Faculty of Actuaries **Institute of Actuaries**

EXAMINATIONS

September 2004

Subject 404 — UK Fellowship Pensions

Paper Two

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.

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Chairman of the Board of Examiners

7 December 2004

1 (i) roles/duties of the trustees

- administer the trust
- exercise discretion where required under the trust deed and rules
- when exercising such discretion, consider only the best financial interest of the members
- act in accordance with the trust deed and rules
- act in accordance with prevailing legislation
- take professional advice on matters outside their own personal expertise
- be familiar with the issues upon which decisions are being taken
- price options (e.g. transfer values) for the scheme
- set the investment strategy of the scheme
- protect the largely tax exempt status of the scheme
- communicate effectively to the membership

roles/duties of the Scheme Actuary

- act in accordance with legal obligations (mainly under the Pensions Act 1995) and specifically
- certify transfer value basis
- certify mfr position
- certify any debt on the company in winding up
- certify that the contribution schedule meets mfr requirements
- act in accordance with professional guidance
- provide advice to the trustees as the primary client when requested
- provide advice as necessary under the trust deed and rules

roles/duties of the company

- set the benefit design for the scheme
- meet the company obligations set out under the trust deed and rules and specifically to
- pay contributions at the rates required under the rules
- act in accordance with prevailing legislation and specifically to
- make good any underfunding on mfr basis
- act in accordance with the best interests of shareholders
- incentivise and motivate its staff by effective marketing of the merits of the scheme

(ii) Company issues to raise with Scheme Actuary

- the attained age method produces a relatively high initial rate of contribution compared to the projected unit method
- which is designed to remain broadly stable over time for a closed group of members
- but this may not be sensible from the company's perspective if there is an open defined contribution scheme running alongside the defined benefit scheme
- how has the discount rate pre retirement been determined?
- and in particular what relationship does it bear to returns on long dated gilt edged securities
- and to the actual investments held in the fund against pre retirement liabilities
- (which might well include a high equity component)
- similar questions could be raised in relation to the post retirement discount rate assumption
- except that the most likely non gilt asset in the investments held in relation to pensioner liabilities would be corporate bonds
- it would normally be expected that the pre retirement discount rate is higher than the post retirement discount rate reflecting the higher returns anticipated from equities
- if the discount rate assumptions do reflect the actual assets that are held in the scheme then it might be possible to propose a review of the investment strategy to ensure that it is not unnecessarily conservative
- probably by adopting asset liability modelling techniques
- or, if the terms are acceptable, by suggesting that part of the liabilities are secured by means of appropriate insurance policies
- how does the salary inflation assumption compare with actual recent experience of the workforce
- and the company's expectations for future salary inflation
- both in relation to the basic and non basic pay components
- where it might be that there is a general trend towards less non basic pensionable pay
- if for example less overtime working is expected in the future
- in addition is there evidence to support the inclusion of a promotional salary scale at the implied level of 0.5% per annum
- right through the working life to normal retirement date
- when a tapering off of promotional prospects would be anticipated at the later stage of an individuals career
- does the pension increase assumption apply to all pensions in payment?
- and similarly does the revaluation in deferment assumption apply to all deferred pensions
- even those where there is no guaranteed entitlement to increases
- where it might be more appropriate to make allowance for the rate at which future discretionary awards are anticipated
- is the scheme large enough to have statistically significant mortality experience?
- and if so how does that compare to the standard tables
- both at this point in time
- and in relation to the anticipated improvements in the future

- bearing in mind that the company operates in the chemical manufacturing sector where higher than average mortality experience is possible
- if the company is looking at steps it can actively take to stem contribution rate increases it might be possible to refuse consent to the taking of early retirement benefits
- particularly for deferred pensioner members
- although care would be required in relation to active employees to ensure that the company complied with its general obligation to act in good faith in relation to its employees
- if greater control on the incidence of early retirement benefits could be achieved then it would be reasonable for the revised expectations to be reflected in the basis
- it is most unlikely that active members never leave the scheme prior to retiring
- and as such the nil withdrawal assumption is almost certain to be prudent
- since the salary related (projected to retirement age) reserve held in respect of all members is higher than the actual reserve required for members who leave before retirement age
- it would be sensible to examine recent withdrawal experience
- making sensible adjustments for one off events in the past (e.g. redundancies)
- and economic and business prospects for the employer in the future
- it would also be sensible to compare the proportions married figure with the most recent census information
- given that 90% is higher than the census statistics at all ages
- it is unlikely that actual scheme records could be used to determine this statistic as marital status is rarely recorded with the necessary accuracy across the whole membership
- what allowance for commutation of members pensions for a lump sum at retirement has been made
- it would be helpful if the assumption could reflect the reality of the situation which is that most members take the maximum possible lump sum entitlement
- bearing in mind that it is almost certain that the commutation terms are financially favourable to the scheme
- how has the asset valuation been conducted?
- and if a market value approach has been adopted is there a case for smoothing recent experience?
- although it should be noted that any such smoothing should also theoretically apply to the market based components of the liability basis
- finally what allowance has been made for expenses in the contribution rate
- and is it possible that material savings could be achieved by employing alternative professional advisers (!)
- it is also worth pointing out to the scheme actuary that the rules state that the company must agree the contribution rate
- and that failure to agree would mean that the trustees could only enforce the contribution rate required under mfr legislation
- which is likely to be much lower than that derived from the method and basis used for the recent valuation

(iii) Issues for the scheme actuary to consider when advising the trustees on the merits of the company's proposals [all points awarded half marks unless stated]

- To remember that the employer will ultimately want to be acting in the best financial interests of his shareholders
- and that it is not surprising that the employer should wish to ensure that the money being "invested" in its pension scheme is not excessive in relation to the "return" being gained on this money
- bearing this in mind, to confirm to the trustees that the employer has quite a strong degree of control on this matter as stipulated in the trust deed and rules
- and that really all the trustees can do is to ensure that the resultant basis is not going to produce a rate which is lower than that required under the mfr legislation
- but that it is important that the employer appreciates the risks that it is running in adopting a less conservative actuarial approach
- and that professional guidance obliges the actuary to point the financial risks out
- both in terms of the likelihood of higher contributions being required in the future,
- and in terms of the possibility of a capital payment being necessary if the funding position deteriorated unacceptably on the mfr basis
- as well as the existence of non financial risks such as a possible loss of confidence of employees in the scheme if there is a reduction in the funding position
- in addition, there is a requirement for the trustees and the company to act in accordance with the advice of the Scheme Actuary, as set out in the trust deed and rules
- which appears to imply that it is a requirement of the scheme rules that only one actuary should advise both parties in the matter
- although the actuary should make clear to both parties that his primary client is the trustees as this is a requirement of pensions legislation
- the implications of this wording might in any case require a legal interpretation
- but in any event the actuary will at the very least want to provide an assessment of the strength of the basis as proposed by the company to the trustees
- and will probably insist that the basis is on the prudent side of best estimate
- so that, on the balance of probabilities, the resultant rate is still considered to be more likely than not to be sufficient to meet the funding objectives of the scheme
- specific areas of concern in relation to the companies proposals are most likely to relate to overconfidence in its ability to control increases to pensionable earnings
- and to keep a tight rein on the incidence of early retirements (since this is often a convenient route for a company to achieve a cost effective exit for older employees)
- if the company refuses to accept a rate which is at least as strong as her best estimate assumptions then it is possible that the actuary would need to consider resigning

(iv) How would the advice differ if the power to set the contribution rate was in the hands of the trustees?

- The power to set the contribution rate is now in the trustees hands
- and the trustees have different interests to those of the sponsoring employer
- in particular their responsibility is to act in the best financial interests of the members of the scheme
- they will wish to ensure that the security of the accrued benefits is maximised
- and that the amount being paid for future service benefits is sufficient to maintain the security levels as the benefits accrue
- at the extreme the trustees would wish the scheme to be funded on a 'terminal funding approach'
- which would require the employers to pay in a lump sum to meet all accrued and accruing liabilities
- for the current membership (allowing for service to the date of exit)
- this would not be sensible however for a scheme funded on such a strong basis would inevitably fall foul of the surplus regulations
- and the scheme would become much less tax efficient from the employers perspective
- even if the employer could afford to make contributions on such a basis
- the trustees will therefore have to adopt a less conservative approach
- the other material factor is who controls the power to put the scheme in to winding up
- if this power is in the hands of the employer
- then any excessive contribution demand may trigger an action on the part of the employer to wind the scheme up
- depending upon the state of funding of the scheme this might mean that not all of the accrued benefit promise is met
- since a debt calculated on an mfr basis is unlikely to be sufficient to meet the full liability for the accrued benefits
- and it would also mean that the accrual rate for future service benefits might reduce
- though many trustees believe that future service benefit design is primarily the preserve of the employer
- and wouldn't use the threat of such a reduction (to future service benefits) as a factor in weakening the funding basis if the scheme were to continue
- particularly as this issue is of no relevance to the pensioner and deferred pensioner members of the scheme

(v) How might the advice change if solvent employers had to stand behind the entirety of the pension promises made to their employees?

- The answer to this question lies in what is meant by the requirement that solvent employers have meet in full the pensions promise
- one possibility is simply that the employer has to fund accrued benefits over a reasonable period of time
- and that the requirement to fund on such a basis is not dependent on whether or not the scheme is continuing or in winding up
- in which case the balance of power between the parties hasn't changed radically
- alternatively, at the extreme, it might require the employer to make a capital payment to meet the cost of the accrued benefits on a buyout basis if the scheme were to be put in to winding up
- in which case, the balance of power would firmly be in the hands of the trustees
- who if they were so minded could force the scheme to be funded on a buyout basis
- i.e. a capital contribution to take the funding level of accrued benefits to 100% on a buyout basis
- and contributions in relation to future service equal to the cost of buying those benefits out as they accrue
- since if the employer tried to force the scheme in to wind up it would still have to meet the capital obligation
- although the employer would probably wish to cease future service accrual
- and possibly offer this on a defined contribution basis for all staff thereafter

(vi) How might the advice differ if an insolvency protection fund existed which guaranteed the full pension promise?

- in this scenario, the trustees still retain a lot of power in establishing the contribution rate
- but arguably don't need it since the pension promise will be met even if, at the extreme, the employer paid no contributions to the scheme whatsoever
- although the existence or otherwise of external support to scheme members upon the "failure" of a particular scheme is not something which should necessarily feature in the trustees decision making process
- and the security of benefits once in the Insolvency Protection Fund would need to be considered even if the trustees decided that it was a valid consideration
- and there may well be regulatory or legal constraints in such a scenario which would force the trustees to exercise their powers to an extent
- as well as professional obligations upon the Scheme Actuary to ensure an appropriate funding approach is used
- and concern amongst the business community if employers were looking to exploit the cross subsidies between companies which would inevitably arise
- from the employer perspective, he will be looking to minimise his combined pension liability
- i.e. the contribution obligation both to his own scheme and to the Insolvency Protection Fund
- and may prefer a strong funding basis in respect of his own scheme
- if this would mean lower contributions to the Insolvency Protection Fund

(vii) What factors should be included in determining the investment strategy?

- the investment strategy should be consistent with the funding basis being adopted for the scheme
- and if a weak funding basis has been adopted (e.g. because it has been determined that this will minimise the expected liability of the employer to his own scheme and the IPS)
- and the trustees have taken account of the IPS as a material protection should their own scheme fail
- then the trustees may choose a very aggressive investment strategy
- with a high equity/venture capital/hedge fund content
- and with the possibility that if the investment strategy is successful, then surplus may be generated
- which might benefit the members (if the surplus is used to provide benefits e.g. discretionary pension increases)
- or the employer (through contribution reductions/holidays)
- Alternatively, the trustees may have decided upon a strong funding basis
- and require a high degree of certainty that the investments will produce the returns required by the basis
- as an example they may have decided that the best approach is to fund on buy-out basis
- (possible logic for this — the IPS is outside the trust and so not a relevant factor, maximise security for members within the scheme itself, minimise any obligation of the employer if it should decide to make alternative pension arrangements and wind the scheme up, minimise the employers contributions to the IPS)

- and so the trustees in this case might look to invest heavily in bonds
- with perhaps quite a high corporate bond exposure to maximise the expected return
- Other factors in setting the strategy are those which more generally apply to the investment of assets of a pension scheme
- the provisions of the trust deed and rules should be considered as a starting point
- to ensure that there are no restrictions on the type of assets which may be held
- and also any applicable legislative constraints (e.g. self investment)
- although the investment strategy is the preserve of the trustees
- they are required to consult with the employer on the investment strategy to be adopted
- the portfolio should be diversified amongst asset classes
- and stocks within each asset class
- so any equity type portfolio might include overseas equities, property, hedge funds, private equity etc
- and the overseas equity portfolio will probably be spread on a global basis
- to include exposure to some or all of Europe, North America, Japan, the Pacific Rim and Emerging Markets
- and any Bond type portfolio might include Corporate bonds, strips etc
- and within e.g. the UK equity portfolio assets will be chosen from a spread of sectors
- and a spread of stocks will be selected from each sector

- and similarly from e.g. the corporate bond portfolio a spread of stocks of differing coupon, term and grade will probably be selected
- the assets should be selected to reflect the nature of the liabilities
- and this means that real liabilities (e.g. those linked to salary inflation) which are a long way from payment are best matched by assets which are expected to produce high real returns in the long term with a high degree of certainty (e.g. equities)
- and at the other extreme absolute liabilities which are already in payment are best matched by bonds of an appropriate duration
- and type e.g. inflation backed liabilities are best matched by index linked gilts
- though clearly in this example the extent to which the trustees which to adopt a fully matched position will be influenced by other factors particular to the legislative framework set out in the question
- liquidity is a further relevant consideration
- if the scheme is mature and is in a negative cashflow situation
- then an investment portfolio which either generates the cash to meet the net cash outgo without the need for disinvestment
- or is cheap quick and easy to liquidate to generate the cash is desirable
- other minor factors include tax treatment of the asset class
- e.g. tax on dividend income of UK equities
- the extent to which a clear market price is available
- e.g. some property investments do not have a reliable quoted market value
- member perception
- e.g. derivative based investments are still viewed with concern by many laymen
- political initiatives
- e.g. need for a socially responsible investment strategy
- which might include avoidance of companies with a poor corporate governance record

(viii) Factors in establishing an appropriate transfer value basis

- the starting points are as follows: any requirements contained in the trust deed and rules
- legislative requirements
- and professional guidance i.e. that contained in GN11
- GN11 stipulates that the transfer value must reflect the expected cost of meeting the benefit through the scheme
- and that the transfer value basis can include allowance for the actual assets being held as cover for the liability of that member
- so that if a conservative bond based investment strategy were being adopted the transfer value basis might also be bond based
- producing relatively high transfer values
- assuming no reduction for any underfunding in the scheme
- and if a more aggressive strategy were being adopted using equities as cover for the deferred pensioner liability, then the transfer value basis might assume a higher rate of return corresponding to the expected return on equities
- producing relatively low transfer values
- though there is a line of argument which says that anticipating the full extent of anticipated equity outperformance penalises younger members since full credit is

taken up front for the higher returns without any recognition of the risks that the individual would run by investing in equities in a personal pension arrangement for example

- in which case a lower than best estimate equity return might be adopted
- or possibly even a bond based return if no upfront allowance is to be made in such circumstances
- another different way of looking at the situation which turns on the legislative environment of the question is to consider the schemes liability in relation to the member if he chooses not to transfer his benefits from the scheme and the scheme ultimately winds up
- in which case the scheme would be obliged to make a payment in relation to the member of the full buy out cost of his benefits
- and so it could be argued that the cost of providing his benefits in such circumstances is the buy out cost
- and that this ought to be the transfer value
- essentially though this is the same as allowing another actuary to price the transfer value option
- when that actuary has other considerations in mind including the commercial objectives of his employer
- and such an approach would therefore tend to produce higher than appropriate transfer values (e.g. including profit loadings, funding for solvency margins etc)
- once the underlying approach for the calculation of transfer values has been determined (be it buyout, bond or equity based), the other relevant consideration is whether or not to include any reduction if the scheme is not fully funded on the chosen basis and if so how any such underfunding should be reflected
- there is quite a strong argument to ignore any underfunding entirely
- since the liability of the employer is to meet the entirety of the benefit promise
- and so the trustees of the scheme might take the view that even if the scheme is underfunded they could force the employer to bring it up to fully funded status over a fairly short time frame if they so chose
- and that if the employer couldn't afford such liabilities and became insolvent then the IPS would kick in and guarantee the full benefit obligation
- so that if a member wants to transfer his benefits elsewhere he should be allowed to do so and receive full value for his benefits because essentially they are guaranteed
- at the other extreme the trustees might take the following view — if there is material doubt about the employers ability to be able to afford the entirety of the pensions promise, and the IPS being external to the scheme is not a relevant consideration, then the benefit as far as the scheme is concerned is not guaranteed
- and if there is underfunding on the selected transfer value basis then some or all of that underfunding should be reflected in the transfer value basis
- depending upon the trustees assessment of the actual strength of the employers covenant and its propensity to make the necessary contributions to make up the deficit
- in such circumstances, the trustees should look at the winding up priorities contained in the trust deed and rules (or any overriding priorities set out in legislation)

- and allocate underfunding at the appropriate level to the liability classes which have less priority
- it should be noted that if the trustees do decide to take this approach then (hopefully) any financial adviser who advises the member should advise him not to take the option
- because either the employer will make the deficit up or he wont be able to in which case the scheme will transfer to the IPS and the benefit promise met in full
- so the practical impact of the trustees decision would probably be to stop any transfers out of the scheme
- which might not meet with the employers approval both on HR grounds
- and also because a transfer payment on an equity basis for example is a very cheap way of extinguishing the liability.
- Other relevant considerations in establishing the transfer value basis include making appropriate allowance for the following factors: mortality pre retirement
- mortality post retirement
- expenses
- (possibly) marital status
- (possibly) existence of dependants e.g. children

(i) Generally answered well

(ii) Candidates who worked through all of the economic and demographic assumptions generally did reasonably well. Some candidates did not address these items individually and they did poorly in general.

(iii) Many candidates failed to consider that the employer is acting for the shareholders and to drive their answer from this. Many candidates struggled to make enough relevant points.

(iv) The full range of trustee options was generally not well covered.

(v) Generally answered poorly. Again, the full range of possible outcomes was not covered by most candidates.

(vi) Candidates did not generate enough points for this part. The additional information given after part v) was not used by everyone. Better candidates did discuss the Scheme Actuary's professional responsibilities to maintain adequate funding.

(vii) Some candidates focused heavily on Myners' principles and did not consider other relevant factors. The specifics of this question were, in general, not brought into candidates' answers i.e. many candidates failed to discuss the impact of the insolvency protection fund on the investment strategy.

(viii) Only the better candidates allowed for the impact of the insolvency protection fund on the transfer value basis. Most candidates did not generate enough relevant points to score well.

END OF EXAMINERS' REPORT