

CHANGES TO THE SYLLABUS AND CORE READING FOR SUBJECT SA4 FOR THE 2009 EXAMINATIONS

Changes to the Syllabus and their impact on Core Reading

Syllabus objective (h)

The third bullet point in objective (h) has been amended to read:

- the level and incidence of return on assets when benefits are funded

Syllabus objective (j) - has been amended to read:

Determine an appropriate basis for the valuation of a United Kingdom defined benefit scheme.

Changes to Core Reading

UNIT 1

The following terms in the glossary have been amended to:

Final remuneration*

The maximum amount of earnings which HMRC will permit to be used for the purpose of calculating the maximum allowable benefits under a registered occupational pension scheme. It is applicable to scheme members who have opted for primary or enhanced protection in respect of benefits earned prior to A-Day.

Insured scheme*

A scheme where the sole long term investment medium is an insurance policy (other than a managed fund policy).

The sources of Guidance Notes in the required reading have been amended to:

Guidance Notes 9, 11, 16, 19, 26, 28 and 36

Board for Actuarial Standards
(reproduced as an appendix to Core Reading)

Guidance Note 29

Actuarial Profession Standards
(reproduced as an appendix to Core Reading)

One reference used in producing the Core Reading has been amended to:

Pensions Pocket Book 2008

NTC Publications Limited in association with Hewitt

UNIT 2

Section 2.1

The start of the final paragraph of this section has been amended to:

This full basic state pension (BSP) payable during the 2008/2009 tax year is £90.70 per week. The married person's pension for 2008/2009 is £145.05 per week.

Section 2.3

The final paragraph of this section has been amended and a further paragraph added as follows:

The QEF is equal to the lower earnings limit and for 2008/2009 is £4,680. The LET for 2008/9 is £13,500. The UEL for 2008/2009 is £40,040.

From 2009, changes will be phased in to target a flat-rate top-up to BSP. Band 1 accrual will be replaced by a flat-rate accrual. From 2010, Bands 2 and 3 will be merged and accrue at 10% and the UEL will be fixed so that this band will disappear once the UEL is overtaken by $(3 \times \text{LET} - 2 \times \text{QEF})$.

UNIT 3

Section 3.3.1.1

The text now shows the Annual Allowance at 2008/09 of £235,000 and the first row of numbers in the table underneath has been deleted.

The second paragraph under the heading "How the AA will apply in practice" has been amended to read:

The value placed on contributions into a defined contribution scheme will be the monetary amount of contributions paid. The value placed on benefits accrued in a defined benefit scheme will be ten times the difference between the amount of accrued pension entitlement at the end and beginning of the input period plus the amount of any separate lump sum accrued. Contributions to non-registered arrangements will not count towards the AA.

Section 3.3.1.2

The text now shows the Lifetime Allowance at 2008/09 of £1,650,000 and the first row of numbers in the table underneath has been deleted.

Section 3.3.2

This section has been replaced entirely by the following text:

The UK tax regime prior to A-Day

Prior to A-Day, HMRC (then known as the Inland Revenue) only granted approval to a scheme provided it included in its Rules the provision that benefits and contributions paid would not exceed certain maximum levels. This regime has now been superseded by the

new regime described in 3.3.1 above. However, schemes are currently permitted to impose the limits on the benefits provided.

There were three sets of limits depending on when the member joined the scheme in relation to two dates — 17 March 1878 and 1 June 1989. The three sets were commonly known as “pre-1987”, “1987” and “1989”.

All three regimes intended to limit pension benefits on retirement to broadly 2/3rds of Final Remuneration and, by commutation, limit the lump taken to 1½ times Final Remuneration. The rate at which these benefits accrued in service differed between the regimes. For example, the maximum benefit could be accrued after 10, 20 or 40 years depending on which set of limits applied.

Restrictions were also placed on spouses’ benefits on death of broadly 2/3rds of the member’s pension and on lump sum benefits on death in service of broadly 4 times Final Remuneration.

Employee contributions were restricted to broadly 15% of Final Remuneration (inclusive of AVCs and FSAVCs).

For the 1989 limits, Final Remuneration was subject to an overall cap on earnings. For schemes currently imposing limits on benefits and members subject to protection on their pre-A-Day benefits, a notional earnings cap is still in existence and is expected to increase in future in line with RPI. The notional earnings cap for the 2008/09 tax year is £117,600.

Section 3.4

The last sentence in the third paragraph in this section has been amended as follows:

The current reductions are 3.7% for the employer and 1.6% for the employee.

Section 5.4

The following text has been added at the end of this section:

An eleventh Code Of Practice entitled “Dispute Resolution — reasonable periods” was laid before Parliament in March 2008. It applies to trustees or managers of occupational pension schemes and trust based stakeholder schemes and to the ‘specified person’ making a decision in a two-stage dispute resolution procedure. It will also be of interest to pensions practitioners in general.

Section 5.11

In the fourth paragraph in this section the PPF cap has been updated to show an approximate cap of £30,900 for 2008/09.

The text under the heading “Levies” has been amended and augmented as follows:

The cost of the PPF is met by a combination of scheme-based and risk-based levies. The scheme-based levy comprises of 20% of the aggregate cost of the PPF levies with the remainder comprising the risk-based element. The UK Government has the power to change this percentage but is not expected to exercise it.

At the start of each financial year, the PPF Board estimate the total levies required to fund the PPF. For the 2008/09 financial year, the estimates for the scheme-based and risk-based levies were £135 million and £540 million respectively, giving a total of £675 million, i.e. the same as for 2007/08. The intention is that this figure will remain stable for the next three financial years, subject to earnings indexation and assuming there are no significant changes to the level of risk.

The scheme based levy imposed on a scheme is determined by the value of the scheme's protected liabilities, multiplied by a multiplier which is set annually. At the time of going to press, the PPF had provided an indicative multiplier of 0.000152 for the 2008/09 tax year.

Comment [s1]: Await final figure update from PPF

The risk-based levy imposed reflects the state of funding of the scheme and the one-year risk of insolvency of the sponsoring employer and is scaled up or down by the PPF Board as necessary to ensure that the total levy is aligned with the Board's overall estimate for the year. The formula for calculating the risk-based levy is:

$$U \times P \times 0.8 \times c \text{ where;}$$

- U = underfunding risk
- P = PPF assumed probability of insolvency
- 0.8 = percentage of the total levy that is risk-based
- c = levy scaling factor (an indicative factor for 2008/09, based on data from the end of September 2007, is 1.6)

U is determined in accordance with the funding level of the scheme on the Section 179 basis (see below), i.e. the relative values of the Assets and Protected Liabilities as follows:

Funding Level (i.e. Assets ÷ Protected Liabilities)	U
Less than 120%	(Protected Liabilities × 1.21) - Assets
Greater than or equal to 120% but less than 125%	Protected Liabilities × 1.00%
Greater than or equal to 125% but less than 130%	Protected Liabilities × 0.75%
Greater than or equal to 130% but less than 135%	Protected Liabilities × 0.50%
Greater than or equal to 135% but less than 140%	Protected Liabilities × 0.25%
Greater than or equal to 140%	Nil

The table above shows that to recognise the strongest schemes the PPF Board does not impose a risk-based levy on schemes with funding levels on a Section 179 basis in excess of 140%.

P is calculated with reference to a failure score calculated by Dun & Bradstreet. The employer is assigned to one of 100 risk bands corresponding to the failure score. The PPF Board imposes a cap on the risk-based levy. The objective of the cap is to limit the levy paid by the weakest schemes. For the 2008/09 tax year the cap has been set at 1.00% of liabilities calculated on a Section 179 basis.

To measure scheme funding, schemes will be required to complete a Pension Protection Fund (Section 179) valuation. A section 179 valuation broadly approximates the cost of buying out Pension Protection Fund liabilities from an insurance company. Scheme Actuaries must complete a Section 179 certificate and submit it annually to the Board of the Pension Protection Fund. Guidance has recently been modified by the Board to allow for a degree of prudent approximation which should enable schemes to provide the Certificate without having to complete an out of cycle valuation.

Schemes will be invoiced each year.

Section 6.3

The following text has been added at the end of this section:

From April 2012, contracting out on a Protected Rights basis will be abolished and members of affected schemes automatically cease to be contracted out.

UNIT 4

Section 1.2.2

The text in this section has been amended and augmented to the following:

FAS 158

In September 2006 the FAS Board introduced FAS 158 as an amendment to FAS 87, (and FAS 88, 106 and 132) to come into effect for financial years ending after 15 December 2006 for publicly traded entities and at the end of the financial year ending after 15 June 2007 for all other entities. The requirement to measure plan assets and benefit obligations as of the date of the employer's fiscal year-end statement is effective for financial years ending after 15 December 2008.

Under the provisions of FAS158 there are two main changes to FAS87:

- Full recognition of funded status — the surplus or deficit in the pension scheme must now be fully recognised as an asset or liability in the company accounts.
- Date of measurement — the company must measure the funded status of the pension scheme as at the fiscal year-end date.
- Recognition of changes in the funded status of a plan — changes must be recognised in the year in which they occur.

Section 2

The first paragraph in this section has been amended as follows:

The Faculty and Institute of Actuaries issue guidance to actuaries on the application of professional conduct to specific aspects of the work of the actuary and on the interpretation of relevant legislation and relevant standards or guidance issued by other professional bodies. This guidance is set out in the form of Guidance Notes which appear in the Actuarial Profession Standards for Guidance Notes 24, 29, and 48 or the Board for Actuarial Standards for Guidance Notes 3, 4, 9, 11, 13, 16, 19, 21, 28, 34, 36, 49 and 51. Guidance Notes are divided into two categories: Practice Standard and Recommended Practice.

The following text has been added to the final paragraph in this section:

A new “Actuaries’ Code” to replace the PCS is under review at the time of going to press and is expected to be implemented late 2008.

UNIT 8

Syllabus objective

The text in this section has been amended to reflect the change to syllabus objective (h).

Section 2

The last two sentences in the fourth paragraph in section 2 have been amended as follows:

Legislation reduces these risks by requiring pensions to be increased, after leaving employment and in retirement, in line with price inflation up to 2.5% per annum. However, not all pensions are covered by this legislation, and even where they are there is still a risk that the annual inflation rate exceeds 2.5%.

UNIT 9

Section 1.2.1

The fifth item under “obligations for the seller” has been removed as follows:

- to seek approval from the IRSPSS and the IRNICO

UNIT 10

Title and syllabus objective

The syllabus objective shown has been amended to reflect the change to syllabus objective (j) and the title of this unit has been amended accordingly as follows:

UNIT 10 — VALUATION OF A SCHEME

Section 3.2.1.5

The text of this section has been amended as follows:

The Attained Age method, in the form of the Aggregate method, was once popular in the UK. However, increased attention on the realistic nature of the contribution rate and in particular the need for this when producing costs for a company's accounts led to an increased use of the Projected Unit method for schemes that are open to new members. In addition, the Regulator does not permit use of the Aggregate method as the technical provisions must be determined using an accrued benefits funding method. Similarly the Entry Age method is rarely used in the UK due to its inconsistency with the statutory valuations. The Current Unit method is also rarely used in the UK, except when a long control period is applied, so making it similar to the Projected Unit method (and of course when early leaver revaluation is allowed for, which is common practice in the UK).

Section 5.1

The final sentence in the fourth paragraph of this section has been amended as follows:

Many schemes also provide, usually on a discretionary basis, additional increases which match price inflation, or do so to the extent possible given the funding level of the scheme.

Section 5.3.4

The third paragraph of this section has been amended as follows:

Given the reduction in interest rates and expected returns, it is now more important for actuaries in the UK to consider longevity risk and mortality projections. Further detail on this area is in section 5.7 at the end of this Unit.

Section 5.7

The text in this section has been amended to the following:

5.7 Longevity risk and mortality projections

5.7.1 Introduction

Over the last 15 years, longevity in the UK has continued to improve at faster rates than in previous periods. It is believed that this is because of continued advances in medicine and healthcare in the UK. This, combined with much lower interest rates, has led to increased attention being paid to mortality projections and longevity risk for pension schemes. In 1999, the Continuous Mortality Investigation Bureau (CMIB) produced the "92" Series of standard mortality tables, based on life-office experience during 1991–1994. These

tables included a single projection of future mortality improvements, which could be used to derive a double-entry mortality table. Double-entry mortality tables can be used either on a Calendar Year basis (by projecting mortality rates at each age to a given point in the future), or on a Year of Use / Year of Birth basis (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. The Profession therefore published three sets of "interim cohort adjustments" to the projections. These are discussed further in 5.7.3 below.

In August 2006, the Profession published new mortality tables (the "00" series) based on insured lives' experience during 1999–2002.

Unlike with previous tables, the "00" series did not incorporate future mortality projections, in recognition of the uncertainty surrounding future improvements. The CMIB undertook significant research into possible methods of projecting mortality but this work did not lead to adoption of a specific projection basis by the Profession.

Instead, the Profession has said that actuaries should consider a range of scenarios. The CMIB has published a "library" of sample projections to assist actuaries in this regard.

Actuaries have always been expected to satisfy themselves that using a table published by the Profession is appropriate for the particular purpose to which it is put. The absence of mortality projections in the "00" series tables emphasises the need for actuaries to consider the uncertainty surrounding future mortality experience and to explain the financial repercussions of this uncertainty to their (employers and) clients.

Recently, the CMIB has been carrying out an analysis of data relating to self-administered pension schemes (SAPS), which has shown that the mortality experience of pension scheme members is significantly different to that of life-office annuitants. Further detail is given in 5.7.6 below.

5.7.2 Regulations and professional guidance

At present there is no specific regulation or guidance for pensions actuaries in terms of future mortality improvements. However, it is expected that the Pensions Regulator will issue commentary on mortality assumptions for Trustees determining their Statutory Funding Objective (SFO) under the scheme-specific funding standard.

Actuaries working in Life insurance are subject to a number of Guidance notes and regulations in this area which are beyond the scope of SA4.

5.7.3 Principles of mortality projections

A large part of longevity risk is the simple uncertainty about future mortality rates — the longer one looks into the future, the less certain one can be. All forms of projection are fraught with difficulties.

There are several different approaches to determining future rates of mortality improvement.

Process-based projections attempt 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 cause-of-death processes. Extrapolative methods are based on projecting historical trends in mortality into the future, although all such methods include some element of subjective judgement, for example in the choice of period over which such trends are to be determined.

The “92” series mortality tables (described above) included a set of projection factors based on experience over the recent past up to 1994. These factors were set out formulaically and the same future rates of improvement were used for male and female lives tables.

In common with a number of other developed countries, mortality improvements in the UK exhibit strong patterns by year of birth or “cohort”. The causes of this are open to interpretation, but an important part of this is down to changes in the proportion of the underlying population who smoke.

In recognition of the cohort effect, the CMIB introduced mortality improvement projections in 2002 based on year of birth. These mortality projections were derived from extrapolation of patterns in the male lives assured data. In particular, the population of individuals born between 1910 and 1942 were exhibiting much faster rates of mortality improvement than predicted by the original “92” series projections.

This was the first time that the CMIB had not published a single deterministic projection of future mortality rates, but produced instead a selection of three, the so-called short-, medium-, and long-cohort interim projections. These projections were initially designed to sit on top of the “92” series.

The short-cohort projection allowed for the “cohort effect” to reduce to nil over the period to 2010 — that is, the projection rates were assumed to revert back to the original “92” series projections by 2010. The medium-cohort adjustment applied until 2020 and the long-cohort until 2040. These dates were chosen arbitrarily.

Publishing a range of different projections was part of a deliberate move away from the false certainty of a single projection, and a step towards explicit recognition of the uncertainty surrounding the path of future improvements. This, in turn, has led to the consideration of stochastic approaches, mainly used in Life Insurance, though an increasingly important area in pensions. Section 5.7.4 below covers this in more detail

Scenarios similar to the three cohort projections described above are regarded as very useful in presenting mortality risks to non-actuaries. Scenarios based on stochastic approaches may be less easy in this respect.

5.7.4 Stochastic approaches to projecting mortality

Compared with the single deterministic projections (e.g. “92” series), and the three cohort projections that followed, a stochastic approach generates many different scenarios. This means that a range of future possible scenarios can be allowed for, regardless of how small the probability of any particular scenario arising may be.

In 2007, the CMIB published a library of mortality projections based on a number of different deterministic and stochastic approaches. Two methods of stochastic mortality projections tested by the CMIB and used to produce several of the sample projections included in the library are the Lee-Carter method and the P-spline method.

Each has its own advantages and disadvantages. In particular, the P-spline methodology may be suitable for short-term projections, but most weight is placed on recent experience and so may not be appropriate for longer-term projections. Similarly, parametric approaches (such as the Lee-Carter method) place equal weight on all historic data and so may not be suitable for short-term projections. Knowledge of these methods is not required for Subject SA4.

5.7.5 Alternative approaches to projecting mortality

Many projection methods (including the interim cohort adjustments) assume that rates of mortality improvement will reduce in future (i.e. longevity will continue to improve, but at a slower rate than currently). Some analysts argue that there is no evidence for a slowing in mortality improvements, particularly with continuing medical advances.

One way to ensure that mortality improvements do not tail off is to underpin projections with a minimum improvement. For example, a minimum improvement of 2% p.a. means that the mortality rate (q_x) of someone who is, say, 65 years old next year will be at most 98% of the mortality rate (q_x) of someone who is 65 years old this year (and so on at all ages, in all future years). Such underpins would need to be used with care to ensure that for any one cohort or year of projection, mortality rates progress smoothly with age and in a manner which could be reasonably expected.

It is possible to allow for future mortality improvements indirectly in an actuarial valuation. For example, an actuary may incorporate an implicit allowance by reducing the rate at which liabilities are discounted by, say, $\frac{1}{4}\%$ – $\frac{1}{2}\%$.

5.7.6 Choosing an appropriate mortality assumption

Approaches to determining future rates of mortality focus primarily on a three stage process:

- Selecting an appropriate “base” mortality assumption.
- Updating the base table to account for the time elapsed between the exposure period of the underlying base table data and the current date.
- Projecting the adjusted base tables into the future by the application of mortality improvement factors.

Recent surveys show that most pension scheme funding and accounting valuations are based on the “92” series standard tables, commonly with an allowance for the medium-cohort improvement factors. There has been some criticism that pension scheme actuaries are not using appropriate and up-to-date mortality assumptions. It might be expected that for future valuations, use will be made of “00” series published in August 2006.

Pensions actuaries must consider adjusting projections to reflect an individual scheme’s experience where the scheme is sufficiently large.

It is important that, when advising on a mortality assumption, the purpose of the valuation is taken into account. For example, a scheme’s technical provisions should be derived using prudent assumptions, whereas assumptions for accounting valuations (under FRS17 or IAS19 for instance) should be a best estimate, although, as noted earlier there is no consensus on what a best estimate allowance for future mortality improvements means.

The term “best estimate” should be used with caution and is not intended to be interpreted in a statistical context as there is not a sufficiently reliable model (and hence probability distribution) of the likely pattern of future mortality rates). In some valuation circumstances, the mortality assumption might be prescribed (for example, a valuation for PPF purposes).

Users of standard mortality tables should be aware of how the population underlying the table may differ from the population to which the table is applied. In particular, the “92” and “00” series tables are based on the mortality experience of life-office annuitants.

The CMIB has recently published a series of working papers covering its investigation into the mortality experience of self-administered pensions schemes (SAPS). The initial findings of the SAPS investigation (which is based on a much larger data set than the equivalent life-office studies) has shown that pension scheme members generally exhibit heavier mortality than life-office annuitants. However, the pensioners receiving larger pensions exhibit lighter mortality rates. This should not be surprising as many studies have shown that longevity is affected by wealth. Given this, it is not uncommon for very large schemes to have different mortality assumptions for different levels of pension. Clearly it is important that there is sufficient credible data to achieve this so pensions levels are usually broadly banded into, say, less than £15,000 p.a. and greater than £15,000 p.a.. It would be better if the data could be grouped into salary levels at retirement or leaving but this is often unavailable.

The CMIB anticipates publishing an initial set of graduated mortality tables based on its SAPS investigation in 2008. Work is also underway on a study of pension scheme data split by industry sector.

Some life offices are using post-code as a rating factor in pricing pension annuity business. This is to reflect that pensioners in higher socio-economic groupings tend to experience lighter mortality. For occupational pension schemes, information such as salary and job title will be a good indication of socio-economic class and as such, post-codes will not add much additional information.

Once a base table has been selected, it may be necessary to bring the table up-to-date, particularly if there is a long period between the mid-point of the underlying table’s exposure to risk period and the date of the valuation. This can be done by incorporating an allowance for known experience in the underlying dataset (if available), or by projecting as described above (though care should be taken that the projection is not likely to over- or under-state actual experience).

Finally, a projection method should be chosen to derive future expected mortality rates. Stochastic methods can be used to derive a distribution of future mortality rates. These can, in turn, be used to derive confidence intervals for life expectancies, or can be used as part of a stochastic valuation model.

UNIT 12

Section 5.2.2

The following paragraph (seventh paragraph in this section) has been removed:

The provisions of the Inland Revenue have to be respected. An absolute maximum transfer value will, therefore, be the amount required to provide members with maximum benefits.

UNIT 14

Section 2

The following text from the third paragraph has been removed:

This approach also results in liabilities that are consistent with the Scheme-Specific Funding Standard.

The second sentence in the final paragraph in this section has been amended to read:

For example, it may be necessary to purchase either a fully RPI linked annuity, or an annuity increasing at 2.5% p.a., as a proxy to a pension with LPI increases.

UNIT 15

Section 2.1

The final paragraph in this section has been amended as follows:

In some cases, it may be necessary to take no action to remove on-going surplus due to the requirements relating to deficits. It is possible, that a surplus may arise on the on-going basis, whilst a deficit exists relative to the discontinuance liabilities.

Section 2.2

The following paragraph in this section has been deleted:

UK legislation for a discontinued scheme requires that a debt is placed on an employer if funds are insufficient to provide annuities for pensioner members and cash equivalents for non-pensioner members on a buy-out basis. The allocation of any subsequent deficit to members is also dictated partly by legislation such that, from 2007, members cannot receive increases to their pensions unless all members can be paid their accrued benefit entitlement.

UNIT 17

The list of recommended reading has not changed, but the web links have been updated and the affected articles are shown below with the new web addresses:

Articles from the British Actuarial Journal (BAJ) are available on:

<http://www.actuaries.org.uk/knowledge/publications/baj>

Actuaries, pension funds and investment. Arthur, T. G.; Randall, P. A.

JIA (1990) 117: 1-49

http://www.actuaries.org.uk/data/assets/pdf_file/0010/24868/0001-0049.pdf

A central discontinuance fund for pension schemes. Black, J. M.; Booth, G.; Cooper, D. R. et al. SIAS, 1999. 34 pages.

<http://www.sias.org.uk/data/papers/CentralFund/DownloadPDF>

The effect of demographic factors and indexation on the long term financing of the state earnings-related pension scheme. Daykin, C. D.; Young, A. G.

Journal of the Institute of Actuaries Students' Society (1987) 30: 181-198

http://www.actuaries.org.uk/data/assets/pdf_file/0004/27238/0181-0198.pdf

Extending retirement choices. Retirement income options for modern needs. Retirement Choices Working Party. Faculty and Institute of Actuaries, 2001. 39 pages.

http://www.actuaries.org.uk/data/assets/pdf_file/0006/33657/ex_ret_rpt.pdf

Guidance for trustees. The Pensions Regulator, 2005. 64 pages.

<http://www.thepensionsregulator.gov.uk/pdf/webGuidanceForTrustees.pdf>

Guidance notes 3, 4, 13, 34, 36 and 51. Board for Actuarial Standards,

<http://www.frc.org.uk/bas/actuarial/index.cfm>

Guidance notes 24 and 48. Professional Standards Directory. Faculty and Institute of Actuaries.

http://www.actuaries.org.uk/regulation/standards_compliance/professional_standards_directory

[or: the direct links to the guidance notes:

http://www.actuaries.org.uk/data/assets/pdf_file/0018/33390/gn24v2-0.pdf and

http://www.actuaries.org.uk/data/assets/pdf_file/0015/33342/GN48V2-0.pdf]

Investment and occupational pensions. The Profession's initial response to the Myners Review of Institutional Investment in the United Kingdom. Faculty and Institute of Actuaries, 2001. 8 pages.

http://www.actuaries.org.uk/data/assets/pdf_file/0004/19192/myners_resp.pdf

Liability driven benchmarks for UK defined benefit pension schemes. Chambers, A. J.; Barnes, A. E.; Barnes, M. et al. 2005 Finance & Investment Conference. 56 pages

http://www.actuaries.org.uk/data/assets/pdf_file/0019/30547/Chambers.pdf

- Matching and portfolio selection: Parts 1 and 2.* Wise, A. J.
JIA (1987) 114: 113-133 and 551-568
http://www.actuaries.org.uk/data/assets/pdf_file/0005/24791/0113-0133.pdf
http://www.actuaries.org.uk/data/assets/pdf_file/0015/24801/0551-0568.pdf
- The matching of assets to liabilities.* Wise, A. J.
JIA (1984) 111: 445-501
http://www.actuaries.org.uk/data/assets/pdf_file/0005/19787/0445-0501.pdf
- A note on pension scheme design issues.* Faculty of Actuaries Pensions Research Group, 2002. 10 pages.
http://www.actuaries.org.uk/data/assets/pdf_file/0017/31643/fac_sm0211.pdf
- Note on the relationship between pension assets and liabilities.* Speed, C. A.; Bowie, D. C.; Exley, J. et al. SIAS, 2003. 26 pages.
http://www.sias.org.uk/siaspapers/listofpapers/view_paper?id=RelationshipAssetsLiabilities
- Objectives and methods of funding defined benefit pension schemes.* McLeish, D. J. D.; Stewart, C. M.
JIA (1987) 114: 155-225
http://www.actuaries.org.uk/data/assets/pdf_file/0016/24802/0155-0225.pdf
- The Occupational Pension Schemes (Minimum Funding Requirement and Actuarial Valuations) Regulations 1996. SI 1996 No.1536.* Department of Social Security. HMSO, 1996. 34 pages. ISBN: 0110548523
http://www.opsi.gov.uk/si/si1996/Uksi_19961536_en_1.htm
- Pensions and the ageing population.* Jollans, A. SIAS, 1997. 34 pages.
http://www.actuaries.org.uk/data/assets/pdf_file/0016/26233/ageing.pdf
- Pensions, funding and risk.* Chapman, R. J.; Gordon, T. J.; Speed, C. A.
BAJ (2001) 7(4): 605-686
- The price of actuarial values.* Gordon, T. J. SIAS, 1999. 35 pages.
http://www.actuaries.org.uk/data/assets/pdf_file/0005/27329/price.pdf
- A realistic approach to pension funding.* Thornton, P. N.; Wilson, A. F.
JIA (1992) 119: 229-312
http://www.actuaries.org.uk/data/assets/pdf_file/0007/25477/0229-0312.pdf
- Reinventing annuities.* Wadsworth, M. J.; Findlater, A. J. M.; Boardman, T. V.
SIAS, 2001. 77 pages.
<http://www.sias.org.uk/data/papers/ReinventingAnnuities/DownloadPDF>
- The role of high yield corporate debt in pension schemes.* Sweeting, P. J. SIAS, 2002. 54 pages.
http://www.sias.org.uk/siaspapers/listofpapers/view_paper?id=HighYieldDebt

Sponsor Covenant Working Party Final Report – Allowing for the Sponsor Covenant in Actuarial Advice. Sponsor Covenant Working Party, November 2005. 40 pages
http://www.actuaries.org.uk/_data/assets/pdf_file/0005/33476/sponsorcovenantrep.pdf

Submission on the relationship between pension assets and liabilities. Hill, J. SIAS, 2003. 6 pages.
<http://www.sias.org.uk/data/papers/RelationshipPensionAssetsLiabilities/DownloadPDF>

Transfer value payments between occupational pension schemes. Pomery, M. A.; Jones, M. J. 56 pages.
Journal of the Institute of Actuaries Students' Society (1978) 22: 161-216
http://www.actuaries.org.uk/_data/assets/pdf_file/0008/19628/0161-0216.pdf

The treatment of assets in the actuarial valuation of a pension fund. Day, J. G.; McKelvey, K. M.
JIA (1964) 90: 104-147
http://www.actuaries.org.uk/_data/assets/pdf_file/0004/25339/0104-0147.pdf

A users guide to FRS 17. Atherton, J. E. SIAS, 2001. 28 pages.
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The only other changes that have been made to the Core Reading are to correct typographical errors and improve the style.

END