

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

B.COMM (ACTUARIAL SCIENCE) HONOURS DEGREE

INVESTMENT AND ASSET MANAGEMENT – CIN 4116

JULY/AUGUST 2006 SUPPLEMENTARY EXAMINATION

DURATION: 3 HOURS

Instructions to Candidates

1. *Attempt ALL 15 questions, beginning each question on a new sheet.*
 2. *For this question paper you are permitted to have an electronic calculator (non – programmable) and actuarial tables*
 3. *For this question paper 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 on a rough paper. You then have three hours to complete the paper.*
 4. *You must not start writing your answers on the answer sheet until instructed to do so by the invigilator*
 5. *Mark allocations are shown in brackets.*
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1. What are the principal economic factors that might cause institutional investors to wish to increase their holdings of money market instruments? **[3 marks]**
2. Outline problems in constructing a total return index suitable for property performance measurement purposes for quarterly publication. **[3 marks]**
3. Describe theories of the yield curve that are useful in giving an intuitive feel for the factors affecting the shape of the yield curve. **[4 marks]**
4. Describe how a stochastic model can be used in asset liability modelling to assess the long-term solvency position of a pension fund. **[4 marks]**
5. Discuss briefly factors that would cause an institutional investor to move away from long term asset allocation of a large institutional investment portfolio and describe the problems in doing so. **[5 marks]**

- 6.** Outline the main practical investment constraints faced by personal (that is individual) investors which are not usually faced by institutional investors (or at least not to the same extent) and describe the mechanisms by which personal investors may deal with these constraints. **[5 marks]**
- 7.** (i) Assuming a risk free real yield of 3.5%, expected inflation of 3%, the likely growth rate in dividend of 5% and growth in rents of 4%, estimate the following:
- (a) the inflation risk premium **[1/2 mark]**
 - (b) the corporate bond risk premium **[1/2 mark]**
 - (c) the equity risk premium **[1/2 mark]**
 - (d) the property risk premium **[1/2 mark]**
- Comment on the relative levels of the risk premiums and suggest reasons why this is so. **[2 marks]**
- (ii) Use the above estimates to analyse the current gilt/equity reverse yield gap into its four components. **[2 marks]**
- [Total: 6 marks]**
- 8.** (i) Describe briefly four methods of valuing an equity investment. **[4 marks]**
- (ii) For each method, comment on the main drawbacks. **[4 marks]**
- (iii) State with reasons your approach to valuing:
- (a) a company operating in a number of different industries **[2 marks]**
 - (b) a property company. **[2 marks]**
- [Total: 12 marks]**
- 9.** Describe how the principles underlying the actuarial control cycle can be used in developing a model to manage an equity portfolio. **[5 marks]**
- 10.** (i) State reasons why an individual might be attracted to collective investment vehicles or policies, rather than direct holdings. **[3 marks]**
- (ii) Explain why an investment trust would typically have a more volatile share price than the offer price of a unit trust. **[4 marks]**
- [Total: 7 marks]**

11. You are the manager of a large expanding fund which for some time has had significant investments in UK property and has specialised almost exclusively in high quality leasehold office investments. As a result of another property fund winding up, some freehold shop investments will be coming on the market. A director has commented that “these shops are of high quality and in prime sites. Investing in these sites would diversify our property portfolio and enhance returns”.

(i) Discuss the director’s comments, comparing the two types of property investments. **[9 marks]**

(ii) Indicate briefly the investigations you would conduct before making such an investment. **[3 marks]**

[Total: 12 marks]

12. (i) List ten specific issues that arise when considering stock exchange investments in a developing country. **[5 marks]**

(ii) State, with reasons, the two you consider most important. **[2 marks]**
[Total: 7 marks]

13. Describe the operations of a futures margining system of a clearing house. Give steps that may be taken to limit credit risk on the exchange-traded futures contracts. **[8 marks]**

14. (i) State how volatility of a bond varies with an increase in:
(a) coupon **[1 mark]**
(b) term **[1 mark]**
(c) redemption yield **[1 mark]**

(ii) When might a dated conventional government bond be more volatile than an undated government bond? **[2 marks]**

(iii) Explain what is likely to happen to the volatility of a conventional bond if there is an increase in expected future inflation. **[2 marks]**

[Total: 7 marks]

15. The government of a country has decided to introduce regulation of its financial services industry, although it has not yet decided whether the system will be statutory or self-regulated. It will appoint an executive responsible for implementing the system and acting as Regulator in its initial phase. The three candidates for the appointment are:

- a lawyer experienced in drafting legislation
- a market practitioner operating in another developed market
- an actuary who operates as an investment consultant.

Discuss the skills which each of the candidates would be likely to bring to this role explaining how these might differ depending on whether a statutory or self-regulated system is introduced. **[12 marks]**

END OF EXAMINATION