

## EXAMINATIONS

14 April 2000 (pm)

**Subject 402 — UK Fellowship Life Insurance**

*Paper Two*

**You must answer this subject only,  
you may not attempt another subject in the 400 series.**

*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 both 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 For a number of years a UK life insurance company wrote new business through three sales channels:

- an employed direct sales force which wrote 40% of new business
- a network of appointed representatives (small firms with between one and five sales people who could sell only the company's products) which wrote 35% of new business
- independent intermediaries (who can sell any company's products) which wrote 25% of new business.

Three years ago, because of increasing costs, the company closed its direct sales channel. A number of the higher producing salespeople set up in business on their own account as appointed representatives, remaining tied to the company. Initially total new business written fell to 80% of the level immediately before closure of this channel, but has now increased to 110% of the level immediately before closure.

The current distribution of new business is

- through appointed representatives — 65%
- through independent intermediaries — 35%

You have been asked to report to the Appointed Actuary on the financial effects of the decision to close the direct sales channel. A drafting style is not required.

- (i) Describe briefly the areas which should be covered in the report. [9]
- (ii) Describe the data requirements in order to carry out the analysis of the sales expenses, persistency and mortality, and note any difficulties that might be experienced in extracting data or interpreting the results of the analysis. [19]
- (iii) Describe how the analyses carried out for part (ii) could be used in the financial management of the company. [10]
- (iv) Suggest, with reasons, how each of the experience elements in (ii) might have changed from previous analyses carried out before the closure of the direct sales channel. [10]
- (v) Discuss how the company might determine whether or not the decision to close the direct sales channel had been beneficial to the company. [10]

[Total 58]

- 2** A mutual life insurance company offers non-linked regular premium with profits endowment assurance products. Reversionary bonuses are set annually as the bonus supportable based on a realistic gross premium valuation. The terminal bonus rates are also set annually by reference to asset share calculations made on sample policies. These calculations currently assume that the annual return on the with profits fund applies to all policies irrespective of their duration in force.

It has been suggested that the investment return used in the asset share calculation should vary by duration in force to reflect the notional asset allocation. This allocation reflects that the proportion of equity investments backing the policy increases as the value of the non-guaranteed benefits increase.

The Appointed Actuary envisages that, eventually, all policy proceeds (on surrender as well as maturity) should be assessed with reference to an individually calculated asset share. Consequently, he wishes to investigate how the company could carry out asset share calculations more regularly.

It has been suggested that this could be taken further and that the asset share should be communicated more actively to educate the policyholders. It has been suggested that an individual asset share figure should be included in the annual bonus notice and should be available on request to any policyholder.

Draft a report for the Board to discuss the following:

- (i) The arguments for and against varying the investment return by duration in the asset share calculations. [10]
- (ii) The implications for the company of producing regular asset share calculations. [8]
- (iii) How the cost of capital could, or should, reasonably be included in the calculation. [8]
- (iv) The implications of using asset share calculations unadjusted for all benefit calculations. [7]
- (v) The implications of making the asset share of an individual policy known to the policyholder at any moment in time. [5]

[4 marks are available for drafting]  
[Total 42]