INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2015

Subject SA4 – Pensions and other Benefits Specialist Applications

Introduction

The Examiners' Report is written by the Principal Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should take into account the possibility that circumstances may have changed if using these reports for revision.

F Layton
Chairman of the Board of Examiners
December 2015

A. General comments on the *aims of this subject and how it is marked*

1. The aim of the Pensions and other Benefits Specialist Applications subject is to instil in successful candidates the ability to apply knowledge of the United Kingdom pensions and employee benefit environment and the principles of actuarial practice to providers of pensions and employee benefits in the United Kingdom.

2. This subject examines the ability of candidates to apply actuarial practice and concepts, together with specific knowledge of the UK pensions and employee benefit environment to potentially complex problems, integrating their analysis into a coherent whole, and evaluating and interpreting results to draw explicit conclusions.

3. The examiners therefore look for candidates to demonstrate their understanding of the syllabus but in particular they need to demonstrate ability in applying their knowledge and core actuarial skills to the specific situations that the examiners have raised, having read the question carefully. Consistently, many of the unsuccessful candidates provide answers that are not sufficiently specific to the subject matter of the question, reproduce core reading that does not directly relate to the question context, or focus on one specific point without covering the a sufficient range of points to answer the question. This does not enable the candidates to achieve the required marks. As regularly stated, the examiners encourage future candidates to remind themselves of what they learned in the Core Actuarial subjects, and to use past paper questions to practice applying these skills to the specific scenarios tested.

4. Good candidates demonstrate that they have structured their solutions well – this is a big advantage in making points clearly and without repetition. There is a significant incidence of points being repeated in slightly different ways, restricting the scope for candidates to score marks. Good structure enables candidates to use the latter parts of questions to generate ideas for answers to the early parts (or use their solutions to earlier parts of questions to create a structure for latter parts). Time management is important so that candidates give answers to all questions that are roughly proportionate to the number of marks available. The questions are set so that it should take approximately twice as long to answer a 10 mark question as a 5 mark one. Answers should therefore be similarly proportionate.

5. In addition, candidates should carefully consider the instruction – for example an instruction to list points should be answered with a list without attaching discussion. Similarly, a question asking for a discussion cannot be answered with a list of undeveloped points.

6. Finally, it is very helpful for the examiners to clearly identify points made if they are set out clearly, well-spaced and easily legible. Whilst there is no loss of marks for not doing so, doing so does make it easier to identify scoring opportunities.

B. General comments on *student performance in this diet of the examination*

1. The overall standard of scripts was similar to the previous session, with candidates over recent years maintaining a very consistent level of performance. There was, however, a slightly higher pass rate than at the previous session. The step up from the earlier subjects to a smaller number of more involved questions is relatively difficult for some candidates who find the application aspects of the course harder to score well on. This is an area that SA candidates consistently need to work harder on in preparation. By taking a methodical approach to answers, step by step, however, there are opportunities to score well.

2. It is important that candidates make sure they provide a full answer to all questions. Breaking the question down into smaller parts helps to make sure that a suitable breadth of answer is supplied; in some of the questions the examiners suggested areas to consider and the better answers followed this structure. It is critical that candidates check that their answers specifically refer to the details of the question, using all of the information in the question. It is not the intention of the examiners to include information in the questions that is not relevant to the answers. Taking care in these points of technique will help students score better.

C. Comparative pass rates for the past 3 years for this diet of examination

Year	*%*
September 2015	44
April 2015	42
September 2014	40
April 2014	36
September 2013	39
April 2013	36

Reasons for any significant change in pass rates in current diet to those in the past:

The pass rate for this examination diet is slightly higher than the April 2015 rate, but not materially different. Variation in the pass rate between sessions is expected as different cohorts of students sit the examination.

Solutions

Q1 (i)

Defined benefit arrangements e.g. final salary or defined benefit
Defined contribution arrangements
Defined ambition defined benefit arrangements
e.g. CARE, cash balance schemes
Defined ambition defined contribution arrangements
e.g. targeted DC, with profit / smoothed funds
Hybrid combining DB & DC
e.g. DC with top up to final salary with a salary cap

(ii) **Issues with defined benefit part of structure**

Actual cost too high
and unknown in advance
Excessive variability of contributions
Governance risk
e.g. non compliance, fraud
Salary risk
Funding risk
Inflation risk
Leading to increased contribution requirement
Investment risk
e.g. poor investment performance
Asset liability mismatch
Longevity risk
Legislative/regulatory risk
e.g. the Pensions Regulator's guidance on funding implies employers will need to pay affordable contributions
Adverse member options e.g. early retirement
Risk of maladministration
Risk of PPF levies increasing

Issues with defined contribution part of structure

Reputational risk
e.g. because of low pensions at retirement
Workforce management issues if members cannot afford to retire
The introduction of auto enrolment – predicting opt out rates
Compliance risk
May hinder recruitment if competitors offer a DB scheme
Legislative risk e.g. increasing the rate of required company contributions under auto-enrolment
Actual cost too high
e.g. due to high take up/low opt out, salary increases, matching requirements
Liquidity risk due to lack of flexibility in contribution timing.
Administration risk resulting from complexity

Hybrid arrangements

Depends on the type of arrangement
And the type of risk sharing involved

May need to comply with two sets of legislation (DB & DC) so increased complexity
Guarantees may be difficult to cost
Many of the above DB / DC type risks may still apply
=> any sensible comments

(iii) **DB – Mitigations**
Establish a risk register…
To help identify and monitor risks
Set up a Defined Contribution arrangement
or a hybrid pension scheme
Be prudent in setting technical provisions
Broadly match assets and liabilities (undertake an asset liability exercise)
Have an appropriate balance between risk and return assets
Purchase annuities at retirement date
Longevity or inflation swaps
Ensure member options are cost neutral
Ensure good admin practices and good governance
Difficult to mitigate against legislative risk unless the scheme is bought out

DC Mitigations
Increase employer contributions
Encourage members to contribute more via a matching contributions strategy
Regular pension statements and good communication may result in better member outcomes
Educate members to ensure they understand the risks
Ensure good governance

Hybrid Mitigations
Depends on the actual type of hybrid / risk sharing arrangement
Many of the DB / DC mitigations above may apply
=> any sensible comments

(iv) Consider legislative restrictions, particularly auto-enrolment
What are the company's objectives e.g. what is the cost and risk tolerances?
Do the company wish to pay contributions higher than the legislative minimum?
Perhaps to better attract and retain staff?
Will the scheme be set up under trust or contract?
If under Trust will NEST be used? Or who will act as trustees?
What provider will be used if set up under contract?
Consider the level of target benefits to be provided
subject to any cost constraints
Is 100% cash or a mixture of cash and pension to be targeted at retirement?
Will income drawdown be permitted?
Will high earners receive different benefits?
Level of employer and employer contributions
Definition of pay
Include overtime, bonuses etc.
Any employer matching employee contributions

Targeted population e.g. different scales for different parts of the workforce or categories of membership
Or age-related contributions
Range of investment funds to be offered
How investment performance will be monitored
Default Investment funds
Normal retirement date
Lifestyling near retirement date
How the proposed scheme fits in with the employees total employee benefit package
How will charges be met
Eligibility requirements
Availability of other benefits e.g. state benefits
Employee needs / expectations
Deciding whether to match or better competitors provision
Tax efficiency
Integration with any flexible benefit options
Consistency with any global pensions policy
Employee profile and the number of new hires
And the likely take up rate / auto enrolment considerations
Integration with payroll system
Frequency of review of investment options for members
Compliance with Myners principles
Governance issues e.g. Trust or Contract based
Setting up Governance committees
Death in service benefits and consider whether these will be insured
Incapacity benefits
Member communication
Administrative practice considerations e.g. simplicity

(v) **On inception**
Outline of scheme details
Including details of future communications to members
Which would include retirement projection illustration
Summary of general pension legislation and recent changes
Contact information including helpline details, administrator details and complaints procedure
FAQs to help members understand their benefits
Governance details e.g. trustees or other committee
Enrolment procedures
Including eligibility requirements etc.
Description of available investment options
Risk benefits
Expression of wish forms
Summary of tax implications for members
Information on expenses and who will meet these
Access to other information e.g. trust deed and rules, trustee report and accounts

On an annual basis
Confirmation of basic member details e.g. name, date of birth
Confirmation of chosen investment options
Actual Investment performance review
Commentary on future investment markets
Record of contributions
SMPI and sensitivity analysis ...
... allowing for both different investment and retirement benefit choices
... and varying investment performance
... and the illustration of benefits in real and nominal terms

Reconciliation of previous fund value and current fund value with contributions paid and investment performance
Information on the actual expenses paid

(vi) **Additional content**
Explanatory literature on the pension scheme
Including links to other documentation e.g. trust deed and rules
General education material
e.g. pensions legislation changes
pension tax issues
investment market commentary
and links to useful websites e.g. Pension Wise, Money Advice Service
Including information on the investment funds available
Comment on the outlook for investment returns
Including details on risk profile and historic performance
With links to independent investment expertise
Information on options at retirement including:
Information on trends in future life expectancy
And post retirement investment options
State benefits on retirement
With links to how to access independent financial advice
Glossary of pension terminology
Database of forms for completion and updating e.g. Nomination Form for lump sum death benefits
The ability to add details on dependants and health status to be used in the projection tools

Interactive tool
The tool could be used to provide up-to-date information on the current fund value
It could be used to illustrate the impact of;
increasing pension contributions at various time periods
differing future investment returns and / or investment choices
differing annuity options and choices
differing retirement ages
including drawdown options
differing life expectancies
allowing for the integration of other non pension investments (i.e. wealth management options)

Projections need to state and explain any assumptions made
And on a variety of bases to illustrate the impact and sensitivity of the assumptions
Especially any future investment returns
Best estimate or prudent assumptions could be illustrated
Benefits could be presented in current values
But also need to allow for inflation
Early, late or phased retirement illustrations
Allowing for the integration of other pension savings
Ability to update contributions
or personal details such as marital status
Disclaimers / caveats e.g. seek independent financial advice as appropriate
Confirmation that modelling tool is TAS compliant

Part (i)	Generally well answered.
Part (ii)	This question asked for risks and uncertainties experienced by the Company. The better candidates put themselves in the Company's shoes but several candidates did not tailor their answers, including every risk they could think, whether or not it was Company-related.
Part (iii)	Generally well-answered.
Part (iv)	Generally well-answered.
Part (v)	Generally well-answered.
Part (vi)	For many candidates there was insufficient breadth of answer.

Q2 (i) **Advantages**
More cost effective than individual DB schemes
With economies of scale (e.g. admin, actuarial and other fees etc.)
Pooling risk generally
Scheme experience is averaged over a much larger membership
Reducing potential volatility in future contribution rate
May allow more risk reduction opportunities e.g. mortality swaps etc.
And reduced cost of death benefits e.g. free cover limits
and / or allow self insurance
Larger pool of assets to invest allowing greater investment freedom and opportunities
And potentially a higher investment return
Facilitates easier transfer of members across participating employers
The credit rating of the combined may be improved so there may be greater security for members
Allowing greater funding freedom (e.g. reducing prudence)
PPF levy might reduce if it is classed as a last man standing scheme
Could be considered to be fairer as all university employees are on the same benefits
Those members whose benefits are improved will be happier

Disadvantages
The underlying DB risks are essentially unchanged
Benefit packages will need to be harmonised

Splitting running costs may be problematic
Employer covenant for participating employers will differ
May be s75 debt considerations on insolvent employers
May be cross subsidies from scheme experience
and where the member profiles differ between employers
e.g. mortality, future salary increases
Individual employers may be unable to influence future investment strategy
Scheme complexity e.g. governance procedures may be more complex
May introduce member concerns e.g. if worse benefits are provided
High cost of legal, actuarial advice etc.
Transitional costs will be especially high if accrued benefits are included in the new scheme
Lack of contribution flexibility
Reduced choice on benefits which may reduce the employer's ability to target key employees e.g. through discretionary benefits ...
... and manage manpower planning e.g. to attract/retain staff

(ii) Not allow the facility while the funding level was below a certain level
The estimated cost of each tranche of extra benefit could be calculated by the scheme actuary
Based on the current funding basis or a "buy-out" estimate
And funded as a lump sum
or over a fixed time period
Put a limit on the maximum cost
or number of such improvements
Medical evidence may be requested
A requirement to get agreement from all participating employers
Or require trustee consent

(iii) to reduce overall pension costs
and reduce the key DB type risks
reduce running costs
economies of scale
The general demise of DB schemes in the UK
halfway between DB and DC
e.g. Defined ambition
to provide greater certainty for members in a DC arrangement
reduces volatility of employer cost
sharing some risks with members e.g. investment
and passing others e.g. mortality risk to membersmay open up more investment opportunities
may promote uptake in private sector pensions
which may reduce reliance on State benefits
To enhance flexibility of benefit provision for members
It is easier for employers to provide improvements for targeted members
Possibly less legislative risk

(iv) **Employees' benefits at retirement**
Expressed in terms of pension
And not an individual investment account

Not guaranteed but based on projections from the total contributions from employer and employee
and may be lower than intended
or even reduced in payment (or increases cut back) in exceptional circumstances
There will be a need to explain clearly the level of likely benefits and their derivation
Likely to be higher than equivalent DC scheme
Because of higher expected investment returns
And greater predictability of outcomes
Emerging scheme experience may result in higher benefits (or lower)
Pension benefits paid by scheme rather than through purchase of an annuity
Unlikely to be able to take a fund at retirement to another pension scheme or investment vehicle
It may be possible to take some benefit as cash at retirement

Governance
A trust based framework may underpin the collective DC arrangement
With the trustees operating at arms length of each of the participating employers
The trustees would have a requirement to manage the finances of the plan
And to distribute the investment returns equitably to different generations of members
The governance process and financial management needs to be open and transparent to facilitate member understanding and trust
Governance is needed to ensure security of the scheme's assets
Trustees would need a high level of knowledge of investment and funding matters
And probably be professional qualified independent trustees
Need to be aware and compliant with the current regulatory framework and any anticipated changes
Projections of members' benefits would need to comply with any legislative or regulatory requirements
The Trustees should consider setting out an investment policy
showing the investments to be held, expected returns, realisation of assets etc.
Communication would need to come from the individual employers and the scheme as a whole to generate trust in the schemes operation
The trustees should seek professional advice as necessary e.g. a scheme actuary may be appointed and legal advice obtained from time to time
The trustees may need to have a policy on reviewing the contribution policy and benefit targets

Employer and employee risk
The aim of the collective DC arrangement is to provide higher pensions than conventional DC
With less variable or volatile outcomes for members i.e. greater predictability of outcomes for members
Pensions would be paid from the Plan rather than purchasing annuities so return seeking assets could be held to produce higher investment returns
This increases the risk for members but may produce higher pensions

Not purchasing annuities means the plan can optimise the mixture of risk taken and avoid locking into low bond yields or deferring the decision until more favourable rates are available
Risks are shared collectively by the members rather than individually
The employer has many of the advantages of running a DC scheme e.g. transfer of investment and longevity risk
Members receive the benefits of a smoothed investment return but not a guaranteed investment return
Future legislative changes may represent a risk for the employer e.g. guarantees added for members
There may be an intergenerational cross subsidy for members arising from the smoothing of investment returns
Less cost volatility for the participating employers than a DB scheme
The collective DC scheme aims to share risks among a number of parties including scheme members and employers
There is a reputational risk to the employer if benefit targets are not achieved and/or benefits are reduced
The benefit target may reduce the employer's ability to specifically target key employees e.g. through discretionary benefits ...
... and manage manpower planning e.g. to attract/retain staff
There is a risk that employer and/or employee contributions may need to be increased in the future
There is a risk that contributions are required at inopportune times due to the inflexible contribution structure

Investment of assets
Assets are pooled rather than being allocated to individual members
With benefits expressed in pension terms rather than the capital value of an account
Investment policy is determined on an aggregate basis
without any need for decisions from members
The collective approach potentially delivers access to the best investment expertise
With investment returns allocated to members "smoothed" over time
And access to a wider mix of investment opportunities and diversification
And can take a longer term investment view especially as annuity purchase is not necessary
And have more assets in illiquid investments e.g. infrastructure which may have higher investment returns
Investment expenses should be more competitive / cheaper

Part (i)	Only the better candidates focussed on the advantages and disadvantages from the participating employers' perspective.
Part (ii)	Generally well-answered.
Part (iii)	Generally well-answered.
Part (iv)	Many candidates struggled with this part however the better candidates applied their knowledge to an unfamiliar scenario to score more marks.

Q3 (i) **Immediate annuities / deferred annuities**

Advantages
Removes mortality risk
Removes investment risk
Reduces inflation risk
This will result in less volatile contribution requirements
And a less volatile accounting position
May be able to purchase on advantageous terms if annuity market is competitive
If the funding basis is strong the "extra" cost might be relatively small
No future funding risk or future contribution requirements for the DB scheme
Improved security for members if the insurer's covenant is strong
Reduces future investment strategy fees if all members "bought in"
Allows employer to focus on DC scheme which provides the future pension accrual
Members will not see any change to their pensions
The trustees can maintain control of funds as they pass though the scheme

Disadvantages
Costs may be higher e.g. insurance company profit margin
And cause a "funding strain"
Transactional costs / fees may be significant
Terms are generally less competitive terms for deferred annuities
Possible capacity issues as the scheme is large
No opportunity for investment
or mortality profit
Any ongoing funding surplus cannot be used for future DC contributions or expenses
It may not be possible to match benefits precisely e.g. where increases in benefits are based on the CPI
Future discretionary increases become more complex
Immediate liquidity constraints when buying the annuities
Administration saving may be small or not materialise
If not all members are "bought in" the future investment strategy may be further constrained
Possible communication issues with members and future benefits would be paid by a third party
Security risk if the insurer's covenant is not as strong as the employer's

(ii) **Members**

Advantages
More choice for the member
To fit their own personal circumstances
And be similar to chosen defined contribution benefit scheme
E.g. different pension increases, guarantee period
Choice of dependants pension or not
Access to flexible drawdown
Access to impaired life annuity

Benefits could be more secure if the insurer's covenant is strong
If the terms are good the member may receive higher benefits

Disadvantages
Transfer basis may not be generous
Especially if a reduction is in place
Or if gilt yields are low at the time of transfer
In particular, the transfer basis is likely to be weaker than the cost of purchasing equivalent benefits with an insurer
Need expert advice to purchase the "correct" benefits
Post retirement investment & mortality risk borne by the member
Retirement age may not meet the member's needs or tally with the NRA from the DC scheme or State Pension Age

Employer

Advantages
The member's benefit is transferred out of scheme at retirement
therefore removing the post retirement mortality
and the investment and inflation risks
Potential actuarial gain at retirement if TV basis less generous than funding basis
A cheaper alternative than purchasing an immediate annuity based on the scheme benefit
Removes future expenses in respect of the member
Positive impact for accounting disclosures

Disadvantages
May have to pay for member education / advice
Increased admin complexity
Take up rate may be low
Selection risk if members in ill health or without dependants transfer
Possible liquidity issues if take up rate is very high
Possible reputation risk if members end up with poorer benefits
Litigation risk in extreme

(iii) more choice and flexibility available in the insurance environment
e.g. drawdown, investment type / mix, pension age
flexibility over how much income is taken each year
may run out of money if underestimate life expectancy i.e. member bears own longevity risk
or have volatile income
can retain equity type investment
and / or change the mix of investments
specialist advice needed
which might be expensive
may incur heavy admin costs
lack of guarantee
a larger lump sum can be taken than within the DB scheme
tax considerations

beneficial for some members
e.g. with short life expectancy, unmarried or no dependants, heavily in debt (can pay off debts immediately), prefer wealth to an income stream
any residual income could be passed onto any dependants
The risk of mortality drag
Concerns about the security of the new pension arrangement
Size of benefit that can be provided before and after transfer

(iv) Provisions of Trust Deed & Scheme Rules
Any legislative requirements e.g. discrimination requirements
Any established practices / precedents
What members have been told / expect / need
Potential for selection against the scheme
Any funding and/or solvency implications
Need to remove the salary link within early retirement factors
Any market practices/ peer group / competition
Consulting the employer to determine their objectives
e.g. with regard to cost, risk and workforce planning
Ease of understanding
Ease of administration
Cost of making the changes
Pragmatism (actuarial precision v practicality)
Timing of change / how long factors should be in place to aid member planning
Conversion factors are becoming under greater scrutiny
However they will be less relevant if more members transfer
Any changes in investment strategy since the scheme closed
Who has the power to determine the factors..
... and the requirement to take advice
Fairness between those taking the option and those not ...
... and whether best estimate neutrality should be considered or neutrality on the funding or solvency basis
... and whether market-related or fixed factors should be used
Consistency across all the options
And any other options available in the scheme
For example between cash conversion and transfer value terms as that is an alternative way for members to access cash
Expected take up rates and therefore materiality of the factors

(v) The implications for the scheme depends on what basis is to be used to determine the factors
The factors could be cost neutral in general terms or neutral on the SFO or solvency basis
The impact depends on the take up of the option
If the new factors are actuarially neutral this will remove any funding strain / gain
Consideration needs to be given to honouring existing quotations
Consideration needs to be given to communication to members
May change the future incidence of late/early retirements
and hence future cashflows / investment strategy

Early retirement
If the option is to be cost neutral then it will result in a lower ERF than if a more prudent basis is used such as the SFO or solvency basis
If this approach is used there will be a funding and solvency gain ...
... which may result in lower contributions requirements
... as a result of an earlier release of the better experience than reflected in the prudent funding basis.
If the new factors are actuarially neutral on the funding/solvency basis this will remove any possibility of funding/solvency strain

Late retirement
If the option is to be cost neutral then it will result in a higher LRF than if a more prudent basis is used
Thus there will be a funding and solvency loss ...
... which may result in higher contributions requirements
... as a result of a later release of the better experience than reflected in the prudent funding basis
If the new factors are actuarially neutral on the funding/solvency basis this will remove any possibility of funding/solvency strain

Conversion to cash at retirement
If the option is to be cost neutral then it will result in a lower conversion factor than if a more prudent basis is used
This will result in a lower residual pension in the scheme
Thus there will be a funding and solvency gain ...
... which may result in lower contributions requirements
... as a result of an earlier release of the better experience than reflected in the prudent funding basis.
If the new factors are actuarially neutral on the funding/solvency basis this will remove any possibility of funding/solvency strain
As up to 25% of the value of the pension can be taken as a tax-free lump sum this is a popular benefit
Thus any worsening in commutation terms may have a large impact on the scheme as members are likely to continue to take cash. Members may take cash even if terms are less favourable than cost neutral
as they may prefer having their money sooner and it is not taxed

Part (i)	Generally well-answered. The better-structured answers were split clearly into advantages and disadvantages.
Part (ii)	Generally well-answered. The better-structured answers were split clearly into advantages and disadvantages for each party; this approach would help candidates to generate more points.
Part (iii)	Generally well-answered.
Part (iv)	Generally well-answered.
Part (v)	Many candidates struggled with this part. Considering each set of factors in turn could help to generate sufficient points.

END OF EXAMINERS' REPORT