

UNIVERSITY OF BRADFORD

CORPORATE FINANCE (MSc)

MAN4257M

09 January 2013

16:00 – 17:30 hours

Main

This is a **CLOSED BOOK** examination

Answer any **TWO** questions
All questions carry equal weighting

Non-programmable calculators without a long-term data memory are permitted

Answer any TWO questions. All questions carry equal weighting.

Question 1

Ambidestrus plc has grown rapidly in recent years, to a large extent by expanding its product range. It is now necessary to evaluate another new product investment. The product's development has already cost £1,400,000 and the manufacture of the product will require an outlay of £1,625,000 on production facilities. This expenditure will have to be depreciated for tax purposes on a straight line basis over a 10 year period, but the anticipated commercial life of the product is only 5 years. The residual value of the production line is expected to be £300,000. The production line would be located in one of the company's existing factories with unused capacity. Based on the space occupied a cost of £40,000 per year will be allocated by the management accounting systems. The product is expected to sell for £40 per unit and sales of 80,000 units are expected in the first year. For the remaining years 90,000 units are expected. The estimated variable cost per unit is £29. The fixed cost of production directly related to the product is expected to be £100,000 per annum. Each product is also allocated an overhead charge of £2 per unit through the management accounting systems to allow for the recovery of head office management expenses. It will be necessary to hold the equivalent of 15% of expected sales in stocks of the finished product. Promotion and marketing expenditure prior to the introduction of the product will cost £80,000 and a further expenditure of £20,000 per annum will be required for each of the next five years. The company requires an expected return of 15% on investments and pays tax at 30%.

- a) Determine the Net Present Value of the Investment. Present your calculations clearly and specify the critical assumptions

(30 marks)
- b) Discuss the difficulties posed by overhead expenses in the assessment of investment proposals and explain how you treated the overheads in your analysis.

(5 marks)
- c) Explain the principles underlying the treatment of working capital in investment appraisal and comment on the approach you adopted in the evaluation of Ambidestrus' proposed investment.

(5 marks)
- d) Explain what is meant by sensitivity analysis, determine and discuss the sensitivity of the investment's NPV to deviations in the expected selling price of £40 per unit.

(10 marks)

(Total 50 marks)

Question 2

- a) LightGas plc has grown steadily in recent years. Its current share price is £5.5 and is consistent with the constant dividend growth rate model. Dividends are expected to grow at 5% per annum. If the required rate of return is 15%, what would be the expected dividend yield and the share price next year?

(10 marks)
- b) DarkCoal plc's share price is also consistent with the constant dividend growth rate model. The company's expected earnings per share for next year is £3.00 and it is anticipated that it will maintain its long standing policy of retaining 40% of earnings, distributing the remaining as earnings dividends. If the required rate of return on the shares is 16% and the

growth rate is 8%, what would be the share price and the proportion of the share price accounted for by the company's growth opportunities?

(10 marks)

- c) Explain and compare the PE multiples comparator analysis and the discounted cash flow model of share valuation.

(10 marks)

- d) A security analyst predicts that NightDay plc will pay out dividends of £4.00, £4.50 and £6.00 in years one, two and three, respectively. From year three onwards dividends are expected to grow at 4% per annum indefinitely into the future. If the required rate of return is 12%, what would be the value of the company's shares?

(10 marks)

- e) According to Gordon's model, what are the determinants of share value and how do these determinants affect the value?

(10 marks)

(Total 50 marks)

Question 3

- a) The expected return on Security A is 14% with a standard deviation of 20% and the expected return on Security B is 18% with a standard deviation of 30%. Determine the expected return and risk for a portfolio made up of 60% of A and 40% of B if the correlation coefficient for the returns of the two securities is: i) +1, ii) +0.4, iii) 0 and iv) -1 and comment on your results.

(10 marks)

- b) The average security has an expected return of 15% and the variance of the return is 260.
i) Determine the variance of an equally weighted portfolio of 2, 10 and 30 securities if returns are independent and comment briefly on your results.

(5 marks)

- ii) Determine the variance of equally weighted portfolios of 2, 20 and 40 securities if the typical co-variance is 120 and briefly discuss your results.

(10 marks)

- c) Explain the difference between diversifiable and non-diversifiable risk, and give examples of the two different types of risks.

(5 marks)

- d) Explain what is meant by the beta of a company's shares, the factors that influence its value, and how its value can be estimated.

(10 marks)

- e) Explain how diversification can be expected to reduce the risk exposure of an equity portfolio, but is unlikely to eliminate the risk altogether.

(10 marks)

(Total 50 marks)

Question 4

Oderside plc found it necessary over the last two years to increase its level of bank borrowing as its profitability fell and it encountered cash flow problems. Loans were arranged on a short term basis and the company's bank is now putting pressure on the company's management to reduce its level of debt. With that objective in mind the board of directors has decided to raise additional capital by undertaking a rights issue. The company has decided to raise £200 million. It has 250 million shares outstanding and these are currently trading at £4.00 per share. It is anticipated that the announcement of the rights issue will lead to a fall in the share price. The company has previously indicated that it would be possible to reduce its debt, utilising cash generated internally by the business. The company's investment bank anticipates that the share price will fall between 10 to 20% on the announcement. As a result it has been decided to make the rights issue at a relatively high discount of 40% to accommodate the expected fall in price.

Required

- a) Based on the pre-announcement price for the company's shares determine the terms of the issue, ex-rights price and the value of a right.

(15 marks)
- b) Continuing to utilise the pre-announcement price demonstrate that an investor with 1000 shares will be equally well off by investing in the issue as he or she would be from selling the rights

(10 marks)
- c) If the share price falls by 20% following the announcement of the rights issue at a 40% discount to the pre-announcement price, determine the revised value for the ex-rights price and a right.

(5 marks)
- e) Discuss the way in which rights issues protect the interests of shareholders.

(10 marks)
- f) Are there any disadvantages associated with the rights issues from the standpoint of shareholders?

(10 marks)

(Total 50 marks)

Formulae Sheet

$$FVA = C \frac{(1+r)^t - 1}{r}$$

$$PVA = C \left[\frac{1}{r} - \frac{1}{r(1+r)^t} \right]$$

$$y = y_0 + \frac{y_1 - y_0}{x_1 - x_0} (x - x_0)$$

$$VAR(R_p) = W_A^2 VAR(R_A) + W_B^2 VAR(R_B) + 2W_A W_B COV(R_A, R_B)$$

$$VAR(R_p) = W_A^2 SD(R_A)^2 + W_B^2 SD(R_B)^2 + 2W_A W_B \rho_{AB} SD(R_A) SD(R_B)$$

$$VAR(R_p) = \frac{I}{N} AV. VAR + \left(1 - \frac{I}{N}\right) AV. COV$$

$$E(R_i) = R_F + (E(R_M) - R_F) \beta_i$$

$$\beta_i = \frac{COV(R_j, R_m)}{VAR(R_m)} = \rho_{jm} \frac{SD(R_j)}{SD(R_m)}$$