

REPORT OF THE BOARD OF EXAMINERS

April 2003

Subjects 201 and 211 — Communications

EXAMINERS' 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.

J Curtis
Chairman of the Board of Examiners

3 June 2003

Candidates were offered a choice of two questions, and a large majority attempted question 2. However, the overall standard of answers to question 1 was higher.

Question 1

Candidates were asked to write to the marketing manager of a computer manufacturer that was about to offer warranty extensions to customers. Either a business letter or a memo was acceptable. Two alternative offers were being considered, and the marketing manager had asked:

1. what the anticipated profit for each alternative would be, based on given assumptions, with a brief explanation of the calculations; and
2. how likely the profit from each alternative would be to cover fixed overhead costs, but without details of the calculations.

The profit calculation was straightforward, and most candidates explained it reasonably well. Acceptable approaches included a step-by-step explanation and simple tables with a briefer explanation. However, some explanations were very long-winded with considerable repetition.

The second part of the questions was much less well answered. Methods for calculating the variances for both alternatives (based on the binomial distribution) were provided, but relatively few candidates gave the correct probabilities of covering overheads. Many seemed to treat the variance as the standard deviation. However, candidates were not heavily penalised for calculation errors if they interpreted the results sensibly.

Most candidates avoided over-complex explanations of the standard deviation. Some provided good qualitative explanations of why the alternative that only required one choice would be less variable than the one with two choices. However, the examiners were also looking for some indication of the scale of the risk in both cases.

Question 2

Candidates were asked to reply to a letter from a customer who had a single premium policy with a guaranteed return after 5 years. There were three elements:

1. The policyholder had calculated the maturity value based on simple interest, whereas the guaranteed return was based on compound interest, giving a slightly higher maturity value.
2. The policyholder had received a maturity projection in “today’s money” terms, showing a lower value than she expected. She was concerned that she would be unable to repay a loan from her parents.
3. The policyholder expected the value after 2 years to be based on the guaranteed return, but it was significantly lower because of set-up expenses.

Most candidates were able to explain that the guaranteed maturity value was higher than the customer expected because each year's interest itself gained interest in subsequent years. However, many explanations would not be easily understood by a non-expert. For example, many people will not automatically make the connection between a 5% increase and multiplying by 1.05.

In general candidates were able to explain the "today's money projection quite well, although some ignored this point completely. An analogy based on the price of common purchases could be helpful, but discussion of the cost of "goods" and "services" was not. Some candidates showed the discounting calculation (which was unnecessary) without any explanation.

Explanations of the cash-in value were often weak. Many candidates stated or implied strongly that the "real" value of the policy was the one the customer had calculated based on the guaranteed maturity return (rather than the cash-in value). It was also commonly stated or implied that the maturity value did not allow for expenses, but earlier cash-in values did. Few candidates managed to convey the message that all values allowed for expenses, but the effect on net returns was much greater in the early years than at maturity.

Points common to both questions

1. It was important that the response was appropriate to the recipient. The reply to the marketing manager could assume a higher level of financial sophistication than the letter to the policyholder. It was particularly important that the tone of the latter was reassuring without being patronising or apologetic.
2. For both questions, candidates were expected to highlight key points without going into excessive detail. Very long scripts were often repetitive and confusing, while very short scripts generally missed important points.
4. Most candidates were able to construct a letter fairly well, including an appropriate introduction and conclusion. However, some did not offer help with any further questions.
3. Many scripts contained significant amounts of unexplained jargon. For example, in question 1 talk about "expected profits" and "variance" was generally inappropriate. For question 2, inappropriate terms included "real terms", "purchasing power" and "accumulated value."
4. The examiners did not expect perfect spelling, grammar and punctuation, but marks were lost for persistent errors.
5. While most scripts were divided up by headings, these were not always appropriate to the following paragraphs. There was also evidence of lack of planning. Some scripts flitted between different aspects of the explanation, and the order was often not appropriate. For example, in question 2 the key point to make early on was that the maturity value of the policy would be sufficient to repay the loan.

Possible solutions are given below. They do not cover all the possible points, and are not intended to be model solutions. In practice a wide range of solutions was possible.

QUESTION 1 – EXAMPLE SOLUTION

Mr Jim Jones
Marketing Manager
SuperFast PCs Ltd

2 April 2003

Dear Jim,

Proposed mailing to owners of SuperFast PCs

Thank you for your letter of 31 March. You have asked me to calculate the possible profit from the two mailing campaigns based on your assumptions, and also to let you know which is more likely to cover the overheads of £85,000 over the next two years. The answer is that both could produce a profit of £90,750, but the first is more likely to cover your overheads.

Possible profits

Alternative 1 is to write to the 1,100 owners who bought SuperFast PCs two years ago, inviting them to extend their warranty for a further year at a cost of £220. Those who accept this will be contacted again next year offering a further year's extension at the same price. You estimate that for both mailings half (50%) of owners mailed will accept the offer.

The best estimate of the profit each year is the number of owners written to, multiplied by the likelihood that they will accept the offer, multiplied by the profit you expect on each acceptance. Since the yearly cost of parts and labour (excluding overheads) is £110 for each contract, this profit is £110 a year (£220 less £110). The estimated number of people mailed for the second year is 550 (50% of 1,100).

The estimated profit is shown in the table below.

Alternative 1 estimated profit					
	<i>Owners mailed</i>	<i>Chance of each accepting</i>	<i>Expected number of owners accepting</i>	<i>Profit from each acceptance</i>	<i>Estimated total profit</i>
Year 1	1,100	50%	550	£110	£60,500
Year 2	550	50%	275	£110	£30,250
Total					£90,750

Alternative 2 is to write to the 1,100 owners inviting them to extend their warranty for two years at a cost of £370. You estimate that 55% of owners will accept this offer.

Using the same method as for Alternative 1, we can calculate the estimated profit. In this case, the profit over the two years from each owner is £150 (£370 less twice £110). Table 2 details this.

Alternative 2 estimated profit				
<i>Owners mailed</i>	<i>Chance of each accepting</i>	<i>Expected number of owners accepting</i>	<i>Profit from each acceptance</i>	<i>Estimated total profit</i>
1,100	55%	605	£150	£90,750

So the estimated profit is £90,750 in both cases.

Likelihood of profit being over £85,000

The estimated profit for both alternatives is over £85,000, so on average they would cover your overheads with £5,750 left over. However, it is very unlikely that the profit under either alternative will be exactly £90,750. There are well-established methods for estimating possible variations in the actual profits, assuming that all owners act independently. Using these I have calculated that the chance of the profit being below £85,000 is about 3% for Alternative 1 and 1% for Alternative 2.

So alternative 2 is the more likely to cover your overheads, which makes sense because it only involves owners making one decision. With Alternative 1, those accepting the initial offer have to make another decision a year later. This increases the possible variability of the profit.

Summary

In summary, then,

- Based on your assumptions, the estimated profit over two years is £90,750 for both options.
- Alternative 2 should show less variation in the profit, and so is the more likely to produce a profit of more than £85,000.

I hope that this is helpful to you, and I will be happy to answer any other questions you have.

Yours sincerely,

J Smith
Business Consultant

QUESTION 2 – EXAMPLE SOLUTION

company address
date

Ms M Smith
10 London Road
Anytown

Dear Ms Smith,

Ref: Policy number abc123456789

Thank you for your letter of 1st August in which you asked why the cash-in value of your investment is less than the £11,000 you expected, and whether your policy will be sufficient to repay a loan of £12,500 at the end of the 5 year term.

I can reassure you that the policy will repay your loan. I will explain how your maturity value is calculated and also comment on the cash-in value.

Payment at maturity

When your policy matures you will receive £10,000 plus 5% interest for each of the 5 years that your money is invested. You have calculated this as £500 each year, giving a total payment of £12,500. In fact the payment is slightly higher than this because each year's interest is based on both your initial £10,000 and the interest for any previous years. For example in the second year the interest is calculated as 5% of £10,500, which is slightly more than £500.

Therefore, at maturity you will receive a guaranteed amount of £12,763.

As you have noted, the maturity value in today's money terms is only £11,680. It is different from the actual maturity value because it reflects the value in today's money — allowing for the effect of inflation at 3% each year. Note that the actual rate of future inflation is unknown, so the annual statement assumes a 3% rate of inflation, which is the industry standard assumption.

For example, if you were considering buying something which today costs £100, next year the price would be £3 higher (£103), and in the following years would go up by a bit more because the extra 3% a year would be on the higher amounts. So in 3 years time it would cost a bit over £109. Or to look at it another way, if you were expecting to receive £109 in 3 years time, the value in today's money terms would be about £100.

However, in your case, you have a fixed payment of £12,500 to make. This will not grow with inflation. So you can rely on the payment of £12,763 to cover your payment of £12,500 — and you will still have a small amount left over.

Cash-in value

I have checked your current cash-in value, and can confirm that it is £10,410, which is less than the £11,000 you expected.

Although your policy guarantees that the total growth over the 5 year period will be equal to 5% a year, this is an average. At the outset we had to meet significant set-up costs, so the value fell below the £10,000 you paid in. The growth on our investments is somewhat higher than 5% a year, and by the end of the 5 years the value will have caught up and will be £12,763 as promised.

If you cash in the policy early, the value will allow for both our expenses and growth up to that point. If you refer back to your original policy information, you will find that the cash-in values are shown in the section "What if I cash-in early". A copy of the policy information is attached.

Summary

So, to summarise:

- Your investment policy will be sufficient to repay your £12,500 amount at maturity — and leave you with a small amount.
- The current cash-in value is £10,410, but will grow to be £12,763 at the end of the 5 years.

I hope this answers your questions, but if you would like any further information please contact me at the address above.

Yours sincerely,

Name

Job title