BUSINESS FINANCE ASSIGNMENT 2

Q1. D. IRR is the most reliable means of choosing between mutually exclusive projects.

Q2. A. Market price of share/ Earning per share

Q3. D. All of the above

Q4. D) 1000000

Q5. (i) There is a positive cash flow of 2500, two negative cashflow of 1500 and
[(2500-1500) * 0.4] 400 on date 1

(ii) NPV = 600*V1 = 600*(1-0.2) = 480

(iii) If the supplier allows to pay them at date 2 then the new NPV= 2500*V1 - 1500*V2 – 400*V

= 720

Hence, The NPV will increase

Q6. There are four main groups of ratios:

- Those which measure profitability.
- Those which measure liquidity.
- Those which measure business efficiency.
- Those which relate to the business' financial structure
- If we want to measure the efficiency of a business, we need the following ratio
Inventory turnover period

- The inventory turnover period is defined as:

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

It tells us how efficient a business is in terms of sales. The lower this ratio is the more efficient is the business.

- Trade receivables turnover period- This is a measure of the average length of time taken for trade receivables to settle their balance:

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

It is desirable for this period to be as short as possible. It will be better for the company's cash flow If those owing the company money pay as quickly as possible.

Q7. The major limitations of ratio analysis are

- It diverts attention from the figures and statements themselves.
- Comparisons can be affected by different accounting policies or by other external factors.
- There could be peculiarities of the trade which make it difficult to interpret certain ratios.
- The statements could have been deliberately distorted by so called creative accounting.

Q8. (i) All companies are exposed to systematic risk because they are all exposed to the market. However, some companies are more exposed to the market than others and therefore are exposed to a greater proportion of the systematic risk in the market.

- When beta>1 : The stock has previously amplified the return of the whole market.
- When beta<1 : The stock's performance was counter-cyclical, hence offsetting the market experience.
- When beta is close to zero: The stock has provided a more stable return as compared to the market as a whole.

(ii) B(geared) = B(Ungeared) x (1+ D/E(1-t))

Geared beta=1.1

Debt to equity ratio=1:2

Tax Rate=30%

Therefore, for new geared data, we need ungeared data first.

$$1.1 = B(\text{Ungeared}) * \left(1 + \left(\frac{1}{2}\right)(1 - 0.3)\right)$$

$$B(\text{Ungeared}) = \frac{1.1}{\left(1 + \left(\frac{1}{2}\right)(1 - 0.3)\right)}$$

=0.815

Now,

$$\text{Geared Beta} = (0.815)\left(1 + \left(\frac{2}{2}\right)(1 - 0.3)\right)$$

Hence, New Geared Beta= 1.385

Q9.   Given,

NPV= 10

IRR=21%

Cost of cap (i)=10%

Initial investment= 100

List of cash flows

-100

X positive cash flow

$10 = -100 + x(1+10\%)^{-1}$

$110 = x(1.1)^{-1}$

X=121

The second cash flow is 121

If I = 11%

(i) $NPV = -100+121(1.11)^{-1}$

     = 9.009

(ii)   IRR remains constant as the cashflows don't change

Q10. (i)

- Systematic Risk is the risk of losing investments due to large scale factors, such as political risk and macroeconomic risk, that affect the performance of the overall market.

- Specific Risk is the risk of losing an investment due to company or industry related issues. Unlike systematic risk, an investor can only mitigate against unsystematic risk through diversification.

(ii)

Systematic Risk	Specific Risk
• Risk that an investor takes by investing by just investing in Equities	• Risk that an investor takes by investing in my company
• This is a risk that all companies in a Market will be exposed to	• Any risk that my company is specifically exposed to is known as Specific Risk
• E.g. Business Cycle (Recession / Boom)	• E.g. Debt Structure

Q11. (i) Beta is a numeric value that measures the fluctuations of a stock to changes in the overall stock market. In simple words, beta can be used to measure the volatility of a stock.

Formula= $\dfrac{\text{Covariance of the individual Company}}{\text{Variance of the market}}$

(ii) Beta can be determined using the formula i.e dividing the Covariance of the individual company's returns by Variance of the Market returns.

(iii) A beta of 1 means that the stock is strongly correlated to the market and hence moves with the same pace of the market. Whereas, A stock with a beta of -1 means that the stock is inversely correlated to the market. I think that investing in a stock with either beta is equally risky. However personally, I would invest in a stock with beta -1.

(iv) Treasury Bills and Government issued Bonds are some financial instruments that have zero beta value.

Q12. (i) wacc = {(cost of equity) *(% equity) + (cost of debt) *(% debt)}/equity +debt

Cost of equity = rf + Beta*(rm – rf) = 7% + 1.5*5% =0.145

Cost of debt = Cost of debt depending on rating of company × (1 − tax rate)

WACC = 0.145*0.5 + 9%*0.5*(1-25%)

=10.625%

(ii) Ungeared beta needs to be computed.

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

1.5 = Ungeared beta * (1 + 1/1 *(1-25%))

= Ungeared beta * 1.75

Ungeared beta = 1.5 / 1.75 = 0.857143

New cost of equity = Risk-free rate + Ungeared beta * Equity risk premium

= 7% + 0.857143 * 5%

= 11.29%

Q13. (i) At IRR, present value of cash outflow= present value of cash inflow, hence cost of

Project = 40,000*2.855(cumulative discounting factor for 4 years at IRR) =1,14,200

(ii) cost of capital = (160000/121509)^1/4 -1

=7.129%

(iii) profitability index at cost of capital= 1.064

1.064= present value of cash inflow at cost of capital/114200

Present value of cash inflow at cost of capital = 121509

Net present value at cost of project = 121509- 114200= 7309

(iv) cost of capital payback period= 114200/40000 = 2.855

Q14. (i)

       (a) Current Ratio- One of the liquidity ratios that can measure a company's ability to pay its short-term loans. To achieve a high current ratio, Companies require high current assets and/or low current liabilities or short-term loans.

       (b) The Debtors Turnover Ratio shows how quickly the credit sales are converted into the cash. This ratio measures the efficiency of a firm in managing and collecting the credit issued to the customers.

(ii) A high turnover ratio indicates the company has a low amount of inventory for sale, which may cause it to lose potential sales. Since this is the case, I think we should judge the company's ability to pay its short-term loans using quick ratio because it takes into account the inventory the company holds.

Q15.

(a) Investors may invest in the shares of this company:
- To Diversify the portfolio
- To maximize return (increasing idiosyncratic risk)
- To execute strategies like Strategic Holding, Personal Attachment to the company etc.

The Suitable cost of capital is anything higher than 6%

(8%*0.5 + 4%*0.5)

(b) On increase of the company gearing, WACC remains constant. Since cost of debt is cheaper than cost of equity, the latter increases just as much so as to offset the increased proportion of the cheaper debt.

The Modigliani Miller proposition states that for companies with equal earnings, the WACC remains the same irrespective of the gearing.
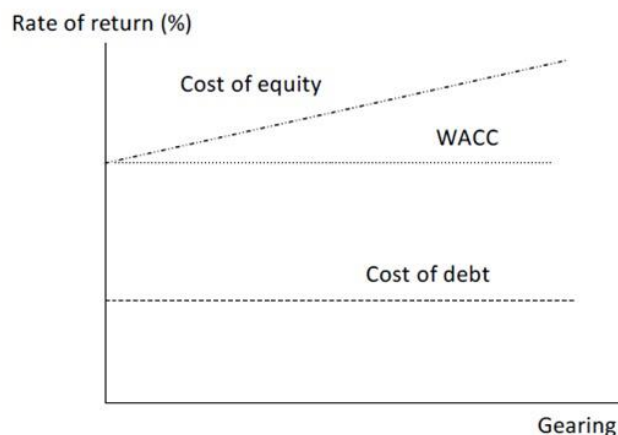
(c) First irrelevance proposition –
 • Market value of the firm is independent of its capital gearing structure
 Assumptions –
 • Debt is risk free
 • No taxes
 • No agency costs
 • Unlimited personal and corporate borrowing at same rate of interest
 • No information asymmetry

(d) WACC Remains constant as gearing increases. Upon increase of gearing,
    The cost of equity increases just enough to offset the increasing
    proportion of the cheaper debt.

Rate of return (%)

Cost of equity

WACC

Cost of debt

Gearing
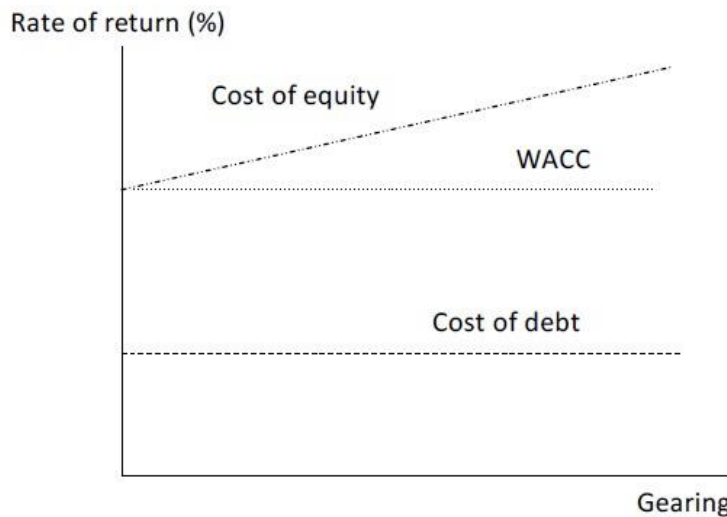
(e) Beta is a measure of volatility of a security.

   (i) Rf = 6%

   Equity Risk Premium = 5%

   Beta = 1.4

   Cost of Equity (Ke) = Rf + B(Equity Risk Premium)

                      = 6% + 1.4(5%)

   Cost of Equity (Ke) = 13%

   (ii) Market cap = 100mn

   Debt/Equity Ratio = 0.5/0.5 = 1

   Geared Beta= Ungeared Beta $* (1 + (\frac{Debt}{Equity\ Ratio}) * (1 - Tax)]$

= 1.4*[1+1*0.7]

= 2.38

(iii) New Ke = Rf + Geared Beta*(Equity Risk Premium)

= 6% + 2.38(5%)

= 17.9%

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