



---

# FINANCIAL MANAGEMENT

---

This paper consists of **THREE** questions (100 marks).

1. Ensure your candidate details are on the front of your answer booklet. You will be given time to sign, date and print your name on the answer booklet, and to enter your candidate number on this question paper. You may not write anything else until the exam starts.
2. Answer each question in black ballpoint pen only.
3. Answers to each question must begin on a new page and must be clearly numbered. Use both sides of the paper in your answer booklet.
4. The examiner will take account of the way in which answers are presented.
5. When the assessment is declared closed, you must stop writing immediately. If you continue to write (even completing your candidate details on a continuation booklet), it will be classed as misconduct.

**A Formula Sheet and Discount Tables are provided with this examination paper.**

## IMPORTANT

Question papers contain confidential information and must NOT be removed from the examination hall.

**DO NOT TURN OVER UNTIL YOU ARE INSTRUCTED TO BEGIN WORK**

You **MUST** enter your candidate number in this box.

--	--	--	--

**BLANK PAGE**

- 1 Oxfield plc, a listed industrial company, is considering a major investment. The company's investment projects team needs an appropriate rate at which to discount the estimated after-tax cash flows for the investment. Following the company's normal practice this is to be based on the weighted average cost of capital (WACC).

Figures relating to long-term financing are as follows.

	£m
160 million ordinary shares of £0.50 each	80
Share premium account	27
Revaluation reserve	26
Retained earnings	9
8% preference shares of £1 each	12
7.2% loan stock	67

The loan stock interest for the current year has just been paid. Interest is payable at the end of each of the next three years, and all of the loan stock is to be redeemed in cash at a 5% premium at the end of three years.

The most recent dividend has just been paid. Dividends over the past four years have been as follows.

	<i>Oldest</i>			<i>Most recent</i>
Total dividend (£m)	23.5	25.6	26.9	28.8

The current share price is 210p, the loan stock has a market value of £97 (per £100 nominal) and the preference shares are currently worth £0.85 per share (ex-div).

The corporation tax rate is expected to be 21% for the foreseeable future.

### Requirements

- 1.1 Calculate the company's WACC. Explain your workings and any assumptions which you have made. Justify the basis of the weightings which you have used. **(11 marks)**
- 1.2 Explain any criticisms which could be made of using the figure calculated in 1.1 as the discount rate for assessing the investment under consideration by the company. **(7 marks)**
- 1.3 Explain how the capital asset pricing model (CAPM) could be used as an alternative means of determining a suitable discount rate for the assessment of the investment, assuming this is a new direction for the business. Your explanation should include an outline of the strengths and weaknesses of the model. **(6 marks)**
- 1.4 Explain what would have been the effect on the WACC, in theory (with tax) and in practice, of the company having a different debt: equity ratio. **(5 marks)**
- 1.5 Identify and discuss the different types of covenant lenders may put into loan agreements. **(6 marks)**

**Total: 35 marks**

- 2 Deauville plc (Deauville) is a manufacturing company which deals in seasonal foodstuffs, processing them into soups, jams, relishes and sauces. At some times of the year the company has very large inventories, which are gradually processed and sold during the following months. Unpredictability of the weather and agricultural yields means Deauville is unable to predict exactly how much inventory they should hold over what period. This means that the company has to organise its cash flow carefully to ensure that it has enough working capital. Until now, the company has used a generous overdraft facility from its bank, but recently the company has become concerned about the potential volatility of interest rates and has decided that at least some of its borrowing should be by a fixed interest loan. Even though the loan is fixed interest, some uncertainty as to its cost remains because the interest rate is not fixed until the loan is actually made. To provide protection against interest rate increases during the period before the loan is made, the company has decided to make use of interest rate options.

On 6 March, the company has decided that it will borrow £10 million from 6 June until 6 December and it is looking at a number of ways in which it can mitigate the effect of any interest rate rises.

On 6 March, the UK futures option prices are as follows:

**Sterling options (short-term three month)**

**Contract size £500,000**

<i>Strike (exercise) price</i>	<b>Calls</b>			<b>Puts</b>		
	<i>May</i>	<i>June</i>	<i>July</i>	<i>May</i>	<i>June</i>	<i>July</i>
94.00	0.91	1.23	1.35	0.16	0.24	0.45
94.50	0.74	1.02	1.15	0.33	0.56	1.23
95.00	0.44	0.59	0.77	0.68	1.13	1.46

Premiums are quoted in annual % terms.

Also on 6 March the company has been offered forward rate agreements as follows:

<i>FRA description</i>	<i>Rates</i>
'3 v 9'	5.99 – 5.75
'3 v 6'	5.88 – 5.79

The company does not want to pay interest above 6%.

**Requirements**

- 2.1 What factors should Deauville consider when choosing either an overdraft facility or a term loan as a form of temporary finance to ease its cash flow uncertainties? **(4 marks)**
- 2.2 Show how the company can use interest rate options to hedge to an interest rate of 6% and illustrate with calculations what would happen if the following figures were quoted on 6 June:
- (a) Spot interest rate 6.2%; futures price 93.6
- (b) Spot interest rate 5.5%; futures price 94.3 **(7 marks)**

2.3 Show how the company can use a forward rate agreement to fix its interest rate if borrowing rates moved on 6 June to:

(a) 6.2%

(b) 5.5%

**(6 marks)**

2.4 Although Deauville prefers to take out a fixed rate loan, which the company estimates will be at a rate of 6%, the company has also been quoted a variable rate of LIBOR + 1.6%. Another company, Sprint plc (Sprint) has been offered a fixed rate of 5.7% and a variable rate of LIBOR + 1.4%. Sprint also needs to borrow £10 million for six months, but prefers a variable rate loan.

Assuming that LIBOR is 5.5% for the six months of the loan and that Deauville and Sprint share any benefit equally, show with calculations how each would benefit from carrying out an interest rate swap and how the swap could be set up.

**(7 marks)**

2.5 Describe the benefits and risks of using interest rate swaps.

**(6 marks)**

**Total: 30 marks**

- 3 You are an analyst working for an investment institution contemplating an investment of up to 1 million shares in Bon Chic Ltd.

Bon Chic Ltd manages a chain of retail shops within the UK, which specialise in selling stylish clothing and accessories to a target market of younger, more affluent shoppers. The merchandise is all designed by a team of designers employed by the company and marketed under the Bon Chic label exclusively through its own shops. Design is one of the company's key features. Recently the company augmented its sales by starting an Internet-based mail order operation. Plans exist to expand sales operations in the medium-term by opening a few branches in France and Germany. Manufacturing is undertaken by a small group of businesses with which Bon Chic has close relationships.

The company was founded 20 years ago by two designers (now in their forties) with a flair for the business. Since then the company has expanded dramatically on the back of massive market acceptance and shrewd management. Equity finance, which originally came from the founders and their families, was subsequently provided by venture capitalists and from reinvested profits.

Currently the company's equity of 10 million 10p shares is owned 24% by a venture capital fund and the rest by the two founders, their families and some of the company's senior employees. The venture capital fund now wishes to liquidate its investment and the company is considering raising additional equity finance to support the European expansion plans.

To enable this, and since the other major shareholders do not have sufficient personal funds to buy out the venture capitalists, the directors are considering a listing on the Alternative Investment Market of the London Stock Exchange.

Audited financial information of Bon Chic is as follows.

**Summarised income statements for the years ended 31 December**

	2015	2014	2013	2012	2011
	£m	£m	£m	£m	£m
Revenue	67.5	58.7	44.6	33.9	26.9
Profit from operations	4.5	3.9	2.7	2.2	1.6
Finance expense	1.0	0.6	0.3	0.3	0.2
Profit before taxation	3.5	3.3	2.4	1.9	1.4
Profit after tax for the period	2.8	2.6	1.9	1.5	1.1

## Summarised statements of financial position as at 31 December

	2015	2014	2013	2012	2011
	£m	£m	£m	£m	£m
<b>ASSETS</b>					
Non-current assets	11.3	9.9	7.4	6.0	3.5
Current assets	22.4	16.9	12.2	9.4	7.1
Total assets	<u>33.7</u>	<u>26.8</u>	<u>19.6</u>	<u>15.4</u>	<u>10.6</u>
<b>EQUITY AND LIABILITIES</b>					
Equity					
Ordinary share capital	1.0	1.0	1.0	1.0	1.0
Retained earnings	10.3	8.0	5.7	4.0	2.5
	11.3	9.0	6.7	5.0	3.5
Non-current liabilities	3.6	1.6	1.7	2.3	0.5
Current liabilities	18.8	16.2	11.2	8.1	6.6
Total equity and liabilities	<u>33.7</u>	<u>26.8</u>	<u>19.6</u>	<u>15.4</u>	<u>10.6</u>

## Summary of dividends paid in the years ended 31 December

	2015	2014	2013	2012	2011
	£m	£m	£m	£m	£m
Profit after tax for the period	2.8	2.6	1.9	1.5	1.1
Dividends	0.5	0.3	0.2	0.0	0.0
Increase in retained earnings	<u>2.3</u>	<u>2.3</u>	<u>1.7</u>	<u>1.5</u>	<u>1.1</u>

The company has made a forecast that sales for the year ending 31 December 2016 will be 20% greater than for 2015. The company expects to pay a dividend of 6.6p per share in 2016, increasing at 8% per year from 2017 onwards. The directors view the future with great confidence.

Broadly, the directors believe that the assets appearing in the statements of financial position are stated at fair value, except for property which as at 31 December 2015 has a carrying value of £8.6m and has been valued professionally at £10.2m.

The following information is available about the 'Retailers, general' sector of the Financial Times Stock Exchange All-Share Index of listed companies:

P/E	15.2
Dividend yield	3.07%
Dividend cover	2.12

### Requirements

- 3.1 (a) Using the above market average dividend yield, P/E ratio and the company's reported net assets, estimate three alternative values per share for Bon Chic Ltd.
- (b) Using a cost of equity of 12% per year, estimate a dividend-based value based on future predicted dividends and explain, with calculations, how future predicted growth in dividends affects a dividend-based valuation.

**(6 marks)**

- 3.2 (a) Explain possible reasons for any differences between the values obtained in 3.1 above and explain any limitations of the calculations you have made.
- (b) Suggest, with reasons, the maximum price at which your investment institution might purchase existing shares. **(12 marks)**
- 3.3 State what other information you would seek, and why you would seek it, to help you to reach a better judgement on a suitable purchase price. **(8 marks)**
- 3.4 Outline the contents of a suitable business plan that Bon Chic would be required to produce in order to attract new investors to support the European expansion plans. **(9 marks)**

**Total: 35 marks**



---

## FORMULAE AND DISCOUNT TABLES

---

### Formulae you may require:

(a) Discounting an annuity

The annuity factor: 
$$AF_{1 \rightarrow n} = \frac{1}{r} \left[ 1 - \frac{1}{(1+r)^n} \right]$$

Where AF = annuity factor  
n = number of payments  
r = discount rate as a decimal

(b) Dividend growth model:  $k_e = \frac{D_0(1+g)}{P_0} + g$

Where  $k_e$  = cost of equity  
 $D_0$  = current dividend per ordinary share  
g = the annual dividend growth rate  
 $P_0$  = the current ex-div price per ordinary share

(c) Capital asset pricing model:  $r_j = r_f + \beta_j (r_m - r_f)$

Where  $r_j$  = the expected return from security j  
 $r_f$  = the risk free rate  
 $\beta_j$  = the beta of security j  
 $r_m$  = the expected return on the market portfolio

(d)  $\beta_e = \beta_a \left( 1 + \frac{D(1-T)}{E} \right)$

Where  $\beta_e$  = beta of equity in a geared firm  
 $\beta_a$  = ungeared (asset) beta  
D = market value of debt  
E = market value of equity  
T = corporation tax rate

**Note.** Candidates may use other versions of these formulae but should then define the symbols they use.

# DISCOUNT TABLES

<i>Interest rate p.a.</i>	<i>Number of years n</i>	<i>Present value of £1 receivable at the end of n years</i>	<i>Present value of £1 receivable at the end of each of n years</i>
1%	1	0.990	0.990
	2	0.980	1.970
	3	0.971	2.941
	4	0.961	3.902
	5	0.951	4.853
	6	0.942	5.795
	7	0.933	6.728
	8	0.923	7.652
	9	0.914	8.566
	10	0.905	9.471
5%	1	0.952	0.952
	2	0.907	1.859
	3	0.864	2.723
	4	0.823	3.546
	5	0.784	4.329
	6	0.746	5.076
	7	0.711	5.786
	8	0.677	6.463
	9	0.645	7.108
	10	0.614	7.722
10%	1	0.909	0.909
	2	0.826	1.736
	3	0.751	2.487
	4	0.683	3.170
	5	0.621	3.791
	6	0.564	4.355
	7	0.513	4.868
	8	0.467	5.335
	9	0.424	5.759
	10	0.386	6.145
15%	1	0.870	0.870
	2	0.756	1.626
	3	0.658	2.283
	4	0.572	2.855
	5	0.497	3.352
	6	0.432	3.784
	7	0.376	4.160
	8	0.327	4.487
	9	0.284	4.772
	10	0.247	5.019

<i>Interest rate p.a.</i>	<i>Number of years n</i>	<i>Present value of £1 receivable at the end of n years</i>	<i>Present value of £1 receivable at the end of each of n years</i>
20%	1	0.833	0.833
	2	0.694	1.528
	3	0.579	2.106
	4	0.482	2.589
	5	0.402	2.991
	6	0.335	3.326
	7	0.279	3.605
	8	0.233	3.837
	9	0.194	4.031
	10	0.162	4.192



**ICAEW**  
Metropolitan House  
321 Avebury Boulevard  
Milton Keynes  
MK9 2FZ  
[www.icaew.com](http://www.icaew.com)

ISBN 978-1-78363-250-3  
  
9 781783 632503