

## EXAMINATIONS

April 1998

### Subject E — Investment and Asset Management

*Paper Two*

*Time allowed: Three hours*

#### **INSTRUCTIONS TO THE CANDIDATE**

1. *You have 15 minutes at the start of the examination in which to read the questions. You are strongly encouraged to use this time for reading only but notes may be made. You then have three hours to complete the paper.*
2. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*
3. *Write your surname in full, the initials of your other names and your Candidate's Number on the front of the answer booklet.*
4. *Mark allocations are shown in brackets.*
5. *Attempt all 5 questions, beginning your answer to each question on a separate sheet.*

#### **AT THE END OF THE EXAMINATION**

*Hand in BOTH your answer booklet and this question paper.*

<p><i>In addition to this paper you should have available Actuarial Tables and an electronic calculator.</i></p>
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- 1 The Hi-Wire Corporation is an industrial conglomerate with three distinct operating divisions. Each division falls within one of the following groupings of the FTSE Actuaries Industry Sectors: Household Goods, Distributors, and Paper, Packaging and Printing. The company has 41.4 million ordinary shares in issue and its three operating divisions have performed as follows (all figures in £ millions):

1. Household Goods

The company's turnover accounts for just over 5% of the UK household goods market.

	<i>1996</i>	<i>1997</i>	<i>1998 (estimated)</i>
Sales	67.0	68.0	68.2
Operating profit	3.2	2.3	3.1

The division has debts of £9.0 million repayable over 5 years at a fixed rate of interest of 8.5%.

2. Distributors

The company is one of the largest chilled foods distributors in the UK

	<i>1996</i>	<i>1997</i>	<i>1998 (estimated)</i>
Sales	82.2	87.0	90.0
Operating profit	4.5	5.0	5.8

The division has debts of £11.0 million repayable over 8 years at a fixed rate of interest of 8.5%.

3. Paper, Packaging & Printing

The company specialises in the niche market packaging area of protective foam (all for UK market) and the printing of plastic cards complete with magnetic strip and hologram.

	<i>1996</i>	<i>1997</i>	<i>1998 (estimated)</i>
Sales	40.0	43.0	47.0
Operating profit	4.9	6.0	7.5

The division has debts of £20.0 million repayable over 3 years at a fixed rate of interest of 8.5%.

The P/E ratios of the three industry sectors quoted by the FTSE Actuaries Share Indices are 10x, 12x and 14x respectively.

- (i) Explain why the P/E ratios of the three industrial sectors differ. [3]
- (ii) Estimate the break-up value per share of the conglomerate, using the information given above and assuming a tax rate of 31%. [13]
- (iii) The share price of the conglomerate has fallen from £3.00 two years ago to its present level of £1.50. A restructuring proposal has been announced by management and a stockbroker has said that the shares are worth buying at their current level.

State with reasons whether, on first impressions, you would consider buying the stock using as a guide the break-up value per share calculated in (ii) above. [3]

- (iv) Discuss briefly the other factors you would take into account in order to make a well-informed judgement on the share. [5]
- [Total 24]

**2** (i) Explain the difference between an “offer for sale” and an “offer for subscription”. [4]

(ii) The lead underwriter of a rights issue has invited the pension fund of which you are the investment manager to participate in the sub-underwriting.

(a) Discuss the issues you would consider in deciding whether or not to act as a sub-underwriter of the issue.

(b) A sub-underwriting commission of 0.5% of the value underwritten has been offered. Discuss the factors you would consider to determine whether this is an acceptable level of commission. [14]

(iii) A company has announced a one-for-two rights issue at a price of 180p per share. The new shares do not rank for the next dividend of 6p (gross) per share and the current shares will be ex-dividend when the issue closes. Before the announcement, the market price of the shares was 200p cum dividend. After the announcement it dropped to 184.5 cum dividend.

Calculate the theoretical ex rights price currently anticipated and comment briefly on the likelihood of the shares being left with the sub-underwriters. [5]

[Total 23]

- 3**
- (i) Define the terms “prospective dividend yield”, “prospective price earnings ratio” and “prospective net asset value per share”. [3]
- (ii) (a) Describe briefly the general determinants of the value of an advertising agency, a property development company and a general insurer.
- (b) State with reasons which of the measures in (i) above you believe to be appropriate for valuing ordinary shares in the three types of company. [6]
- (iii) The basis of taxation of dividend income from UK equities changed overnight so that gross investors now will receive only 80% of the dividend income previously expected from UK equities. The change does not affect the income received by net investors.
- (a) Using a dividend discount formula, explain how you would expect the value of a UK equity to change for a gross investor.
- (b) The market prices for UK equities did not change significantly following the announcement. Suggest possible reasons why prices did not show an immediate and substantial fall following the change. [10]
- [Total 19]
- 4**
- (i) Given the following data, calculate the equity risk premium:
- |                                |      |     |
|--------------------------------|------|-----|
| Gilt yield:                    | 6.5% |     |
| Dividend yield:                | 3.5% |     |
| Expected dividend growth rate: | 5.5% | [2] |
- (ii) Explain your answer in (i) in the context of historical returns of UK equities and gilts this century. [4]
- (iii) (a) Describe the relationship which the Capital Asset Pricing Model predicts between the excess expected return on a portfolio above the risk free rate of interest and the expected excess return of the market above the risk free rate of interest.
- (b) State whether the returns in (a) are total returns, income returns or capital returns. [3]
- (iv) A portfolio of listed UK equities is valued at £60 million and has a beta of 2. The dividend yield on the portfolio and the FTSE 100 index is 3% per annum. The risk free rate of interest is 5% per annum. The FTSE 100 index stands at 5,000 and the FTSE 100 Index Option traded on LIFFE is for £10 per full index point.
- How many and what kind of option contracts should be purchased to provide protection against the value of the portfolio falling below £54 million in one year’s time? [10]
- [Total 19]

- 5** (i) In the context of the active management of a portfolio of UK gilts, define policy switching and give an example of a policy switch. [3]
- (ii) Describe the techniques for identifying policy switches. [8]
- (iii) The following data is available:

<i>Bond</i>	<i>Coupon Rate</i>	<i>Term to Maturity</i>	<i>Interest Yield</i>	<i>Gross Redemption Yield</i>	<i>Clean Price</i>
A	8.5%	10 years	7.52%	6.65%	112.96875
B	8.5%	3 years	8.28%	7.13%	102.6875

You are a holder of bond A. A stockbroker suggests that as an alternative to holding bond A to maturity you:

1. sell bond A,
2. reinvest the proceeds in bond B until it matures in three years time and then
3. invest the proceeds of your holding in bond B in bond A until its maturity.

Analyse the stockbroker's suggestion. Ignore tax, and list any assumptions that you make.

[4]

[Total 15]