-20\%)^2$
 $= 1040$

thus, the NPV of project increases.

6. Ratios to analyse in measuring any business efficiency:-

(i) $\text{Inventory turnover ratio} = \frac{\text{Cost of Goods Sold}}{\text{Avg. Inventory}}$

(ii) $\text{Asset turnover ratio} = \frac{\text{Net Sales}}{\text{Avg. Total Assets}}$

(iii) Receivables turnover ratio = $\frac{\text{Net Sales}}{\text{Avg. Accounts Receivable}}$

These ratios measure how efficiently a company uses its assets to generate revenues and its ability to manage those assets.

7. Follow are the limitations of Ratio Analysis:-

(i) Historical Basis of Ratios

- Not all past analysis from actual historical results will be appropriate in the future.

(ii) Historical vs current costs

- The disparity can result in unusual ratio results.

(iii) Inflation Effects

- Inflation nos. cannot be comparable across periods.

(iv) Aggregation Issues

- The way to aggregate info. in a financial statement may differ.

(v) Operational changes

- A company may change its underlying operational structure to such an extent that a ratio calculated several yrs ago and compared to the same ratio today would give a wrong conclusion.

(vi) Accounting Policies

(vii) Business Conditions

(viii) Interpretation may always differ.

(ix) Company strategy

(x) Point in Time i.e. reporting period specifically.

8.1-Follow are the possible reasons why stocks trade at different betas in the market:-

(i) Nature of the business

(ii) Financial Leverage

(iii) Operating Leverage

ii. Geared Beta = 1.1

D-E ratio = 1:2

Corporate tax rate = 30%

If D-E ratio = 2:2 ; Geared Beta = ?

→ i) Geared beta = Ungeared beta ×

$$\left[\frac{1 + \text{debt:equity ratio} \times (1 - \text{tax rate})}{1} \right]$$

$$\therefore 1:1 = \text{ung. beta} \left[\frac{1 + 1:2 / 1 - 30\%}{1} \right]$$

$$\therefore \text{ung. beta} = \underline{\underline{0.815}}$$

ii) New debt:equity = 2:2

$$\text{new geared beta} = (0.815) \left[1 + 2:2 (1 - 30\%) \right]$$

$$= \underline{\underline{1.3855}}$$

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

9. D) In general the market value of investment trust is not correlated to the npv.

10. i) - There is sometimes a disconnect betⁿ the shareowners of the firm and the management of the firm.

- Managers do not always act in the interest of shareholders wealth.

- This is called agency problem and occurs when the interest of managers is not aligned with interest of shareholders

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11.

i) Beta is the covariance of the return of an asset with the return of the benchmark, divided by the variance of the return of the benchmark over a certain period.

$$\beta = \frac{\text{cov}(\text{market}, \text{stock})}{\text{var}(\text{mkt})}$$

ii) Beta is a statistical measure of the volatility of a stock ~~more~~ versus the overall market.

iii) with beta +1 $\Rightarrow$ the security's price tends to move with the market

With beta -1 $\Rightarrow$ tends to be less volatile than the market.

Both are good, depends on the stock type that you are investing in.

iv) The group of 30 industrial stocks of USA called DJIA (Dow Jones Industrial Average).

12. i)
$$\text{WACC} = \left(\text{cost of equity} \times (\% \text{ equity}) \right) + \left(\text{cost of debt} \times (\% \text{ debt}) \right)$$

cost of equity = $r_f + \beta \times (r_m - r_f)$

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

$$= \underline{\underline{0.145}}$$

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

$$= \underline{10.625\%}$$

ii) Ungearred beta needs to be calculated

$$\beta_2 = \beta_1 \times \left(1 + \frac{D}{E} (1 - \tau)\right)$$

$$1.5 = \text{Ung. } \beta \times \left(1 + \frac{1}{1}\right) (1 - 25\%)$$

$$1.5 = \text{Ung } \beta \times 1.75$$

$$\text{Ung. } \beta = \frac{1.5}{1.75} = \underline{0.857143}$$

$$\text{New cost of equity} = 7\% + 0.857143 \times 5\%$$

$$= \underline{11.29\%}$$

13. i) At IRR, p.v of outflow = p.v of outflow

$$\therefore \text{Project} = 40000 \times 2.856$$

$$= \underline{114200}$$

$$\text{ii) Cost of capital} = (160000 / 121509)^{\left(\frac{1}{4} - 1\right)}$$

$$= \underline{7.129\%}$$

iii) Profitability index = 1.064

$$1.064 = \text{p.v of cash flow} / 114200$$

$$\therefore \text{NPV} = 121509 - 114200$$

$$= 7309$$

iv) cost of cap. payback

$$\text{period} = 114200 / 40000$$

$$= \underline{\underline{2.855}}$$

Q14) Current asset ratio = One of the liquidity ratios that can be found by dividing a company's total current assets by its total current liabilities.

Q15) i) investors may invest in the shares of the company to -

- 1) Diversify portfolio
- 2) Execute strategies like strategic holding
- 3) Maximize return

ii) On increase of the company gearing, WACC remains constant since cost of debt is cheaper than than cost of equity.

iii) First irrelevance proposition:-

- debt is risk free
- No taxes
- No agency costs
- No info asymmetry.

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