Subject SA4 — Pensions and other Benefits Specialist Applications

September 2009 examinations

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

December 2009

Comments for individual question are given with the solutions below.

Overall the standard was in line with what we've seen recently.

Most candidates fail because they do not relate their knowledge to the specific scenario outlined in the question or do not differentiate between '1ist', 'discuss', 'describe' etc questions.

The better candidates continue to be those who demonstrate an understanding of the particular scenario and apply their knowledge appropriately. Generally this understanding is combined with clear answers and ideas set out in a logical fashion.

1

- The Trustees should seek to understand the covenant specialist's reasoning — why has the covenant weakened?
- Would firstly expect the Trustees to seek a dialogue with the Company.
  - For information on why the covenant has weakened…
  - …and how the Company intends to reverse the situation.
  - It is important that the Trustees try to maintain a good relationship with the Company if possible.
- The Trustees could review the Scheme's investment strategy.
  - Moving further into bonds.
  - To offset some of the increased risk from exposure to the Company's fortunes.
  - But this will mean "locking in" to a deficit.
- They could consider investing in assets that pay out in event of sponsor default such as derivatives
  - including credit default swaps
  - but these are likely to be very expensive when the covenant is so weak.
- The Trustees could consider bringing forward the valuation (next one due 2010).
  - Need for this may be covered in Statement of Funding Principles.
  - This would enable the Trustees to allow for the reduced covenant in their Technical Provisions and Recovery Plan.
  - A reduced covenant may lead to the Trustees setting higher technical provisions…
  - …and a request for a shorter Recovery Plan.
  - But it looks unlikely that the Company would be able to afford higher contributions…
  - …and this may drive them into insolvency...
  - …which may leave active members without employment.
  - ….and no possibility of further contributions into the Scheme

- It therefore could be argued that contributions could be deferred until the sponsor recovers.
- If the investment strategy was made more cautious this would lead to a lower discount rate and so a higher deficit.
- Is there a possibility of getting a parent guarantee?

- Consider alternatives to cash payments such as a charge on sponsor's assets.
  - But we know that the sponsor does not have sufficient net assets to cover the deficit on an ongoing basis.
  - And it certainly does not on a discontinuance basis.
- Introduce ratchets in contributions if sponsor's financial position improves.
  - This does nothing to improve the situation if the employer does not recover.
- Contingent contributions from sponsor if scheme's financial position deteriorates.
  - Although the employer will least be able to afford more contributions then.
- Monitor covenant more regularly.

- Could reduce future benefits (if accrual is continuing) or increase member contributions.
  - It is likely that the employer has the power to do this.
  - Would reduce future service contributions.
  - But would take time to implement as the employer would need to consult with employees.
  - Or consider reducing transfer values.
- Some might argue Trustees could invest in risky assets if below PPF funding level as no loss to members if it goes wrong and sponsor becomes insolvent.
  - But the Trustees should consider if they have a duty to protect the PPF.

This was answered quite well by most candidates although a surprising number failed to mention speaking to the company. The weaker answers were evenly split between the 'do nothing' option and 'winding up the scheme'. Only the better candidates followed the question and commented on the suitability of the actions.

2

(i) Longevity is a key risk as longer life expectancy means increased liabilities as pensions paid for longer

- It has a bigger impact when real returns are low.
- Over the recent past UK life expectancy has improved at a faster rate than previously seen and
- Expectation is that it will continue to improve at these rates at least in the medium term.
- But uncertainty.
- The Pensions Regulator is taking a keen interest in the mortality assumption trustees adopt in their funding basis and the extent of the allowance made for future improvements.

(ii) 92 series tables — produced in 1999 based on life office experience during 1991 to 1994.

- Included a single projection of future mortality improvements which could be used to derive a double-entry mortality table.
- Future improvements were set out formulaically based on historical experience (extrapolative projection method) up to 1994 and the same rates of improvement were used for both males and females.
- A process based projection method attempts to model trends in causes of death, although this approach is not favoured because of problems in death classification and insufficient understanding of the major causes of death processes.
- Double-entry tables can be used either on a
  - calendar year basis (i.e. project mortality rates at each age to a given point in the future) or
  - year of birth basis i.e. by projecting mortality rates to a point in the future dependent on the individual's age.
- Analysis of life office experience up to 2000 showed that the 92 series projections had significantly understated future mortality improvements, particularly for the cohort of lives born around 1926 who have benefited most from improvements in healthcare and medical advances.
- Therefore in 2002, 3 sets of interim cohort adjustments to the projections were published.
- Short, medium and long cohort adjustments allow for accelerated improvement in life expectancy from 2000 up to 2010, 2020 and 2040 respectively
- and then the projection rates revert back to the original 92 series projection rates.
- 00 series tables — published in 2006 based on insured lives' experience during 1999 to 2002.

- These tables did not incorporate future mortality projections in recognition of the uncertainty surrounding future improvements.
- The CMIB produced a library of sample methods of projecting mortality based on a number of different deterministic and stochastic approaches e.g. P-spline.
- The profession advises actuaries to consider a range of scenarios and explain to clients the financial impact of them.
- SAPS tables — based on self administered pension scheme analysis during 2000 to 2006.
- SAPS analysis shows that the mortality experience of pension scheme members is heavier than insured lives
- …and pensioners with large pensions experience lighter mortality rates
- …and occupation is relevant e.g. financial sector live longer than the manufacturing sector.
- Postcode can be used as a rating factor to reflect that pensioners in higher socio-economic groups tend to experience lighter mortality.
- Underpins can be used to ensure that mortality improvements do not tail off.
- e.g. a minimum improvement of 2% p.a. means that the mortality rate of someone who is say 65 next year will be at most 98% of the mortality rate of someone who is 65 this year.

(iii) Legislative requirement for the funding assumptions to be prudent – so need to consider strength of mortality assumption in conjunction with the rest of the basis.

- Consider the relative strength of the mortality assumption compared with other funding bases e.g. accounting — which is considered to best estimate and solvency — which is considered to be ultra prudent.
- Consider TPR's views on mortality assumption and in particular the allowance for future improvements.
- Firstly, select an appropriate base table.
  - Recently industry standard table probably based on insured lives (e.g. 92 series) have been used because occupational pension scheme tables have not been available.
  - For the majority of pension schemes, industry standard tables are used with appropriate adjustment to reflect the individual scheme experience.
  - As the pension scheme is large enough it should be possible to derive its own base table or at least make "more accurate" adjustments to an industry standard table.
  - Or adjust the tables used by other schemes in the banking sector.

    - Adjustments can be expressed as +/- yrs to age or % adjustment to mortality rates based on
    - …location, occupation, amount of pension, postcode as proxy for the impact a member's socio-economic class has on their life expectancy.

- Secondly, need to update the chosen base table to account for the time elapsed between the exposure period of the experience data and the current date.
    - This can be done by allowing for known experience, if available, or by using one of the projection methods.
- Thirdly, allow for projected future rates of improvement to the chosen updated base table using one or more of the methods available e.g. short/medium/long cohort improvements, stochastic projection methods (P-spline), underpins.
- There is no single correct answer so it will be appropriate to illustrate the financial impact of a range of different projections before arriving at a suitable assumption.

(iv) Are the results from the survey credible? Treat with caution.

- …how big was the survey
- …did it reflect a cross section of the UK DB pension scheme population
- …or focus on a particular group e.g. local government or size of pension scheme etc.
- …the results could be out of date for the schemes where the last SFO was 3 years ago
- …the survey does not mention the base table used with this level of projection
- The funding basis is supposed to be scheme specific therefore it is difficult to justify that the same level of mortality improvement is appropriate for all pension schemes which can have very different membership profiles.
- Scheme members work for a bank so would expect to see lighter mortality than average scheme.
- The mortality table is only one part of the SFO basis. The strength of the basis needs to be looked at as a package in conjunction with the Trustees' views on the strength of the employer covenant and the scheme's investment strategy.
- In view of the size of the pensioner membership and assuming the administration records contain a history of deaths, it would be possible to analyse the scheme's historical death experience in order to help form a view on the likely trend of future experience.
- There are other projection methods for allowing for future improvements which may be equally as valid.

- TPR will expect trustees to be able to justify an appropriate table for the funding valuation.

For those who had revised this new addition to the core reading, parts (i) and (ii) were well answered but the solutions to (iii) and (iv) were mixed. For part (iii) a number of candidates focussed on how to carry out a mortality investigation and didn't cover the wider issues. For part (iv) most covered the basics but few scored highly.

3

(i)

- At 31 March 2009 pensioner discount rate = 4.75 – 0.5 = 4.25%.
- Non-pensioner discount rate = 4.75 – 1.0 = 3.75%.
- We have not been given average ages — assume 15 is a suitable pre-retirement term (other reasonable answers acceptable).
- Assume liability at age 65 increases by 14% for every percentage decrease in post-retirement discount rate. (10% to 16% acceptable.)

Pensioners

- Expected pensioners liability at 31 March 2009 on 2006 basis
  $= 85*1.04^{2.5} – 6*2.5*1.04^{1.25} *1.03^{1.25} =$ £77.4m.
- Assuming pensions are paid half way through the period on average.
  Switch to 2009 basis $= 77.4 * 1.14^{(4–3)–(4.25–3.6)} =$ £81.0m.
  (accept if lower than 14% for 1% pension increase used for pensioners so long as explanation is given).

Deferred pensioners

- Expected deferred pensioners liability on 2006 basis
  $= 65*1.035^{2.5} =$ £70.8m.
- This assumes there were no transfers in or out.
- Switch to 2009 basis
  $= 70.8 * (1.035/1.0375)^{15} * (1.036/1.03)^{15} * 1.14^{(3.5–3)–(3.75–3.6)} =$
  £78.0m.

Actives

- Switching the PU rate to a buy-out rate:
  $20\% * (1.06/1.035)^{15} * 1.015^{-15} * 1.14^{(5-3.5)} = 27.9\%$.
- This does not allow for ageing, but effect should not be material.
- Expected actives liability on 2006 basis
  $= 10^* \text{ x } 1.015^{1.75}\, 1.035^{2.5} + 1*1.75*1.035^{1.625} * 1.015^{1.7.5/2} * 0.279 =$ £11.7m.
- Switch to 2009 basis
  $= 11.7^* (1.035/1.0375)^{15} * (1.036/1.03)^{15} * 1.14^{(3.5-3)-(3.75-3.6)} =$ £12.9m.

Total

- Total liability before expenses = 81.0m + 78.0m+ 12.9m = £171.9m.
- Note that the liability allocation to actives/deferreds/pensioners will not be accurate as we have not allowed for membership movements.
- Expenses = 0.05*£171.7m = £8.6m.
- Total liability = 171.9 + 8.6 = £180.5m.

(ii)

- The discontinuance estimate produced at 30 September 2006 was the Scheme Actuary's estimate of the cost of buying out liabilities at that time.
- The Scheme Actuary's estimate will have been consistent with GN9.
  - It seems that he has used the principle of using gilts — at least 0.5%
  - which applies if an actual buy-out cost is not used.
  - and the Scheme Actuary considers that a detailed analysis of risk allowances is not appropriate.
- The Scheme Actuary's calculations were only an estimate of the discontinuance position; in the absence of knowledge of insurers' pricing bases he may have erred on the side of caution.
- The annuity provider may use a less cautious discount rate than the Scheme Actuary.
  - Perhaps making allowance for yields available on corporate bonds...
  - …or even riskier assets
  - …because it holds those assets to back the liabilities.
  - Whereas the Scheme Actuary's discount rate has been set based on gilt rates with a high degree of caution.
- The annuity provider may use a less cautious mortality base table than the Scheme Actuary.

- Or may use a lower inflation rate.
- The annuity provider may use a less cautious assumption for future improvements in mortality than the Scheme Actuary.
  - They may have done a more in-depth analysis for the Scheme.
  - E.g. using postcode data.
  - They may have access to data for similar schemes.
  - More up-to-date mortality experience for the Scheme is available than in 2006.
  - They are able to pool these risks with those of other schemes
  - …and they may be able to sell this risk on to other investors
  - …or reinsurance may be available.
- The annuity provider may use a lower expense assumption than the Scheme Actuary.
  - The Scheme Actuary's assumption is likely to allow for both the buy-out company's expenses and the administration and adviser expenses associated with winding up the Scheme.
  - The annuity provider's expenses may have fallen e.g. to outsourcing or expansion of the business so lower overhead costs.
  - And the Scheme Actuary would be unlikely to have access to information on the buy-out company's expenses, so may have erred on the side of caution.
- It is unlikely that the Scheme Actuary's estimate will have allowed for any commutation profit.
  - The annuity provider will see profits when members take cash lump sums on retirement so may have allowed for this in its pricing basis.
- The Scheme Actuary is likely to have used a cautious proportion married assumption.
  - Perhaps in line with the PPF's assumptions.
  - The annuity provider is likely to have taken a more realistic view.
- Annuity providers may have changed the way they price liabilities from September 2006.
- This may be due to increased competition in the market…
  - …due to new entrants.
  - Any new players will be keen to write business to reduce the volatility within their portfolio and so be offering low rates to build up their portfolio...
  - … and build a name in the market.
  - Existing players will need to match these rates to win business or withdraw from the market until prices normalise.

- Annuity provider will use accurate data.
- There may be Scheme experience which is allowed for in the annuity provider's quote but not your roll-forward e.g. transfers out for an Executive or early death of a significant liability.
- There may be a mistake in the annuity provider's calculations e.g. from missing data, or ignoring guaranteed pension increases.
- You may have made an error in part (i).

Most candidates made a reasonable attempt at the calculations and stated the additional assumptions they had made. Despite the results of their calculations, many candidates believed that the insurers quote should have been larger and justified why this might be. Generally part (ii) was answered poorly, points made were vague and there was little detail or justification on why different assumptions might have been used

4

(i)

- Higher company time requirements in running two schemes.
- High overall adviser fees in running separate schemes, so potential saving if only one set of advisers.
- Reduced administration, eg one report and accounts.
- Difficulty of managing risks across the two pension schemes.
- If no money paid by company on merger date, then the funding level for (previously) Scheme A members would look more healthy than before.
- Scheme B trustee powers may be weaker than those of Scheme A trustees. A better position for the company if Scheme A trustees' powers aren't replicated in the combined scheme.
- Combined assets may lead to greater investment options and economies of scale.
- Results in a single valuation date, so easier to plan and budget for future valuations.
- May reduce PPF levies.
- Fewer employee/employer relations issues if all employees accruing same benefits.

(ii)

- The Trustees need only consider the interests of Scheme A members and not the interests of other individuals or prospective members of the merged scheme.

Legal advice

- Ensure they comply with the terms of the existing trust deed and rules of Scheme A.
- Check whether any important trustee powers will be lost or given up in the merged scheme — e.g. powers to provide discretionary pension increase.
- Are there any conflicts of interest — e.g. do any trustee advisers also advise the Company, or do any Scheme A trustees have a conflict of duty to the trustees of Scheme B or the company?
- Will confirm triggers for wind up

Actuarial advice

- Will the actuary be able to provide a GN16 certificate?
- So ensure transfer credits in receiving scheme are broadly no less favourable than the rights to be transferred.
- If different funding bases shown, then will need valuation of schemes on consistent method and assumptions.
- And on the same date for comparison purposes.
- What impact will the merger have on the financial position of both schemes.
- What are the funding levels of both schemes under different scenarios — e.g. PPF, estimated wind-up position.
- If any differences in these (PPF, windup) funding levels, then trustees may want to consider if security of transferring members' benefits will reduce on merger.
- Assuming funding level of Scheme A is lower than Scheme B (on similar basis and same date), then even if no additional contribution there will be improvement in overall funding level anyway.
- What will the recovery plan be from date of merger? Will the recovery period of the merged scheme be longer or shorter than that which already exists for Scheme A?
- Will actuarial factors in merged scheme remain the same as under Scheme A?
- If not, compare / contrast and ensure members' options not worsened post-merger.
- Apply / negotiate for guarantees to maintain better factors if appropriate.
- Will application of discretionary benefits change in the merged scheme — e.g. early retirement policy, provision of ill health benefits.

Investment advice

- What are the mechanics of the asset transfer —will assets transfer in specie to save costs?
- Will assets be segregated for the two sections of the merged scheme?

Practical issues

- What is the proposed merger date? Will there be sufficient time for negotiations between all parties and to consider all the issues?
- Are there any parent company guarantees on offer?
- Will there be a company contribution (e.g. to equalise funding levels) on merger?
- If so, merger would lead to significant improvement in financial security of Scheme A members' benefits.
- What will be the make-up of the trustee board of the merged scheme?
- Will they be sufficiently represented from both schemes' memberships to look after interests of all members?
- Will there be any indemnities provided to the Scheme A trustees against any claims or costs from any action brought from existing or former Scheme A members.
- Plan communication to members.
  Plan administration requirements/validate data.
- Ask Company to meet cost of merger.

(iii)

- The Trustees need only consider the interests of Scheme B members and not the interests of other individuals or prospective members of the merged scheme.
- B Trustees do not need a GN16 certificate.
- They should ensure that Scheme B members will not see a reduction to the security of their past or future pension rights.
- Need actuarial advice to ensure sufficient assets are transferred on merger.
- So likely to need to agree the method and assumptions to calculate the level of additional company contribution needed to equalise funding levels just prior to merger.
- Will adequate contributions be paid by the Company post-merger to meet the cost of accruing benefits to be provided to all Scheme B members

(including the former Scheme A members and, if appropriate, meet the larger deficit).

- Negotiate revised recovery plan.
- Need to obtain legal advice to ensure they comply with the terms of the existing Trust Deed and Rules of Scheme B.
- Review make up Trustee Board.
- What is the membership profile of scheme A members? Will the merged scheme profile affect the existing investment strategy of Scheme B?
- Review SIP.
- Will the administrators be able to administer the benefits under the merged scheme?
- Seek warranties re accuracy of information provided by Scheme A.

(iv) *Future service*

- Who has the power in TD&R to change future benefits?
- If Company, then trustees can only seek to influence the changes and cannot stop the Company from making them.
- Should not be seen to endorse changes as members' benefits being worsened unless alternative is not in members' best interest.
- What are the alternatives to the proposed benefit changes? Total closure, with DC only for future service etc?
- Winding-up, do trustees have the power to protect all past benefits by triggering wind-up.
- Would that be in the interests of actives who might lose future benefits or their job (if employer could not afford full wind-up cost)?
- Review administration as more complex benefits.
- Lower future service accrual contributions should allow deficit to be met more quickly.

(v) *GN16 issues*

- All Scheme A members will be transferred to Scheme B without members' consent, so GN16 certificate needed to be signed by actuary of Scheme A.
- Actuary required to certify that:
  - the transfer credits to be acquired for each member under Scheme B are, broadly, no less favourable than the rights to be transferred, and
  - where it is the established custom for discretionary benefits or increases in benefits to be awarded under Scheme A, there is good cause to believe that the award of discretionary benefits or increases in

benefits under Scheme B will (making allowance for any amount by which transfer credits under Scheme B are more favourable than the rights to be transferred) be broadly no less favourable.

- Decide what tests must be carried out to determine whether the "broadly no less favourable" requirements are satisfied.
- Scheme A members will receive benefits from Scheme B in respect of service to the merger date equal to their accrued benefits under Scheme A — so first requirement is satisfied.
- Consider which element of the past service benefits and options must be taken into account as:
    - Rights to be transferred, or
    - an established custom for discretionary benefits or increases in benefits.
- Although not a strict requirement, the Trustees of Scheme A may wish to satisfy themselves that the value of members' rights on windup will not be adversely affected.
- May need to consider both the financial strength of Scheme B and the ability and willingness of the company to fund any discretionary benefits or increases in benefits in the future.
- Remind the trustees of Scheme A that the GN16 certificate must not be taken as the trustees' authority to make a transfer without members' consents.
- Remind trustees of Scheme A that they need to satisfy themselves that making the transfer is consistent with their responsibilities and powers under trust law and their duties to the transferring members.
- Tell Trustees to take legal advice.
- No need to consider future service benefits.
- Must not provide certificate if sufficient information was not provided to allow a proper assessment to be carried out.
- Certificate valid as long as no changes in benefits or other terms of the merger between the signing of the certificate and the date of the merger.

Answers to this question were mixed. In part (ii) too many wrote detailed comments on sale and purchase agreement which are not relevant in this scenario. It was also disappointing that many candidates did not appreciate which issues were only relevant to one set of trustees. A common misunderstanding was to write at length on the investment issues under part (ii). Part (v) caused problems as too many candidates did not have a working knowledge of GN16.

END OF EXAMINERS' REPORT