

# **EXAMINATIONS**

September 2001

**Subject 404 — UK Fellowship Pensions**

**Paper One**

**EXAMINERS' REPORT**

## **Examiners' Comments**

### **Question 1**

A standard bookwork question. The great majority of candidates made the more obvious points, but very few showed an understanding of the complete picture, either on the legal requirements or the practical application.

### **Question 2**

Many candidates picked up that this was the first time a surplus had been revealed and assumed this has arisen because of a change in valuation method. They thus failed to capture points available for a wider consideration of what surplus is, how it arises and more details on how it can change with assumptions and methods. Again for most candidates the discussion of the consideration trustees would need to give to the sustainability of the surplus before reaching their decision was weak. Slightly better scoring was obtained on points related to the relative merits of alternative uses of the surplus and the consequences of granting improvements.

### **Question 3**

The first element of this question was tackled quite well by many candidates who suggested viable methods of advising and noted the particular features of advising individuals that require specific care.

The second part of the question was looking for a discussion of the features of the assets classes which would underlie the investments, but a small number of points were also available for valid comments on the particular investment product/types within which the assets might be marketed. High scoring was mostly achieved by those addressing both these aspects. The asset class features are standard so it is disappointing that these were not reproduced well by quite a number of candidates.

### **Question 4**

A largely bookwork question on which candidates generally did well.

### **Question 5**

A more stretching question which was looking for comments regarding stability of contribution rates to defined benefit schemes. The best candidates noted the potential conflict in the Scheme Actuary's role in discussions with the employer, and included some discussion of the distinction between the pace of funding and the cost of benefits. Often the assumption was made that the volatility already exists and has been caused by changes in valuation method, and thus failed to pick up points from a more considered wider ranging response. Better scoring of points was achieved in the sections which noted the current legislative minimum and maximum of MFR and Surplus regulations, and the likely impossibility of one contribution rate being suitable for all time. Many candidates noted the fact that contribution stability is affected by solvency levels and investment strategy.

### **Question 6**

A question which required the candidates to think about a topic from a different angle and to present their answers in an acceptable format and style.

The question pointed candidates towards a reply structured around the 6 areas listed and the better responses followed this. Most candidates concentrated too much on revenue maxima which was clearly only a small part of the overall response expected. For many candidates the responses to the cost and design areas indicated that they did not appreciate the relative costs of the benefits to be flexed, or the significant salary changes that would be associated with flexing those benefits. The practical difficulties of flexing retirement age and accrual rate was not covered well in general.

The drafting style was quite good from most candidates who made any obvious attempt at it, and for many was very good, hence scoring on the drafting marks was quite good.

# 1

- (i) Under Section 48 (1) of the Pensions Act 1995 a scheme actuary has a duty to give a written report to OPRA immediately if he/she has reasonable cause to believe
  - (a) that any duty relevant to the administration of the scheme imposed by any enactment or rule of law has not been or is not being complied with  
and
  - (b) that the breach of duty is likely to be of material significance to OPRA

- (ii) Section 48 (1) sets out the “whistle blowing” responsibilities of the scheme actuary (and scheme auditor)

These provisions of the Act are designed to ensure that matters which require investigation are brought to the notice of OPRA

For a report to be required there must be a breach of duty imposed by statute or law

A report made under section 48 gives the scheme actuary legal protection which may not have been available if reported to someone other than OPRA

The scheme actuary is not expected to search for reportable circumstances

He/she merely has a duty to report circumstances that come to his /her attention

The scheme actuary needs to assess the information to determine whether in his/her view that the information is likely to be of material significance to OPRA

The scheme actuary should maintain a cumulative record containing full details of any breaches which do not themselves need to be reported to OPRA under section 48(1) but which may in aggregate indicate a matter that does need to be reported

Cumulative non reported breaches passed to any new Scheme Actuary.

However OPRA does not expect certain categories of breach normally to be reported (e.g. an isolated, unintended, inconsequential breach or error that has been corrected or is in the process of being corrected)

A written report to OPRA under section 48 should follow a specified procedure (given in OPRA guidance note 1)

GN29 provides professional guidance to scheme actuaries

ON 1 (for use of scheme actuaries & auditors) gives information on Section 48 — reporting to OPRA

## **2 What is a surplus?**

- a surplus in a pension scheme exists if the value of the assets exceeds the value of the liabilities
- the size of the surplus therefore depends on how the assets and liabilities are valued
- the value of the liabilities depends on assumptions made in relation to both economic items (e.g. salary inflation) and demographic items (e.g. mortality rates)
- similarly, assumptions may be required to give a liability value which is consistent with the asset value
- if different assumptions are used, the value placed on the assets and liabilities will be different
- and therefore the size of the surplus will differ
- it is possible with any single scheme to select assumptions which place a relatively high value on the liabilities relative to the assets and vice versa
- so that a scheme that is in surplus on one basis may be in deficit on another

### **What should the Trustees ask?**

- in considering whether or not to spend any surplus, the trustees need to ensure that in so doing they do not reduce the funding position to a level that is lower than required by legislation
- and they may also wish to check the impact on the surplus on a discontinuance basis
- for instance, relating to the cost of securing the liabilities with an insurer
- the source of surplus may influence decision
- the Trustees may also wish to check on the durability of the surplus
- and whether the actuary believes that the assumptions chosen for salary inflation and mortality, for instance, are conservative or optimistic
- trustees would wish to consider equity between classes/generation
- ultimately the Trustees may be interested in seeing an asset liability model
- which would project the funding position into the future on various different scenarios

- and possibly on a stochastic basis showing a probability distributions of possibly longer term outcomes
- and its possible volatility in the short term
- for instance, they may wish to enquire about the possible impact of a sharp fall in the value of the assets
- in this case, if equities fall without any change to the long term fixed interest gilt rate, it is possible that the actuary may advise that the surplus has fallen too
- unless a compensating change is made to the assumption for outperformance of the assets in the future

#### **Other uses for surplus**

- the Trustees should check on other possible uses for the surplus under the terms of the rules
- for instance, it is probable that some of the surplus could be spent on reducing the employer's contribution rate
- and it is likely that the employer has had to pay higher rates in the past (since there has never been a surplus in the past)
- so the employer may have an expectation that the employer's contribution rate may now fall
- and may be unhappy if benefit improvements are awarded instead
- ultimately, the employer may seek to amend the terms of this provision
- and establish a new arrangement with a different balance of power
- a further possibility would be to retain the surplus in the scheme
- as a margin against possibly adverse future experience
- without awarding benefit improvements or reducing the employers rate
- however, the trustees may be reluctant to do this if the surplus is so high that the scheme attracts unfavourable tax charges
- depending on the severity of those charges

**What are the consequences of spreading the surplus?**

- if the Trustees do award benefit improvements (or the employer takes a contribution reduction), the size of the surplus will fall
- and the impact of any mismatching of assets and liabilities will be greater
- the Trustees may wish to protect any remaining surplus by changing the investment arrangements to reduce the mismatch
- though this again depends on the approach taken for the valuation
- for instance, if the surplus relates to a discontinuance (or buy-out) scenario, the best match to the pensioner liability would be bonds
- and so half the portfolio would need to be switched from equities to bonds to achieve the match
- potentially increasing the cost of the scheme to the employer
- since equities are expected to out-perform bonds in the long term

**3** (i) First obtain information:

*relating to the manager:*

- this requires either an interview or the completion of a detailed questionnaire
- her investment objectives in terms of preferred level of income, cash sums (e.g. to repay any debts) and the level of risk she is prepared to take
- her current pay and future pay expectations
- details of any contingencies she may need to meet e.g. protection for ill-health/disability or protection for dependants in the event of her death
- ability and desire to save instead of consuming her future income

*details relating to the existing pension arrangements:*

- what is current fund
- charges and bonuses operating
- options and guarantees
- existing cover for ill-health/disability and death

- current contribution
- how interested
- approval status

Should also allow for State benefits (although they may not be material)

Then provide her with projections of the possible benefits on different bases.

Need to:

- look at good *and* bad scenarios too for risky investments
  - for instance, could look at yield (technically zero coupon yield) on gilts of appropriate type (e.g. index-linked for real returns) and then add/subtract a premium whose magnitude depends on the degree of risk making it clear that out-performance is more likely than under-performance
  - there are other risks, e.g. changes in annuity rates as a result of modified life expectations, changes in Revenue Limits, changes in State benefits
- (ii) Need to take into account the charges and other expenses of the existing arrangements compared with any new arrangements

The principal investment options are:

*UK equities*

- Risky – asset values can fall significantly
- The compensation is that they have a higher expected return
- These are real assets so the inflation risk is covered

*Overseas equities*

- As UK equities, but helps to diversify UK listing risk

*Property*

- As equities, but helps to diversify equity risk (a bit)
- but unlikely to be a significant part of the portfolio

*Bond funds*

- Can be nominal or (RPI) index-linked
- These are unlikely to be appropriate in general



- In particular, nominal bonds are not inflation proofed
- The exception is where they are invested specifically to match the duration of annuities, so offsetting annuity purchase price risk

*Cash*

- Unlikely to be appropriate because
- (a) the value of cash is that it is always liquid and therefore cash returns are lower than less liquid forms of investment,
- (b) it is not inflation proof, and
- The exception is where the member is approaching retirement and wants to match the cash sum s/he is allowed to take at retirement

*Passive investment*

- Provider invests to match an index
- Eliminates provider risk (at expense of risk of distortion in the index)
- No evidence that active management can outperform passive management (net of management expenses)

*Managed or balanced fund*

- Leave in the hands of the provider
- This is a delegation of risk decision making (unless the providers' view on risk accords with the individual's)

*With profits*

- Smoothes investment returns
- Is a real investment
- Provides capital security (which is only good for cash on retirement, not for purchasing annuities)
- Out of fashion

*Lifestyle investment*

- Provider moves funds to ones matching cash/annuity options as approach retirement
- Assumes individual is completely risk averse at retirement which may not be the case

*Income drawdown*

- Remain invested after retirement so that can retain exposure to investment markets
- There are cost implications

**4**

- (i) Recognising the realistic costs of accruing benefits

Shareholders of capital of the company are aware of the financial significance of the benefit obligation that exists and thus enables them to make informed judgement about the ownership of share capital

Demonstrating the true financial picture through the profit & loss account and the balance sheet

Avoiding distortions resulting from fluctuations in the flow of contributions from the employer to the pension scheme

Consistency in the accounting treatment from year to year and from company to company

Disclosure of appropriate information

Sound actuarial methods

With an acceptable degree of smoothing

- (ii) **Features of IAS 19**

The current international practice standards are set out in International Accounting Standard 19 (IAS 19)

The emphasis in this standard is towards the balance sheet

It specifies that a market based projected unit actuarial method should be adopted

There is also some specification of the approaches to the smoothing of costs

The national practices are SSAP24 for UK share dealing and FAS 87 for US share dealing

**Features of SSAP24**

Profit and loss account is the primary account

The actuary has a degree of freedom with the choice of actuarial method but a discounted income method is normally appropriate

There are 3 elements to the Profit and Loss account;

regular cost, Interest cost and variation cost

known together as the Net Pension Cost

The regular cost is taken as the Standard Contribution Rate on an acceptable actuarial method

e.g. Projected Unit, Entry Age or Attained Age subject to caveats regarding the new entrant

Actuarial assumptions — only one interest rate to value the liabilities and assets is used — usually a stable long term assumption

The assumptions as a whole are not necessarily the same as those used for funding but should be best estimate overall of future experience

### **Features of FAS 87**

The balance sheet is the main focus

A market based Projected Unit actuarial method is used

A market value or market related value of assets is used

There are 4 elements to the Profit & Loss charge — service cost, Interest Cost, Return on Assets, Amortisation

together they are known as the Net Periodic Pension Cost

10% corridor can be used

FAS 87 requires 2 separate interest rates  
the discount rate — varied to reflect market conditions

the long term return on assets — relatively stable from year to year

Other actuarial assumptions are taken as the best estimates

### Features of FRED 20

A balance sheet standard  
Scheme assets taken at market values

Liabilities are valued using a discount rate based on corporate bonds

Assets and liabilities are valued at a fair value

Actuarial gains and losses are recognised immediately and disclosed in a statement of realised gains and losses rather than the company's profit and loss account

This statement is an account to reconcile balance sheet changes

The cost of benefit improvements is recognised in full and the profit and loss account for the period in which the increase in benefits vests

Scheme surplus (or deficit) is to be treated as an asset or liability

Subject to recoverability

(iii) The elements of the actuarial basis used

The actuarial method used

The value of the liabilities accruing over the year

The increase in past service liabilities at the start of the year

The investment return achieved over the year of accounts

The surplus / deficit at the year end

The change in the surplus / deficit over the year

The pension costs over the year in respect of any directors

Plus any other suitable comments.

**5** *This solution represents one approach. There are other valid answers for which the examiners gave appropriate credit.*

- in a defined benefit scheme, the cost cannot be known for certain in advance
- but will principally relate to providing the guaranteed benefits offered by the Scheme
- the value of which depends on a variety of factors, which are either economic, e.g. rate of return on scheme assets salary inflation
- or demographic, e.g. longevity of scheme members retirement age

- none of the economic or demographic factors can be known with certainty in advance
- and so the company can not select a contribution rate which it knows will be adequate in advance
- an actuary is skilled at assessing historic economic data
- and can make assumptions in relation to the various economic factors to apply in the future
- which will provide enough information to give an indication of the range of possible future costs
- and similarly the actuary will utilise demographic information relating both to the company, and the population more generally, for the same purpose
- it is possible that if the rate that is selected is too low
- the funding position may fall below a level that is acceptable to the authorities
- and the company may need to increase the rate as a result
- either through a higher annual figure
- or possibly by payment of a lump sum
- at this time, there would be greater volatility in the contribution rate
- than would have arisen if the rate were adjusted periodically beforehand
- if the funding position fell close to the minimum, the company/Trustees may wish to protect the scheme
- by investing in assets which have values moving in a similar way to the Scheme's liabilities
- generally, it is not sensible to introduce such constraints in setting an investment policy
- particularly where this may result in lower performing assets being selected
- it is also possible that the selected rate is too high
- in which case surpluses will result
- and it may be difficult for the company to receive any benefit from the surplus assets because
- the Trustees may wish to utilise the surplus to offer discretionary benefits
- or, if they have the power, benefit improvements
- it is also possible that the tax authorities may see the surpluses as excessive
- and seek to reduce them
- or make them effectively subject to tax
- the reduction may come through a refund of surplus
- which would be welcomed by the company at the time of receipt
- although the contribution rate is now very volatile
- the surplus may also be subject to tax
- payment of the same annual rate of contribution wouldn't necessarily mean the accounts showed the same figure each year
- depending on the accounting standard, it is more likely that the accounts figure will try to show a realistic cost
- taking account of market conditions at the time of assessment
- and any surplus or deficit calculated by the actuary
- there are ways of controlling, although not eliminating, volatility in a defined benefit plan

- for example, by using asset liability modelling techniques to determine the investment strategy
- or simply by careful control of pay reviews (making part non pensionable, if necessary, for instance)
- ultimately, though, the best way for the company to remove volatility would be by setting up a money purchase plan
- although volatility could still arise, for example, if a redundancy/early retirement program necessitated enhanced benefits
- or through the remaining defined benefit scheme

## **6 Minimum/Maximum Benefits**

- in each case, the minimum and maximum benefit will need to be agreed
- the minimum could conceivably be nothing (for life cover, pension benefits) but realistically would be set at a level above this (otherwise it could cause embarrassment to the employer if the member selects the “wrong” option)
- if the scheme is contracted-out the reference scheme represents the minimum arrangement for accrual of benefits
- unless unapproved benefits are to be provided, the Inland Revenue Maximum benefits provides a ceiling on all three areas subject to flex
- the existing scheme design will probably provide the benchmark from which the member can trade either up or down

### **Selection**

- in each case, it is possible that members will try to select against the scheme by choosing an option which is more valuable to them than to the generality of members
- for instance, members who have concerns regarding their state of health may select the highest life cover option
- and it is possible that the overall unit rate offered by any insurer may increase in recognition of the possibility of such selection
- similarly, a member who has expectation of very high future salary growth is likely to select a high accrual rate
- and so the overall cost of benefits to the employer will increase (if the members select correctly)
- there is less opportunity for selection in retirement dates
- if the terms are “priced” on a cost neutral basis
- generally, if the pricing is other than cost neutral, members should select to their own benefit

- although it may be difficult for them to do so without advice
- which would be expensive to obtain as an individual (although a larger group of members may seek to do so)
- unless they can compare against terms available on the open market (e.g. personal like assurance costs) or elsewhere in the scheme (e.g. AVCs)

### **Absolute cost**

- there may be constraints in the extent to which these benefits can be flexed by their absolute cost
- for instance, an increment of once salary for life cover purposes (say from  $2 \times$  to  $3 \times$  cover) would be relatively low
- perhaps just 0.1% of salary
- whereas, a reduction of 1 year to the retirement date would be quite expensive
- perhaps 0.5% of salary for a reduction of 1 year to the following years accrual
- any much more if the reduction were to apply to past service in addition
- similarly an increase in the accrual rate from 1/80ths to 1/60ths would be quite expensive
- perhaps 5% of salary for the following years accrual
- and much higher if it were to apply to past service in addition
- the extent to which relatively high costs can be accommodated may depend on the availability of other parts of the package with similarly high costs against which the pension cost can be set
- unless it is intended to incorporate part or all of any additional cost by means of a variation in the members' own contribution rate to the scheme

### **Issues relating to the pension scheme itself**

- the documentation of the pension scheme will need to be amended to incorporate the changes
- and this may require the consent of the Trustees
- who may need to be convinced that the pricing is fair and will not lead to a lot of selection
- particularly if accrued benefits are involved

- in any case, it is possible that the scheme actuary will wish to amend the funding assumptions
- for instance by increasing the salary inflation assumption in respect of members selecting the highest accrual rates

### **Comparison with AVC's**

- members may ask whether they should seek to increase their benefits under the terms of the flexible benefits package or via more traditional means (e.g. AVC's)
- if added years AVC's are available, the price of the flexible benefits package needs to be consistent
- although a direct comparison will probably not be possible because the contribution payment period will probably differ
- if money purchase AVC's are available, it may be necessary to ensure the flexible benefits package is priced with regard to current market terms

### **Switching**

- the extent to which members can switch between tiers may need to be restricted
- for instance, a member on the lowest life cover tier may only be allowed to switch to the next higher tier rather than the highest possible tier, to reduce the selection risk

### **Simplicity**

- the employer will want the terms to be easy to understand for the members
- and easy to administer
- but the best means of minimising the selection risk is to offer terms which are dependant on age, sex and even possibly state of health and nature of the job
- so a practical compromise will be required

### **Possible terms**

- (a) Life Cover     $2 \times \text{salary}$   
                          $3 \times \text{salary}$   
                         or  $4 \times \text{salary}$

Cost in 10 year age bands

Unisex terms



- (b)    Accrual     $\frac{1}{80}$ ths  
                      $\frac{1}{70}$ ths  
                     or  $\frac{1}{60}$ ths

Next year's accrual only

Cost in 10 year age bands

Unisex terms

- (c)    Retirement date    65  
                                     64  
                                     or 63

Next years accrual only

Cost in 10 year age bands

Unisex terms