

# Capital structure theories

[Government](#), [Capitalism](#)



The following scenario relates to Q46-50.

A meeting was conducted by the board of directors of Brocade Co to discuss the balance of equity & debt financing. The following statements were made by the directors:

- Director A: We should keep our weighted average cost of capital at the lowest by keeping the optimum balance of gearing.
- Director B: The Company is placed in a perfect market & no need to consider the balance of equity & debt.
- Director C: We should finance the whole operations using only debt sources of finance to gain tax reliefs.
- Director D: We should choose debt or equity sources of financing only if retained profits are insufficient or unavailable.

Q46. Which director seems to support Pecking order theory? (MCQ)

- Director A
- Director B
- Director C
- Director D

(2 marks)

Q47. Director A's statement is applying which theory? (MCQ)

- Traditional Theory
- M; M Theory 1958
- Pecking Order Theory

- M; M Theory 1963 tax

(2 marks)

Q48. Which of the following directors seems to have a risk of tax exhaustion?

(MCQ)

- Director A
- Director B
- Director C
- Director D

(2 marks)

Q49. Which of the following director thinks to offset the increased cost of equity with benefit gained on debt? (MCQ)

- Director A
- Director B
- Director C
- Director D

(2 marks)

Q50. Which of the following statements is incorrect? (MCQ)

- Equity financing is costly as compared to loans
- A bank is at low risk as they are secured by mortgages
- Cost of capital is decreased if the market value of the company rises
- The company receives no tax benefits

(2 marks)

WACC (BASIC) ; RISK ADJUSTED WACC

The following scenario relates to Q51-55.

Fasces' Co is a listed company. It is wholly financed using equity & its shares are bought by financial intermediaries. Recently, a finance director was replaced as the previous director was relocated to another country. The new director wants to apply capital asset pricing model to assess risk & include stock market reactions. The finance director has done some research which is as follows:

The Risk-free return 3% per annum

The Return of government securities 12% per annum

Hearses Co (Competitor) 0.8 Equity Beta

Q51. Calculate the return on equity of Hearses Co? (MCQ)

- 3%
- 9.6%
- 10.2%
- 32%

(2 marks)

Q52. The annual return on equity is assumed to be 22%. Calculate the equity beta of Fasces' Co? (MCQ)

- 2.1%
- 3.7%
- 17.6%
- 22%

(2 marks)

Q53. Which of the following statements are true? (MRQ)

- The beta of Fases' Co is indicating an unsystematic risk
- Fases' Co will like to obtain a return greater than the government securities
- The return obtained will be determined using unsystematic risk
- If Fases' Co share price increases, then equity beta will also increase

(2 marks)

Q54. Fases' Co paid an interim dividend of 35c/share. The share price increase by 20% to \$5. 4/share. What is the total shareholder return (to the nearest %)? (FIB)

596901651000%

(2 marks)

Q55. Fases' Co is a garment business. Which of the following circumstances will the company use its own WACC? (MCQ)

- Buying its competitor's business
- Buying a shoe manufacturer
- Buying a retailer shop
- Buying a supermarket

(2 marks)

The following scenario relates to Q56-60.

Gruber Co is stock exchange listed company has issued 100 million shares in the market. The current share price is \$2. 65/share. Gruber Co also issued bonds having a book value of \$60 million. The current market price is

\$104/\$100 bonds. The cost of debt for the company is 9% with paying a corporation tax of 30%. The dividends have been paid as follows:

Year 2010 2011 2012 2013 2014

DPS (\$) 0.19 0.20 0.25 0.30 0.32

Q56. Calculate the cost of equity of Gruber Co? (MCQ)

- 13.9%
- 15.4%
- 27.6%
- 29.1%

(2 marks)

Q57. Calculate the WACC? (MCQ)

- 9%
- 11%
- 17.9%
- 24%

(2 marks)

Q58. The company is issuing bonds worth \$40 million at par. These would pay an interest before tax of 8% ; will be redeemed at 5 % premium after ten years. Calculate the cost of debt? (MCQ)

- 5%
- 6.17%
- 10.45%

- 11%

(2 marks)

Q59. The market value of equity is \$250 ; the cost is 13%. The cost of debt is 9% ; the market value is \$50. Calculate the WACC including the information of Q58? (MCQ)

- 8. 2%
- 10. 9%
- 11. 6%
- 12. 3%

(2 marks)

Q60. Which of the following factors would likely affect the market value of a bond? (MRQ)

- The frequency of interest payments
- The redemption value of the bond
- The time duration of repayment
- The amount of interest repayable

(2 marks)

The following scenario relates to Q61-65.

Nastic Co has in issue ten million ordinary shares each having a current market value of \$7. 5. The company has 7% bonds at par value. The bonds are redeemable in seven years at par. The bonds are currently trading at \$112/bond. The total nominal value sits at \$14, 000, 000. Nastic Co equity beta is 0. 7. The risk-free rate is 5% per annum ; average return in the market is 13% per annum.

Nastic Co wants to diversify his business opportunities ; are thinking to invest in the same industry. A potential company has been seen bidding for Bracey Co. Its equity to debt ratio in the market is 75% to 25%. The equity beta is 1.6.

Both companies are subject to pay a corporation tax of 20%

Q61. Calculate the cost of debt? (MCQ)

- 3. 29%
- 4. 27%
- 9. 1%
- 10. 3%

(2 marks)

Q62. Cost of the equity of 11% is assumed. What will be the weighted cost of capital? (MCQ)

- 3. 8%
- 5. 21%
- 8. 24%
- 9. 7%

(2 marks)

Q63. Calculate the risk-adjusted beta? (MCQ)

- 1. 2 Beta
- 1. 37 Beta
- 1. 74 Beta



- 2. 1 Beta

(2 marks)

Q64. Calculate the risk-adjusted cost of equity? (FIB)

- 596901968500%

(2 marks)

Q65. Which of the following is not a disadvantage of CAPM? (MCQ)

- Differentiation in capital gains ; dividends are ignored
- The return of the market is incorporated
- It assumes that all shareholders are diversified
- Beta factors might be inaccurate

(2 marks)

#### ANSWERS

- Q46. D
- Q47. A
- Q48. C
- Q49. B
- Q50. D

The company receives a tax benefit on their interest payments.

Q51. C

- Use CAPM formulae
- $K_e = 3 + (12 - 3) 0.8 = 10.2\%$

Q52. A

- Use CAPM formulae
- $K_e = 3 + (12 - 3) X = 22$
- $X = 2.1\%$

Q53.

- The beta of Fasces' Co is indicating an unsystematic risk (False)
- Fasces' Co will like to obtain a return greater than the government securities (True)
- The return obtained will be determined using unsystematic risk (False)
- If Fasces' Co share price increases, then equity beta will also increase (True)
- The equity beta measures the changes in the return of share price. The return will be determined by using systematic risk as unsystematic risk is diversifiable.

Q54. 28%

- Total shareholder return =  $[(5.4 - 4.5) + 0.35] \div 4.5 = 0.2777$   
 $0.2777 \times 100 = 27.7\%$

Q55. A

- An investing company can use its own WACC only when its business risk & financial risk remains same. In the case of buying its competitor, its business risk & financial risk will remain same. All other option will change the business risk and will have to use risk-adjusted WACC.

Q56. C

- $g = [(0.32 \div 0.19) - 1] \times 100 = 13.9\%$

- $D1 = (0.32 \times (1 + 13.9\%)) = 0.364$
- $Ke = [(0.364 \div 2.65) + 13.9\%] \times 100 = 27.6\%$

Q57. D

- (\$m) (\$m)
- Equity  $100 \times 2.65 = 265$   $265 \times 27.6\% = 73.14$
- Debt  $(60 \div 100) \times 104 = 62.4$   $62.4 \times 9\% = 5.616$
- Total  $327.4 + 78.756 = 406.156$
- $WACC = (78.756 \div 327.4) \times 100 = 24\%$

Q58. B

- Year Cash flow (\$) DF (5%) Present value (\$) DF (10%) Present Value (\$)
- MV/Bond 0 (100) 1 (100) 1 (100)
- Interest 1-10 5.6 7.72 43.23 6.14 34.38
- Redeem 10 105 0.614 64.47 0.386 40.53
- NPV 7.7 (25.09)
- Redemption =  $100 \times 105\% = 105$
- $IRR = 5 + [7.7 \div (7.7 - (-25.09))] \times (10 - 5) = 6.17\%$

Q59. C

- (\$m) (\$m)
- Equity  $250 + 250 \times 13\% = 325$
- Debt  $50 + 50 \times 9\% = 54.5$
- Debt (Bonds)  $(40 \div 100) \times 100 = 40$   $40 \times 6.17\% = 2.468$
- Total  $340 + 39.468 = 379.468$
- $WACC = (39.468 \div 340) \times 100 = 11.6\%$

Q60. All options are correct.

Q61. A

- Year Cash flow (\$) DF (5%) Present value (\$) DF (10%) Present Value (\$)
- MV/Bond 0 (112) 1 (112) 1 (112)
- Interest 1-7 5. 6 5. 786 32. 4 4. 868 27. 3
- Redeem 7 100 0. 711 71. 1 0. 513 51. 3
- NPV (8. 5) (33. 4)
- $IRR = 5 + [-8.5 \div (-8.5 - (-33.4))] \times (10 - 5) = 3.29\%$

Q62. D

- (\$m) (\$m)
- Equity  $10 \times 7.5 + 75 \times 11\% = 8.25$
- Debt  $(14 \div 100) \times 112 = 15.68$   $\times 3.29\% = 0.516$
- Total  $90.68 + 8.766$
- $WACC = (8.766 \div 90.68) \times 100 = 9.7\%$

Q63. C

- $B_a = [75 \div (75 + 15.68 \times \{1-20\})] \times 1.6 = 1.37$   
 $1.37 = [75 \div (75 + 25 \times \{1-20\})] \times B_e$   
 $B_e = 1.74$

Q64. 18.92%

- $K_e = 5 + (13-5) \times (1.74) = 18.92\%$

Q65. B