Institute of Actuaries of Australia

2008 PART III EXAMINATIONS

Subject Title: **C2A**
Life Insurance

Date: **Tuesday 21st October 2008**

Time**: 9:15 am – 12:30 pm**

Time allowed: Three (3) hours plus fifteen (15) minutes of reading time

Instructions: Each new question (but not each section of a question) must be commenced in a new answer book.

Number of Questions: **Five** (5)

Question	Marks
1	20
2	20
3	25
4	18
5	17
Total	**100**

Candidates are required to answer ALL questions.

This paper has seven (7) pages (excluding this page and the blank back page).

INSTITUTE OF ACTUARIES OF AUSTRALIA

COURSE 2A LIFE INSURANCE **OCTOBER 2008 EXAMINATIONS**

Answer all 5 questions

QUESTION 1 **(20 Marks)**

You are the product actuary for Have-a-Go Life Insurance. Have-a-Go sells a range of insurance and savings products in Australia, with the majority of its distribution via independent brokers. In return for placing business with Have-a-Go, brokers are paid via commissions (which in turn depend on the premium of the business placed).

The idea has now been floated to launch an additional range of insurance products through a direct sales channel. The proposal is to partner with a large national supermarket chain, so that information and application forms for policies can be placed in a prominent place in the supermarket. The thought is that shoppers can fill in an application form at the counter when buying groceries, pay a first instalment for the policy as part of their overall supermarket bill, and upon doing this cover would immediately be in place.

You have been asked to comment on various aspects of this proposal.

(a) What would be the criteria for selecting products to be offered through the supermarket chain? What products would be suitable? What products would not be suitable and why? (3 marks)

(b) What policy features, including restrictions and conditions, would you expect to be associated with the products that would be suitable to be offered through the supermarket chain? (4 marks)

(c) What issues or concerns would need to be addressed by the following business areas with regard to this proposal and its implementation?

(i) Sales (2 marks)
(ii) Marketing and Legal (2 marks)
(iii) Finance and Financial Reporting/Valuation Actuary (2 marks)

(d) In pricing products under this proposal, how would the various pricing assumptions differ from products that are sold through brokers? (4 marks)

(e) What would be the arguments for and against Have-a-Go seeking reinsurance support for the products offered under this proposal? (3 marks)

QUESTION 2 (20 Marks)

You are the Appointed Actuary for ABC Life Insurance Ltd. Over the past ten years ABC has acquired several other smaller Life Insurance companies. As a result ABC now manages and supports a large variety of traditional life, term life, disability income, TPD, trauma, and savings products.

Not all products are currently for sale as new business but each main product area has various forms or types of policies in-force which require ongoing management by ABC.

Although sales of new policies are at good levels and there is a large book of what should be profitable in-force business, ABC continues to struggle to produce reasonable levels of returns for shareholders.

It appears that expenses are relatively high compared to other companies of similar size in the industry. Because ABC has grown through acquisition more so than 'organic' growth of selling its own policies, the CEO, Mr Boss, is concerned that the inherited variety of products and associated administration systems are too expensive.

Mr Boss wants ABC to undertake a large scale project to rationalise products across the business. He would like your opinion on the benefits, associated costs, and potential risks that he should be aware of before moving further with this project.

Draft a note to Mr Boss outlining your thoughts. Your memo should cover the following broad areas on product rationalisation for ABC:

(1) Potentially beneficial outcomes. (4 marks)

(2) Likely nature and sources of potential costs associated with the product rationalisation. (5 marks)

(3) Risks associated with this product rationalisation. (6 marks)

(4) Your recommendation as to the initial steps in order to determine feasibility. (5 marks)

QUESTION 3 (25 Marks)

XYZ Life Ltd is a provider of niche insurance products (mainly term life and disability income (DI) products), tailored predominantly, but not exclusively, for Australian professional workers in such fields as medicine, law and accountancy. The business strategy relies on forming excellent relationships with a select group of semi-independent brokers, who themselves target individuals with high levels of net wealth and who work in these professional areas.

Some concerns have been expressed about the emerging persistency experience across the business, as well as the morbidity experience.

You recently joined XYZ as a pricing actuary as part of a team that reports to the Marketing Manager (who is not an actuary). You have been asked to review various aspects of the business in relation to the pricing assumptions.

You have searched various product reports from several years ago, and although not comprehensive, they do provide some of the assumptions used in pricing. You have also got various policy and claim counts over the last few years. This information is below.

Policy data:

	Number of term life policies in force	Number of DI policies in force
1 Jan 2004	94,000	37,800
1 Jan 2005	93,800	37,900
1 Jan 2006	92,700	37,950
1 Jan 2007	91,500	38,200
1 Jan 2008	90,900	38,300

Calendar year	Term life policies sold	DI policies sold
2004	10,600	6,020
2005	10,800	6,000
2006	11,450	5,950
2007	12,720	5,920

Claim data:

	Open life claims	Open DI claims (claims in course of payment)
1 Jan 2004	37	69
1 Jan 2005	29	75
1 Jan 2006	37	85
1 Jan 2007	33	99
1 Jan 2008	28	123

Calendar year	New life claims admitted	New DI claims admitted
2004	98	54
2005	84	60
2006	89	55
2007	95	59

Pricing assumptions:

	Lapse assumption	Claims assumption
Term Life	12% p.a.	Given expected age/gender profile, approximate 0.1% claim rate.
DI	16% p.a.	Given expected age/gender/occupation profile, approximate 0.15% incidence rate. Termination rate basis could not be determined from available documentation

(a) Comment on the lapse experience of the term life and DI business, in particular any emerging trends you are concerned with. You must support your comments with analysis of the experience of the past four years including calculation of the lapse rates. Prepare your review in a format which could be readily understood by your manager. (6 marks)

(b) Comment on the claims experience of the term life and DI business over the past four years. Also comment on any emerging trends. You must support your comments with analysis of the experience of the past four years including (but not limited to) calculation of the incidence rates. Prepare your review in a format which could be readily understood by your manager. (9 marks)

(c) Suggest possible reasons for the emerging trends for the Term Life lapses and DI claims over the last 4 years. (5 marks)

(d) The Sales Manager is concerned with the overall trends in new business sales of DI policies. He suggests that offering a 30% discount off the premium for a DI policy, when sold in conjunction with a term life policy, would be a clever way to boost sales. He suggests that because the DI policy and term life policy would be sold together, this would assist profitability because (1) more sales overall would be expected, and (2) unit costs per policy involved with underwriting and new business/policy administration would decrease. Comment on this suggestion. (5 marks)

QUESTION 4 **(18 Marks)**

You recently qualified as an actuary and are working in Australia for Let Me Out Life Insurance Ltd. There is some pressure from within your company to increase surrender values on its with profit whole of life policies and its unit-linked policies. The unit-linked policies have surrender penalties in the first 5 years to cover initial expenses. You are slightly concerned with this because you have noticed that the rates of surrender on these policies appear to be in line with industry 'norms'.

(a) Why might there be pressure to increase surrender values? (4 marks)

(b) What factors should be considered before increasing surrender values? (7 marks)

(c) Let Me Out Ltd decided to increase surrender values, and 6 months later you have noticed that the rates of surrender have increased significantly. A survey of those who have surrendered has shown that over 80% wanted to effectively "cash up" as soon as possible. Their reason was to have funds to invest in the local stock market which has been delivering record levels of returns in the last 12 months. Senior management at Let Me Out Ltd are concerned with the loss of business and want you to draft a series of key points that policyholders should consider before surrendering their policies. Your points would form the basis of an information card that would be given to policyholders who are considering surrendering their policy. Discuss the key points you would make. (7 marks)

QUESTION 5 (17 Marks)

You are a recently qualified actuary and work for LotsOfCash Consultancy Ltd. LotsOfCash has been approached by Sporting Life Ltd, an Australian life insurer, for some advice.

Sporting Life Ltd has an unusual business strategy in that it deliberately seeks clients who are heavily involved in following sports. In particular, they target those who watch lots of sport on television, have hobbies such as collecting sporting memorabilia, belong to Sporting Fan Clubs and other non-playing organisations, and undertake a lot of international travel in organised Groups, in order to follow the fortunes of their particular sports team.

Sporting Life Ltd is not so interested in having active sporting participants as clients because of the perceived risks associated with injuries. They are comfortable with their target market because they consider them wealthy clients, who can afford the policies offered, and are unlikely to change policies/companies once they have settled on a familiar and trusted brand (which Sporting Life Ltd considers itself to be).

Sporting Life Ltd wants your advice on various risk and investment matters.

(a) Sporting Life Ltd recognises that their main client base has, on the whole, relatively sedentary lifestyles and often prolonged periods of high stress. Also there are risks associated with the large amount of international travel undertaken, to many different locations, which involves substantial amounts of time off work. Suggest ways to manage the mortality and morbidity risks that they face. (5 marks)

(b) Sporting Life wants your advice on its investment strategy in relation to its four main in-force products. The current investment allocations are as follows:

Product type	Investment allocation
Traditional Life (with profits)	40% corporate bonds; 40% government bonds; 20% australian equities
Yearly Renewable Term Life	50% australian equities, 25% fixed interest high-grade corporate bonds, 25% property
Disability Income (for both claims in course of payment and other liabilities)	50% cash, 50% inflation-linked corporate bonds
Unit-linked contracts	75% overseas equities, 25% cash

State with reasons which of these allocations you would change or require more information about. (7 marks)

(c) In response to demand from the target market wanting a product that both finances their lifestyle well into old age and ensures security for their spouse, Sporting Life has decided to offer a new annuity product. This will pay a monthly amount for the greater of the policyholder's life, or their spouse's life, with the payments increasing in line with inflation. Suggest, with reasons, an appropriate asset mix to back this product. (5 marks)

END OF PAPER