

Business Finance - Assignment 1

Q1. D

Q2. A

Q3. D

Q4. C

Q5.

(i) Cash inflow = 2500

Cash outflow = 1500

Total cashflow = 1000

Tax rate = 40%

$1000(1 - 40\%) = \boxed{600}$

(ii) PV of inflow ($i = 20\%$) = $2500(1 + 20\%)^{-1}$
= $\boxed{2083.3}$

PV of outflow = $1500(1 + 20\%)^{-1}$
= $\boxed{1250}$

NPV of the project = PV of inflow - PV of outflow
= $2083.3 - 1250$
= $\boxed{833.3}$

(iii) If supplier allows delayed payment,

P.V. of outflow = $1500(1.2)^{-2} = 1041.667$

NPV of the project = $2083.3 - 1041.667$
= $\boxed{1041.633}$

Q 6.

- (i) In a company there must be sufficient liquid assets available to ensure that the company can meet its short-term commitments or the company could be forced into liquidation.
- (ii) ~~The~~^{The} efficiency ratios are related to company's liquidity ratios.
- (iii) This gives insights to effectiveness of company's management regarding the components of working capital.
- (iv) Inventory Turnover Period = $\frac{\text{inventories}}{\text{cost of sales}} \times 365$

This ratio tells us how long inventory is held on an average.

- (v) Trade receivables turnover period = $\frac{\text{trade receivables}}{\text{credit sales}} \times 365$

This is to measure the average length of time taken for trade receivables to settle their balance.

- (vi) Payable turnover period = $\frac{\text{payables}}{\text{credit purchases}} \times 365$

Q 7. Limitations of Ratio Analysis:

- (i) It diverts attention from the figures & statements #
 - (a) It is important to look at figures such as the sheer size of the company. A larger company will have more bargaining power.
 - (b) It is also important to look at the notes which are generally not reflected in the ratios.

(ii) The statements could be deliberately distorted. This involves deliberate abuse of objective interest in accounting to select accounting policies to make assumptions which can lead to a bias in the figures in the direction chosen by the management.

(iii) The peculiarities of trade can make it difficult to interpret certain ratios

~~A~~ A property company might have very low return on capital employed. One of reason for this is the value of properties shown in the statement of financial position will be updated on a regular basis. Thus making the capital employed increase everyday. This will make it difficult to compare results with a business whose assets have not been revalued

(iv) Comparisons can be affected by different accounting policies or other external factors. If, for example, two companies use different methods for calculation of depreciation ~~then~~ then any ratios and financial statements might not be comparable.

Similarly two similar businesses could be affected to different extents by currency movements.

Q8.

(i) Possible reasons why stocks trade at different betas in the stock market

① Beta is the measure of systematic risk

② CAPM divides the volatility of a stock's price into two parts i.e. specific risk and systematic risk.

③ The specific risk can be diversified away

④ Systematic risk

① A beta more than 1 indicates a stock's price swings more wildly (i.e. more volatile) than the overall market.

② A beta less than 1 indicates that a stock's price is less volatile than the overall market.

③ A beta of 1 indicates the stock moves identically to the overall market.

④ Beta says nothing about the price paid for the stock in relation to fundamental factors like changes in company leadership, new product discoveries, or future cashflows.

⑤ A stock's beta will change overtime because it compares the stock's return with the returns of the overall market.

(ii) Gearing beta = 1.1

Tax = 30%

Debt: Equity = 1:2

$$\text{Gearing beta} = \text{Ungeared beta} \left(1 + \left(\frac{1}{2} \right) (1 - t) \right)$$

$$1.1 = \text{Ungeared beta} \left(1 + \frac{0.7}{2} \right)$$

$$\text{Ungeared beta} = 1.1 \times \frac{2}{2.7}$$

$$= 0.814815$$

Now,

Debt: Equity = 2:2

$$\text{Gearing beta} = 0.814815 \left(1 + \left(\frac{2}{2} \right) 0.7 \right)$$

$$= 0.814815 (1 + 0.7)$$

$$= \boxed{1.385185}$$

Q9. D

Q11. (i) Beta is a measure of the volatility or systematic risk of a security or portfolio compared to the market as a whole. Beta is used in the capital asset pricing model (CAPM), which describes the relationship between systematic risk and expected return for assets (usually stocks).

$$\text{Beta coefficient } (\beta) = \frac{\text{Covariance } (R_e, R_m)}{\text{Variance } (R_m)}$$

(ii) Beta could be calculated by first dividing the security's standard deviation of returns by the benchmark's standard deviation of returns. The resulting value is multiplied by the correlation of the security's returns and the benchmark's returns.

~~As~~

(iii) As an active stock investor I would invest my money in stock having a beta of positive 1.

(iv) Gilt securities, fixed deposit or government treasury bonds have beta very close to 0 or 0.

Q12. Debt: Equity = 1:1

Risk-free rate = 7%

Equity risk premium = 5%

Gearred beta = 1.5

Gross cost of debt = 9%

Tax rate = 25%

$$(i) \text{ Net cost of debt} = \text{gross cost of debt} (1 - t)$$

$$= 9\% (1 - 25\%)$$

$$= 0.09 \times 0.75$$

$$= 0.0675$$

$$= 6.75\%$$

$$\text{Cost of equity} = \text{risk free rate} + \text{geared beta} (\text{equity risk premium})$$

$$= 7\% + 1.5 (5\%)$$

$$= 14.5\%$$

$$\text{WACC} = \frac{(1 \times \text{cost of equity}) + (1 \times \text{cost of debt})}{2}$$

$$= \frac{14.5\% + 6.75\%}{2}$$

$$= \frac{21.25\%}{2} = \boxed{10.625\%}$$

$$(ii) \text{ Geared beta} = \text{ungeared beta} (1 + (1:1)(1 - t))$$

$$1.5$$

$$= \text{ungeared beta} (1 + 0.75)$$

$$\therefore \text{Ungearred beta} = \frac{1.5}{1.75}$$

$$= 0.85714$$

$$\text{Cost of equity} = \text{risk free rate} + \text{beta} (\text{equity risk premium})$$

$$= 7\% + 0.85714 (5\%)$$

$$= \boxed{11.2857\%}$$

$\therefore$ The required return to equity is 11.2857%.

Q14.

(i) a) Current ratio

It is a ratio of current assets to current liabilities

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

This ratio is used to assess whether the company will be able to pay its bills over the next few months. It provides a comparison of an estimate of the amount of money to be received and the amount of money to be paid. A low ratio might indicate that a company might have problems paying off its debts.

b) Debtors turnover period

$$\text{Accounts receivable turnover} = \frac{\text{Average accounts receivable}}{\text{Net credit sales}}$$

The term receivables turnover ratio or debtors turnover period refers to an accounting measure that qualifies a company's effectiveness in collecting its accounts receivables. This ratio measures how well a company uses and manages the credit it extends to customers and how quickly that short-term debt is collected or is paid.

(ii) To understand whether the company will be able to meet its short-term liabilities, current ratio would be used. This ratio is used to assess whether the company will be able to pay its bills over the next few months. It provides a comparison of an estimate of the amount of money due to be received

- (ii) Xylo Ltd. should use the quick ratio to ascertain whether the company should be would be able to meet its short term liabilities.

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{inventories}}{\text{Current liabilities}}$$

This ratio is aimed at looking at short term liquidity. The quick ratio considers what would happen if all creditor and debtor accounts were settled immediately. It focuses on readily realisable cash. A quick ratio of much less than 1 might be a sign that the company may struggle to pay its creditors. The idea is that only cash and trade receivables (debtors) can be turned into cash, but any of the current liabilities could become payable within a few months.

Q15.

- (i) An investor might buy shares in this company because it provides a high dividend yield of 4%. It is true that shares are potentially risky in that the return from them may be very volatile and uncertain. However, an investor would expect, on average, to gain a higher return from shares than from other investments, to compensate for the higher level of risk. For calculating the suitable cost of capital for the investors, we can assume that there is no growth in the stock's market price as of now and there are no taxes. This will help us in obtaining the minimum cost of capital for the investors.

$$\text{Dividend yield} = d = 4\%$$

$$\text{Gross cost of debt} = 8\%$$

$$\text{Net cost of debt} = \text{gross cost of debt} \times (1 - t) = 8\%$$

$$\text{Cost of equity} = d + g = 4\%$$

$$\begin{aligned}
 WACC &= \frac{(1 \times \text{net cost of debt} + 1 \times \text{cost of equity})}{1 + 1} \\
 &= \frac{4\% + 8\%}{2} \\
 &= 6\%
 \end{aligned}$$

$\therefore$ The minimum cost of capital that the investor should use is 6%.

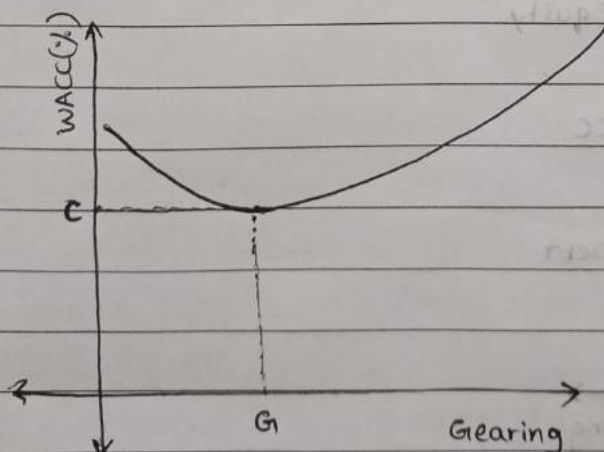
(ii) Traditional view:

In the traditional school the emphasis was on determining the amount of debt a company could safely carry without risking bankruptcy in a severe recession.

Debt is cheaper than equity finance, so as gearing increases, the WACC should fall.

However, increasing the proportion of debt finance increases the risk to shareholders so they demand a greater return for this increased risk.

Therefore beyond a certain level of gearing, the downward effect on the WACC of increasing the debt finance in the business will be more than offset (balanced) by the increase in the return required by shareholders.



The WACC is lowest at C when gearing is at G.

(iii) A key concept in corporate finance is expressed in Modigliani and Miller's first irrelevance proposition: The market value of any firm is independent of its capital structure.

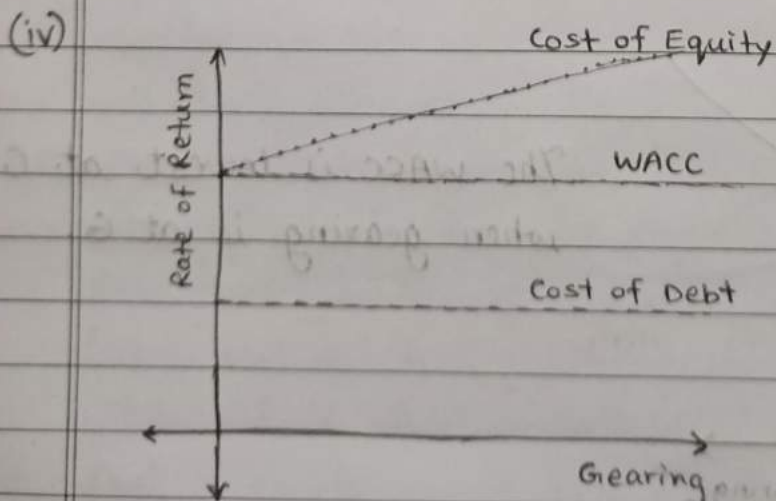
This is the basis of Modigliani and Miller's second irrelevance proposition:

The expected rate of return on the common stock of a leveraged firm increases in proportion to the debt-equity ratio, expressed in market values.

They began with a small simple model with the following assumptions:

- ① there are no taxes
- ② unlimited personal and company borrowing is possible at the same rate of interest
- ③ debt is risk-free
- ④ there are no agency costs
- ⑤ there are no information asymmetries

Modigliani and Miller argued that, under certain assumptions, gearing has no effect on the value of the company. Their view was that the value of the company lies in its ability to produce profits, not in the way that it is financed.



(v)

$$a) \text{ Risk free rate} = 6\%$$

$$\text{Equity risk premium} = 5\%$$

$$\text{Ungearred beta} = 1.4$$

$$\text{Cost of equity} = \text{risk free rate} + (1.4 \times 5\%)$$

$$= 6\% + 7\%$$

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

$$b) \text{ Total market capitalisation} = 100 \text{ m}$$

$$\text{Market value of debt} = 50\%$$

$$\text{Ratio of debt to equity} = 50/50 = 1:1$$

$$\text{Tax rate} = 30\%$$

$$\text{Gearing beta} = \text{ungearred beta} (1 + (\text{debt:equity})(1 - t))$$

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

$$= 1.4 \times 1.7$$

$$= \boxed{2.38}$$

$$c) \text{ Cost of equity} = \text{risk free rate} + (\text{beta} \times \text{equity risk premium})$$

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

$$= 6\% + 11.9\%$$

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