EXAMINATION

6 October 2009 (pm)

Subject SA2 — Life 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 before 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 all three 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 from the approved list.

1 A UK proprietary life insurance company has historically only written with profits business. It is planning to launch its first unit-linked product, a single premium investment bond. Under the proposed product 100% of the premium is invested in units of the chosen unit-linked funds. On surrender or death, the bid value of units is paid. The only charge is an annual management charge that is a fixed percentage of the fund value. Distributors of the bond are solely remunerated through an ongoing payment of half of the annual management charge. The customer can invest in a wide range of funds including UK and Overseas Equity funds, Fixed Interest funds and Property funds.

The unit-linked business will be written in a shareholder owned fund separate from the with profits business, and 100% of the profits from this business will belong to the shareholders.

(i) Describe how the company would calculate the profitability of this contract [10]

The marketing manager has suggested that the company should offer an option to add a guarantee to the product whereby the surrender value of the bond from year six onwards is guaranteed to be at least the original amount invested.

(ii) Discuss this suggestion. [10]

The with profits fund has a significant inherited estate. The marketing manager has suggested that the guarantee offered on the unit-linked business should be reinsured into the with profits fund. The With-Profits Actuary has been asked to advise on this.

(iii) Discuss the issues that the WPA should consider with regard to this proposal. [7]

[Total 27]

2 (i) Describe the two approaches that can be used in an analysis of Peak 1 surplus to quantify the regulatory surplus arising from each source. (You are not required to reproduce any formulae.) [8]

A UK life insurance company writes only with profits business. It is subject to the realistic reporting regime and has recently completed the valuation of its assets and liabilities on an FSA Pillar 1 Peak 1 and Peak 2 basis for the current financial year end. For its Peak 2 valuation the company uses the retrospective approach, i.e. the with profits benefit reserves are set equal to the asset shares.

(ii) Explain how the following would impact the change in Peak 1 regulatory surplus over the year, considering each in isolation:

(a) Higher than expected surrenders on policies that pay a loyalty bonus in the form of an enhanced terminal bonus. This loyalty bonus is payable out of the inherited estate, and only to policies that reach their maturity date.

(b) Management decision to increase the loyalty bonus by paying an additional 5% of asset share to all policies which reach maturity from next year onwards. The change is not expected to impact regular bonus rates.

(c) Increased yields on government fixed interest bonds.

(d) Higher than expected equity returns over the period. Bonuses have not yet been changed to reflect this. [9]

(iii) Describe how the changes in (ii) would impact the change in Peak 2 working capital over the year, considering each in isolation. [12]

[Total 29]

3 Company A is a well established proprietary UK life insurance company listed on the UK stock market, writing a mixture of with profits and without profits business. The company has two funds, a 90:10 With Profits Fund and a 0:100 shareholder owned Non Profit Fund in which a mixture of unit-linked and conventional without profit business is written. The company has a relatively strong free asset position compared to other insurers in the UK.

Company B is a UK mutual life insurance company, which in the past has written both conventional with profits and without profits business, though it is now closed to new business.

Company A is considering making an offer to purchase Company B. In making the offer, Company A would transfer all of the without profits business of Company B into Company A's Non Profit Fund. The with profits business of Company B would be kept in a separate fund and the shareholders of Company A would receive profits of 1/9th of the cost of bonus declared to Company B's with profits policyholders.

(i) Discuss the factors that the Board of Directors of Company A is likely to take into account before deciding whether to make an offer for Company B. [17]

(ii) Describe how Company A would determine the price to offer for Company B assuming that Company A had access to Company B's policy data and other company specific information. [16]

In practice, Company A only has access to publicly available information regarding Company B when calculating the offer price.

(iii) Discuss the practical difficulties that Company A will face in calculating the offer price for Company B. [11]

[Total 44]

END OF PAPER