EXAMINATION

5 April 2005 (am)

Subject SA6 — Investment Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*

2. *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.*

3. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*

4. *Mark allocations are shown in brackets.*

5. *Attempt both questions, beginning your answer to each question on a separate sheet.*

6. *Candidates should show calculations where this is appropriate.*

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator.

1 You are the investment consultant to a final salary pension fund with assets of £1bn. The fund closed to new entrants 5 years ago, and has 2,000 contributing members, 3,000 deferred pensioners and 4,000 pensioners. The scheme actuary has advised you that the fund's liabilities, measured using a corporate bond discount rate, are £950m. £150m of the fund's liabilities arise from benefit payments due to be paid in the first 10 years, £450m in the next 15 years, and £150m in the subsequent 10 years.

For the past few years you have been advising the fund to improve its matching of asset proceeds to expected liability outgo. After speaking to an investment bank, the trustees and sponsoring employer are considering adopting one of the following three strategies:

(1) Match expected expenditure less contributions in the first 25 years through fixed income and inflation-linked bonds, using fixed income and inflation swaps to improve cash flow matching further. A portfolio of 30% global equity, 10% property, 10% private equity, 25% inflation index-linked government bonds and 25% investment grade corporate bonds would be held for the balance of the assets.

(2) Match 75% of expected cashflows after the first 10 years, for the next 25 years, using forward starting swaps. A portfolio of 30% global equity, 10% property, 10% private equity, 25% inflation index-linked government bonds and 25% investment grade corporate bonds would be held for the balance of the assets. Expenditure for the first 10 years is able to be met from contributions and investment income.

(3) A portfolio of 20% global equity, 5% private equity, 37.5% inflation index-linked government bonds and 37.5% investment grade corporate bonds is held.

The chairman of the trustees has asked you to prepare a report comparing and contrasting the three strategies above. You should assume that any bonds held have an average maturity of 20 years. Describe the points that you would cover in your report, including a description of the income profile of each of the proposed asset classes, a discussion of their risks, and their suitability to match the following liability features:

- Mortality
- Duration
- Salary
- Inflation

[54]

2 You have been appointed adviser to the Trustees of a £10bn. fund. The Trustees have decided to review their investment strategy. Currently the fund invests in equities, bonds, property and cash in the proportions 65:20:10:5 using a small in-house investment management team.

The equity portfolio is split into three areas, Pan-European Equities, US Equities and Japanese Equities. The portfolio has a fixed benchmark, which is subject to rebalancing at the end of each calendar quarter.

(i) Discuss the advantages and disadvantages of the use of:

(a) a fixed benchmark for a regional asset split
(b) a benchmark based on regional market capitalisation weights
(c) one based on regional GDP weights

[12]

One of the Trustees believes that the fund should invest more widely and has proposed that the fund invest in unquoted equities and commodities.

(ii) Outline the advantages and disadvantages of investing in each of these new asset classes. [10]

(iii) Describe how exposure might be gained to each of these new asset classes and the factors the Trustees should consider in comparing these alternative methods. [12]

In the past publicly quoted companies have been acquired by private equity firms and subsequently re-floated on the stock market some years later at a higher valuation than when they were taken private.

(iv) Suggest reasons why this can occur. [8]

(v) Describe two methods that could be used in valuing an unquoted company.

[4]
[Total 46]

END OF PAPER