



Government Actuary's Department

Scottish Teachers' Superannuation Scheme

Actuarial valuation as at 31 March 2012
Report on membership data

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1 Introduction

- 1.1 This report is addressed to SPPA, acting on behalf of Scottish Ministers. This report should not be reproduced or disseminated to other parties without prior consent. The Government Actuary's Department (GAD) does not accept any liability to third parties, whether or not it has agreed to the disclosure.
- 1.2 This report discusses and summarises the membership data provided to GAD to be used for the purposes of the actuarial valuation of the Scottish Teachers' Superannuation Scheme (STSS or 'the Scheme') which is being carried out as at 31 March 2012. It also sets out the checks that GAD has undertaken on this data.
- 1.3 The results of the valuation will be critically dependent on the quality and correctness of the data used. The purpose of this document is to ensure that users of the valuation report understand the issues relating to the data used and in particular those issues that may have a material impact on the valuation result.
- 1.4 Experience data used to inform the assumptions appropriate for the valuation are the subject of a separate report, *Scottish Teachers' Superannuation Scheme: Actuarial Valuation as at 31 March 2012: Report of data used for experience analysis* dated 27 February 2015.
- 1.5 All member data provided and discussed in this report was supplied by the Scottish Public Pensions Agency (SPPA), the Scheme's administrator. Annual accounts for the relevant period are publicly available. In preparing this report, GAD has relied on data and other information supplied by the administrators as described in the report. Any checks that GAD has made on this data and information are limited to those described in the report, including any checks on the overall reasonableness and consistency of the data. These checks do not represent a full independent audit of the data supplied and do not by themselves confirm or guarantee the overall quality or correctness of the data. In particular, GAD has relied on the general completeness and accuracy of the information supplied without independent verification.
- 1.6 The contents of this report have been discussed and agreed with SPPA, which has confirmed that it is content that the resulting data is appropriate for use in the 2012 actuarial review of the STSS.
- 1.7 Throughout this report the totals given for summed data may not be exactly the same as the sum of the components shown due to rounding effects.



2 Description of data provided

Individual member data

- 2.1 Individual member data was supplied for all active members, deferred members and current beneficiaries of the Scheme.
- 2.2 The data items provided for each member are set out in Appendix A.
- 2.3 SPPA provided the original data extract in June 2013. A number of potential data issues were identified during the data checking process. As a result SPPA provided additional data in December 2013 and January 2014 to resolve the data issues identified.
- 2.4 At the time of running the data extracts SPPA did not hold salary and service information as at 31 March 2012 in respect of 8,752 members, which was due to SPPA not having received the annual return forms from employers for the 2011-12 Scheme year for these members. SPPA was able to provide salary and service information for these members at the latest date this information was held on each member's record. This is covered further in Section 4.
- 2.5 Details of all adjustments made to the data provided are set out in sections 4 to 6 of this report.

Accounting information

- 2.6 Published Annual Accounts are available for the full inter-valuation period. These include summaries (of varying completeness) of the Scheme's membership and membership movements for each accounting period as summarised in Section 3. Certain pieces of financial information from the accounts are used to perform independent checks on the valuation data as explained in Sections 4 and 6.

Benefit information

- 2.7 A summary of the benefits provided to members of the Scheme is shown in Appendix E. The benefits provided in the existing sections of the Scheme are set out in *The Teachers' Superannuation (Scotland) Regulations 2005* (SSI 2005/393). The benefits provided in the 2015 scheme are set out in *The Teachers' Pension Scheme (Scotland) (No 2) Regulations 2014* (SSI 2014/292).
- 2.8 SPPA has confirmed that the only uncertainties that it is aware of about the form of benefits that the Scheme is liable to provide is the potential requirement for sex equalisation of GMPs and the potential requirement for the equalisation of contingent partner's pensions.



3 Reconciliation of membership

- 3.1 This section summarises how the numbers of members has changed since the last completed valuation of the Scheme (carried out as at 31 March 2005). The reconciliation is shown separately for the periods 2005 to 2009 and 2009 to 2012.
- 3.2 The valuation data as at 31 March 2005 in Table 3.1 is based on the valuation data received for the 2005 valuation of the Scheme. The additions and deductions over the period 2005 to 2009 and number of members as at 31 March 2009 in Table 3.1 are based on the data received for the uncompleted 2009 valuation of the Scheme.
- 3.3 The valuation data figures in Table 3.2 (including the opening balance as at 31 March 2009) are based on the data received for the valuation as at 31 March 2012.
- 3.4 The valuation movement data provided between 1 April 2009 and 31 March 2012 has been used for the purposes of analysing the Scheme's experience over this period and is the subject of a separate report, *Scottish Teachers' Superannuation Scheme: Actuarial Valuation as at 31 March 2012: Report on data used for experience analysis* dated 27 February 2015.
- 3.5 The reconciliations show the movements as provided in the valuation data, and the membership numbers quoted in the annual accounts at each valuation date are shown for comparison purposes. The accounts for most years do not show full information on membership movements and therefore the corresponding movement information from the accounts is not available.



Table 3.1: Reconciliation of membership 31 March 2005 to 31 March 2009

	Actives		Deferreds		Pensioners	
	Valuation data ⁽ⁱ⁾ (nearest 10)	Accounts (nearest 10)	Valuation data (nearest 10)	Accounts (nearest 10)	Valuation data (nearest 10)	Accounts (nearest 10)
Number at 31/3/05⁽ⁱⁱ⁾	-	71,810	21,000 ⁽ⁱⁱⁱ⁾	14,000 ⁽ⁱⁱⁱ⁾	46,950	48,580
Additions	-	-	8,390	-	12,490	-
Deductions	-	-	(710)	-	(4,520)	-
Number expected at 31/03/09	-	-	28,680	-	54,920	-
Data at 2009^(iv)	75,610	78,240	22,350 ^(v)	14,980 ^(v)	53,050	56,170

- (i) The number of active members as at 31 March 2005 was not quoted for the purposes of the 2005 valuation. It is therefore not possible to reconcile the active membership movements over the period 2005 to 2009. More information on this is included in paragraph 3.6.
- (ii) Membership data used in the 2005 valuation of the Scheme, as set out in *The Scottish Teachers' Superannuation Scheme: Actuarial Review as at 31 March 2005: report by the Government Actuary: June 2008*.
- (iii) The valuation data includes 14,800 members with an entitlement to deferred benefits, and a further 6,200 members who did not have enough qualifying service at the date of exit to have a deferred pension entitlement. The number quoted in the accounts is only in respect of those members with a deferred pension entitlement, and should therefore be compared to the 14,800 members in the valuation data with a deferred pension entitlement.
- (iv) Membership data as at 31 March 2009 provided for the uncompleted 2009 valuation of the Scheme. The figures reflect the data provided and do not include any adjustments that may have been made to the data for the 2009 valuation.
- (v) The valuation data included 10,490 members with an entitlement to deferred benefits, and a further 11,860 members who did not have enough qualifying service at the date of exit to have a deferred pension entitlement. The number quoted in the accounts is only in respect of those members with a deferred pension entitlement, and should therefore be compared to the 10,490 members in the valuation data with a deferred pension entitlement.



Table 3.2: Reconciliation of membership 31 March 2009 to 31 March 2012

	Actives		Deferreds		Pensioners	
	Valuation data (nearest 10)	Accounts (nearest 10)	Valuation data (nearest 10)	Accounts (nearest 10)	Valuation data (nearest 10)	Accounts (nearest 10)
Number at 31/03/09 ⁽ⁱ⁾	72,970	78,240	24,400 ⁽ⁱⁱ⁾	14,980 ⁽ⁱⁱ⁾	56,860	56,170
Additions	21,740	-	13,820	-	13,280	-
Deductions	(21,230)	-	(10,310)	-	(4,450)	-
Number expected at 31/03/12	73,480	-	27,910	-	65,690	-
Data at 2012	76,320	80,320 ⁽ⁱⁱⁱ⁾	30,780 ^(iv)	13,850 ⁽ⁱⁱⁱ⁾	64,960	66,360 ⁽ⁱⁱⁱ⁾

- (i) Membership data as at 31 March 2009 received as part of the valuation data extract provided for the 2012 valuation.
- (ii) The split of members into those with an entitlement to deferred benefits and those who did not have enough qualifying service at the date of exit to have a deferred pension entitlement has not been calculated for the valuation data. The number quoted in the accounts is only in respect of those members with a deferred pension entitlement, and therefore the figures are not directly comparable.
- (iii) Figures taken from *Scottish Teachers' Superannuation Scheme: Annual Report and Accounts 2012-13*. The active and pensioner figures as at 31 March 2012 have been amended from those disclosed in the previous year's accounts to allow for adjustments in the year. No change was made to the deferred figure.
- (iv) After excluding the 729 records who failed at least one data check (see paragraphs 5.5 and 5.6), the valuation data includes 14,040 members with an entitlement to deferred benefits, and a further 16,010 members who did not have enough qualifying service at the date of exit to have a deferred pension entitlement. The number quoted in the accounts is only in respect of those members with a deferred pension entitlement, with a note that there were a further 9,735 members who did not have enough qualifying service at exit to be entitled to a deferred pension.



Reconciliation of movements data

- 3.6 The report *The Scottish Teachers' Superannuation Scheme: Actuarial Review as at 31 March 2005: Report by the Government Actuary: June 2008* did not quote the number of active members as at 31 March 2005. It is therefore not possible to reconcile the active membership movements over the period 2005 to 2009.
- 3.7 Table 3.1 shows some discrepancies between the number of deferred and pensioner members recorded as at 31 March 2009 and the number expected based on the movement data. Preliminary work for the 2009 valuation discovered that the number of deferred and pensioner members in the valuation data were most likely understated and would therefore have been adjusted upwards for the purposes of the valuation calculations.
- 3.8 Table 3.2 shows a discrepancy of 2,840 members between the number of active members recorded as at 31 March 2012 and the number expected based on movement data (the difference is 3.7% of the number of members recorded as at 31 March 2012, or alternatively, 1.2% a year over the three year period from 31 March 2009). We are unsure of the reason for this and it could be due to problems with the movement data and/or the number of members recorded as at 31 March 2009 and as at 31 March 2012.
- 3.9 Table 3.2 also shows a discrepancy between the number of deferred members recorded as at 31 March 2012 and the number expected based on movement data, and we are unsure of the reason for this.
- 3.10 The number of pensioners recorded as at 31 March 2012 reconciles reasonably well with the number expected based on the movement data. However, the results of the pensioner mortality analysis lead to concerns about the pensioner movement data provided.
- 3.11 Further discussion on the member movement data can be found in our report *Scottish Teachers' Superannuation Scheme: Actuarial Valuation as at 31 March 2012: Report on data used for experience analysis* dated 27 February 2015.



Reconciliation with Annual Accounts

- 3.12 Tables 3.1 and 3.2 above show some discrepancies between the figures in the Annual Accounts compared to the valuation data for actives, deferreds and pensioners.
- 3.13 The number of active members in the valuation data as at 31 March 2012 (76,320) is lower than that recorded in the accounts (80,320). However, the membership figure quoted in the accounts reflects the number of teaching contracts on 31 March 2012 rather than the number of members. The number quoted in the accounts should therefore be higher than the number of members in the valuation data, which is the case.
- 3.14 After excluding the 729 records who failed at least one data check (see paragraphs 5.5 and 5.6), the number of deferred members in the valuation data as at 31 March 2012 (30,050) is a lot higher than that recorded in the accounts (13,850). However, the figure in the accounts excludes 9,735 members who did not have enough qualifying service at exit to be entitled to a deferred pension. The table below provides a more direct comparison between the figures.

Table 3.3: Comparison of deferred members as at 31 March 2012 between the valuation data and the accounts

	Valuation data (nearest 10)	Accounts (nearest 10)
Members entitled to a deferred pension	14,040	13,850
Members not entitled to a deferred pension entitlement	16,010	9,740

- 3.15 The number of members with an entitlement to a deferred pension reconciles reasonably well, but there is a significant discrepancy in respect of those members not entitled to a deferred pension entitlement.
- 3.16 The number of pensioners in the valuation data as at 31 March 2012 (64,960) reconciles better with the number recorded in the accounts (66,360), than for the actives and deferred data. However, we would expect a better reconciliation than this for the pensioners as the Scheme's administrator is responsible for making the pension payments to individual members, and the numbers of members recorded as at 31 March 2012 should match the pensioner payroll at this date.



4 Active member data

Introduction

- 4.1 This section discusses the data provided for active members for the purposes of this valuation. It sets out the checks and adjustments we have made to the data provided and shows summary statistics about the data following implementation of the required data adjustments.
- 4.2 SPPA provided data in June 2013 for 76,315 active members. The data for 64,379 members passed the data checks listed in Appendix B. Following discussions with SPPA, the data for 606 records was found to be correct or needed minor adjustments, and revised data was provided for 9,878 records. Details of the data checks carried out, the number of member records excluded from the final data and any data adjustments is set out in paragraphs 4.6 – 4.14.
- 4.3 Of the 9,878 members that revised data was provided for, data as at 31 March 2012 could not be provided for 8,752 members, which was due to SPPA not having received the annual return forms from employers for the 2011-12 Scheme year for these members. SPPA provided the salary and service details at the latest available date that this information is held for these members. This is covered further in paragraphs 4.10 - 4.13.
- 4.4 Under the terms of the reforms being made to public service pension schemes from 2015 members within a certain period prior to their current normal pension age will remain in their existing schemes until retirement. These members are termed 'Full Protection Members'. Members just outside this age range will transfer to the 2015 schemes between 1 April 2015 and 31 March 2022. These members are termed 'Tapered Protection Members'. The detail of those covered by Full Protection and Tapered Protection is set out in Appendix C. All other members are termed 'Unprotected Members'. Since the benefits to be provided for members after 1 April 2015 will depend on which group they fall within we have identified those members within each group.
- 4.5 The active member data used will help determine the past service liability, the contribution rate payable from 2015 and the proposed employer cost cap.

Checks applied to individual active member data

- 4.6 All data provided was checked against the specification requested for both completeness and consistency.
- 4.7 Reasonableness checks were carried out on the active data. These included reasonableness checks on each individual member's salary, age, service and part-time proportion. A list of the data checks carried out is set out in Appendix B.



- 4.8 SPPA provided data for 76,315 members. 1,907 records failed at least one of the data checks and were therefore excluded from the active member data used. A breakdown of the excluded records is set out below:
- > 856 members had left active service before 31 March 2012 and were included in the deferred data.
 - > 334 members excluded as the part-time proportion recorded was equal to 0%.
 - > 199 members excluded as the part-time proportion recorded was greater than 150%¹.
 - > 325 members excluded as reliable salary and service information could not be provided.
 - > 59 members excluded as the salary entered was equal to 0.
 - > 113 members excluded as the reckonable service entered was equal to 0.
 - > 19 members excluded as their record was duplicated in the extract.
 - > 1 member excluded as an incorrect date of birth was entered.
 - > 1 member excluded as the salary entered was not realistic based on the member's date of birth.
- 4.9 The data checks also highlighted that 397 members had NPA60 service only entered which was inconsistent with the 'date joined scheme' entered on their record. Following a check on a sample of these members, SPPA advised that each member's service should have been entered as NPA 65 section service. We amended the data provided for these members to reflect the correct service history.

Active data provided for members for whom a 2011-12 annual return had not been received

- 4.10 SPPA collect data on active members through a system of annual returns supplying data on all employed members. They should also receive notification from employers whenever a member leaves service. Thus SPPA should receive a withdrawal (or retirement or death) notification for any member included on the annual return one year who is not included in the annual return next year.

¹ Members with a number of concurrent employments who work more than the normal full time hours in total may have a calculated part-time proportion greater than 100%. For the purposes of the 2009 valuation it was deemed that a part-time proportion greater than 150% could definitely be assumed to be incorrect, and the same approach has been used for this valuation.



- 4.11 As stated in paragraph 4.3, at the time of running the extracts SPPA had not received an annual return form in respect of the 2011-12 Scheme year for 8,752 members, nor had they received a withdrawal notification. The status of these members is uncertain.
- 4.12 SPPA provided another extract for these members which contained salary, reckonable service and the proportion of full-time hours worked as at the latest date this information is held for each member. For the majority of members this information was provided as at 31 March 2011, and for all other members this information was provided at a date between 31 March 2011 and 31 March 2012.
- 4.13 We have assumed these members are still in active service on 31 March 2012. As the data in respect of these members is on a date before 31 March 2012, we need to project the data forward to 31 March 2012.
- > Full-time equivalent salaries were projected forward allowing for any promotional pay increases which may have been awarded. (No general pay increase was awarded in April 2011.) Promotional pay increases were assumed to be in line with the scale proposed for the uncompleted 2009 valuation, as set out in our report *Scottish Teachers' Superannuation Scheme: Membership data extract as at 31 March 2009: Advice in relation to demographic assumptions: 28 May 2012*.
 - > Reckonable service has been projected forward to 31 March 2012 assuming a member has been in employment for the whole period between the date the data has been provided at and 31 March 2012, working the same proportion of full-time hours throughout this period as provided in the data.

Final data set

- 4.14 SPPA provided data for 76,315 active members. After excluding the 1,907 member records which failed the data checks, the final data set covered 74,408 members. Within this group, the salary and service information was adjusted for the 8,752 members for whom a 2011-12 annual return form had not been received. The final data set therefore includes 74,408 active members with total full-time equivalent salaries of £2,691m as at 31 March 2012.

Checks against the accounts

- 4.15 The final dataset was then subjected to an independent check using accounting data. The total pensionable payroll in the data was compared against contribution payments recorded in the annual accounts. The conclusions arising from this checking process are explained below.
- 4.16 Employer contributions reported in the 2011-12 annual accounts amounted to £351m and reported in the 2012-13 annual accounts amounted to £345m. As employer contributions were payable at the rate of 14.9% of pay an estimate of the actual payroll for 2011-12 is £2,356m and for 2012-13 is £2,314m. Taking the average of these figures, we estimate the actual payroll as at 31 March 2012 to be £2,335m.



- 4.17 The estimated payroll in paragraph 4.16 implied by the contributions data in the accounts relates to actual salaries in payment. The valuation data records full-time equivalent salaries but, for comparison with the accounts, the actual salary rates (be they full-time or part-time) of members in service at 31 March 2012 are required.
- 4.18 The valuation data provides for each member the proportion of full-time hours worked as at 31 March 2012 (or at the date a member's salary is provided for members for whom a 2011-12 annual return had not been received). Using this data we estimate the total actual salary underlying the valuation data to be £2,370m.
- 4.19 There is a difference of approximately 1.5% between the salary roll derived from the valuation data (£2,370m) and that derived from the accounts (£2,335m). Although this could indicate some overstatement of salaries in the valuation data, a difference of this size could also arise because the method of estimating the salary roll as at 31 March 2012 from contributions in two successive years of accounts is not perfect. In particular the estimation method assumes that any membership changes occur uniformly over time and that there is no late payment of employer contributions in the accounts.
- 4.20 As the valuation salary roll reconciles fairly well with the estimated salary roll from the accounts we do not recommend making any adjustment to the salaries in the actives data, as it is not clear that an adjustment would improve the quality of the valuation data. If we did adjust the data to match the salary roll implied from the accounts, then the contribution rate would fall by around 0.5% of pay but it is not clear that this result would be more accurate. The adjustment would be applied equally to all members and so there would be no impact on the proposed employer cost cap.

Checks against previous valuation data

- 4.21 The dataset was also compared against the previous valuation dataset as at 31 March 2005 and the data provided for the uncompleted 2009 valuation to ensure that there were no unrealistic changes over the periods, e.g. in average age or average service. There were issues identified with the valuation data provided for the 2005 and 2009 valuations, which limits the usefulness of this check. Appendix D (a) compares the active member data as at 31 March 2012 with that as at 31 March 2005.



Adjustments to be applied to the active data

- 4.22 As outlined in paragraphs 4.10 to 4.13, the active data provided in respect of those members for whom a 2011-12 annual return had not been received has been projected forward to 31 March 2012. However, the members' actual data may be different from that estimated, which may impact the Scheme's contribution rate. For example, some members may have left service before 31 March 2012. If it was found that 20% of this group had withdrawn, these members should be included in the deferred data instead, which would decrease the Scheme's contribution rate by less than 0.1% of pay. The impact on the proposed employer cost cap would be immaterial. These estimates assume that including the members in the deferred data would not alter our opinion on the accuracy and completeness of the actives data.
- 4.23 Of the 76,315 members that active data was provided for 1,051 records were excluded due to concerns over data quality (in addition 856 records were excluded as they left active service before 31 March 2012 and are already included in the deferred data provided). Details of why these members were excluded is set out in paragraph 4.8. If accurate data could be provided, including these members would increase the total salary roll for the active membership, increasing the gap between the salary roll from the valuation data (currently £2,370m) and that derived from the accounts (£2,335m). The revised data might fail the check against the accounts described in paragraphs 4.19 and 4.20. However, in this scenario, the salaries in the valuation data may be adjusted downwards to match the implied salary roll from the accounts and so the liabilities might actually be reduced slightly.



Data summaries

4.24 The final data to be used in the valuation, allowing for the adjustments set out above, and broken into the groups identified in paragraph 4.4, is summarised below. A summary has also been included in Appendix D.

Table 4.1: NPA 60 final data

Protection	Gender	Number of members (nearest 10)	Total pensionable pay ⁽ⁱ⁾ (£m)	Average age ⁽ⁱⁱ⁾	Average reckonable service ⁽ⁱⁱⁱ⁾ (years)	Total accrued pension (£m)
Full Protection	Male	7,570	317.2	56.7	24.2	96.0
	Female	19,460	748.5	56.3	21.7	203.1
	Total	27,040	1,065.7	56.4	22.5	299.1
Tapered Protection	Male	1,630	65.8	48.3	17.0	14.0
	Female	4,350	165.2	48.3	16.3	33.6
	Total	5,980	231.0	48.3	16.5	47.6
Unprotected	Male	5,800	220.6	38.5	10.8	29.7
	Female	19,930	710.9	37.5	10.4	92.2
	Total	25,730	931.5	37.7	10.5	122.0
All NPA 60 members	Male	15,000	603.6	49.1	18.5	139.8
	Female	43,740	1,624.5	47.3	16.2	328.9
	Total	58,740	2,228.1	47.8	16.8	468.7

Table 4.2: NPA 65 final data

Protection	Gender	Number of members (nearest 10)	Total pensionable pay ⁽ⁱ⁾ (£m)	Average age ⁽ⁱⁱ⁾	Average reckonable service ⁽ⁱⁱⁱ⁾ (years)	Total accrued pension (£m)
Full Protection	Male	280	10.2	59.8	3.4	0.6
	Female	310	10.3	59.1	2.3	0.4
	Total	590	20.5	59.4	2.8	1.0
Tapered Protection	Male	200	7.1	53.1	5.6	0.7
	Female	270	8.7	53.1	3.3	0.5
	Total	460	15.8	53.1	4.3	1.1
Unprotected	Male	3,610	110.7	35.2	3.3	6.0
	Female	10,550	299.5	32.3	2.7	13.6
	Total	14,160	410.2	33.1	2.9	19.6
All NPA 65 members	Male	4,090	128.0	38.1	3.4	7.3
	Female	11,130	318.5	33.8	2.7	14.4
	Total	15,210	446.5	35.0	2.9	21.7

(i) The pay shown is full-time equivalent (FTE) pay

(ii) Weighted by FTE pay



Table 4.3: Mixed service final data

Protection	Gender	Number of members (nearest 10)	Total pensionable pay ⁽ⁱ⁾ (£m)	Average age ⁽ⁱⁱ⁾	Average reckonable service ⁽ⁱⁱ⁾ (years)	Total accrued pension (£m)
Full Protection	Male	20	0.8	59.1	9.9	0.1
	Female	70	2.6	57.9	10.0	0.3
	Total	90	3.4	58.2	10.0	0.5
Tapered Protection	Male	10	0.5	53.7	15.8	0.1
	Female	40	1.5	52.9	9.7	0.2
	Total	60	2.0	53.1	11.1	0.3
Unprotected	Male	50	1.9	41.4	6.4	0.2
	Female	260	8.5	40.5	7.1	0.8
	Total	310	10.4	40.7	7.0	1.0
All mixed service members	Male	90	3.2	47.6	8.7	0.4
	Female	370	12.7	45.6	8.0	1.4
	Total	460	15.8	46.0	8.2	1.7

Table 4.4: All Members final data

Protection	Gender	Number of members (nearest 10)	Total pensionable pay ⁽ⁱ⁾ (£m)	Average age ⁽ⁱⁱ⁾	Average reckonable service ⁽ⁱⁱ⁾ (years)	Total accrued pension (£m)
Full Protection	Male	7,880	328.2	56.8	23.5	96.7
	Female	19,840	761.4	56.4	21.4	203.8
	Total	27,720	1,089.6	56.5	22.0	300.5
Tapered Protection	Male	1,840	73.4	48.8	15.9	14.8
	Female	4,660	175.4	48.6	15.6	34.2
	Total	6,490	248.8	48.6	15.7	49.0
Unprotected	Male	9,460	333.2	37.4	8.3	35.9
	Female	30,740	1,019.0	36.0	8.1	106.6
	Total	40,200	1,352.1	36.3	8.1	142.6
All members	Male	19,170	734.7	47.2	15.9	147.4
	Female	55,240	1,955.7	45.0	13.9	344.7
	Total	74,410	2,690.5	45.6	14.5 ⁽ⁱⁱⁱ⁾	492.1

- (i) The pay shown is full-time equivalent (FTE) pay
(ii) Weighted by FTE pay
(iii) Equivalent unweighted average service is 13.3 years.



5 Deferred member data

Introduction

5.1 This section summarises the data provided for deferred members of the Scheme for the purposes of this valuation. It also summarises the checks and adjustments we have made to the data and shows summary statistics about the data following implementation of the required data adjustments.

5.2 SPPA provided data in June 2013 for 30,783 deferred members. The data checks carried out highlight some issues with the data provided. Following discussions with SPPA, revised data was provided for 2,685 member records.

Checks applied to deferred member data

5.3 All data provided was checked against the specification requested for both completeness and consistency.

5.4 Reasonableness checks were carried out on the deferred data. These included reasonableness checks on each individual member's deferred pension and their age at 31 March 2012. A list of the data checks carried out is set out in Appendix B.

5.5 729 records failed at least one of the data checks and were therefore excluded from the deferred member data used. A breakdown of the excluded records is set out below:

- > 404 members excluded as reliable information could not be provided.
- > 91 members excluded as a negative deferred pension or negative contingent spouse's pension was recorded.
- > 220 members excluded as both zero service and zero deferred pension information was provided.
- > 8 members excluded as zero deferred pension was provided but the service history recorded indicated the member should have a deferred pension in the Scheme.
- > 4 members excluded as they had a date of exit after 31 March 2012 recorded.
- > 2 members excluded as an incorrect date of birth was provided.

5.6 SPPA provided data for 30,783 members. After excluding the 729 records who failed at least one data check, there were 30,054 members included in the final data.



- 5.7 The dataset was also compared against the previous valuation dataset as at 31 March 2005 and that provided for the uncompleted 2009 valuation to ensure that there were no unrealistic changes over the periods, e.g. in average age or average deferred pension. There were issues identified with the valuation data provided for the 2005 and 2009 valuations, which limits the usefulness of this check. Appendix D (b) compares the deferred member data as at 31 March 2012 with that as at 31 March 2005.

Members with an entitlement to a deferred pension from the Scheme

- 5.8 Members are required to complete a minimum period of qualifying service before they are entitled to a deferred pension from the scheme. For members who left the scheme before 6 April 1988, this minimum period of qualifying service is 5 years, and for leavers after this date it is 2 years.
- 5.9 Of the 30,054 members who passed our data checks, 14,043 members have an entitlement to a deferred pension, as these members have sufficient qualifying service. The Scheme's liability to these members is a pension and lump sum on retirement, or a pension and lump sum to the member's dependants on death. The majority of the Scheme's deferred liability will be in respect of these members.
- 5.10 16,011 members do not have enough qualifying service to have an entitlement to a deferred pension from the Scheme. These members are entitled to a refund of their contributions or a transfer value depending on their total service, and this is the Scheme's liability in respect of these members.

Independent checks on the deferred data

- 5.11 We do not have a data source to perform an independent check on the deferred data provided. For active and pensioner categories, the contributions received and pensions paid detailed in the Scheme's Annual Accounts are used to perform an independent check on the data for these categories. There is no data item in the Annual Accounts which can be used to perform a similar check on the accuracy of the total deferred pensions for the deferred category.
- 5.12 Tables 3.1 and 3.2 in section 3 showed there is a poor reconciliation between the total number of deferred members as at 31 March 2005 and 31 March 2012, based on the membership movement data provided between these dates. It is difficult to know whether the poor reconciliation is most likely due to issues with the membership movement data provided or with the membership data as at each valuation date. The lack of an independent check on the deferred pension roll data makes it more difficult to assess if the issue lies with the membership data at the valuation dates.
- 5.13 Paragraph 3.14 set out a comparison of the deferred member data as at 31 March 2012 with the membership numbers quoted in the annual accounts, and Table 3.3 within this paragraph is reproduced below.



Table 5.1: Comparison of deferred members as at 31 March 2012 between the valuation data and the accounts

	Valuation data (nearest 10)	Accounts (nearest 10)
Members entitled to a deferred pension	14,040	13,850
Members not entitled to a deferred pension entitlement	16,010	9,740

- 5.14 The number of members with a deferred pension entitlement reconciles reasonably well between the valuation data and the accounts. The significant discrepancy is in respect of members not entitled to a deferred pension. However, by definition these members will have very small service and therefore this discrepancy should not have a material impact on the contribution rate.
- 5.15 This creates some uncertainty over the total number of deferred members in the valuation data provided. If for example, 3,000 deferred members (10% of the current deferred population), should instead be included in the active valuation data then the employer contribution rate may be understated by less than 0.1% of pay. It is estimated this change would not have a material impact on the proposed employer cost cap. These estimates assume that misclassified members have the same age profile and accrued pension amount as a typical deferred pensioner and that including them in the actives data would not alter our opinion on the accuracy and completeness of that data. The impact on the employer contribution rate might be higher if the members were younger or had higher accrued pensions than a typical deferred pensioner, for example because they had longer service.

Deferred members over 70

- 5.16 Of the total 30,054 members, 634 members are over age 70 on 31 March 2012 (235 with an entitlement to a deferred pension and 399 not entitled to a deferred pension). We have excluded these members from the valuation calculations as Scottish Ministers consider it unlikely that they will claim their benefits. If these members were included, we estimate this would increase the employer contribution rate by around 0.1%. There would be no impact on the employer cost cap.



Deferred members between NPA and 70

- 5.17 7,821 members are aged between their NPA and age 70 on 31 March 2012 (2,086 with an entitlement to a deferred pension and 5,735 not entitled to a deferred pension). Analysis of experience for the 2011-12 Scheme year suggests there is around a 50% chance these members will claim their benefits. Scottish Ministers have decided it should be assumed that half of these members will never claim their benefits for the purposes of the 2012 actuarial valuation and should therefore be excluded from the valuation calculations². The members to be excluded are spread evenly across this group of members rather than using different assumptions for different types of members. If these members were included, we estimate this would increase the employer contribution rate by around 0.7%. There would be no impact on the employer cost cap.

Data summaries

- 5.18 The final data to be used in the valuation, including all members above NPA, is summarised below and is also set out in Appendix D. Only members with an entitlement to a deferred pension are included in Tables 5.2 – 5.5 below. Table 5.6 summarises the data in respect of those members without an entitlement to a deferred pension.

Table 5.2: NPA 60 with pension entitlement final data

Gender	Number of members (nearest 10)	Total deferred pension ⁽ⁱ⁾ (£m)	Average age ⁽ⁱⁱ⁾
Male	3,500	19.7	55.5
Female	9,700	42.6	53.4
Total	13,200	62.4	54.1

Table 5.3: NPA 65 with pension entitlement final data

Gender	Number of members (nearest 10)	Total deferred pension ⁽ⁱ⁾ (£m)	Average age ⁽ⁱⁱ⁾
Male	210	0.3	39.3
Female	530	0.7	34.8
Total	740	1.0	36.3

Table 5.4: Mixed service with pension entitlement final data

Gender	Number of members (nearest 10)	Total deferred pension ⁽ⁱ⁾ (£m)	Average age ⁽ⁱⁱ⁾
Male	20	0.1	46.4
Female	80	0.2	48.2
Total	100	0.3	47.8

² This is consistent with the assumption adopted for the 2012 valuation of the Teachers' Pension Scheme in England and Wales.



Table 5.5: All Members with pension entitlement final data

Gender	Number of members (nearest 10)	Total deferred pension⁽ⁱ⁾ (£m)	Average age⁽ⁱⁱ⁾
Male	3,730	20.1	55.2
Female	10,310	43.5	53.1
Total	14,040	63.6	53.8

- (i) Including pension increases awarded to the valuation date (excludes 1 April 2012 increase)
(ii) Weighted by deferred pension

Table 5.6: All Members without pension entitlement final data

Gender	Number of members
Male	4,300
Female	11,710
Total	16,010



6 Pensioners and dependants

Introduction

- 6.1 This section summarises the data provided for pensioner members and dependants for the purposes of this valuation. It also summarises the checks we have made to the data.
- 6.2 SPPA provided the original dataset in June 2013. The data checks carried out highlighted some potential errors with the data provided, mainly in respect of duplicate records within the dataset. Following this, SPPA provided a revised dataset covering all beneficiaries in the Scheme. This dataset included 64,959 members and a total pension roll of £692m as at 31 March 2012.

Checks applied to pensioner data

- 6.3 All data provided was checked against the specification requested for both completeness and consistency.
- 6.4 Reasonableness checks were carried out on the pensioner data. These included reasonableness checks on each individual member's pension, their age at 31 March 2012 and member's contingent spouse's pension. The checks carried out are listed in Appendix B.
- 6.5 86 member records were excluded from the final data, as the pensioner category provided indicated a children's pension (not incapacitated) was in payment but the member was over age 23 as at 31 March 2012. Pensions are only paid to an incapacitated child over the age of 23.

Final dataset

- 6.6 After excluding the 86 member records which failed the data checks, the final dataset includes 64,873 members with total pensions in payment of £692m.
- 6.7 The dataset was also compared against the previous valuation dataset as at 31 March 2005 and the data provided for the uncompleted 2009 valuation to ensure that there were no unrealistic changes over the periods. Appendix D (c) compares the pensioner data as at 31 March 2012 with that as at 31 March 2005.

Checks against the accounts

- 6.8 The dataset was then subjected to an independent check using accounting data. The total pensioner payroll in the data was compared against total pensions paid as recorded in the Annual Accounts. The conclusions arising from this checking process are explained below.



- 6.9 Total pensions paid to pensioners in the 2011-12 Scheme year amounted to £683m and total pensions paid in the 2012-13 Scheme year amounted to £748m. Taking the average of these pension rolls, after adjusting the 2012-13 pension roll to allow for the pension increase of 5.2% awarded on 9 April 2012, we estimate the actual pension payroll as at 31 March 2012 to be £697m (excluding the 9 April 2012 pension increase).
- 6.10 There is a difference of approximately -0.7% between the pension roll derived from the valuation data (£692m) and that derived from the accounts (£697m). Although this could indicate some overstatement of pensions in the valuation data, a difference of this size could also arise because the method of estimating the pension roll as at 31 March 2012 from contributions in two successive years of accounts is not perfect. In particular the estimation method assumes that any membership changes occur uniformly over time and that there is no late payment of pensions in the accounts.
- 6.11 As the valuation pension roll reconciles fairly well with the estimated pension roll from the accounts we do not recommend making any adjustment to the member pensions in the valuation data. If we did adjust the data, then the contribution rate would increase by around 0.3% of pay but it is not clear that this result would be more accurate.

Summary of data used

- 6.12 A summary of the final data used is set out in Table 6.1 below and is also included in Appendix D.

Table 6.1: Pensioner and Dependant data summary as at 31 March 2012

Type of pensioner	Gender	Number of members (nearest 10)	Total pension ⁽ⁱ⁾ (£m)	Average age ⁽ⁱⁱ⁾
Age, ARB⁽ⁱⁱⁱ⁾ and premature retirement	Male	17,380	247.4	69.9
	Female	34,160	336.6	69.5
	Total	51,540	583.9	69.7
Ill-health retirement	Male	2,060	28.2	67.3
	Female	4,330	47.5	67.4
	Total	6,390	75.7	67.4
Dependants^(iv)	Male	1,630	5.1	63.3
	Female	5,320	27.5	74.5
	Total	6,940	32.6	72.8
All	Male	21,070	280.6	69.5
	Female	43,800	411.6	69.6
	Total	64,870	692.2	69.6

(i) Including pension increases awarded to the valuation date (excludes 1 April 2012 increase)

(ii) Weighted by pension

(iii) Actuarially Reduced Benefits

(iv) Includes pension credit members



Appendix A: Individual member data items

A.1 The data items provided for each individual member as at 31 March 2012 are set out below. Key data items are shown in bold.

Active members

- > identifier
- > **gender**
- > **date of birth**
- > date joined scheme
- > pensionable remuneration received over 2011-12 Scheme year
- > **full time equivalent pensionable remuneration as at the valuation date ***
- > **total full time equivalent reckonable NPA 60 service for member's benefits ***
- > **total full time equivalent reckonable NPA 60 service counting for spouse's pension ***
- > NPA 60 service drawn as pension
- > additional NPA 60 pension
- > additional partner's NPA 60 pension
- > additional NPA 60 pension indexation (RPI or CPI)
- > **total full-time equivalent reckonable NPA 65 service ***
- > NPA 65 service drawn as pension
- > additional NPA 65 pension
- > additional partner's NPA 65 pension
- > additional NPA 65 pension indexation (RPI or CPI)
- > total calendar length of service (including any previous periods of service)
- > **part-time proportion ***
- > GMP per annum accrued from service before 5 April 1988, with revaluation to the extract date
- > GMP per annum accrued from service after 6 April 1988, with revaluation to the extract date
- > pension debit including revaluation up to the extract date

** for members for whom no 2011-12 annual return received, as at date latest salary is recorded.*



Deferred members

- > identifier
- > **gender**
- > **date of birth**
- > date of most recent exit
- > total reckonable NPA 60 service deferred
- > total reckonable NPA 65 service deferred
- > total pensionable remuneration at exit
- > **total deferred NPA 60 pension including pension increases awarded to deferred pensions as at the valuation date**
- > **total prospective NPA 60 spouse's pension including pension increases as at the valuation date**
- > additional NPA 60 pension
- > additional NPA 60 partner's pension
- > additional NPA 60 pension indexation
- > **total deferred NPA 65 pension including pension increases awarded to deferred pensions as at the valuation date**
- > additional NPA 65 pension
- > additional NPA 65 partner's pension
- > additional NPA 65 pension indexation
- > GMP accrued for service up to 5 April 1988, revalued to the valuation date
- > GMP accrued for service after 6 April 1988, revalued to the valuation date
- > pension debit including revaluation up to the extract date
- > pension credit member (yes/no indicator)



Pensioner members

- > identifier
- > for dependants, the identifier of the member
- > **gender**
- > **date of birth**
- > **pensioner category**
- > date pension payment commenced
- > **total pension in payment including pension increases awarded to the valuation date before deduction of NI modifications**
- > for pensions in abatement, the total unabated pension including pension increases
- > **total prospective spouse's pension, including pension increases awarded to the extract date**
- > amount of NI modification
- > short-term pension (for those receiving short-term pensions at the extract date)
- > GMP accrued up to 5 April 1988, including revaluation to the valuation date
- > GMP accrued after 6 April 1988, including revaluation to the extract date
- > GMP accrued up to 5 April 1988 at date pension payment commenced
- > GMP accrued after 6 April 1988 at date pension payment commenced



Appendix B: Data checks

Checks on individual active member data

Data Item	Validity Check
Identifier	Is unique and no duplicate entries of the same identifier
Gender	Is either "M" or "F"
Date of birth	Member is not under age 18 or over age 75
Date joined scheme	Member was not under age 18 or over age 75 when joining the scheme
Full-time equivalent pensionable remuneration as at 31 March 2012	Is non-zero and less than £150,000
Total full-time equivalent reckonable NPA 60 service for member's benefits	(i) Is less than (age – 18) and less than 45; and (ii) Is greater than zero for members who joined the scheme before 1 April 2007
Total full-time equivalent reckonable NPA 60 service counting for spouse's pension	Is less than or equal to member's NPA 60 service.
Additional NPA 60 pension indexation	Is either RPI or CPI
Total full-time equivalent reckonable NPA 65 service	(i) Is less than (age – 18) and less than 10; and (ii) Is greater than zero for members who joined the scheme after 1 April 2007
Additional NPA 65 pension indexation	Is either RPI or CPI
Total calendar length of service	Is less than (age – 18)
Part-time proportion	Is greater than 0% and less than 150%



Checks on individual deferred member data

Data Item	Validity Check
Identifier	Is unique and no duplicate entries of the same identifier
Gender	Is either "M" or "F"
Date of birth	Member is between age 18 and age 75
Date of most recent exit	Is before 31 March 2012
Total reckonable NPA 60 service deferred	Is less than (age – 18) and less than 45 years
Total reckonable NPA 65 service deferred	Is less than (age – 18) and less than 10 years
Total pensionable remuneration at exit	Is greater than £0 and less than £150,000
Total deferred NPA 60 pension including pension increases awarded to deferred pensions as at the extract date	Is greater than £0 and less than £85,000 per year
Total prospective NPA 60 spouse's pension including pension increases as at the extract date	Is between 0% and 50% of the member's deferred pension
Additional NPA 60 pension indexation	Is either RPI or CPI
Total deferred NPA 65 pension including pension increases awarded to deferred pensions as at the extract date	Is greater than £0 and less than £10,000 per year
Additional NPA 65 pension indexation	Is either RPI or CPI

Checks on individual pensioner member data

Data Item	Validity Check
Identifier	Is unique and no duplicate entries of the same identifier
Gender	Is either "M" or "F"
Date of birth	Member is not under age 23 unless is child.
Pensioner group	Is populated with a valid code
Date pension payment commenced	Is not after 31 March 2012
Total pension in payment	Is greater than £0 and is less than £85,000 per year



Appendix C: Protection and member categories

Transitional protection will be provided to those within 13½ years of their NPA on 1 April 2012, as described below.

Full Protection Members

All active members who, as of 1 April 2012, have 10 years or less to their current Normal Pension Age (i.e. NPA 60 section members who are aged 50 and over on 1 April 2012, and NPA 65 and Mixed Service section members who are aged 55 or over on 1 April 2012) will see no change in when they can retire, nor any decrease in the amount of pension they receive at their current Normal Pension Age. This protection will be achieved by the member remaining in their current scheme until they retire.

Tapered Protection Members

Active members who, as of 1 April 2012, are between 10 and 13½ years of their Normal Pension Age (i.e. NPA 60 section members who are aged between 46½ and 50 on 1 April 2012, and NPA 65 and Mixed Service section members who are aged between 51½ and 55 on 1 April 2012) will have limited protection with linear tapering so that for every month of age that they are beyond 10 years from their Normal Pension Age, they lose 2 months of protection. At the end of the protected period, they will be transferred into the new pension arrangements.

Unprotected Members

Those active members who, as of 1 April 2012, have 13½ years or more to their current Normal Pension Age (i.e. NPA 60 section members who are aged 46½ and under, and NPA 65 and Mixed Service section members who are aged 51½ and under on 1 April 2012) will all move to the reformed scheme from 1 April 2015.



Appendix D: Comparison of membership at 31 March 2005 and 31 March 2012

a) Actives

NPA 60

2005							2012					
	Number of members (nearest 10)	Total pensionable pay (i) (£m)	Average pensionable pay (£)	Average age (ii) (years)	Average reckonable service (years)	Average accrued pension (£)	Number of members (nearest 10)	Total pensionable pay (i) (£m)	Average pensionable pay (£)	Average age (ii) (years)	Average reckonable service (ii) (years)	Average accrued pension (£)
Male	- (iii)	712	- (iii)	47.8	17.8	- (iii)	15,000	603.6	40,240	49.1	18.5	9,320
Female	- (iii)	1,675	- (iii)	45.4	13.8	- (iii)	43,740	1,624.5	37,140	47.3	16.2	7,520
Total	- (iii)	2,390	- (iii)	46.1	14.9	- (iii)	58,740	2,228.1	37,940	47.8	16.8	7,980

NPA 65

2005							2012					
	Number of members (nearest 10)	Total pensionable pay (i) (£m)	Average pensionable pay (£)	Average age (ii) (years)	Average reckonable service (years)	Average accrued pension (£)	Number of members (nearest 10)	Total pensionable pay (i) (£m)	Average pensionable pay (£)	Average age (ii) (years)	Average reckonable service (ii) (years)	Average accrued pension (£)
Male	-	-	-	-	-	-	4,090	128.0	30,310	38.1	3.4	1,780
Female	-	-	-	-	-	-	11,130	318.5	28,630	33.8	2.7	1,300
Total	-	-	-	-	-	-	15,210	446.5	29,350	35.0	2.9	1,430

(i) The pay shown is full-time equivalent (FTE) pay

(ii) Weighted by FTE pay

(iii) The number of active members as at 31 March 2005 was not quoted for the purposes of the 2005 valuation. See paragraph 3.6 for more details.



Mixed Service

2005							2012					
Number of members (nearest 10)	Total pensionable pay (i) (£m)	Average pensionable pay (£)	Average age (ii) (years)	Average reckonable service (years)	Average accrued pension (£)		Number of members (nearest 10)	Total pensionable pay (i) (£m)	Average pensionable pay (£)	Average age (ii) (years)	Average reckonable service (ii) (years)	Average accrued pension (£)
Male	-	-	-	-	-		90	3.2	37,190	47.6	8.7	4,340
Female	-	-	-	-	-		370	12.7	33,970	45.6	8.0	3,630
Total	-	-	-	-	-		460	15.8	34,570	46.0	8.2	3,760

All members

2005							2012					
Number of members (nearest 10)	Total pensionable pay (i) (£m)	Average pensionable pay (£)	Average age (ii) (years)	Average reckonable service (years)	Average accrued pension (£)		Number of members (nearest 10)	Total pensionable pay (i) (£m)	Average pensionable pay (£)	Average age (ii) (years)	Average reckonable service (ii) (years)	Average accrued pension (£)
Male	- (iii)	712	- (iii)	47.8	17.8	- (iii)	19,170	734.7	38,330	47.2	15.9	7,690
Female	- (iii)	1,675	- (iii)	45.4	13.8	- (iii)	55,240	1,955.7	35,410	45.0	13.9	6,240
Total	- (iii)	2,390	- (iii)	46.1	14.9	- (iii)	74,410	2,690.5	36,160	45.6	14.5	6,610

(i) The pay shown is full-time equivalent (FTE) pay

(ii) Weighted by FTE pay

(iii) The number of active members as at 31 March 2005 was not quoted for the purposes of the 2005 valuation. See paragraph 3.6 for more details.



b) Deferreds
NPA 60 members with deferred pension entitlement

	2004				2012			
	Number of members (nearest 10)	Total deferred pension (i) (£m)	Average pension (£)	Average age (ii) (years)	Number of members (nearest 10) (iii)	Total deferred pension (iv) (£m)	Average pension (£)	Average age (ii) (years)
Male	3,600	17.2	4,770	50.7	3,500	19.7	5,630	55.5
Female	11,200	35.4	3,160	52.2	9,700	42.6	4,400	53.4
Total	14,800	52.6	3,550	51.2	13,200	62.4	4,720	54.1

NPA 65 members with deferred pension entitlement

	2005				2012			
	Number of members (nearest 10)	Total deferred pension (i) (£m)	Average pension (£)	Average age (ii) (years)	Number of members (nearest 10) (iii)	Total deferred pension (iv) (£m)	Average pension (£)	Average age (ii) (years)
Male	-	-	-	-	210	0.3	1,540	39.3
Female	-	-	-	-	530	0.7	1,240	34.8
Total	-	-	-	-	740	1.0	1,320	36.3

- (i) 2005 pension amounts exclude increase granted in April 2005
(ii) Weighted by deferred pension
(iii) Includes members over NPA considered unlikely to claim their pensions
(iv) 2012 pension amounts exclude increase granted on 9 April 2012



Mixed Service members with deferred pension entitlement

	2005				2012			
	Number of members (nearest 10)	Total deferred pension (i) (£m)	Average pension (£)	Average age (ii) (years)	Number of members (nearest 10) (iii)	Total deferred pension (v) (£m)	Average pension (£)	Average age (ii) (years)
Male	-	-	-	-	20	0.1	2,730	46.4
Female	-	-	-	-	80	0.2	2,690	48.2
Total	-	-	-	-	100	0.3	2,700	47.8

All members with deferred pension entitlement

	2005				2012			
	Number of members (nearest 10)	Total deferred pension (i) (£m)	Average pension (£)	Average age (ii) (years)	Number of members (nearest 10) (iii) (iv)	Total deferred pension (v) (£m)	Average pension (£)	Average age (ii) (years)
Male	3,600	17.2	4,770	50.7	3,730	20.1	5,390	55.2
Female	11,200	35.4	3,160	52.2	10,310	43.5	4,220	53.1
Total	14,800	52.6	3,550	51.2	14,040	63.6	4,530	53.8

(i) 2005 pension amounts exclude increase granted in April 2005

(ii) Weighted by pension

(iii) Includes members over NPA considered unlikely to claim their pensions

(iv) The 2012 valuation liability calculations exclude, in total, 235 members who are over age 70 and 1,043 members who are aged between NPA and 70 at the valuation date

(v) 2012 pension amounts exclude increase granted on 9 April 2012



Deferred members without pension entitlement ⁽ⁱ⁾

	2005	2012
	Number of members (nearest 10)	Number of members (nearest 10) (ii)
Male	1,590	4,300
Female	4,610	11,710
Total	6,200	16,010

(i) These members do not have enough qualifying service to be entitled to a deferred pension from the Scheme. They are entitled to a refund of their contributions or a transfer value payment, depending on their length of service and when they left active service.

(ii) Includes members over NPA considered unlikely to claim their pensions. The 2012 valuation liability calculations exclude, in total, 399 members who are over age 70 and 2,868 members who are aged between NPA and 70 at the valuation date.



(c) Pensioners

Type of benefit		2005				2012			
		Number of members (nearest 10)	Total pension (ii) (£m)	Average pension (£)	Average age (i) (years)	Number of members (nearest 10)	Total pension (iii) (£m)	Average pension (£)	Average age (i) (years)
Age, ARB (iv) and Premature retirement	Male	12,770	144.4	11,310	70.1	17,380	247.4	14,230	69.9
	Female	22,620	175.4	7,750	70.6	34,160	336.6	9,850	69.5
	Total	35,390	319.8	9,040	70.4	51,540	583.9	11,330	69.7
Ill-health retirement	Male	2,290	24.8	10,840	62.3	2,060	28.2	13,680	67.3
	Female	4,560	39.8	8,720	62.9	4,330	47.5	10,970	67.4
	Total	6,850	64.6	9,430	62.7	6,390	75.7	11,850	67.4
Spouses and other dependants	Male	1,420	3.8	2,700	57.1	1,630	5.1	3,110	63.3
	Female	3,870	13.7	3,540	68.2	5,320	27.5	5,180	74.5
	Total	5,300	17.6	3,320	65.8	6,940	32.6	4,700	72.8
All	Male	16,480	173.0	10,500	68.7	21,070	280.6	13,320	69.5
	Female	31,060	229.0	7,370	69.1	43,800	411.6	9,400	69.6
	Total	47,550	402.0	8,460	68.9	64,870	692.2	10,670	69.6

- (i) Weighted by pension
- (ii) 2005 pension amounts exclude increase granted in April 2005
- (iii) 2012 pension amounts exclude increase granted on 9 April 2012
- (iv) Actuarially reduced benefits



Appendix E: Summary of Scheme benefits

Table E1 – Members who joined the scheme prior to 1 April 2007 (NPA60 section)

1.	Normal Pension Age (NPA)	60
2.	Pensionable Pay (PP)	Basic pay plus pensionable allowances
3.	Final Pensionable Pay (FPP)	Better of a) last 12 months' pensionable pay b) average of best 3 consecutive years' pensionable pay in last 10 years (revalued in line with the Pensions Increase (PI) Act to date of exit).
4.	Relationship to State Second Pension (S2P)	Contracted-out
5.	Members' contributions	Contribution scale tiered by PP
6.	<u>Benefits on retirement</u> Age retirement (1) Pension (2) Lump sum Ill-health retirement (at least 2 years' service)	Assuming reckonable service of N years: N/80 x FPP 3 x N/80 x FPP plus commutation at 12:1 Benefits as on age retirement, but based in some cases on enhanced service (see 12)
7.	<u>Benefits on death in service</u> (1) Lump sum (2) Spouse's/partner's pension	3 x Pensionable Pay 50% of member's pension based on enhanced service (see 13) (i)
8.	<u>Benefits on death out of service</u> (1) Lump sum (2) Spouse's/partner's pension	3 x N/80 x FPP at time of member's death 50% of member's pension (i)
9.	<u>Benefits on death after retirement</u> (1) Lump sum (2) Spouse's/partner's pension	5 x member's pension less pension received 50% of member's pension (i)
10.	<u>Benefits on withdrawal</u> - Less than 3 months' service - Between 3 months' and 2 years' service - 2 or more years' service	Refund of members' contributions Refund of members' contributions or transfer value Deferred benefits payable from NPA or transfer value
11.	<u>Increases to pensions</u> - In payment - In deferment	Increased in line with the PI Act, on excess over GMP Total pension increased in line with the PI Act
12.	<u>Service on ill-health retirement</u> Total incapacity benefit Incapacity benefit	Pension based on actual service plus half of potential service to NPA Pension based on actual service (but no reduction for immediate payment)
13.	<u>Service enhancement on death in service</u> <u>Actual service</u> 2 to 10 years 10 to 13 1/3 years More than 13 1/3 years	<u>Enhanced service</u> Actual service doubled (ii) Actual service increased to 20 years (ii) Actual service plus 6 2/3 years (iii)

Notes :

- (i) Only service from April 1988 automatically accrues for widowers' and civil partners' benefits. Only service from 1 January 2007 automatically accrues for nominated partners' benefits. Certain short term (up to 6 months) family pensions may be paid in addition
- (ii) Subject to a maximum enhancement of the potential service to age 65
- (iii) Subject to a maximum enhancement of the pensionable service to age 60.



Table E2 – Members who joined the scheme on or after 1 April 2007 (NPA65 section)

1.	Normal Pension Age (NPA)	65
2.	Pensionable Pay (PP)	Basic pay plus pensionable allowances
3.	Final Pensionable Pay (FPP)	Better of a) last 12 months pensionable pay b) average of best 3 consecutive years' pensionable pay in last 10 years (revalued in line with the Pensions Increase (PI) Act to date of exit)
4.	Relationship to State Second Pension (S2P)	Contracted-out
5.	Members' contributions	Contribution scale tiered by PP
6.	<u>Benefits on retirement</u> Age retirement (1) Pension (2) Lump sum Ill-health retirement (at least 2 years' service)	Assuming reckonable service of N years: N/60 x FPP By commutation at 12:1 Benefits as on age retirement, but based in some cases on enhanced service (see 12)
7.	<u>Benefits on death in service</u> (1) Lump sum (2) Spouse's/partner's pension	3 x Pensionable Pay 3/8 of member's pension based on enhanced service (see 13) (i)
8.	<u>Benefits on death out of service</u> (1) Lump sum (2) Spouse's/partner's pension	3 x N/80 x FPP at time of member's death 3/8 of member's pension (i)
9.	<u>Benefits on death after retirement</u> (1) Lump sum (2) Spouse's/partner's pension	5 x member's pension less pension received 3/8 of member's pension
10.	<u>Benefits on withdrawal</u> - Less than 3 months' service - Between 3 months' and 2 years' service - 2 or more years' service	Refund of members' contributions Refund of members' contributions or transfer value Deferred benefits payable from NPA or transfer value
11.	Increases to pensions	Increased in line with the PI Act (in payment and deferment)
12.	<u>Service on ill-health retirement</u> Total incapacity benefit Incapacity benefit	Pension based on actual service plus half of potential service to NPA Pension based on actual service (but no reduction for immediate payment)
13.	<u>Service enhancement on death in service</u> <u>Actual service</u> 2 to 10 years 10 to 13 1/3 years More than 13 1/3 years	<u>Enhanced service</u> Actual service doubled (ii) Actual service increased to 20 years (ii) Actual service plus 6 2/3 years (iii)

Notes :

(i) Certain short term (up to 6 months) family pensions may be paid in addition; (ii) Subject to a maximum enhancement of the potential service to age 65; (iii) Subject to a maximum enhancement of the pensionable service to age 60 or 65 depending on a member's age and reckonable service history.



Table E3 – 2015 scheme benefit structure

1.	Normal Pension Age (NPA)	Higher of a member's State Pension Age and 65
2.	Pensionable Earnings (PE)	Basic pay plus pensionable allowances
3.	Standard Earned Pension (SEP)	1/57 of PE for each financial year
4.	Annual Index Adjustment (AIA)	The increase or decrease in a Treasury order in the previous financial year, plus 1.6%
5.	Relationship to State Second Pension (S2P)	Contracted-out
6.	Members' contributions	Contribution scale tiered by PE
7.	<u>Benefits on normal retirement</u> (1) Pension (2) Lump sum	The sum of each year's SEP revalued with the appropriate AIAs from the year the SEP was accrued to date of exit (increases in deferment covered under 14.) By commutation at 12:1
8.	<u>Benefits on early retirement</u>	Pension as per normal retirement but reduced for early payment. The reduction is actuarially neutral on a deferred benefit basis, except that for retirements directly from active status the reduction applying to the period between age 65 and NPA is 3% a year (up to a maximum of 3 years).
9.	<u>Benefits on ill-health retirement</u> Incapacity benefit Total incapacity benefit	Pension as per normal retirement (but with each SEP revalued to date incapacity benefit commences and with no reduction for immediate payment) Incapacity benefit plus half of prospective service to NPA multiplied by 1/57 of the member's annual rate of PE (i)
10.	<u>Benefits on death in service</u> (1) Lump sum (2) Spouse's/partner's pension	3 x a member's annual rate of PE (i) 37.5% of member's pension as if he retired on total incapacity grounds at date of death
11.	<u>Benefits on death out of service</u> (1) Lump sum (2) Spouse's/partner's pension	2.25 x member's pension (with each SEP revalued to date of member's death) 37.5% of member's pension as per normal retirement (but with each SEP revalued to date of member's death)
12.	<u>Benefits on death after retirement</u> (1) Lump sum (2) Spouse's/partner's pension	5 x member's current pension less pension already received 37.5% of member's pension (without allowance for any reduction due to commutation)
13.	<u>Benefits on withdrawal</u> - Less than 3 months' service - Between 3 months' and 2 years' service - 2 or more years' service	Refund of members' contributions Refund of members' contributions or transfer value Deferred benefits payable from NPA or transfer value
14.	Increases to pensions	Increased in line with the PI Act (in payment and deferment)

Notes :

(i) A member's full-time equivalent annual rate of pensionable earnings for part-time members