

**EXAMINATIONS**

April 1998

**Subject E — Investment and Asset Management***Paper One**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 19 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.*

*In addition to this paper you should have available Actuarial Tables and an electronic calculator.*

- 1** Describe four theories which have been formulated to explain observed shapes of the yield curve. [4]
- 2** Describe three methods, and their associated risks, which an investment manager might use to increase the total return on a fixed income fund which is designed to back a portfolio of retirement annuities in a very competitive market. [6]
- 3** Explain the meaning of the term “volatility” in the context of fixed interest securities describing how it varies with term, coupon and redemption yield. [5]
- 4** On Wednesday 19 March 1998, you sold for next day settlement £100,000 nominal of UK 10.5% Treasury 1999 stock for a clean price of 104–30. If the stock next pays interest on 7 June and 7 December, what consideration would you have received for the sale? [3]
- 5** Briefly describe three methods of forecasting company profits. [6]
- 6** A UK composite insurer has a well diversified UK equity portfolio which comprises 5% of the quoted capitalisation of the UK stockmarket.
- The newly appointed investment director of the company has proposed halving the number of individual holdings in each market sector while maintaining the current asset allocation by sector.
- Discuss the issues involved in implementing this proposal. [7]
- 7** The value of a highly rated pharmaceutical company is derived almost entirely from a single drug which has not yet gone on sale and is still in test. Pharmaceutical press commentators anticipate that it should be an effective treatment for a relatively common and serious condition.
- Field trials have just been released to the press by the company. These show that the drug is not effective against this condition.
- (i) State with reasons the direction and extent of any change you might expect in the share price of the company immediately following the announcement.
- (ii) Outline the factors you would consider when assessing the value of the shares after the company’s release of the results of the field trial. [6]

- 8** A private investor resident in the UK is considering buying ordinary shares in a UK listed investment trust. Discuss briefly the taxes he might have to pay in buying, holding and disposing of the shares. [4]
- 9** (i) State the main characteristics of the following indices:  
the FT 30, the FTSE 100, the FTSE 250, the FTSE 350, the Dow Jones Industrial Average and the S&P 500.
- (ii) In the case of each index above, state with reasons, whether it is an appropriate benchmark for measuring the performance of a well diversified portfolio of equities listed in the country with which the index is associated. [6]
- 10** List six characteristics of an equity index that are required to enable it to be used as the underlying financial instrument for a stock index future. [4]
- 11** A portfolio manager's performance benchmark is the total return on the FTSE Actuaries Government Securities Index for over 15 year stocks.

The following information is available:

	<i>Under 5 year index</i>			<i>Over 15 year index</i>		
	<i>Price Index</i>	<i>Accrued Interest</i>	<i>xd Adjustment</i>	<i>Price Index</i>	<i>Accrued Interest</i>	<i>xd Adjustment</i>
1 Oct 96	105	2	5	100	2	4
31 Dec 96	110	3	8	102	2	7
30 Sep 97	115	2	5	105	2	4

Ignore the reinvestment of income and assume that only income is subject to tax at the rate of 25%.

Quantify the effect over the 12 month period ending 30 September 1997 of the manager's decision to allocate 25% of the portfolio to short dated gilts at the start of the period. [5]

- 12** A fixed income unitised fund for UK pension schemes has a 10% exposure to 10 year German government bonds despite the fact that the yield on such bonds is 1% below that of a 10 year UK gilt. Describe possible reasons for this holding. [4]
- 13** Discuss the factors to be taken into account in analysing the outlook for shares in European banks in the run up to European monetary union. [8]

- 14** Explain why a life insurance company's portfolio of UK prime property has a higher yield than that of its UK gilt portfolio, despite the prospects for rental growth. [4]
- 15** You are the property manager of a £50 million property portfolio owned by a life insurance company based in south east England. You have been offered an industrial property in Scotland (400 miles north of your base) valued at £5m and yielding 10% per annum. Describe the factors you would take into account in assessing this offer. [5]
- 16** Explain the factors to be taken into account by a UK pension scheme in determining the purchase price of a yachting marina in the South of France which is nearing completion . [5]
- 17** You manage a portfolio of UK equities for a medium sized pension fund. The portfolio holds only a small number of stocks. A trustee has queried why you are holding the stock of a particular large company instead of that of a smaller one with a lower price earnings ratio and higher dividend yield. Describe the points you would make in your reply to the trustee. [5]
- 18** Describe the advantages of using a notional portfolio to value assets when carrying out the actuarial valuation of a pension fund. [4]
- 19** A US company, the AAONN Corporation and Hy-Vers AG, a German company, face the following interest rates in the international capital markets:

<i>Interest rate/Company</i>	<i>AAONN</i>	<i>Hy-Vers AG</i>
US\$ (floating rate)	LIBOR + 0.5%	LIBOR + 1.0%
DM (2-year fixed rate)	6.0%	7.5%

AAONN Corporation wishes to borrow US\$ funds at a floating rate of interest and Hy-Vers AG wishes to borrow the equivalent amount in DM funds at a fixed rate of interest. Both companies want to borrow for the same period of two years. A large international investment bank is arranging a swap for the two companies. It requires a margin of 50 basis points for its services. It has been asked by the companies to divide the remaining gains from the swap equally and to ensure they face no foreign exchange risk on the interest payments under the swap.

Design the swap and draw a diagram showing the interest rates (and their currency) paid and received by the various parties. [9]