Subject SA4 — Pensions and other Benefits
Specialist Applications

EXAMINERS' REPORT

April 2009

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

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General comments

Overall, the candidates who scored highly on the paper were those who answered the questions which the examiners asked and did not write about things they knew about but was not asked. Candidates should realise that they can only demonstrate readiness and understanding by giving answers to the question asked on the paper.

It is pleasing that a reasonable proportion of candidates state their assumptions when performing calculations so it seems they have taken heed of comments made in the past.

As usual the better candidates structure their answers well and thus scored marks easily.

Specific comments on individual questions

Q1(i) *Was well answered with the majority of candidates showing they knew how the cost of running the PPF is met, the formula for the risk-based levy and how the PPF operates.*

Q1(ii) *The standard on this question varied with the good ones demonstrating that they had thought about what they were going to write before writing. Most candidates realised that many of the risks were similar to those of a normal defined benefits (DB) pension scheme but too few suggested ways the risks could be managed, in particular many missed easy marks on the investment risks. Some candidates focused their answer on the generic DB risks and failed to link their knowledge to the PPF.*

Q1(iii) *Well answered by the majority of candidates. Only the better candidates considered the orphan members point.*

Q2(i) *Many candidates appeared to be answering a September 2008 SA4 question and did not focus on the factors that would determine the level of enhancement. Most understood that balancing take up rates against cost would be important.*

Q2(ii) *Generally this was attempted well but candidates are encouraged to consider the reasonableness of the result of their calculations which should highlight obvious arithmetical 'slips'.*

Q2(iii) *This was generally poorly answered although an attempt was made by the good candidates to link with the previous sections.*

Q2(iv) *This was a bookwork question and was answered well generally although some candidates missed out on easy marks by not realising that this was about transfer values in general.*

Q2(v) *This posed a challenge to the majority of candidates. The better ones looked at the alternatives and considered the consequences of those alternatives including the easy option of simply writing to members notifying them of the trustees' new basis. The poor candidates considered other types of risk reduction like buying out the liabilities which is irrelevant in the context of the question. It was disappointing that too many candidates thought that the new standard transfer value might be reduced to the original enhanced value for the younger member apparently forgetting members' right to a transfer value on the trustees' basis.*

Q3(i) *This was answered well and showed that the majority of candidates know the standard process outlined in the core reading.*

Q3(ii) *This was challenging to many, although most appreciated that the actuary could find themself in a difficult position in this type of scenario. Possibly having regard to previous exams, the poorer candidates wrote at length on the mitigation of conflicts.*

Q3(iii) *This was reasonably well answered although many candidates missed some obvious points and there was lots of repetition of prudence v/s best estimate. Only the better candidates provided sound arguments as to why the bases would be different.*

Q3(iv) *Reasonably well answered.*

Q3(v) *It was pleasing that some candidates showed they understood why the bulk transfer amount paid by the Trustees might be higher or lower but insufficient points were made given the marks available.*

Q3(vi) *This was answered reasonably well although a minority of candidates appeared to have run out of time, particularly where they had gone off at tangents on earlier parts of the paper. Given the earlier parts of this question it was frustrating that very few explicitly mentioned that payment of the bulk transfer would have improved the funding level.*

1 (i)

- Cost met by a combination of scheme-based and risk-based levies paid by DB schemes on an annual basis.
- Scheme-based (SB) levy comprises 20% of the total cost of the PPF levies.
- Risk-based (RB) levy comprises 80% of the total cost of the PPF levies.
- At start of each financial year PPF Board estimates the total levies required to fund the PPF.
- For 08/09, this was set at £675m — the intention is this will remain stable for next 3 yrs subject to earnings indexation and assuming there are no significant changes to the level of risk.
- All DB schemes are required to complete a S179 PPF valuation triennially.
- S179 valuation broadly approximates the cost of buying out PPF liabilities from an insurance company.
- The PPF board prescribes the method and assumptions for calculating these liabilities.
- SB levy is value of the scheme's S179 liabilities times a multiplier which is set annually (08/09 levy year multiplier is 0.0165%).
- RB levy reflects the state of funding of the scheme and the one year risk of insolvency of the participating employers.
- The PPF board scales the risk-based levy up or down to ensure that the total levy is aligned with the Board's overall estimate for the year.
- RB levy = $U \times P \times 0.8 \times c$ where

  U = underfunding risk
  P = PPF assumed probability of insolvency
  0.8 = % of total levy which is risk based
  c = levy scaling factor (08/09 levy year scaling factor is 3.77)

- For schemes where S179 funding level is less than 120%, the underfunding risk is 1.21 × S179 liabilities less assets.
- For schemes where S179 funding level is more than 140%, there is no RB levy.
- For schemes where S179 funding level is between 120% and 140%, the underfunding risk ranges from 1% to 0.25% of their S179 liabilities.

- PPF assumed probability of insolvency is calculated by reference to a failure score (1 to 100) calculated by Dun & Bradstreet (D&B). D&B assigns a failure score to each participating employer which then translates into a probability of insolvency.

- For schemes with more than one participating employer, the probability of insolvencies is weighted by the scheme members attributable to each employer.

- The RB levy is capped at 1% of S179 liabilities to limit the levy paid by the weakest schemes.

- The levy is calculated annually based on the same calculation date for all schemes. The PPF adjusts asset and liability information using a set formula to adjust previously advised figures to the calculation date.

- Assets taken on when Scheme enters PPF.

- Assets should generate returns.

(ii)

- Investment risk
  - Set risk budget and objectives.
  - Carry out an ALM to establish range of asset allocations which satisfy budget and objectives with appropriate probabilities of success.
  - Take account of cashflow considerations and need for liquidity.
  - Diversify assets across a range of asset classes.
  - Hedge currency risk where appropriate.
  - Set performance objectives and
  - monitor returns from investment managers.
- Inflation / Interest risk
  - Look at matching the nature (fixed pre 2007/real post 2007) and term of the liabilities.
  - Hold assets e.g. ILGs, inflation swaps, which provide protection against movements in inflation.
  - Consider use of interest rate swaps to hedge against adverse movements in interest rates.

- Longevity risk
  - Assess the experience of current pensions in payment.
  - Make suitable allowance for improvements in life expectancy based on available mortality investigations and industry trends.
  - Monitor actual vs expected experience on a regular basis.
  - Consider the use of longevity insurance.
- Insolvency i.e. material adverse change to the level of insolvency risk of pension schemes.
  - Lots of employers becoming insolvent at same time.
  - Little that can be done to mitigate this.
  - Monitor supplier of failure scores (D&B) and the criteria it uses to determine the probability of insolvency.
  - Strictly define and monitor the criteria which a scheme must satisfy for contingent assets and guarantees to be used to reduce the scheme's insolvency risk and hence RB levy.
  - Risk of insolvency of PPF is minimised by powers to increase levies and amend PPF level of benefits.
- Fraud, abuse etc.
  - One of the main objectives of TPR is to reduce the risk of calls on the PPF.
  - All parties associated with a pension scheme have a duty to notify TPR if a material event occurs relating to the non compliance of the scheme administration.
  - TPR has a variety of powers to encourage and enforce compliance e.g. contribution notices, financial support directives, remove and appoint trustees, clearance for companies involved in transactions which materially affect the scheme.
  - Moral hazard issues – can unwind recent benefit improvements/ augmentations.

- Collecting insufficient levies
    - Multiplier and scaling factor are set annually and finalised after schemes have submitted their scheme annual return so the PPF can adjust the indicative factors up or down to ensure it collects what it intended.
    - UK government has the power to change the 20%/80% of the levy if needed.
    - PPF board has the power to change the rate of revaluation and indexation of PPF benefits.
    - Secretary of State ultimately has the power to reduce the level of compensation provided by the PPF
    - Increasing future levies as required.
- Governance
    - Need a business plan
    - Need a risk register
    - SIP, SFP
    - Transparency & disclosure

(iii)

- Improve failure score e.g. have a dialogue with D&B to understand reasons for low scores
- …such as slow at paying bills, misunderstanding of event reported in accounts.
- Put in place contingent assets.
- …or guarantee from the company to reduce probability of insolvency.
- Improve PPF funding level e.g. cash injection.
- Orphan members — reapportion to participating employer with highest failure score.

2 (i)

- The enhancement needs to be high enough to be attractive to members…
- …but low enough to improve the Scheme's funding position.
- Which measure is the employer looking to reduce its liabilities on?
  - Certainly below buy-out cost otherwise would be cheaper to buy annuities.
  - May be interested in reducing liability shown in company accounts, so would want the amount transferred to be less than the FRS17/IAS19 liability for that member.
  - But TVs at the FRS17/IAS19 may not be high enough to convince members to transfer.
- The enhancement could be set as:
  - A fixed amount
  - A fixed percentage of the CETV
  - A percentage depending upon the member's age
- Enhancement will need to be high enough to compensate members for the risk of transferring from a DB to a DC arrangement.
- Likely to need to offer a higher enhancement to older members who are closer to retirement and so more risk-averse.
- If the employer's covenant is viewed as weak a lower enhancement may be sufficient.
- Members are likely to seek advice from an IFA; so need to set TV at a level to pass any critical yield analysis they may do.
- Consider materiality — how much of the Scheme liabilities are for deferred members.
- And materially in terms of sponsor.
- Consider likely views of Trustees.

(ii) (a)

- Assume liability at age 65 increases by 14% for every percentage decrease in post-retirement discount rate. (Give credit for other suitable assumptions.)

- Enhanced TV = £10,000 * $(1.035/1.0375)^{(65-30)} * 1.14^{(1.5-0.25)}$ = £10,826

- Enhancement = £10,826 – £10,000 = £826

(b)

- Enhanced TV = £10,000 * $(1.035/1.0375)^{(65-55)} * 1.14^{(1.5-0.25)}$ = £11,499

- Enhancement = £11,499 – £10,000 = £1,499

(iii)

- The uplift is higher for older members…

- …as a lower discount has been adopted post-retirement but a higher discount rate has been adopted pre-retirement.

- This addresses the issue of older members requiring a higher enhancement to transfer.

- The basis will result in a positive enhancement for members of all ages.

  - E.g. for a 20 year old the enhancement would be $(1.035/1.0375)^{(65-20)} * 1.14^{(1.5-0.25)} - 1 = 5.6\%$

  - For a 65 old the enhancement would be $1.14^{(1.5-0.25)} - 1 = 17.8\%$

- The TVs will be lower than buyout cost so the employer will reduce its buyout liabilities.

- Not clear if lower than FRS17/IAS19 cost without further analysis.

- This level of enhancement may not be sufficient to encourage members to transfer…

- …depending on members attitude even the highest possible uplift of 18% may not be large enough to compensate for risk of switching arrangements…

- …and transferring members might miss out on future discretionary pension increases.

- Complex administration — will need to calculate enhanced and standard TVs to work out employer share.

(iv)

- Need to provide a minimum TV which is the best estimate of expected cost to the scheme of providing alternative deferred benefits
- Assumptions (as a whole) should be best estimate
- On the assumption that the SFO basis is prudent expect to adopt a weaker basis e.g. in the investment return assumption and mortality assumption
- Demographic assumptions are required to have regard to the Scheme membership or use industry standard assumptions with a suitable adjustment. Likely to start with SFO assumptions and remove some prudence.
- Discount rate should be set having regard to the Scheme's investment strategy
- …reduce the allowance for out-performance over gilts in the basis as the proportion of equities reduce
- …for example, if use pre and post retirement investment return could allow for out-performance in pre-retirement assumption to reflect additional return from equities over gilts and no out-performance in the post-retirement assumption
- Include/exclude favourable options to members with allowance for the likely proportion of members exercising the option e.g. early retirement on enhanced terms. Need to allow for any "Barber" benefits or other benefits payable as a right from an earlier age.
- Include/exclude discretionary benefits e.g. pension increases, although unlikely in current conditions that many schemes will provide them
- Include/exclude admin expenses/savings — often simplest to ignore both
- Can reduce TVs if <100% on TV basis
- …Trustees need an insufficiency report to do so
- Can offer higher than minimum TVs but need Company input
- Need basis for other TVs e.g. Director Remuneration Regulation, Divorce, Non-statutory TVs
- Disclosure time scales (quote within 3 months of date of request and issue within 10 working days of calculation date), guarantee period (3 months), and statutory information to be provided to the member

- Instructions and factors need to be provided to scheme administrator
- For practical reasons change factors on a monthly basis or more frequently if market conditions move out with a pre agreed range.
- Consider whether to carry out a value for money test on previous transfer-in benefits based on additional years.
- If the Trustees continue to accept transfers into the DB section, the transfer-in basis should be consistent with the transfer out basis together with an appropriate salary increase rate.
- Consider professional/regulatory requirements.

(v)

- New CETV for 30 year old = £10,000 * $(1.035/1.031)^{(65-30)} * 1.14^{(1.5-1.0)}$ = £12,227
- No enhancement; need to offer standard CETV of £12,227 as this is greater than £10,826 on "enhanced" basis.
- New CETV for 55 year old = £10,000 * $(1.035/1.031)^{(65-55)} * 1.14^{(1.5-1.0)}$ = £11,099
- Enhancement = £11,499 – £11,099 = £400
- For younger members the standard CETV is now higher than the "enhanced" TV.
    - If "enhanced" basis stayed the same, would therefore just be paying the standard CETV for these members as this is the minimum payable by the Trustees.
- For older members the "enhanced" TV is still higher than the standard CETV, but significantly less so.
- So all members are less likely to find the employer's enhanced offer attractive.
- It is possible that the change in CETV basis in itself will encourage more members to transfer…
- …without the need for the employer to "top up" the payments
- … and both standard and enhanced TVs to be calculated.
- So the employer may just want to write to members reminding them of their right to transfer…

- …and informing them of the change in the Trustees' basis.
- This would be a low cost option.
- And may be viewed less cynically by the members and other interested parties.
- Under the enhancement route employers usually have to pay for independent financial advice to be given to members. This is more likely to fall upon the member under the standard transfer route.
- The employer may want to keep the proposed enhanced basis unchanged…
- …as it still provides an uplift for older members.
- Although this is likely to be less successful than it would have been before the Trustees' basis changed.
- And may not be worth the costs of communicating to members and calculating TVs.
- The employer may wish to revise its enhanced basis such that a higher enhancement is offered.
- But to achieve a reasonable enhancement for older member, will need to reduce the post-retirement discount rate to the gilt yield or below.
- This will be moving close to buy-out cost, which would be a preferable solution…
- …as it doesn't involve complex communication and member consent.
- So may try to target younger members by using a lower discount rate.
- Although younger members tend to have lower liabilities, they tend to be less risk averse and so require a lower enhancement to transfer…
- …so this may be a more cost-effective option.

3 (i)

- Usually a specific pension schedule to the sale and purchase agreement.
- To which is annexed an actuary's letter specifying the basis to be used to determine the value of the liabilities being transferred.

The pensions schedule will set out:

- Definitions of terms used.
- Obligations of the seller:
  - To supply information
  - Use best endeavours to ensure transfer value paid
  - Usually to make good any shortfall
  - Get approval for transfer
  - Arrange for initial calculation of transfer value
  - Provide any required warranties
- Obligations of buyer:
  - Arrange for transfer value to be agreed
  - Provide required benefits in return for receiving transfer value
  - Sometime future service guarantees
- Other:
  - Names of actuary advising buyer and seller
  - What happens if a dispute arises
  - Whether a participation period is included (unlikely given employer debt rules)
  - Shortfall/excess payment clause
  - How transfer value is adjusted between completion and date of payment
  - Whether transfer is to be in cash or other assets
  - Timescales for completing work

- Usual to do transfers with consent to avoid any GN16 complications
- Requirements to advise members allocated
- Responsibilities relating to supervising authorities allocated

(ii) *Conflicts*

- Professional Conduct Standards state that clients are entitled to assume advice given is unaffected by interests other than those of the client.
- The Company and the Trustees are separate clients.
- No single "right" answer to the measurement of liabilities for the transfer.
- There may not be any conflict — i.e. the amount may be acceptable to both parties.
- Possible for the Company's interests and the Trustees to conflict, however.
- The Trustees main responsibility is to act in the best interests of the members.
- Scheme Actuary will have prime responsibility to Trustees.
- Trustees will be interested in the security of members' benefits, and have to ensure that the transferring and remaining members are treated fairly.
- The Company will want the best possible overall deal for themselves.
- This might mean the FD instructs the Actuary to suggest a basis which produces a "low" transfer amount.
- The lower the amount paid out for a given liability transferred, the more is left to finance benefits for the remaining members.
- This may seem aligned with the need for security of remaining members,
- and should reduce future company contributions.
- But may cause problems if it reduces security for transferring members.
- The Company might seek a "high" transfer payment
  - to remove a potential barrier to the deal going ahead
  - to get a higher purchase price for the division
- But this might reduce security for remaining members.

- In either situation, the Scheme Actuary might be obliged to advise the Trustees that the proposed basis was inappropriate.

- There may be some professional constraints as well.

- A transfer without consent of the members will require the Scheme Actuary to provide a GN16 certificate to the Trustees.

- The Trustees may also ask their actuary's advice as to whether the Pensions Regulator should be consulted / informed.

- Other potential conflicts e.g. Scheme Actuary is now obliged to disclose to the Trustees that there is a potential sale in the offing …

- … which could mean they will seek Scheme Actuary's advice on a number of matters relating to the financing of the pension scheme

- … and Trustees may in turn be wanting to discuss plans with the company as soon as possible.

- The FD may not wish the Actuary to do so (e.g. might be commercially sensitive).

(iii) *Differences in assumptions*

- Overall, valuation basis likely to include some margin(s) for prudence, whereas the starting point for a bulk transfer basis might be "Best Estimate" and, hence, weaker overall.

  [NB, one mark max — e.g. no additional credit unless specifically included below for just saying "prudent vs best estimate" for each individual assumption]

Other comments which might apply for several assumptions (but score only once)

- Funding basis for receiving scheme.

- SFP might constrain how funding assumptions are determined, but not transfer basis.

- It is the difference between certain pairs of assumptions that is more important than their absolute values.

Comments specific

Discount rate (pre-ret)

- transfer basis is 1% p.a. higher than valuation basis

- valuation basis may reflect the (notional) investments that match the total non-pensioner liability
- transfer basis may reflect the actual investments held
- or may allow for the duration of the liabilities for the actual members transferring (together with the removal of margins for prudence)
- may just be allowing for a higher expected return on unmatched assets i.e. a higher "risk premium"

Discount rate (post-ret)

- transfer basis is 0.5% p.a. higher (in absolute terms)
- may reflect assumed investment in higher yielding corporate bonds instead of gilts
- may also allow for shape of yield curve, with higher yields for the durations appropriate for current actives (not justified by market conditions around Sept 08 however)

Inflation

- Transfer basis is 0.25% p.a. lower.
- Often derived as difference between yields on gilts and index-linked gilts of appropriate term and duration.
- Limited supply / high demand for IL-gilts may distort this
- … with this distortion removed for the transfer basis only.
- E.g. using inflation implied by other market instruments (Swaps, BoE forecasts).
- Removal of the "inflation risk premium" which some believe currently exists in pricing.

Salary increases

- 0.75% p.a. absolute reduction
- Real salary inflation assumption has fallen by 0.50% p.a.
- Perhaps justified by lower expected future salary growth for the division's employees.

- Perhaps this in turn is as a result of the proposed sale — lower prospects for future salary increases.

Pension Increases

- 0.25% p.a. absolute reduction, but …
- … No fall in real terms.
- Appears to be set consistently with respect to inflation.

(iv) *Impact on liabilities*

Assumptions

- ignore impact of further accrual since valuation date
- no difference in demographic assumptions, particularly post-retirement mortality
- ignore impact of different YOB (average age 43 vs 48)
- impact of a 1% increase in net post-retirement yield is a 14% fall in liability (so net 0.75% fall reduces liabilities by ~ 10%)

Estimated liability on valuation basis for transferring members is $210\text{m} \times (28.8/54.4) \times (10/12) \times 1.01^{-5} = £88\text{m}$.

Switch assumptions to the transfer basis $88\text{m} \times (1.01/1.0275)^{22} \times 0.90 = £54\text{m}$.

(v) *Why might Trustees use different assumptions?*

Lower than proposed transfer basis

- may have their own views as to what a best estimate basis would be
- if transferring scheme funding position is (very) poor, only pay share of fund
- may assess this allowing for full payment of higher priority liabilities
- may consider extent to which PPF benefits are covered for actives
- if covenant of receiving scheme sponsor is very strong,
- … so minimal risk of non-payment of benefits for transferring members,
- … security for remaining members may become only consideration

- … and may negotiate for weaker basis

Higher than proposed transfer basis

- Probably only if transferring scheme is well-funded,
- and covenant of the sponsor is strong
- might wish to include allowance for discretionary benefits
- may feel it inappropriate to transfer so little
- … particularly if their scheme is well funded
- … as this would be regarded as treating transferring members unfairly
- Or, if receiving scheme is DC, Trustees may feel it is appropriate to compensate members for the longevity and investment risks.
- May be prepared to accept the current transfer amount if tied to additional funding payments (by either sponsor to either scheme) if it ensures they fulfil their responsibilities to members.

(vi) *Sponsor covenant*

Estimated liability on the transfer basis
$88\text{m} \times (1.01/1.0275)^{22} \times .90 = £54\text{m}$.

Improvement in funding position is £34m.

- Has the sponsor's ability and willingness to contribute to the sums required to pay benefits been affected?
- i.e. does the deal strengthen or weaken the covenant?
- (can't imagine the sponsor would say the latter!)
- Does the proposed deal tell the Trustees anything new about its current finances?
- Presume a covenant review was carried out before the valuation.
- If so, how would its conclusions been altered by the new information.
- May need to get a (new) independent review of the sponsor covenant?
- If covenant is stronger, use the sponsor's desire to complete the sale as leverage to secure additional funding in order to get Trustee support?

- If weaker, use the sale as leverage to secure appropriate alternatives to cash payments.

Funding Strategy

- If the transfer goes ahead on the proposed basis, then the liabilities on the valuation basis will fall by £88m, but with a reduction in assets of only £54m. The funding position improves by ~ £34m.

- Other things being equal, this might reduce the amount of any deficit funding, assuming the term is unchanged…

- … or reduce the term, assuming the amount is unchanged

- … or some middle ground.

- Unclear what the sponsor's expectations might be at this point.

- The appropriate term of any recovery plan might be affected by the significant reduction in the number of active members.

- Transferring members younger on average.

- Average age of remaining actives is ~ 52 years
  [(48 × £210m – 43 × £88m) / £122m].

- Average term to retirement for actives may fall significantly.

- So term of any recovery plan may need to reduce.

- Need, also, to factor in outcome of review of sponsor covenant:

  - Discount rate
  - for accrued liabilities, normal cost and recovery plan.

Investment strategy

- Change in overall maturity of Scheme due to transfer may trigger a change in investment strategy…

- … possible increase in bond investments

- … which may in turn trigger a change in the financial assumptions.

- Need to check

  - SFP
  - SIP

- … to see if they
  - Specify what should be done, or
  - remain appropriate given the change in the scheme / sponsor's situation.
- Reduction in deficit/increase in surplus may enable less conservative strategy to be pursued.
- New cash flow requirements should be considered.
- Transfer of assets may result in the need to rebalance the portfolio.

END OF EXAMINERS' REPORT