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Subject: Business Finance - 2

Chapter: Unit 3 & 4

Category: Assignment Solutions

1. Option D

2. Option A

3. Option D

4. Option D

5. i) Sales –Costs = EBIT = 2500-1500 = 1000
Less Taxes (40% 0f 500) = 400
NOPAT = 600

ii) PV of Inflow 600/1.2 = 500
NPV = PV of Outflow – PV of Inflow

iii) NPV will go up

6. For analysis any business efficiency, I will analysis below three ratios –
Inventory turnover period = Inventories*365/Cost of sales
This ratio indicates to show how long inventory is held for an average. An inventory turnover period that is less rapid than other companies in the same industry might indicate an inefficiently large inventory holding.

Trade receivable turnover period = Trade receivables*365/ Credit sales
This ratio measures average length of time taken for trade receivable to settle their balance. It is desirable for this period to be as short as possible as it will be better for the company's cash-flow.

Trade payable turnover period = Trade payables*365/Credit Purchases.
This ratio indicates the average number of credit that a company has from its suppliers. A high ratio may indicate that the company is able to obtain a long credit period from its suppliers, which will be of benefits to its cash-flows.

7.
1. Ratio analysis does not consider the size of the company and can divert the attention from figures and statements.
2. Ratio analysis may not be useful in presenting appropriate comparison due to involvement of different accounting practice and external factors.
3. Ratio analysis may not show the true picture if there is an opportunity for management to apply bias towards few accounting policies and assumption which is called creative accounting.
4. The peculiarities of trade may make ratio analysis less useful because of difficulty to interpret few certain ratio.

8. i) Different industry – inherent riskiness
Geared Beta might be different because of different debt ratio Brand value
Some stocks are used more for speculative purposes hence more volatile.

ii) Geared beta = Ungeared beta + (1+D/E * (1-Tax))
1.1 = Ungeared beta + (1+1/2 * .7)
Ungeared beta = 0.8148
New geared beta = 0.8148 + (1+2/2 * .7) = 1.385

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

10. i) The first problem is in measuring shareholder wealth. This is clearly indicated by the share price, but that can be a volatile indicator, that is not necessarily affected by just the company's efforts to manage the shareholders' wealth. Furthermore, management decisions that enhance shareholder wealth will only be recognised in the share price once the decision itself is announced. This information might be withheld for commercial reasons. The second problem is that the directors are often perceived as having their own interests that are at odds with those of the shareholders. They might have an interest in enhancing their own rewards at the expense of the shareholders or of avoiding acceptable risks in order to put their job security before the wellbeing of the shareholders.

ii)

Given,

Price of the share = 70

$Div_0 = 10$

Growth (g) = 8%

Risk free rate (Rf) = 6%

Risk Premium (Rm-Rf)=5%

Expected Dividend $Div_1 = Div_0 * (1+g) = 10 * 1.08 = 10.8$

Re = (Div1/Price)+g

= (10.8/70)+0.08

=23.43%

Now, as per CAPM ,

Re = Rf + (Rm-Rf)*Beta

23.43 = 6 + 5 * Beta

Hence Beta = 3.486

Now, systematic risk is increased by 80%., i.e, Beta is increased by 80%

New Beta = 6.275

So, New Re= 6+5*6.275

=37.375%

New share price = Div 1 / (Re-g)

= 10.8 / (.37375 - .08)

=36.77

Hence share price is expected to fall from current level of Rs 70 to Rs 36.77 i.e, by 33.23%. **[4]**

11. i) The beta of a project is a measure of the systematic risk of the project relative to a diversified portfolio of all risky assets (ie the market). The market would have a beta of 1.

The beta of the company (β_p) is given by the following formula:

$$\beta_p = \frac{\sigma_{pm}}{\sigma_m^2}$$

where:

σ_{pm} is the covariance between the returns expected from the company and the returns expected from the market

σ_m^2 is the variance of the returns expected from the market [1]

ii) The beta of the company may be measured by:
· looking at the company's historical returns on equity and comparing against market returns, but subject to significant variation for example dependent upon the time period considered
· considering the industry beta based on a range of companies undertaking similar activities
· estimating, based on knowledge of the company and its industry and how the industry might react to changes in the market

iii) A stock with a beta of 1 implies that the stock behaves in line with the market. Depending on expectations of market movements, as an aggressive investor, I may wish to invest in stocks with higher positive beta to maximize short-term gains. A stock with a negative beta of 1 signifies that the stock behaves opposite to the market. If the market index improves, the stock will lose value and vice-versa. Is a downturn in the market is expected, low beta stocks may be attractive in the short to medium term

iv) Cash

12.

i) Cost of equity = Risk-free rate + beta * Equity risk premium
= 7% + 1.5 * 5%
= 14.5%

Cost of debt = Cost of debt * (1-Tax Rate)
= 9% * (1 - 25%)
= 6.75%

WACC = 0.5 * 14.5% + 0.5 * 6.75%

= 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%

13.

Cost of project = 40000(1/1.15+1/1.15^2+1/1.15^3+1/1.15^4)

=114200

Payback =114200/40000 = 2.855

PI = PVIF / Cost

PVIF = PI * Cost

= 1.064 * 114200

=121509

NPV = PVIF – Cost

=121509 – 114200

=7309

Cost of capital (i):

121509 = 40000(1/(1+i)+1/(1+i)^2+1/(1+i)^3+1/(1+i)^4)..... i= 12%

14.

i. a)

Current Ratio:

Current ratio = $\frac{Current\ Assets}{Current\ Liabilities}$

UTILITY: 1) 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 in the short term with an estimate of the amount of money to be paid over the same period.

b) Debtors turnover period

Debtors Turnover period = $\frac{debtors\ (trade\ receivables)}{credit\ sales} \times 365$

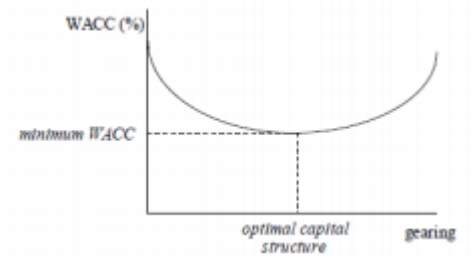
UTILITY: 1) This is a measure of the average length of time taken for debtors (trade receivables) to settle their balance. It is desirable for this period to be as short as possible.

ii) The finance manager should track the quick ratio

$$\text{Quick ratio} = \frac{current\ assets - inventories(stocks)}{Current\ Liabilities}$$

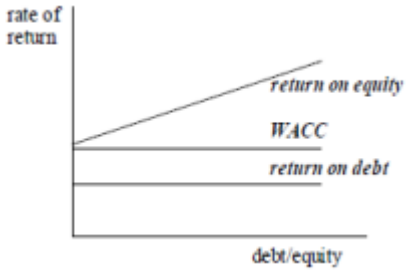
15. i) Investors will invest in the shares of this company:
• To diversify the portfolio (minimise systemic risk)
• To maximise return as they would be believing in earning higher returns (increasing idiosyncratic risk)
• Other reasons specific to the investor eg strategic holding, personal attachment with the company, own faith and beliefs. The suitable cost of capital is anything slightly higher than 6% (8%*0.5 + 4% * 0.5)

ii) 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 shareholders 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 by the increase in the return required by shareholders.



iii) First proposition of Modigliani and Miller: The market value of any firm is independent of its capital structure.
The following are the assumptions:
• There are no taxes in the economy
• Unlimited personal and company borrowing is possible at the same rate of interest
• Debt is risk-free
• There are no agency costs
• There are no information asymmetries.

iv)



WACC remains constant as gearing increases. As gearing increases, the cost of equity increases by just enough to offset the increasing proportion of the cheaper debt.

v)

a) cost of equity = risk-free return + beta * (equity risk premium)
=6% + 1.4 *5%
=6% + 7% = 13%

b) Geared equity beta = Ungeared Beta * [1 + (Debt:Equity ratio) * (1 - t)]
Here the Debt:Equity ratio is based on market capitalisation, therefore,
Geared equity beta = 1.4 * [1 + (0.5/0.5) * (1 – 0.3)]
= 1.4*(1+0.7)
=1.4*1.7
= 2.38

c) Cost of equity = risk-free return + beta * (equity risk premium)
=6% +2.38*5%
=17.9%