

# **EXAMINATION**

April 2005

**Subject CA3 and CA3 CH — Communications**

## **EXAMINER'S REPORT**

### **Introduction**

**The attached subject report has been written by the Principal Examiner with the aim of helping candidates. The questions and comments are based around Core Reading as the interpretation of the syllabus to which the examiners are working. They have however given credit for any alternative approach or interpretation which they consider to be reasonable.**

**M Flaherty  
Chairman of the Board of Examiners**

**28 June 2005**

*Question 1*

Candidates were asked to draft a letter to a policyholder to explain the difference in lump sums charged for the select annuity contract. The policyholder (a non-smoker) believes that as his brother, a smoker, was charged a higher premium than him for the term assurance policy, his brother should also be charged a higher amount for the annuity contract. The main points that the examiners were looking for and some common problems encountered were as follows.

1. Candidates were expected to explain briefly the term assurance policy and the select annuity contract. They were also expected to explain how term assurance premiums varied with the probability of a claim and the annuity cost depends on the expected average number of annuity payments.
2. Although most candidates explained that the key factor for the difference in life assurance premium was the smoker status, some candidates did not link this to the probability of a claim. In some cases, candidates unnecessarily emphasised the point that the life expectancy for a smoker is lower than a non-smoker - the transcript of the telephone conversation suggests that the policyholder recognises that there is a difference in life expectancy for smokers and non-smokers
3. Candidates did not gain any marks for explaining how interest rates affect annuity rates. Some scripts went even further by describing how annuity rates vary with changes in interest rates.
4. Some scripts had implicit suggestions that lifestyle factors do not affect annuity rates – they only affect term assurance. This suggested that only smoking affected the rates. Some candidates went even further to suggest that the two had identical lifestyles and that the only difference was their smoker status.
5. Some candidates only described the two products in general terms – they did not personalise the letter by referring back to Mr Thomas and his brother. Some of the letters appeared to be drafted entirely from the Company's perspective and therefore lost some marks.
6. Better scripts gained marks by staying away from words which could be unfamiliar jargon to the policyholder. Some examples of jargon or inappropriate phrases found in the scripts include life expectancy, long term interest rates, mortality, longevity, principle of insurance and expected cost of future claims, and risk to the company.
7. Some candidates lost marks by making inappropriate comments such as "your brother has a greater chance of dying than you", or "if you both smoked the same amount, you would have received the same quote".
8. There was some evidence of candidates not reading the questions properly. For example, there were references to a letter when the question referred to a telephone conversation.
9. The paragraph structure and headings were well drafted by some candidates. Better headings were those which either referred directly back to the products and/or referred to main themes of the letter in familiar language to the customer. The poorer letters had a couple of headings and then wandered into fresh territory without a further heading.
10. Most scripts gained good marks for the basic format of the letter. Many scripts also had good introductory paragraphs and summaries or conclusions. Some poorer scripts missed out on marks where the introduction consisted of more than one reiteration of the

policyholder's query. Marks were lost for sounding condescending e.g. "I am best-placed to answer your query", "I can understand your confusion" or "thank you for expressing concern." In some cases, the empathy sounded artificial e.g. "I am sorry about the quotations you received" or "I am sorry about your confusion."

11. A number of scripts suffered from poor spelling, grammar and punctuation. There was some tendency amongst students to use the hyphen and brackets inappropriately. Some candidates were penalised for spelling errors such as 'affect' instead of 'effect'.
12. The guideline length was 350-450 words. Scripts which were below 300 words generally missed out some of the explanation. Scripts which were longer than 400 often lost marks for including unnecessary repetition or irrelevant detail.

## *Question 2*

Candidates were asked to draft a presentation to the Marketing Director outlining the relative profitability of the two administration options that you are considering developing for a new savings product. The main points specific to this question were as follows.

1. Candidates were expected to
  - summarise the two options
  - explain the profit profile for both options after all costs were taken into account
  - show the profits for varying sales volumes
  - summarise other considerations that could affect the decision.

Candidates were not expected to include notes to accompany the presentation and did not gain any marks for adding speaker notes.

2. Whilst most candidates included a graphical representation of the relative profits, candidates failed to gain marks available for showing key figures on graphs - in particular break-even point, expected profit for each option depending on volume of sales, and the related probabilities.
3. A number of scripts lost marks for no annotation of the graph or the axes, incorrect scaling of the graph, missing legend keys, chart title etc.
4. Poorer scripts calculated incorrect profit levels or probabilities, made no reference to expected sales volumes, had wrong conclusions etc. Some candidates quoted probabilities to 3 decimal places.
5. Good presentations had a range of different types of slides e.g. contained well annotated charts, adequate number of bullet points, tables etc. Marks were lost if the slides were too busy with too many words, sentences or diagrams, too sparse or too complicated.
6. Most candidates gained good marks for the basic format of the slides e.g. title of presentation, presenter's name, date, agenda, summary etc. The better scripts contained bullet points of headings on the agenda that corresponded with the headings on subsequent slides.
7. Some examples of jargon included normal distribution, standard deviation etc. Marks were lost for incorrect grammar, spelling and punctuation.
8. The guideline length was 5 to 8 slides. Scripts which had less than 5 slides generally missed out some of the explanation or were too busy. Scripts which contained more than 8 slides often lost marks for including irrelevant detail or being too bare.

Possible solutions to each question are attached. They do not cover all the possible points and are not intended to be model solutions. In practice a wide range of solutions was acceptable.

1

Company Address

XXXXXXXXXX

XXXXXXXXXX

Recipient of letter

Address

XXXXX

XXXXX

Date

Dear < >

**Select Annuity Contract — quotation number 12AB34**

You recently called our customer service team in relation to the above quotation to query why you have been quoted a higher price for your annuity than your brother. You mentioned that as your twin brother is a smoker, he paid a higher premium for his life insurance. Following this reasoning, you expect him to pay a higher price to receive regular annual payments under the select annuity policy.

I can confirm that the quote issued to you is correct and has not been mixed up with your brother's quote. This letter explains the reasons for the difference.

**Life Insurance**

The life insurance policy pays out a sum of money if the person whose life is insured dies during the term of the policy. The premium charged for these policies depends on factors such as age, gender, the amount payable on death and "lifestyle" factors such as smoking habits. The greater the possibility of an insurance company paying a claim on death, the higher the premium is likely to be.

Based on the information on each of your proposal forms, these factors were similar for you and your brother, except that you were a non-smoker whereas your brother's form indicates that he was a smoker.

In our experience, there is a greater chance of smokers dying during the lifetime of their policy resulting in a claim for the life insurance, compared to non-smokers over the same period of time. Therefore, your brother's premium was higher than yours.

**Annuity policy**

This policy provides regular annual payments for life in exchange for a one-off lump sum payment. Both you and your brother applied for annual payments of £1,500 under this policy.

The only difference is that you are a non-smoker whereas your brother is a smoker; all the other factors are the same. As there is a greater chance of smokers dying earlier (as explained above), there is a high likelihood that your brother will receive fewer

payments than you. Therefore, a smaller lump sum is required upfront to cover the fewer payments likely to be made.

### **Summary**

The price for a life insurance policy depends on factors which influence the chances of paying out a claim. The price for the annuity policy depends mainly on the number of payments expected to be made. In both cases, the more we expect to pay out, the higher the premiums. Therefore, your brother was charged a higher premium than you for life insurance, and a lower lump sum for the annuity policy.

If you have any questions, please contact me on 020 7321 9876 or on the above address.

Yours sincerely

A N Other  
Customer Services Manager

435 words (excludes address, signature and title)

**2**

## XYZ Organisation

Development options  
for new savings product

R Brown  
Product Development Actuary

### Background

- New savings product
- Choice of administration systems
- Option A - highly automated,  
expensive to build, low-cost servicing
- Option B - largely manual, cheaper to  
build but higher servicing costs

## Profitability

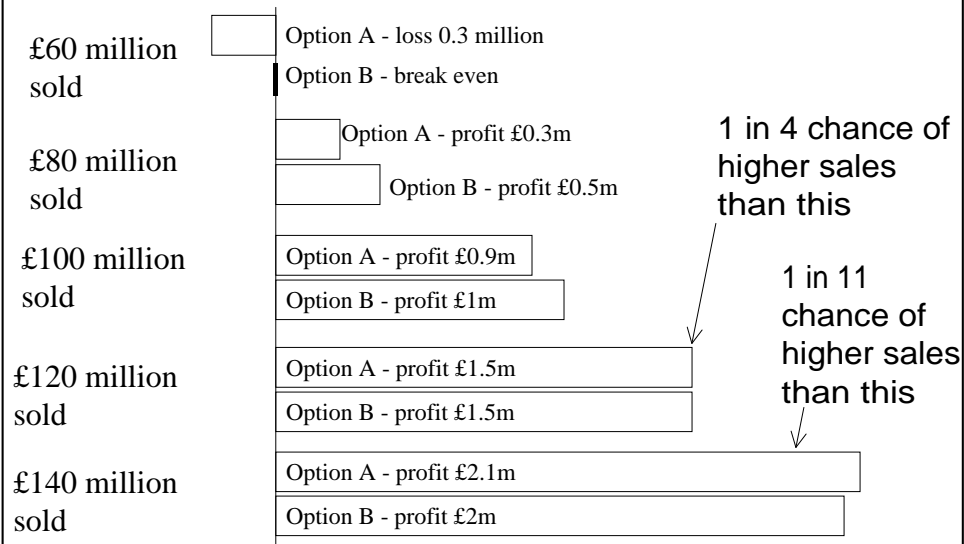
- Development costs must be met from profits
- Overall profitability heavily dependent on sales
- Best estimate of sales £100 million
- But our analysis allowed for possible variations using statistical techniques

## The Options

	Option A	Option B
Development cost	£2.1 million	£1.5 million
Profit per 1,000 sold	£30	£25
Profit for £100 million sales (net of development costs)	£0.9 million	£1.0 million
Break-even sales level	£70 million (5 in 6 chance)	£60 million (10 in 11 chance)
Other considerations	Technology reusable	Admin problems if sales > £140 million



## Relative profits



## Conclusions

- Option B more likely to return an overall profit, and has slightly higher estimated profit.
- 1 in 4 chance that option A will be more profitable.
- 1 in 11 chance of administration problems under option B due to high sales
- Decision required. Any questions?