Subject CA3 — Communications

EXAMINERS' REPORT

April 2009

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.

R D Muckart
Chairman of the Board of Examiners

July 2009

Comments

Question 1

Candidates were asked to draft a memo for a colleague in the finance department explaining what immunisation means, when it can be used, how it works and the benefits it can bring. Candidates were also asked to include a simple example.

The main points that the examiners were looking for and some common problems encountered were as follows.

1. *Most candidates had a suitable opening paragraph to the memo. Scripts gained marks for a clear summary of the query, but not where the opening paragraph was lengthy and repetitive or did not refer to the initial query.*
2. *There was no evidence of candidates running out of time and therefore not completing the answer. Credit was given to those candidates who submitted their draft working papers.*
3. *Candidates lost marks for not explaining immunisation.*
4. *Poor scripts explained "matching" rather than immunisation.*
5. *A number of candidates failed to gain marks for not stating that immunisation is used for fixed cash flows and that funds are invested in bonds or other appropriate asset.*
6. *A large number of scripts focused on the assets only rather than linking immunisation to the liabilities.*
7. *Good scripts stated the impact of interest rates on assets and liabilities e.g. if interest rates fall then current values of assets and liabilities rise and vice versa.*
8. *Better scripts explained that the term of the assets is broadly similar to the term of the cash flows and provided a suitable example.*
9. *Poor scripts suggested that a 10 and 20 year bond were held to immunise a 15 year bond.*
10. *A number of candidates included a table of figures comparing the payments from a 10 or 20 year bond against annuity payments for 15 years but failed to draw any conclusions from this.*
11. *Good scripts included appropriate examples based on the information provided in the question. Candidates did not gain any marks for including examples without any explanation or making up their own examples.*
12. *Some candidates lost marks because of the use of jargon such as rebalancing, holding period, price risk, reinvestment risk, uncertainty etc.*
13. *Many scripts gained marks for a good final paragraph which briefly summarised the main points and finished with comments suitable for a memo to a colleague in the finance department.*
14. *Most scripts were in a suitable format and tone to be a memo to a colleague in the finance department.*
15. *A number of scripts suffered from poor spelling, grammar and punctuation.*

16. *The guideline length was 350 to 450 words. Scripts which were below 350 words generally missed out some of the explanation. Scripts which were longer than 450 words often lost marks for including unnecessary repetition or irrelevant detail.*

See below for a possible solution. It is not intended to be a model solution. In practice a wide number of solutions were acceptable.

Memo to:	John Smith
From:	Colin Jones
Date:	dd/mm/yyyy
Re:	Your question on immunisation

John,

Following on from our brief chat last week, this is to give you a quick overview of "Immunisation" – what it means, when it can be used, how it works and the benefits it can bring.

What immunisation means

Immunisation is useful where we are holding investments in order to pay out a known series of cash payments to customers. A good example would be our annuities – where we have a large number of annuities, and a good understanding of how long people live, and a fairly clear idea of how much we need to pay out over each of the next 50 years.

Immunisation means being immune to changes in market interest rates such that if market interest rates move, then both:

- the value of the payments that we will make to customers, and
- the value of the bonds that we hold

will move by the same amount. So, there is no shortfall or windfall to the company.

When it can be used

Since we know how much we pay out each year, we can buy a series of government stocks and bonds that, taking both the interest payments and the maturity payments, will in total pay the right amounts each year. For instance, with £20m to invest:

£10m in a 5% bond for 10 Years
£10m in a 5% bond for 20 Years

Would payout:

Years 1 – 9:	£1m
Year 10:	£11m
Years 11-19:	£0.5m
Year 20:	£10.5m

In practice there would be a much wider spread so that there's a better match to the cash payments to our customers.

How it works

The problem with holding these bonds is that market interest rates can move, changing the market value of them. If market interest rates go up then they become worth less than £20m. So for example if interest rates moved to 6% then I calculate that the 10-year bond would be worth only £9.3m, and the 20-year bond would be worth £8.8m.

Returning to the annuities example, we have a known set of payments over 50 years – with larger amounts in the first few years and tailing off in later years – let's say an average of around 15 years.

If we had invested solely in 20-year Bonds – the fall in value of the Bonds would be more than the value of the future payments we will make.

If we had invested solely in 10-year Bonds – because these have not fallen as much in value, we would make a profit.

Benefits it can bring

However by investing in a mixture, the gains and losses offset each other. This is what is meant by immunisation: - being immune to a change in market interest rates.

I trust this is clear. Please do give me a call if you would like me to explain further.

Regards,
Colin

Question 2

Candidates were asked to draft a memo to the marketing manager explaining the reasons why the renewal premium for a pet insurance policy had increased substantially and many policyholders failed to renew the policy.

The main points that the examiners were looking for and some common problems encountered were as follows.

1. *Most candidates had a suitable opening paragraph to the memo. Scripts gained marks for a clear summary of the query, but not where the opening paragraph was lengthy and repetitive or did not refer to the initial query.*
2. *There was no evidence of candidates running out of time and therefore not completing the answer. Credit was given to those candidates who submitted their draft working papers.*
3. *A surprising number of students did not understand what "excess" meant or were unable to work out the claim amount after deduction of the excess.*
4. *Where scripts included a table or graphs, marks were gained for how clearly it brought out the messages. Large tables of data were unlikely to bring out the key messages clearly. A number of scripts failed to gain marks if they repeated entire tables from the exam paper.*
5. *A number of candidates included tables of figures but failed to draw any conclusions.*
6. *Good scripts included a sensible comment about the distribution of claims i.e. that they were heavily weighted towards the small claims.*
7. *The majority of candidates commented that the number of claims where payments are made goes up massively if the excess is reduced e.g. a proportion of the 12,000 nil claims would now create a cost.*
8. *Better scripts also stated that the number of claims and the amount paid on claims over £60 increases dramatically as well by £20 per claim.*
9. *A number of candidates failed to gain marks for stating that total administration costs are higher.*
10. *Good candidates stated that the reduction in maximum vet fees to £4,000 per claim would, in itself, make the premium cheaper, but, the lower maximum payout has little impact as there are very few claims at the high end.*
11. *Better scripts gained marks for including sensible and appropriate examples.*
12. *Good scripts emphasised that the impact on smaller claims outweighs the reduction in pay-out on large claims.*
13. *A minority of candidates made a comment that claims experience in 2009 will not be the same as that for 2007 and therefore a sensible assumption needed to be made.*
14. *Many scripts gained marks for a good final paragraph which briefly summarised the main points and finished with comments suitable for a memo to a marketing manager.*
15. *Some candidates lost marks because of the use of jargon such as uneven distribution etc.*
16. *Most scripts were in a suitable format and tone to be a memo to a marketing manager.*

17. *A number of scripts suffered from poor spelling, grammar and punctuation.*
18. *The guideline length was 450 to 550 words. Scripts which were below 450 words generally missed out some of the explanation. Scripts which were longer than 550 words often lost marks for including unnecessary repetition or irrelevant detail.*

See below for a possible solution. It is not intended to be a model solution. In practice a wide range of solutions was acceptable.

Memo

To: Charlie Cooper, Marketing Manager
From: Duncan Mills, Actuary

Pet insurance product — customers not renewing

I refer to your note containing details of our pet insurance policy.

You mentioned that many policyholders are failing to renew due to the high premium due for 2009 and asked me to explain why our premium has increased so much.

Our premium has increased from £60 in 2007 to £100 in 2009. There are two main factors affecting the premium as follows:

- The reduction in the policy excess from £60 per claim to £40, which serves to increase the premium; and

- The reduction in the maximum payment per claim from £8,000 to £4,000 which serves to reduce the premium.

The impact of the first factor above is significantly more than the second and I will explain each of these in turn below

Reduction in policy excess

Most of the claims received in 2007 were for relatively small amounts where we made little or no payment. 37,000 claims, almost nine out of every ten received, were for less than £100. 12,000 of those were for less than £60; the other 25,000 being between £60 and £100.

For the 25,000 claims between £60 and £100, we can assume the average was for £80, so we would have paid out £20 per claim (i.e. £80 less £60). If we reduced the excess to £40, we would have had to pay out £40 per claim (£80 less £40), an extra £20 on 25,000 claims which comes to an extra £500,000 overall if we assume the experience for 2007 is the same as for 2009.

For the 12,000 claims below the excess of £60 we would not have made any payments at all in 2007. If the excess was reduced to £40, we would make payments on all claims in this range between £40 and £60. Assuming one third of these claims, i.e. 4,000, were between £40 and £60 and averaged £50, we would have paid out £10 (£50 less £40) on 4,000 claims, which is an extra £40,000. Furthermore, because we are having to pay out on more claims we would otherwise have paid nothing at all, we incur more administration expenses adding more cost to the premium we charge.

The reduction in maximum payout

In 2007, very few of the claims, only 10 in fact, were greater than £4,000. Reducing the maximum payout from £8,000 to £4,000 would, at most, have saved us £4,000 (£8,000 less £4,000) each i.e. £40,000. As you can see, this effect is considerably smaller than the effect of reducing the policy excess.

Summary

The lower excess is expected to increase both the number and amount of claims. Not only would this increase the payments we make to policyholders, but would also increase the administrative cost as we would be handling more claims.

When compared to the much higher costs involved with reducing the excess, reducing the maximum claim to £4,000 doesn't have much impact overall. The main reason for this is that while the vast majority of claims made are for small amounts, there are very few large claims made.

If we want to retain customers and keep the premiums lower I think we need to consider increasing the excess back up to its original amount.

Let me know if you wish to discuss further as there are a number of options we could consider.

Duncan Mills
Actuary

END OF EXAMINERS' REPORT