

# **EXAMINATIONS**

April 2004

**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

22 June 2004

Candidates were offered a choice of two questions, and around two-thirds attempted question 1. The overall standard of answers was slightly higher for question 1 than for question 2.

### **Question 1**

Candidates were asked to write to a pension scheme member about his pension options. The member was considering whether to defer starting pension benefits, and had asked:

1. how the pension would grow if it was deferred; and
2. how the delayed pension compared with the pension available immediately.

Candidates were expected to include information about inflation increases (which were the same whether the pension was taken immediately or deferred) and an explanation of how the value of each option depended on the member's future lifespan.

Most candidates were able to explain how the deferred pension was calculated, although many referred to increases of 6% a year to the original £5,000 a year pension, rather than simply stating that the pension was increased by £300 for each year of deferral before any inflation increases. Some candidates went into considerable detail about the inflation increases, which was unnecessary.

A significant proportion of candidates had not understood that inflation increases applied to the immediate pension as well as the deferred one even though this was clearly stated in the question. However, this oversight was not heavily penalised if the script was otherwise good.

Many candidates did not explain adequately that the member's future lifespan was unknown, and could be longer or shorter than the scheme average. Some explained that deferral would lead to higher total pension payments if the member lived beyond the average expected lifespan, but did not consider the implications of death during or shortly after the deferral period.

Numerical examples of total pension payments from the immediate and deferred pension could be helpful, particularly if shown in a table. However, showing too many figures could be confusing to the scheme member.

### **Question 2**

Candidates were asked to respond to a friend who was confused by a yearly statement received for a unitised fund. There were three required elements:

1. how the investment worked;
2. the significance of the two rates of return and the difference between them; and
3. an explanation of the reasons for the decline in investment markets.

For the first part, the examiners accepted either an explanation of the mechanics of the unitised fund or information about the underlying assets, but did not expect candidates to go into great detail about this. The question specifically stated that candidates could ignore the effect of charges, but some candidates included explanations of management charges or different prices used when buying or selling units.

Most candidates struggled to explain the differences between the two rates of return. The best scripts generally referred specifically to the friend's investment, rather than discussing the theory behind the different rates of return. Good candidates explained the uses of the two different measures, but marks were lost if candidates suggested that one was superior to the other.

Many candidates placed unnecessary emphasis on the reasons for the decline in investment markets while only explaining the two rates of return and their significance very briefly.

When assessing scripts, the examiners took into account that the technical content of question 2 was more complex than for question 1.

### **Points common to both questions**

1. It was important that the response was appropriate to the recipient. Some scripts for question 2 read more like an internal memo than a letter to a friend.
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.
3. Many scripts contained significant amounts of unexplained jargon. For example, in question 1 talk about "life expectancy" and "purchasing power" was generally inappropriate. For question 2, inappropriate terms included "sub-period" and "relative performance".
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.

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

Mr D K Ross  
14 Hillview  
Anytown

12 April 2004

Dear Mr Ross,

### *Your pension from the Smith & Brown Pension Scheme*

Thank you for your letter of 1 April, asking for an explanation of the effect on your pension if you delay starting it until you reach 65. The scheme administrator has asked me to reply. I will explain how your pension increases if you choose to delay it and how the value to you depends on how long you live.

### *Delaying your pension*

If you delay starting your pension, it will grow in two ways:

1. It will increase because you will receive it for a shorter time. Ignoring inflation increases, the amount added would be £300 for each year it is delayed. This amounts to an extra £1,500 a year if it is delayed to your 65<sup>th</sup> birthday, giving a yearly pension of £6,500, as your statement shows.
2. Your pension in the scheme will also grow each year, in payment and before it comes into payment, to allow for increases in shop prices. This is the “plus inflation” part of the calculation. It is worked out using a standard index published by the government.

So if, for example, prices increased by 20% between your 60<sup>th</sup> and 65<sup>th</sup> birthdays, the pension of £6,500 would be increased by £1,300 (20% of £6,500) to £7,800 a year. By comparison, the pension of £5,000 available now would have risen to £6,000.

### *The value of your pension to you*

Once your pension starts, it will continue until you die and then stop. The longer you live, the more it is worth to you.

You saw that, on average, 60-year-old males in this country live to age 78. Smith & Brown Pension Scheme members tend to live longer than the national average and we estimate that someone who is 60 now might live, on average, until age 81. By then payments of a pension of £5,000 started now would total  $£5,000 \times 21 = £105,000$  plus the inflation increases. If it was delayed to age 65, by age 81 payments would total  $£6,500 \times 16 = £104,000$  plus the inflation increases. The inflation increases apply in a similar way in both cases, and can be largely ignored in comparing the pensions. Based on the estimated average lifetime the two pensions thus provide similar value.

The value of your pension may be more or less than this. For example, almost one in ten men your age will die before age 65. There would then be no payment if the pension was delayed, so it would be better to start immediately. However, almost one in five will live to age 90,

when the immediate pension would have paid  $\pounds 5,000 \times 30 = \pounds 150,000$  plus inflation, but the pension starting from 65 would have paid  $\pounds 6,500 \times 25 = \pounds 162,500$ .

*Conclusion*

If you live until the estimated scheme average age of 81, you will get similar value whether you start your pension now or delay it for 5 years. If you live beyond age 81, you will gain from waiting, but if you live for a shorter time you would be better off starting your pension now. When making your decision you might therefore want to take into account your current state of health as well as your financial circumstances.

I hope this is helpful to you, but if you need more information please contact me again.

Yours sincerely

A Thompson  
Consulting Actuary

*568 words*

## Question 2

<address>

<address>

Date

Dear Jane

I've finally managed to review the information you sent me about your investment in a unitised fund. This note explains how the investment operates, the two main rates of return quoted and the reasons for the poor return on your investment.

### *The investment*

Your investment is a "unitised fund", and is divided into "units", each representing an equal share of the fund. When you pay money in, units are added to your plan. When you take money out, units are deducted from the plan. The number of units added or deducted depends on the price of the units in the fund at that time. Broadly speaking, the price of a unit at any time is the total market value of the assets held by the fund divided by the total number of units of the fund. For this fund the assets are stock market shares.

There are two main ways of calculating the rate of return achieved on your investment — the money-weighted rate of return and time-weighted rate of return.

### *Time Weighted Rate of Return ("TWRR")*

The TWRR is the average rate of return on the whole unitised fund — it's not specific to you. The TWRR ignores the effect of money paid into and taken out of the fund and is just based on how the value of a unit has changed.

### *Money Weighted Rate of Return ("MWRR")*

The MWRR can be thought of as the average yearly investment return earned on your personal account, taking account of the size and timing of money paid into and out of your account.

### *Example*

Suppose you invest £100 today at a price of £1 for each unit and that in a year's time the price of each unit is £1.25. You then decide to cash in 16 units, giving £20 (£1.25 x 16). Your plan now has 84 units.

Now suppose that after a further year the price of each unit has fallen to £0.75. This means that the value of your plan is 84 x £0.75, or £63.

The TWRR simply reflects the change in the price of each unit. This has fallen by 25% over 2 years (from £1.00 to £0.75), equivalent to a TWRR of about -13% a year.

The MWRR in this case is  $-10\%$ . We can see this if we take the initial £100 and deduct 10% in the first year, giving £90. Deducting the £20 withdrawal then gives £70. Reducing this by 10% over the second year gives the final value of £63 (90% of £70).

I can confirm that the figures shown on your statement are correct.

*Reasons for the difference*

In my example, the reason why the MWRR is higher than the TWRR is because the rate of return was better over the first year when more money was invested.

Similarly, in your case you bought units just before the price went up, and sold units just before it went down. Therefore the MWRR is higher than the TWRR.

*Poor investment performance*

A number of factors have led to substantial falls in both the UK and overseas equity markets. These include the likelihood of a war, slow growth in the global economy and corporate scandals leading to the collapse of some companies.

I hope this helps. I'll be happy to talk to you in more detail when we meet next week.

Regards,

Jenny

*561 words*