Faculty of Actuaries **Institute of Actuaries**

EXAMINERS' REPORT

April 2010 Examinations

Subject ST4 — Pensions and other Benefits Specialist Technical

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

July 2010

Comments on individual questions

Q1 *Most candidates scored well on this question, particularly part (i), although in part (ii), it wasn't always clear that candidates understood lifestyling.*

Q2 *Very few candidates took the structured approach of identifying the risk and then considered what the mitigations might be for each risk. The better candidates picked up the specifics of a CEO benefit when looking at risks and mitigations but many answered with general points which apply to all defined benefit schemes. Most candidates struggled with part (ii).*

Q3 *Generally this was poorly answered, probably because it related to 'other benefits' although there were some good solutions. Candidates who considered the actuarial control cycle usually scored well. For part (i), many candidates wrote at length about the detail of a mortality investigation and missed the wider issues of need, cost and affordability.*

Q4 *Some answers to this question were just too short given the marks available. Solutions to part (i) were good but answers to part (ii) were particularly poor with many candidates apparently not knowing what a covenant review would entail (although most wrote at length about the potential conflict of interest).*

Q5 *Generally this was answered poorly with a reasonable minority misinterpreting the question. Those who took the stance of assuming any such statement would be too hard for members to understand limited their chance of scoring well.*

Q6 *Most candidates picked up the main points in part (i) but too many automatically assumed that a final salary arrangement would be more expensive than an average salary arrangement although details of the accrual rate in each arrangement were not provided. Not many candidates considered why either arrangement would help the government (eg reducing poverty in retirement). Many candidates seemed to forget that this would be a state funded arrangement.*

Q7 *This question was meant to be an opportunity for candidates to score well by generating a wide range of ideas. Only the better candidates achieved this. In other cases answers were limited as candidates concentrated on small areas. As the difficulties of change were specifically asked for in part (iii), it was disappointing that many candidates wrote at length on these in part (ii). Although credit was given where the answer to part (ii) covered part (iii), inevitably this approach meant that the answers to what should have been part (ii) were limited.*

1 (i)

- The employee's risk appetite with regard to the certainty / uncertainty of capital and income
- Desired target income in retirement allowing for
- … current salary
- .. expected day to day living expenses, including holidays etc.
- .. any loans / debt / mortgages to service post retirement
- .. advance allowance for other contingencies, e.g. long term care
- details of any dependants
- whether the employee wishes to provide for them
- whether employee looking for an increasing income in retirement
- What other income available, e.g. from previous employment / state benefits / other assets available
- What is current yield / how invested / is it a suitable portfolio / does it match risk appetite
- Information on health of member
- How taxation might affect different options, e.g. on capital v income

(ii)

- **Drawdown:** Keep assets invested, adjusted as necessary to meet risk appetite
- .. draw regular income, which is reviewed in the light of investment performance, personal needs, inflation etc.
- .. risk that fund will run out, e.g. if life span greater than expected
- .. but if planned well, can leave capital sum for dependants

- **Live off income from assets:** adjusted as necessary to meet risk appetite
- .. risk of variable income, which may not match income needs
- .. but opportunity to leave large inheritance to dependants
- Might opt to buy annuity at some time (under draw down or life styling)

- **Purchase of annuity** from insurance company on terms fixed at outset
- ….with ins. Company bearing all subsequent risks, mortality, investment etc.
- Terms will depend upon options purchased eg, increases, dependants
- Consider life styling in period before retirement, i.e. asset allocation whereby assets adjusted depending on age and term to retirement
- .. typically switched from equity to bonds as retirement approaches
- .. so suitable if the intention is to purchase an annuity at retirement
- as protects against falls in the equity/property market just prior to retirement
- but period to retirement may be too short

2 (i)

Risk	Mitigation
• CEO could retire at 50, • so risk of paying a large pension for a long time	• Set a specified minimum retirement age, e.g. 60 • .. with benefits scaled down on earlier retirement • Consider insurance/annuity purchase at retirement
• Benefit not service related • So could have a series of CEO's with short service whose pensions need to be paid for, at substantial cost	• Entirely service related • Benefit available only if > 10y service, scaled down for less service
• Benefit not related to company or individual performance	• Could consider relating part of pension to company or individual performance • .. e.g. by averaging bonuses for pension purposes
• Salary strain if salary increases significantly more than inflation during period of service	• Relate benefits to revalued average salary • Impose salary cap
• Salary on which pension based could be distorted by large bonuses in last year of service	• Base pension on basic salary, • …or as a minimum, average fluctuating emoluments such as bonuses over a period of year
• Overall might be considered too generous a package if an existing employee promoted	• Consider offsetting some of benefits from earlier service .. (but is this fair when comparing internal promotions with external applicants?)

(ii) **Alternative approaches**

- No pension scheme at all
- .. with all remuneration provided through the salary / remuneration and incentive bonus schemes

- Defined contribution scheme
- .. with suitable contribution rate negotiated in advance
- .. or possibly with some element related to company performance
- .. so contributions / remuneration broadly correlated with service

- Improved defined benefit scheme
- E.g. enhanced accrual so benefit related to actual service as CEO

- Or just usual scale benefits

3 (i)

- Obtain profile of population by age / sex / occupation (as available), e.g. from census data or other government statistics
- Assess need for this cover
- .. and its likely affordability
- .. e.g. taking account of life cover currently available from private schemes, or by arranged privately by individuals
- Details of other state / National Insurance schemes providing same or similar benefits
- What is the likely take up rate, e.g. for different contribution levels / levels of cover
- Likely costs of setting up and administering the scheme, depending on illustrative take up rates
- How eligibility defined, e.g. is it by residency / nationality. How to deal with immigration / emigration?
- Assess appropriate ceasing age for cover provided

(ii)

- Level of cover to be provided. Once this is known contributions can be assessed
- Start with historical mortality rates by age / sex
- .. and any other subdivision on which it is reasonable to rate, e.g. occupation
- Allow for likely future trends over period the rates will be in force before the next review
- Allow for administration costs, if borne directly by those taking up the cover
- Build in contingency allowance, e.g. against possible poor experience
- Or catastrophes
- Allow for return on any invested monies
- If contributions will not be flat rate, determine suitable way of banding rates, e.g. by year of age, sex

- .. or in quinquennial ages
- Whether government will meet part of costs

(iii)

- Availability of data might be an issue
- Monitor experience on regular basis
- …then carry out regular review of premiums and cover to take account of experience / inflation / costs etc.
- Adjust premiums / cover as required to ensure scheme remains self supporting, as required
- Consider possible administration issues, e.g. data base of participants, suitable method to collect premiums, interacting with other government scheme, e.g. tax collection
- It may not always be clear who to pay the benefit to
- Communication issues, e.g. when rates / cover changes following a review, or to take account of increased age
- Is advice to be provided, if so who can give it, who pays?
- Is a separate fund to be maintained, requiring investment of premiums
- ..or is the scheme effectively PAYG, with the government collecting all premiums, merging with taxation receipts and bearing all risks
- Eligibility: starting and ceasing ages, is this determined by residency / nationality / both / other factors?
- Consider what medical questions might be asked, if it is proposed to screen out poor risks or charge additional contribution
- .. e.g. recent serious illnesses, operations etc.
- Selection issues if scheme voluntary
- Could not allow future opt in after opting out

4 (i)

- Shows the ability and willingness of the sponsor to pay sufficient contributions to ensure the benefits can be paid as they fall due
- Used to determine the key assumption and the level of required prudence
- And the investment strategy
- And general risk tolerance level
- Affordability of future deficit funding plans
- Can be used as part of a process to obtain contingent asset protection

(ii)

- What is the employer's current financial position?
- What is the employer's expected future financial performance?
- Which assets and income streams could the pension scheme access?
- What is the employer's general attitude to supporting the Scheme?
- Can the Finance Director share the relevant information with the other trustees?
- Is he conflicted with a vested interest?
- Should the trustees request the information directly from the Employer
- Is independent advice from specialists needed
- Need to document an audit trail of how the covenant assessment will be made
- The assessment is made by the trustees as a whole not just the Finance Director
- Need to consider the financial data relative to the scheme funding level
- If the scheme is well funded the covenant is less of an issue
- Need to consider scheme ranking against other creditors

(iii) **Information from employer**

- Details of the employer's current financial position
- What is the employer's expected future financial performance

- Company report and accounts
- Management accounts
- Projections of sales, profit, cashflow, debt etc.
- Details of general business outlook
- Details of what the future pension contributions the employer's cashflow can support

Other available information

- Financial metrics – financial statistics and accounting ratios
- Comparison with peer group
- Analysts' reports
- Implied market default risk
- Credit ratings
- Financial / Market forecasts for the Industry sector as a whole

(iv)

- Details of how often the monitoring review will be carried out
- Could involve a regular update from the sponsor covering financial position and future plans
- Notification from employer of circumstances that could materially affect the security of benefits
- Regular review of publicly available metrics
- Changes in risk based measures e.g. credit rating
- Consider actions that may be needed if the assessment of the covenant changes e.g. extra contribution requests

5 (i) **Setting the next year's benefit**

- Company to exercise discretion by maintaining as far as possible benefits in real term
- Subject to available resources
- ..e.g. by adjusting benefits in line with a suitable index of inflation
- ..e.g. an index of prices or wages,
- .. stating which index, which month used
- .. and any maxima or minima
- .. so this may result in a reduction in benefits if inflation is negative
- .. requiring a careful communication and justification to scheme members
- Clarity on when increase paid/communicated to members
- Roles/responsibility of any other partner (eg if trustees)

Funding next year's increases

- Company will try to meet any additional costs from available funded resources within scheme
- .. so there should be advance funding to meet the target
- ..by making appropriate assumptions in the regular valuations
- But the company reserves the right not to meet the target in the event of
- .. poor investment performance from the invested assets
- .. or other adverse features of scheme experience
- .. leading to a funding deficit
- .. and being unable to make a special contribution in the short term to fund this deficit

(ii) **Advantages**

- Publication would manage expectations over the likely result of future reviews
- .. by disclosing the factors which the company takes into account in reviewing pensions in payment
- .. e.g. overall objective, the indices used, how such changes are funded, the possibility of a reduction, the reasons this might happen

Disadvantages

- Publication may lead members to expect the guidelines to be used in all circumstances
- .. and so become guarantees
- .. e.g. irrespective of whether an increase can be afforded
- .. and so create unreasonable expectations which cannot be met
- Reduces the opportunity for the company to operate the guidelines flexibly to take account of unexpected conditions
- Likely to lead to questions which will take time to resolve

6 (i) **Advantages: both**

- Political objective to reduce poverty in retirement
- .. with less dependency on state handouts / means tested benefits etc. (so can reduce scope of these over time)
- If a fund held, monies available for investment

Advantages Final Salary (FS)

- Reasonably simple to operate/communicate
- Relates benefits to salary just prior to retirement, so best chance of maintaining standards of living in retirement for employees whose salaries peak close to retirement in real terms

Advantages Salary (AS)

- Fairer than final salary for employees whose salaries peak in real term earlier in their career
- .. providing the salaries used are revalued in accordance with an appropriate index
- Salary related contributions to match salary related benefits in each year
- Limited scope for selecting against the scheme by misrepresenting salaries

Disadvantages: both

- If related to future service, scheme will take many years to mature
- Could be very unpopular if contribution rates set too high
- .. especially for employers with employees in, existing schemes
- Could be seen as extra tax, with no initial visible benefit
- Need suitable admin system to collect contributions and maintain data records
- .. and regular audit to check on data integrity
- If PAYG (and contributions merged with normal tax receipts), could be storing up problems for the future
- .. i.e. benefit promises can't be met by the next generation without a substantial increase in contributions, or in tax rates
- Need to review terms periodically, and this could be unpopular if leads to contribution increases without change in benefits
- May have inadequate population data to make satisfactory projections
- Can be many cross subsidies between different classes of member
- Provides no benefit to the unemployed

Disadvantages FS

- Employers could increase salaries close to retirement to an unreasonable level, in order to enhance retirement benefits
- Possible fraud, by disclosing incorrect (low) salaries early on, and hence paying insufficient contributions
- Can be difficult to treat fairly people with broken employment histories

Disadvantages AS

- Complicated to administer
- .. need to maintain full salary history to calculate benefits
- Need to decide on a method to revalue benefits
- .. and then a mechanism to carry out the calculations
- May not be easy for beneficiaries to understand how benefits have been calculated, or how to check benefit levels

(ii)

- Requirement for opt out schemes to have good quality of benefits overall (suitably defined)
- And appropriate eligibility rules
- Minimum benefit levels from specified ages
- .. e.g. broadly matching benefits from state scheme
- .. so possible restrictions on early / late retirement, or commutation options
- Rates used to revalue benefits to be at least as good as those of state scheme
- Ancillary benefits, e.g. dependants / increases in payment / death benefits, to be at least as good as those of the state scheme
- .. e.g. in amount or value
- Restriction on investment, e.g. limited investment in high risk assets
- Regular certification of solvency from professional
- Exemption from making contributions to state scheme

7 (i) **Employer information**

- Detailed objectives of the exercise from the employer

- Is the employer concerned about the actual monetary costs or variability of those costs?

- Factors driving the employer's concerns on pension costs?

- Why does the employer think the costs are too high currently?

- Copies of previous advice received 3 years ago and reasoning behind the decisions taken at that time

- What are the aims of the employer in offering pensions – e.g. recruitment and retention of staff

- Budgets the employer has available for pension arrangements for the future

- Employer's business plans – e.g. expansion of workforce, or contraction of workforce and timescales for these plans

- Wage/pension agreements that have been entered into already

- Workers' value on pensions
- Competitor practices in relation to pensions

Scheme documentation

- Copies of complete up to date scheme documentation including Trust Deed and Rules/contracts for all pension arrangements
- Details of any special individual arrangements
- Any further documentation outlining scheme benefits, eg option terms
- Including copies of member communications such as booklets/benefit statements etc.
- Copies of the reports on the most recent full actuarial valuation of the defined benefit pension schemes
- Any more recent funding work completed on the schemes
- Copies of latest Trustee Annual Reports
- Latest target quotes prepared for the DC schemes
- Details of investment strategy

Data

- Current asset values on all schemes
- Current asset values subdivided by asset classes
- Current membership data (maximum of 1 mark for membership data) (actives, deferreds, pensioners)
    - salary/pensionable salary roll
    - dates of birth/dates of joining company/dates of joining scheme/dates of exit)
    - marital status
    - member contribution details
- Details of insurance arrangements if benefits are insured
- Details of charges and fees on all schemes (advisers/investment managers/administration/trustees)

(ii) **Defined Benefit Pension Schemes**

- Close the schemes to future accrual and/or future salary increases
- Reduce/eliminate discretionary benefits
- Include existing DB members in a DC scheme that requires lower fixed employer contributions
- Employee contributions could be increased or introduced
- Reduce the level of benefit accrual, e.g. (Maximum of 1 mark for benefit reductions listed)
    - Increase normal retirement age,
    - reduce accrual rate,
    - reduce/remove post retirement increases.
- The employer could limit the use of member options which currently increase the cost of the schemes
- The employer could encourage the take up of options which reduce the costs of the schemes
- Or change terms to make less valuable
- Change the investment strategy towards assets yielding higher returns
- Most cost effective method of providing death in service benefits e.g. to insure or not?
- Similarly is it better to buy annuities at retirement(value for money versus volatility)
- Consider other risk transfer solutions
- If the schemes are in deficit negotiate a longer recovery period
- Negotiate to use any surpluses to reduce retirement contributions going forward
- Consolidation of defined benefit pension schemes with a view to reducing overall costs
- Review the administration charges/advisor fees/investment manager fees. Are these competitive? Is there any scope for their reduction?
- Wind up all defined benefit pension arrangements transferring members to individual policies, legislation permitting.

Defined Contribution Pension Schemes

- Reduce the target benefits
- Stop targeting benefits
- Reduce the employer defined contribution rate
- Change the definition of salary upon which contributions are based
- Introduce a contribution structure where the employer only matches the employee rate
- Tighten up eligibility criteria – to reduce the number of members covered where possible, e.g. minimum service period, employees on short term contracts
- Changing the balance of self-administration/outsourcing
- Cost-effectiveness of Trust versus contract based arrangements?
- If the employer is paying the expenses, then can these be reduced or shared with employees.
- Simplify the defined contribution schemes to reduce operational expenses e.g. reduce choice of funds on offer
- If death in service benefits are exclusive of fund values and insured and employer pays – Employees meet entire cost through fund deduction
- Alternatively make them inclusive of fund values
- Consolidation of DC schemes may result in cost savings?
- Are any tax rebates available that will reduce the cost of the scheme that are not being availed of at present?
- Close down the schemes and do not replace them, subject to legislation and contracts of employment

(iii) **Legislation**

- Any legislative barriers to removal of and reduction in benefits and closure of schemes
- One off cost implications of altering defined benefit pension provision – for example the employer may need to buy out benefits on winding up

Scheme documentation/Governance

- Any barriers in schemes' governing documentation

- The trustees of the defined benefit pension scheme may be unwilling to agree to employer plans e.g. changing the investment strategy towards higher yielding equities

Workforce considerations

- Contracts of employment
- Agreements with workforce/Unions on pension arrangements
- Staff expectations
- Workforce dissatisfaction which could lead to industrial disputes and cost the employer more in the long run if production is affected
- Will there be staff tension relating to members of staff in similar jobs being on different pension arrangements?
- Risk of losing key staff
- Would any new arrangements be significantly worse than the norms for the industry?
- Are pensions used as a tool for attracting and retaining workers? Will changes be detrimental to this objective?
- Reduces HR flexibility to use the schemes to facilitate redundancy/reorganisation exercises

Administration and execution

- Lack of management time and resources to consider options fully
- The costs of putting in place new arrangements may outweigh benefits. E.g. adviser fees
- Difficulties and costs of administering new arrangements
- Will it be possible to negotiate discounts with investment managers / trustees / advisers?
- Liquidity issues if need to divest lots of assets

END OF EXAMINERS' REPORT