

EXAMINATION

18 April 2007 (am)

Subject SA3 — General Insurance 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.

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

- 1** You are the reserving actuary at a small UK general insurance company writing just private household buildings and contents insurance. Having joined last year, you have just completed your first review of the latest year-end figures. Your company uses an annual basis of accounting and the latest financial year ended on 31 March 2007. You have been asked by the Board to provide your best estimate of the anticipated loss ratio for the year-end accounts and explain the level of uncertainty inherent in your estimate.

You are also aware of the following information/facts:

	<i>Financial year ending 31 March</i>							
	2000	2001	2002	2003	2004	2005	2006	2007 <i>estimate</i>
<i>Gross Written Premium (£m)</i>	66.51	70.50	74.73	79.21	83.96	89.00	94.34	100.00
<i>Booked Accident Year Loss Ratio</i>	n/a	98%	102%	105%	120%	94%	95%	

Note: For many years Gross Written Premium has been increasing at 6% per annum.

- The policy cover was changed significantly on 1 October 2003 as follows, with your predecessor's estimate of the associated expected impact on incurred claims in a typical year on an additive basis shown in brackets:
 - Excess for subsidence claims increased from £500 to £2,500 (15% reduction).
 - New exclusion of subsidence due to defective design / workmanship in the first ten years (15% reduction).
 - Minor additions to cover (5% increase).
- The various analyses you have undertaken lead you to believe that the underlying trend in incurred claims (after allowing for prior year adjustments) has been rising at an average rate of about 10% per annum, assuming no changes in cover.
- A heat wave was recorded in August 2003, along with rainfall well below average.
- July 2006 was the hottest month on record, along with rainfall well below average.

Ignoring the effects of any reinsurance:

- List the different types of reserves that you might include in your estimate of provisions. [3]
- Discuss the advantages and disadvantages of reserving on an underwriting year basis. [4]
- Define the term loss ratio, giving examples. [3]
- Calculate the expected accident year loss ratio for the 2007 financial year, detailing any assumptions you make. [18]

(v) Discuss:

- (a) the extent to which any assumptions you have made may not be valid
- (b) any potential areas of uncertainty associated with the assumptions in (a), and
- (c) how you might seek to improve the reliability of the estimates you make by adjusting the assumptions in (a).

[10]

[Total 38]

2 Megasure Group was established in Japan over 100 years ago. Its headquarters are still in Japan and it has become one of the world's largest general insurance and reinsurance organisations. Although it does not write any business in Europe at present, it has operations in many other countries worldwide. Megasure Group writes most types of insurance and reinsurance business, although not every product is written in every country.

Following a strategic review, Megasure Group is considering writing general insurance business in Europe. You are a consulting actuary and have been engaged to advise Megasure Group. You have been told that:

- It has initially decided to write only commercial property business. However insurance will only be provided on large commercial risks, including large office blocks or factories.
- Both insurance and reinsurance business will be written.
- The business will be written in London.

Megasure Group is considering two methods of entering the European market:

- A Becoming a corporate name on a Lloyd's syndicate writing commercial property business.
- B Establishing a wholly owned subsidiary company in the London market to write this business.

Initially they would like advice to help them choose between the two market entry options above.

(i) Define the following terms:

- (a) Lloyd's
- (b) The London Market

[2]

(ii) Describe the main features of Lloyd's.

[8]

- (iii) Describe the main differences between becoming a corporate name on a Lloyd's syndicate and establishing a wholly owned subsidiary. For each difference, explain why it may be important for Megasure Group in deciding its preferred method of entering the market. [12]

Megasure Group subsequently decides to establish a wholly owned subsidiary, Megasure Insurance Company Europe (MICE). You have been approached to assist MICE in estimating its capital requirements for regulatory purposes. MICE will start underwriting in 2008. You have produced the following estimates for the first three years of operations, based on MICE's business plan:

<p><i>TABLE 1</i> <i>Estimated Capital Requirements for MICE</i> <i>Amounts in £ millions</i></p>			
<i>Year</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
<i>MCR</i>	10	20	35
<i>RMM</i>	10	20	35
<i>ECR</i>	25	35	45
<i>ICA</i>	35	45	50

- (iv) State the meaning of each of the abbreviations MCR, RMM, ECR and ICA and give a brief description. Details of how these amounts are calculated are not required. [4]

Megasure has considered the amounts shown in Table 1. Megasure needs to transfer capital to MICE in 2007 in order that MICE can obtain approval from the FSA to start writing business in 2008.

- (v) Describe the factors that Megasure should consider when deciding on the initial capitalisation of MICE. Your answer should consider each of MCR, ECR and ICA, in addition to any other relevant factors. [13]

In its business plan, MICE assumed it would purchase excess of loss reinsurance and that the net cost of this reinsurance would be £1 million per year. You allowed for this reinsurance when estimating the ICA amounts shown in Table 1. MICE has now asked you to produce an ICA estimate assuming that no reinsurance is purchased. Your revised estimates are shown below, together with the original estimates from Table 1.

<p><i>TABLE 2</i> <i>Alternative ICA Estimates for MICE</i> <i>Amounts in £ millions</i></p>			
<i>Year</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
<i>ICA – if reinsurance is purchased</i>	35	45	50
<i>ICA – if no reinsurance is purchased</i>	40	50	55

- (vi) MICE is considering whether it should buy reinsurance or not. Discuss the matters that MICE and its parent, Megasure, should consider. [8]

MICE is preparing to submit its authorisation application to the FSA. An FSA official is quoted in the press as saying that London Market insurers must monitor their pricing more closely. MICE has called you to discuss this matter.

- (vii) List ways in which MICE can make sure it charges adequate premiums, commenting on the practicality of each suggestion. [9]

Following authorisation from the FSA, MICE is considering writing another line of business in addition to commercial property.

- (viii) Discuss the issues that MICE should consider before it decides whether or not to write an additional line of insurance. [6]
[Total 62]

END OF PAPER