



Government Actuary's Department

126 xy $n =$ $\frac{1}{n-1}$ 2^{10-1}
 $2x + zy = 0$ $\frac{1}{9}$ $\frac{1}{512}$
1919 - 2019 x $x^2 - a^2 = (x+a)(x-a)$ $x^2 + 2ax + a^2 = (x+a)^2$ $x + b$

Civil Service Pension Schemes

Actuarial valuation as at 31 March 2016

Report on membership data

Date: 26 February 2019

Author: Steve Lewis



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1 Introduction

- 1.1 This report is addressed to the Cabinet Office. It is also being made available to the Civil Service Pension Scheme ('CSPS' or 'the Scheme') Scheme Advisory Board (SAB) as part of the consultation process relating to the actuarial valuation of the CSPS which is being carried out as at 31 March 2016.
- 1.2 Pension scheme membership data is required for the actuarial valuation of the Scheme as at 31 March 2016, carried out in accordance with HM Treasury's Public Service Pensions (Valuations and Employer Cost Cap) Directions 2017 ('HMT Directions').
- 1.3 The membership data is used for the following:
- > To calculate valuation results including the uncorrected employer contribution rate, corrected employer contribution rate and past service liability (all valuation data)
 - > To assess the initial cost cap fund (membership data as at 31 March 2015)
 - > To assess elements of the Scheme's demographic experience in order to recommend assumptions for the valuation (movements data 31 March 2012 to 31 March 2016)
- 1.4 The results of the valuation are critically dependent on the quality and correctness of the data used. The data provided was not fully correct and complete for all members and approximations have been made to enable valuation calculations to be undertaken.
- 1.5 The purposes of this report are:
- > to discuss and summarise the membership data provided, and any checks and adjustments made to the data;
 - > to enable users of the valuation report to understand the underlying membership data used in the valuation and any issues relating to it; particularly those issues that may impact on the valuation results; and
 - > to discuss and summarise the movements data provided which is used to inform decisions around scheme specific assumptions to be used for the valuation.
- 1.6 All member data provided and discussed in this report was supplied by MyCSP, and all supplementary accounting information was supplied by Cabinet Office. Resource accounts for the relevant period are publicly available.
- 1.7 In preparing this report, GAD has relied on data and other information supplied by MyCSP and the Cabinet Office 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.



- 1.8 Summaries of the membership and movements data used for the valuation are provided in Section 2 of this report with further information in Appendices A and B of this report respectively.
- 1.9 In my opinion the membership data provided is adequate for the purposes of the valuation.
- 1.10 However, it should be noted that during its recent audit of the Scheme's 2017/18 annual report and accounts carried out in November 2018, the National Audit Office (NAO) discovered a hitherto undetected error within the 31 March 2016 data set. As a result of this error, reckonable service to 31 March 2016 for fully protected members was slightly understated, a feature that was not previously identified by GAD, in part because we were able to closely reconcile the liabilities determined using the 2016 valuation data with those based on earlier data sets. Taking account of the acknowledged error now results in an unexplained change in the liability values at this valuation compared to those determined at the previous valuation. Using data corrected for the error would lead to a marginal increase in the uncorrected employer contribution rate of 0.4% of pensionable pay, but it would not result in a change to the employer contribution correction cost owing to the way the already known data deficiencies have been handled for the purposes of the valuation.
- 1.11 In view of the overall poor quality of the data available, we are not confident that further investigation, which would take some considerable time, would enable us to resolve or explain the apparent discrepancy in the liabilities. Similarly, we would not have confidence in any revision made to the valuation results in recognition of this issue alone.
- 1.12 Given the situation and the remaining uncertainty over what might be deemed the best estimate valuation results, we have recommended that the valuation results are not corrected for the acknowledged data error. We understand that Cabinet Office have agreed to this recommended interpretation of best estimate requirements and that HM Treasury are content that the valuation should be finalised without taking account of the error identified by NAO. All data summaries provided in this report are without amendment for the acknowledged error.
- 1.13 We strongly encourage Cabinet Office to engage with its administrators to ensure the data deficiencies evidenced at this valuation may be addressed before the 2020 valuation.
- 1.14 There are also a number of issues with the movements data as outlined in Section 2. Inaccuracies in the movement data potentially feed through into the analysis of experience, and could therefore result in the scheme experience appearing higher or lower than it actually has been over the intervaluation period.
- 1.15 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.
- 1.16 We are content for the Minister for the Civil Service to release this report to third parties, provided that:
- > it is released in full;
 - > the advice is not quoted selectively or partially;
-



- > GAD is identified as the source of the report, and;
 - > GAD is notified of such release.
- 1.17 Third parties whose interests may differ from those of the Minister for the Civil Service should be encouraged to seek their own actuarial advice where appropriate. GAD has no liability to any person or third party for any act or omission taken, either in whole or in part, on the basis of this report.
- 1.18 This report has been prepared in accordance with the applicable Technical Actuarial Standards: TAS 100 and TAS 300 issued by the Financial Reporting Council (FRC). The FRC sets technical standards for actuarial work in the UK.

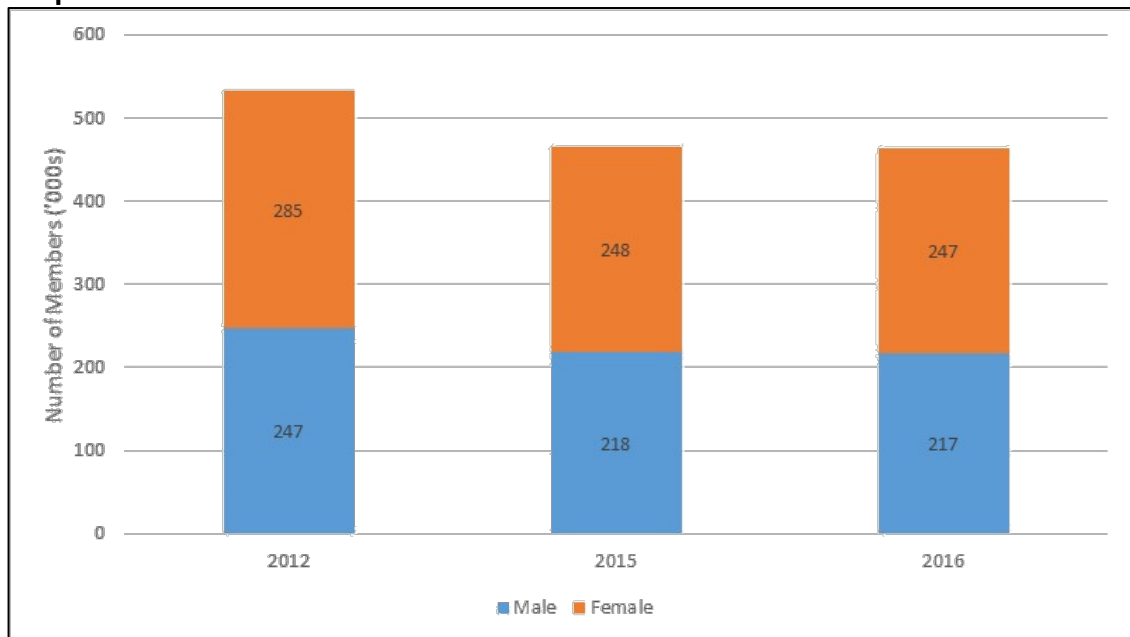


2 Summary of data used for the valuation

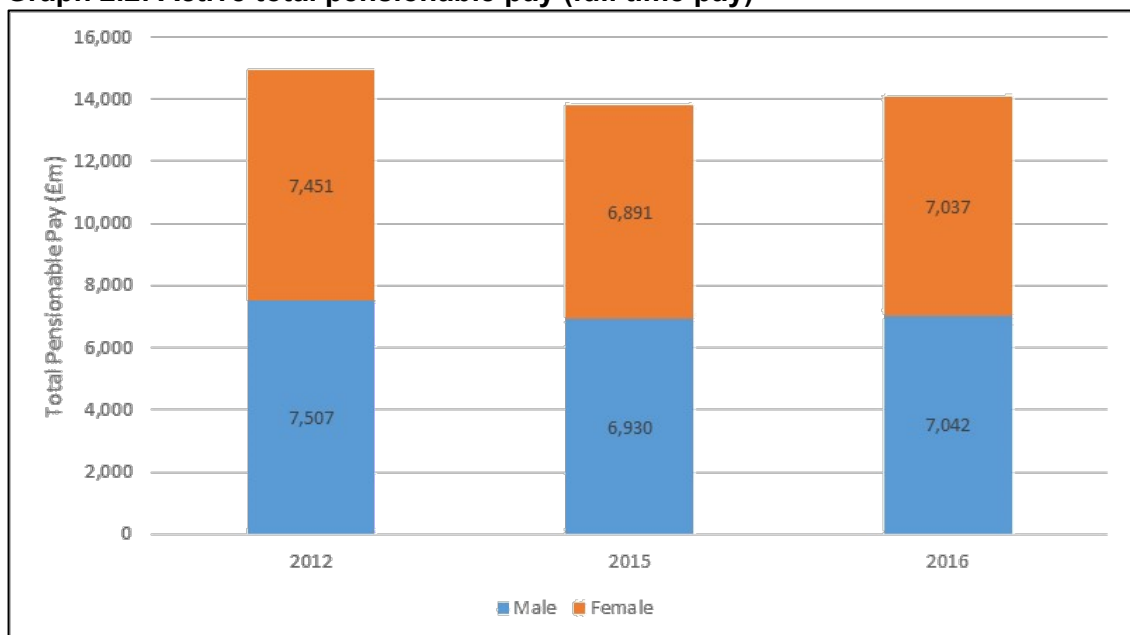
Membership data at 31 March 2016

- 2.1 The membership data to be used for the purposes of the 2016 valuation is summarised below together with comparative data at 2015 (for actives only) and as used for the 2012 valuation. Detailed tables are set out in Appendix A.

Graph 2.1: Number of active members

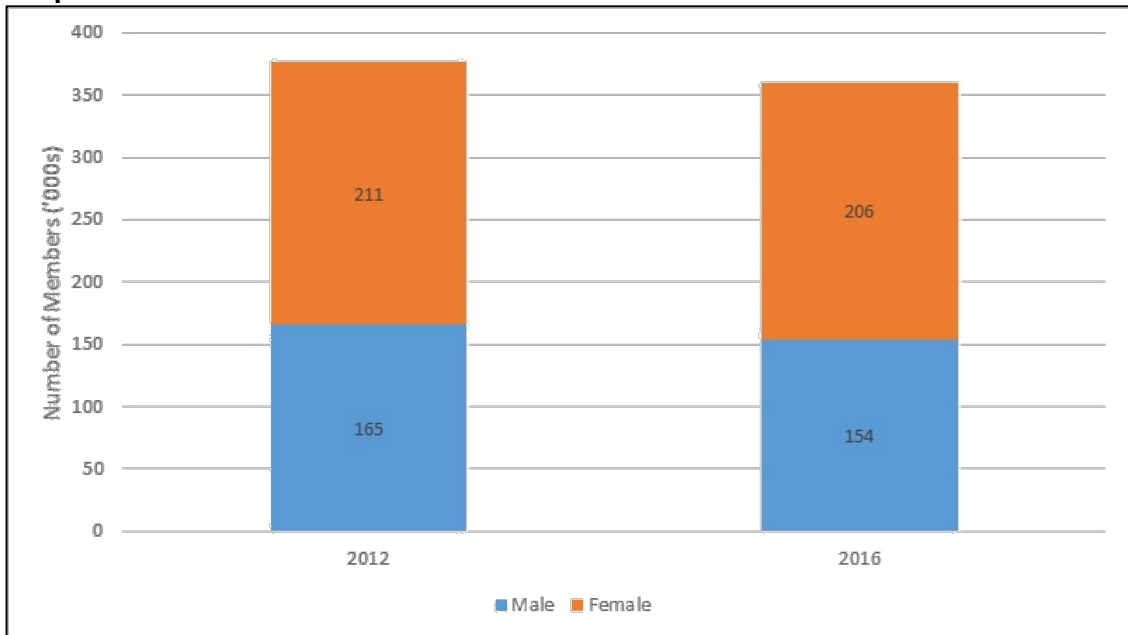


Graph 2.2: Active total pensionable pay (full time pay)

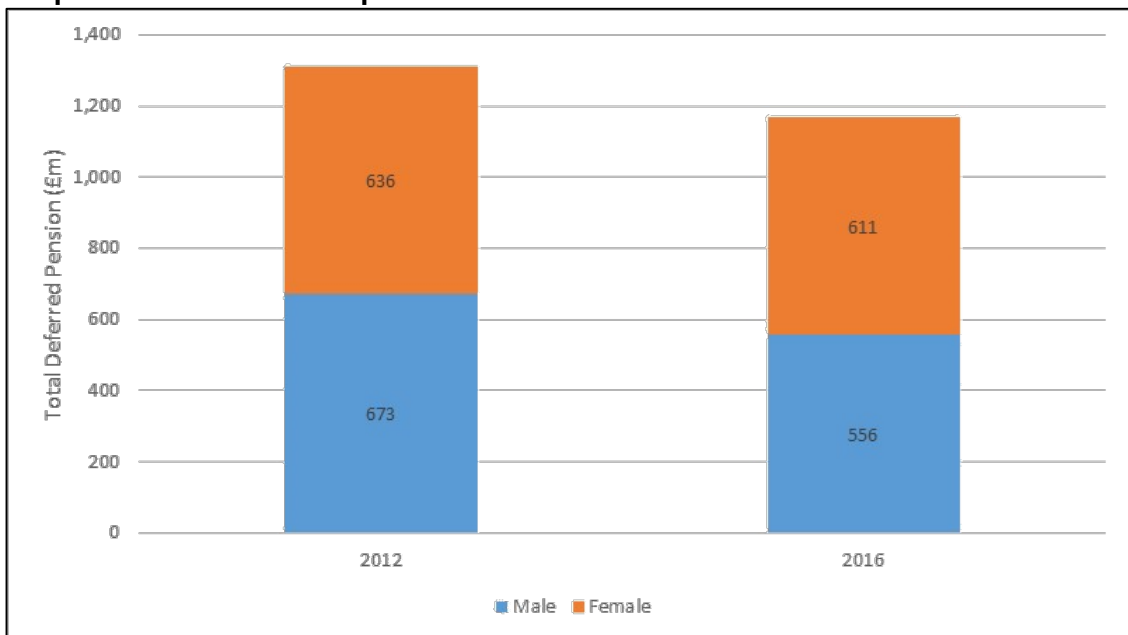




Graph 2.3: Number of deferred members

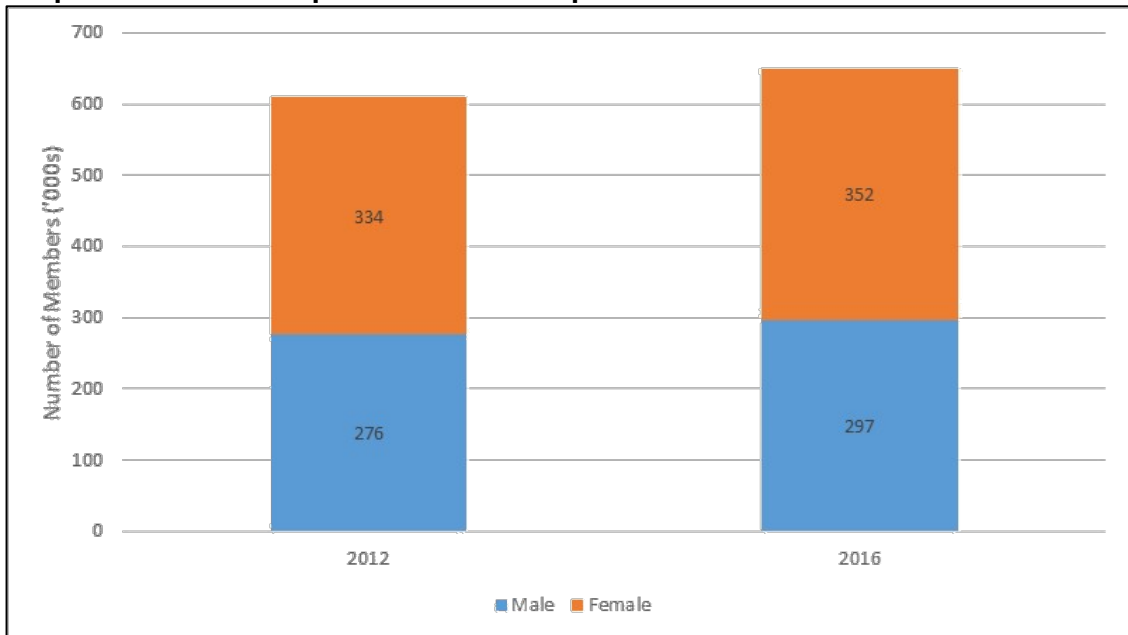


Graph 2.4: Total deferred pension

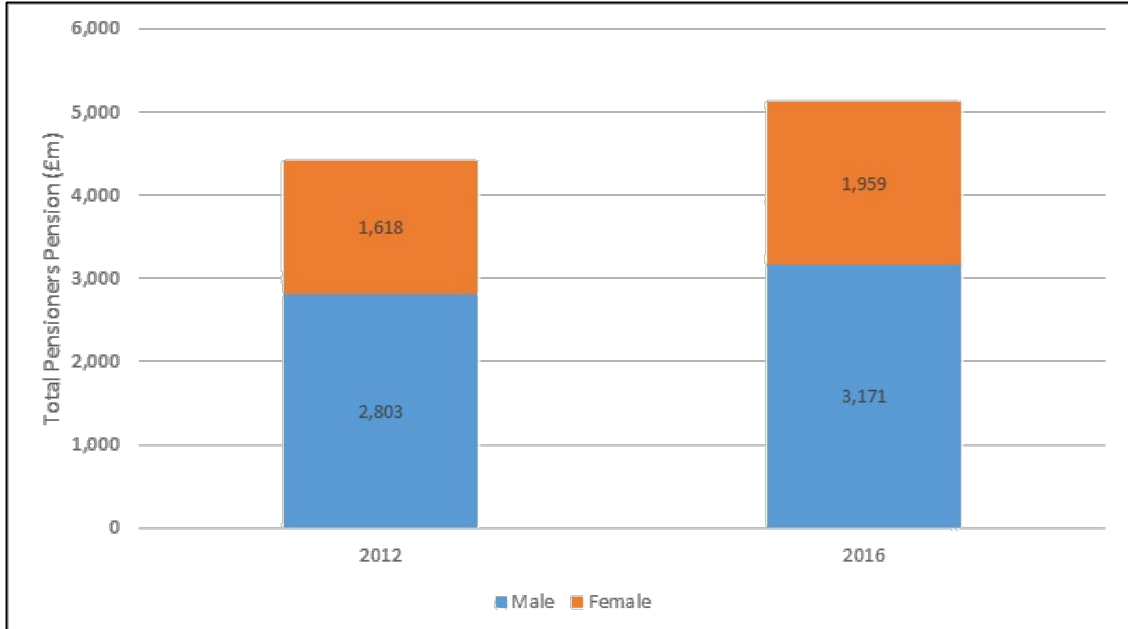




Graph 2.5: Number of pensioners and dependants



Graph 2.6: Total pension in payment (pensioners and dependants)



2.2 The graphs above show an increase between 2012 and 2016 in the pensioner membership by both headcount and total pension roll. Active and deferred membership decreased over the same period, by both headcount and total salary/deferred pension.



- 2.3 Around 1.5m records were provided to GAD across all three membership categories (active, deferred and pensioner) as at 31 March 2016. Checks were applied to these records to ensure all key data items are provided and reliable for valuation purposes. Records with key data items either missing or unreliable were excluded and remaining data uprated. This approach implicitly assumes that the records with missing/unreliable data have the same average profile as the complete/reliable records. The derivation of the uprating factors and the checks and adjustments applied to the data are explained further in the next section of this report. The overall uprating factors applied to each category of member are shown below with the comparative factors at 2015 and at the 2012 valuation.

Table 2.1: Uprating factors

| | Uprating factor 2016 | Uprating factor 2015 | Uprating factor 2012 |
|-------------------------|---------------------------------|---------------------------------|---------------------------------|
| Active members | 1.04 | 1.03 | 1.01 |
| Deferred members | 1.00 | n/a | 1.02 |
| Pensioner members | 1.00 | n/a | 1.01 |
| Total membership | 1.01 | 1.03 | 1.01 |

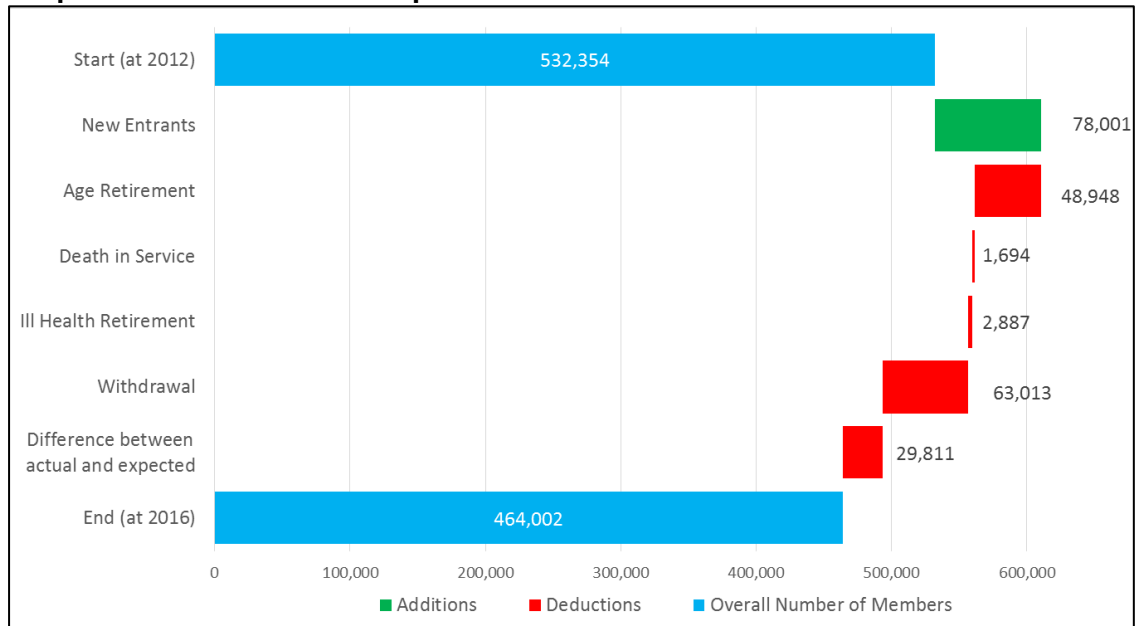
- 2.4 Making assumptions about missing data and allowing for known members with unusable data by uprating introduces uncertainty into the valuation results. Appendix F gives an indication of the potential level of uncertainty introduced by the approach taken to missing or unreliable data.
- 2.5 The approach taken to missing or unreliable data was adopted for the 2012 CSPA valuation. We have no evidence to indicate that this approach and the implicit assumption is not appropriate.

Movements data 31 March 2012 to 31 March 2016

- 2.6 The movements data provided is used for the purposes of informing the demographic assumptions to be used for the 2016 valuation. It is used in conjunction with the membership data at both 2016 and 2015 to determine the cost cap Net Leavers Liability ('NLL'). The graphs below show a reconciliation of the movements between 2012 and 2016. The underlying numbers and some further information is set out in Appendix B. Appendix F: gives an indication of the potential level of uncertainty introduced into the valuation results owing to missing or unreliable movements data.



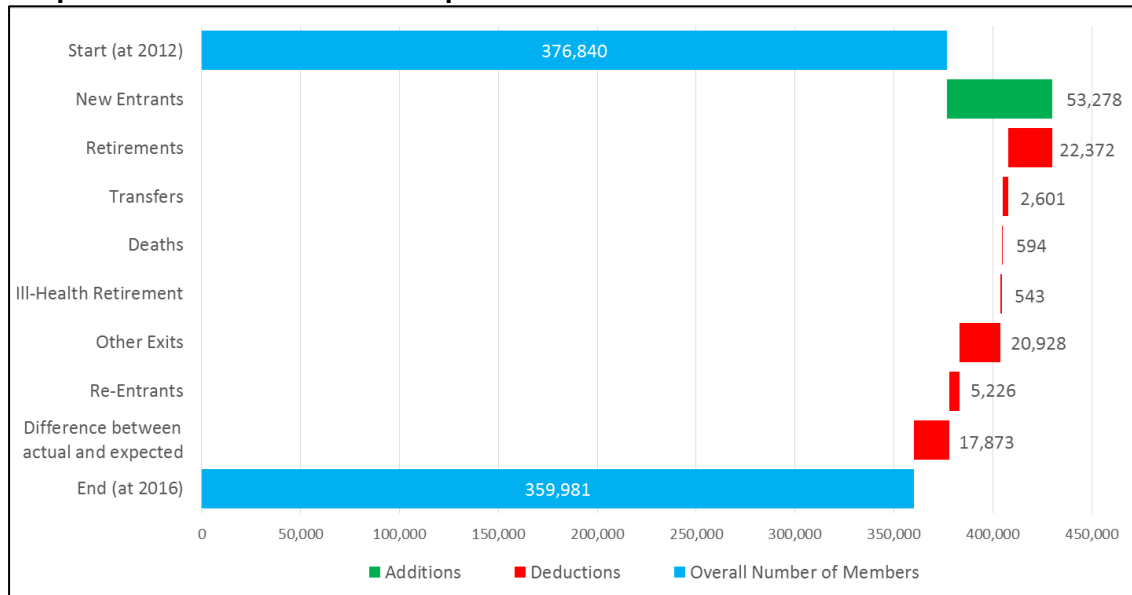
Graph 2.7: Active membership reconciliation



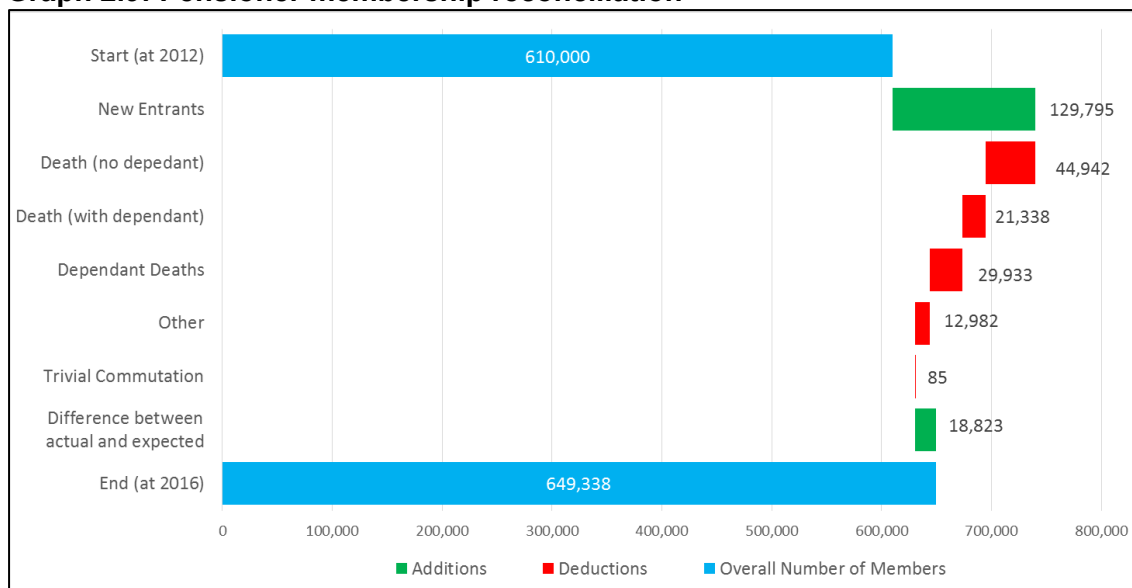
- 2.7 The number of age retirements included in the above reconciliation do not include around 17,000 partial retirements (as these do not result in exit from active status). Partial retirements are however included in the analysis carried out on retirement experience over the intervaluation period.
- 2.8 New entrants in the above reconciliation include re-entrants from deferred status. Where a member has had multiple exits from active status only a single exit is counted in the reconciliation (and no entrant is recorded for those in service prior to 31 March 2012). Where members joined and left within the intervaluation period (and so are not present in the active data at 2012 or 2016), or left and rejoined over the intervaluation period (and so were active members in both 2012 and 2016), their movements are excluded from the reconciliation. This approach may be different to any member reconciliations shown in the Scheme's annual accounts, as we would generally expect these to show all movements (ie including multiple exits and movements for those that enter and exit over the inter-valuation period).
- 2.9 The difference between the expected number of active members as at 31 March 2016 and the actual number of members (expected number is around 6.5% higher than actual number of active members) introduces uncertainty into the analysis of experience for active members. More detail on the quality of the actives movements data is provided in Appendix B.



Graph 2.8: Deferred membership reconciliation



Graph 2.9: Pensioner membership reconciliation



2.10 In the 2012 valuation data around 20,000 members who were categorised as “P status” were included in the deferred data, but we now believe that these should have been included in the pensioner data. This helps to explain the differences between the expected number of members as at 31 March 2016 and the actual number of members in the deferred and pensioner reconciliations. Further details on the quality of the deferred and pensioner movements data is included in Appendix B.

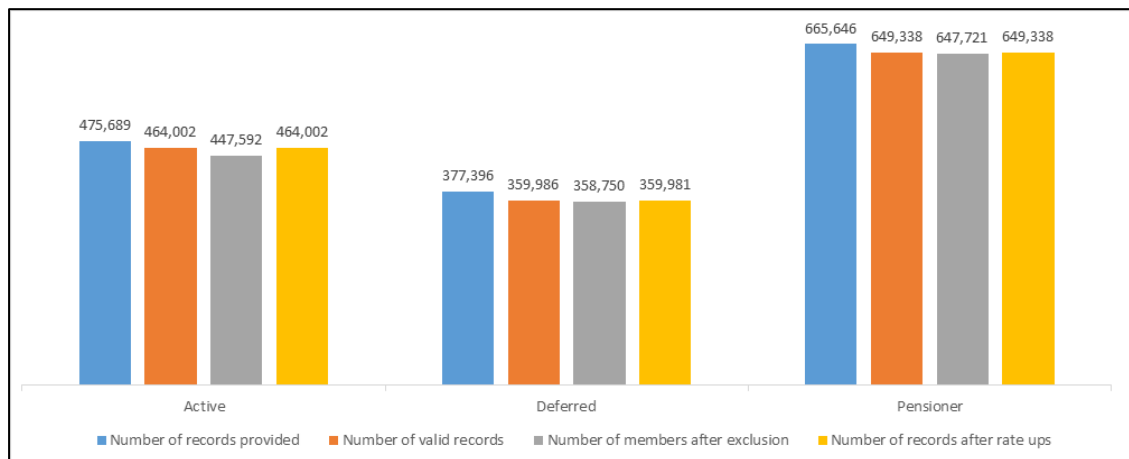


3 Data provided and checks and adjustments made

Membership data at 31 March 2016 and 31 March 2015

- 3.1 Individual member data was supplied for active members, deferred members and current beneficiaries of the Scheme at the valuation date. The individual data items supplied which are critical to the valuation calculations are summarised in Appendix C. The graph below shows the total number of records provided, the total number of valid records (records that should be included in the final valuation data - after removing duplicate records, suspended records, no liability records etc.), the total number of records after exclusions (those that are valid and pass our checks on the data), and the total number of records after we have rated up for the excluded records. Further details are set out in Appendix E.

Graph 3.1: Summary of data provided and excluded



Checks made and adjustments applied

- 3.2 All key data items were checked against the specification requested for both completeness and consistency.
- 3.3 Checks were carried out to determine which records would need to be excluded. The checks also identified a number of areas where adjustments to the data were appropriate. The checks and adjustments applied are summarised in Appendix E.
- 3.4 Based on the checks applied some records were excluded from the dataset for valuation purposes. Uprating factors were determined for each membership category equal to the ratio of known valid records and the number of records with adequate data (ie those that are not excluded based on our checks). Implicitly this uprating approach assumes that excluded records have the same average profile (ie age, pay and service) as included records. Tables 3.2 and 3.3 shows the derivation of the uprating factors¹.

¹ In practice uprating factors are determined for each identifiable membership group (see Appendix E)



Table 3.2: Derivation of uprating factors (31 March 2016)

| 31 March 2016 | Number of valid records (A) | Number of exclusions that are rated up | Number of members after exclusions (B) | *Uprating factor (A/B) | Number of records after rate ups* |
|-------------------------|-----------------------------|--|--|------------------------|-----------------------------------|
| Active members | 464,002 | 16,410 | 447,592 | 1.04 | 464,002 |
| Deferred members | 359,986 | 1,236 | 358,750 | 1.00 | 359,981 |
| Pensioners | 649,338 | 1,617 | 647,721 | 1.00 | 649,338 |
| Total membership | 1,473,326 | 19,263 | 1,454,063 | 1.01 | 1,473,321 |

Table 3.3: Derivation of uprating factors (31 March 2015)

| 31 March 2015 | Number of valid records (A) | Number of exclusions that are rated up | Number of members after exclusions (B) | *Uprating factor (A/B) | Number of records after rate ups |
|----------------|-----------------------------|--|--|------------------------|----------------------------------|
| Active members | 465,839 | 13,105 | 452,734 | 1.03 | 465,839 |

Movements data – 31 March 2012 to 31 March 2016

- 3.5 Individual member movement records were supplied for all members who changed category of membership (ie active, deferred or pensioner) between the previous and current valuation dates. The movements data is analysed and used to inform how assumptions of members' future behaviours should be set for the valuation. The key data items provided for member movements are set out in Appendix D.
- 3.6 Separate entrant and exit records were included in the datasets provided by MyCSP. However, the quality of new entrant records was lower than the exit data for active and pensioner movements. Therefore, new entrant data provided by MyCSP has not been used to analyse the experience over the intervaluation period.
- 3.7 Instead, new entrants used to analyse the experience over the intervaluation period have been determined as follows:
- > 2016 membership data was used to identify members who joined over the intervaluation period and who were still present as at 31 March 2016; and
 - > exit data was used to identify members who joined and left during the intervaluation period.
- 3.8 New entrants data is required to determine the membership of the scheme during the intervaluation period (ie the number of members that could potentially exit the scheme over the period), which is then used to analyse the scheme's experience. If the number of new entrants determined using this method are too high/low the rate of exits (retirements, withdrawals etc.) may be under-/over-stated.



- 3.9 Further checks were applied to the exit data and records were excluded if they were duplicate or multiple records, if the movements fell outside the intervaluation period, or if key missing data materially impacted the analysis being undertaken. The checks and exclusions are summarised in Appendix G.

Accounting information

- 3.10 Published resource accounts were available for the full intervaluation period. Certain pieces of financial accounting information have been used to perform independent checks on the dataset supplied. These checks and the data used are set out in Appendix E.

Benefit information

- 3.11 A summary of the benefits provided to members of the Scheme is given in Appendix H.

Appendix A: Summary of membership data

Table A1: Comparison of active membership as at 31 March 2012 and 31 March 2016 (final datasets after rating up)

| Salary Band (i) | Gender | 31 March 2012 | | | | | 31 March 2016 | | | | | |
|-----------------|--------|-------------------|-------------------------------|--------------------------------------|------------------|-------------------------------|-------------------|-----------------|-------------------------------|--------------------------------------|------------------|------------------------------|
| | | Number of members | Full time equivalent pay (£m) | Average full time equivalent pay (£) | Average age (ii) | Average service (iii) (years) | Number of members | Actual pay (£m) | Full time equivalent pay (£m) | Average full time equivalent pay (£) | Average age (ii) | Average service (iv) (years) |
| Salary Band 1 | Male | 68,416 | 1,240.0 | 18,124 | 44.2 | 10.4 | 54,175 | 1,005 | 1,048 | 19,339 | 44.3 | 16.1 |
| | Female | 122,923 | 2,241.7 | 18,236 | 43.8 | 10.8 | 95,923 | 1,579 | 1,869 | 19,487 | 45.3 | 14.6 |
| Salary Band 2 | Male | 144,560 | 4,321.0 | 29,891 | 46.0 | 16.5 | 128,561 | 3,903 | 3,984 | 30,989 | 46.3 | 19.7 |
| | Female | 141,619 | 4,026.5 | 28,432 | 44.2 | 15.3 | 126,938 | 3,452 | 3,763 | 29,646 | 45.1 | 18.4 |
| Salary Band 3 | Male | 27,983 | 1,542.9 | 55,136 | 48.2 | 18.9 | 29,356 | 1,615 | 1,646 | 56,057 | 48.2 | 21.0 |
| | Female | 18,946 | 1,036.3 | 54,696 | 44.7 | 15.1 | 22,322 | 1,165 | 1,242 | 55,660 | 45.3 | 17.9 |
| Salary Band 4 | Male | 3,429 | 317.5 | 92,582 | 51.8 | 18.4 | 3,250 | 306 | 311 | 95,707 | 51.6 | 21.4 |
| | Female | 1,558 | 140.1 | 89,936 | 49.2 | 16.6 | 1,712 | 150 | 158 | 92,215 | 49.3 | 19.3 |
| Prison Officers | Male | 2,720 | 86.1 | 31,659 | 54.4 | 23.8 | 1,644 | 42 | 54 | 32,905 | 57.1 | 26.6 |
| | Female | 200 | 6.4 | 32,183 | 51.9 | 28.9 | 122 | 3 | 4 | 33,566 | 55.4 | 27.4 |
| Total | | 532,354 | 14,958.5 | 28,099 | 45.4 | 15.0 | 464,002 | 13,221 | 14,079 | 30,343 | 46.0 (v) | |

(i) Salary bands applicable from 1 April 2015 to 31 March 2016 are set out in Appendix I

(ii) Weighted by full time equivalent pay

(iii) Average reckonable service in 2012 data summary includes qualifying service for Nuvos members.

(iv) Average reckonable service in 2016 data summary includes reckonable service for final salary sections only (ie nuvos and alpha members are excluded)

(v) The average age weighted by actual salary is 45.8.



Table A2: Final membership data after rating up for setting cost cap fund (active membership as at 31 March 2015)

| Salary Band (i) | Gender | 31 March 2015 | | | | | |
|-----------------|--------|-------------------|-----------------|-------------------------------|--------------------------------------|------------------|-------------------------------|
| | | Number of members | Actual pay (£m) | Full time equivalent pay (£m) | Average full time equivalent pay (£) | Average age (ii) | Average service (iii) (years) |
| Salary Band 1 | Male | 52,731 | 995 | 944 | 18,876 | 44.9 | 16.0 |
| | Female | 94,137 | 1,789 | 1,474 | 19,002 | 45.4 | 14.5 |
| Salary Band 2 | Male | 132,419 | 4,030 | 3,936 | 30,431 | 46.4 | 19.9 |
| | Female | 131,792 | 3,825 | 3,468 | 29,027 | 45.1 | 18.4 |
| Salary Band 3 | Male | 27,591 | 1,539 | 1,508 | 55,791 | 48.3 | 21.6 |
| | Female | 20,355 | 1,127 | 1,045 | 55,370 | 45.1 | 18.2 |
| Salary Band 4 | Male | 3,227 | 305 | 298 | 94,489 | 51.5 | 22.3 |
| | Female | 1,597 | 146 | 137 | 91,142 | 49.5 | 20.1 |
| Prison Officers | Male | 1,857 | 60 | 49 | 32,567 | 56.5 | 26.4 |
| | Female | 132 | 4 | 4 | 33,634 | 54.6 | 27.8 |
| Total | | 465,839 | 12,863 | 13,821 | 29,669 | 46.1 | |

(i) Salary bands applicable from 1 April 2014 to 31 March 2015 are set out in Appendix I

(ii) Weighted by full time equivalent pay

(iii) Reckonable service for final salary sections only



Table A3: Active Membership split by protection status as at 31 March 2016

| | Protection status | Number of Members | Actual Pay (£m) | Full time equivalent pay (£m) | Average full time equivalent pay (£) | Average Age (i) | Average reckonable Service (ii) | Average Nuvos pension (£) | Average Alpha pension (£) (iii) |
|------------------------------------|---------------------|-------------------|-----------------|-------------------------------|--------------------------------------|-----------------|---------------------------------|---------------------------|---------------------------------|
| Classic (exc. PFS Prison Officers) | Protected / tapered | 113,651 | 3,236 | 3,517 | 30,943 | 56.4 | 24.4 | n/a | 435 |
| | Unprotected | 106,877 | 3,041 | 3,269 | 30,587 | 44.0 | 18.6 | n/a | 650 |
| Premium | Protected / tapered | 34,061 | 972 | 1,030 | 30,251 | 56.8 | 13.7 | n/a | 469 |
| | Unprotected | 69,507 | 2,035 | 2,166 | 31,162 | 39.7 | 10.6 | n/a | 665 |
| Classic Plus | Protected / tapered | 3,947 | 136 | 142 | 36,099 | 55.7 | 25.6 | n/a | 504 |
| | Unprotected | 4,832 | 155 | 165 | 34,202 | 44.6 | 18.5 | n/a | 735 |
| Nuvos | Protected / tapered | 7,258 | 189 | 201 | 27,730 | 60.0 | n/a | 4,154 | 431 |
| | Unprotected | 93,346 | 2,678 | 2,778 | 29,756 | 37.5 | n/a | 2,178 | 648 |
| Alpha | n/a | 28,756 | 733 | 752 | 26,161 | 35.3 | n/a | n/a | 327 |
| Prison Officers | n/a | 1,766 | 45 | 58 | 32,950 | 57.0 | 26.7 | n/a | n/a |
| Total | | 464,002 | 13,221 | 14,079 | 30,343 | 46.0 | | | |

(i) Weighted by full time equivalent pay

(ii) Reckonable service for final salary sections only

(iii) Average alpha pension for the protected / tapered group relates only to tapered members that have transferred into alpha since 1 April 2015.



Table A4: Comparison of deferred membership as at 31 March 2012 and 31 March 2016 (final datasets after rating up)

| Gender | 31 March 2012 | | | | 31 March 2016 | | | |
|--------------|-------------------|------------------------------------|-------------------------------------|------------------|-------------------|------------------------------------|-------------------------------------|------------------|
| | Number of members | Total deferred pension (i) (£m pa) | Average deferred pension (i) (£ pa) | Average age (ii) | Number of members | Total deferred pension (i) (£m pa) | Average deferred pension (i) (£ pa) | Average age (ii) |
| Male | 165,395 | 673.3 | 4,071 | 52.0 | 154,040 | 556 | 3,612 | 50.1 |
| Female | 211,445 | 635.5 | 3,005 | 49.9 | 205,941 | 611 | 2,968 | 49.5 |
| Total | 376,840 | 1,309 | 3,473 | 51.0 | 359,981 | 1,168 | 3,244 | 49.8 |

(i) Including pension increases awarded in April following extract date

(ii) Weighted by pension



Table A5: Comparison of pensioner membership as at 31 March 2012 and 31 March 2016 (final datasets after rating up)

| | | 31 March 2012 (i) | | | | 31 March 2016 (ii) | | | |
|--------------------------|--------|-------------------|-----------------------------|------------------------------|------------------|--------------------|-----------------------------|------------------------------|------------------|
| Type of Pensioner | Gender | Number of members | Total pension (iii) (£m pa) | Average pension (iii) (£ pa) | Average age (iv) | Number of members | Total pension (iii) (£m pa) | Average pension (iii) (£ pa) | Average age (iv) |
| Age and early retirement | Male | 232,509 | 2,526.9 | 10,868 | 71.5 | 254,367 | 2,863 | 11,256 | 71.4 |
| | Female | 193,238 | 1,005.9 | 5,205 | 70.6 | 228,873 | 1,338 | 5,848 | 69.4 |
| Ill health retirement | Male | 31,342 | 254.7 | 8,126 | 67.1 | 30,427 | 283 | 9,299 | 68.6 |
| | Female | 30,105 | 164.2 | 5,455 | 66.2 | 28,339 | 173 | 6,117 | 67.6 |
| Dependants | Male | 12,002 | 20.9 | 1,743 | 56.5 | 12,282 | 25 | 2,066 | 65.1 |
| | Female | 110,804 | 448.3 | 4,046 | 79.1 | 95,050 | 447 | 4,705 | 79.5 |
| Total | | 610,000 | 4,420.9 | 7,247 | 72.3 | 649,338 | 5,130 | 7,901 | 71.3 |

- (i) Civil Service Compensation Scheme (CSCS) members were included in the pensioner data in 2012. However, CSCS members below age 60 were valued as someone with preserved benefits payable from age 60.
- (ii) CSCS members were included in the pensioner data set as at 31 March 2016, and all CSCS members are valued as pensioner members (ie we have not valued CSCS members below age 60 as someone with preserved benefits payable from age 60 as in 2012). This simplification is not expected to have a material impact on the valuation.
- (iii) Including pension increases awarded in April following extract date
- (iv) Weighted by pension



Chart A6: Active Members full-time equivalent (FTE) pensionable pay by age

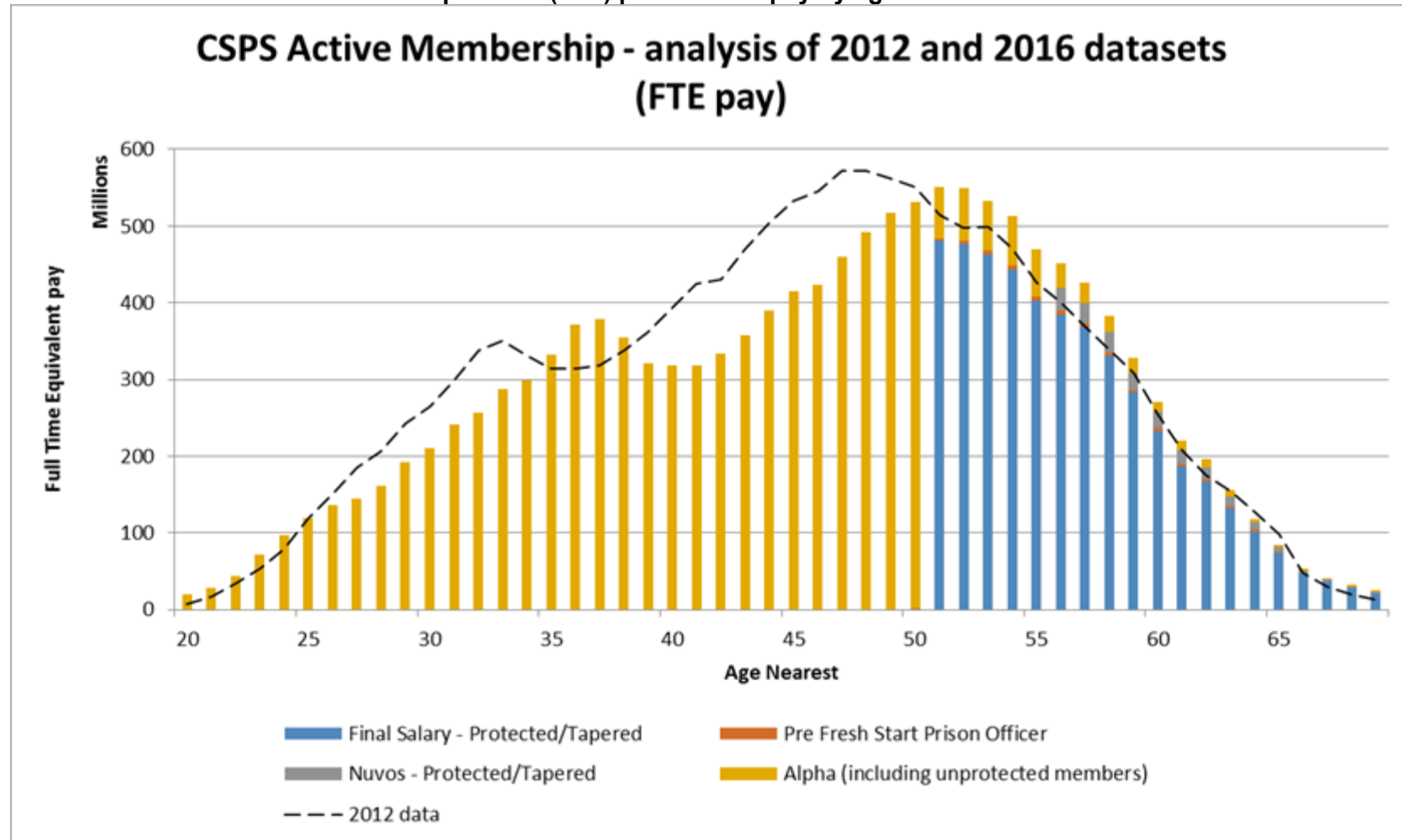




Chart A7: Deferred pension data by age

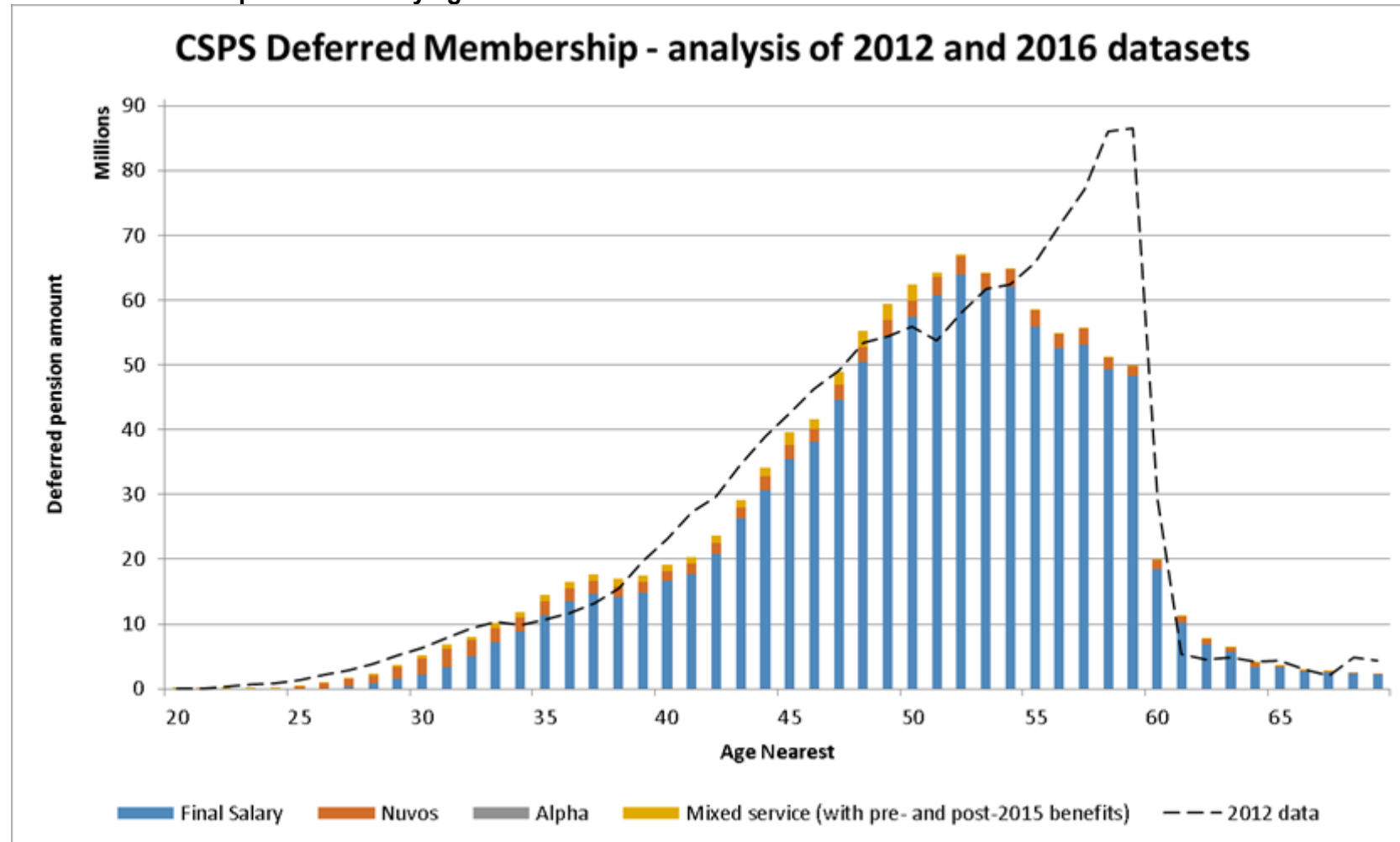




Chart A8: Summary of pension amount by age

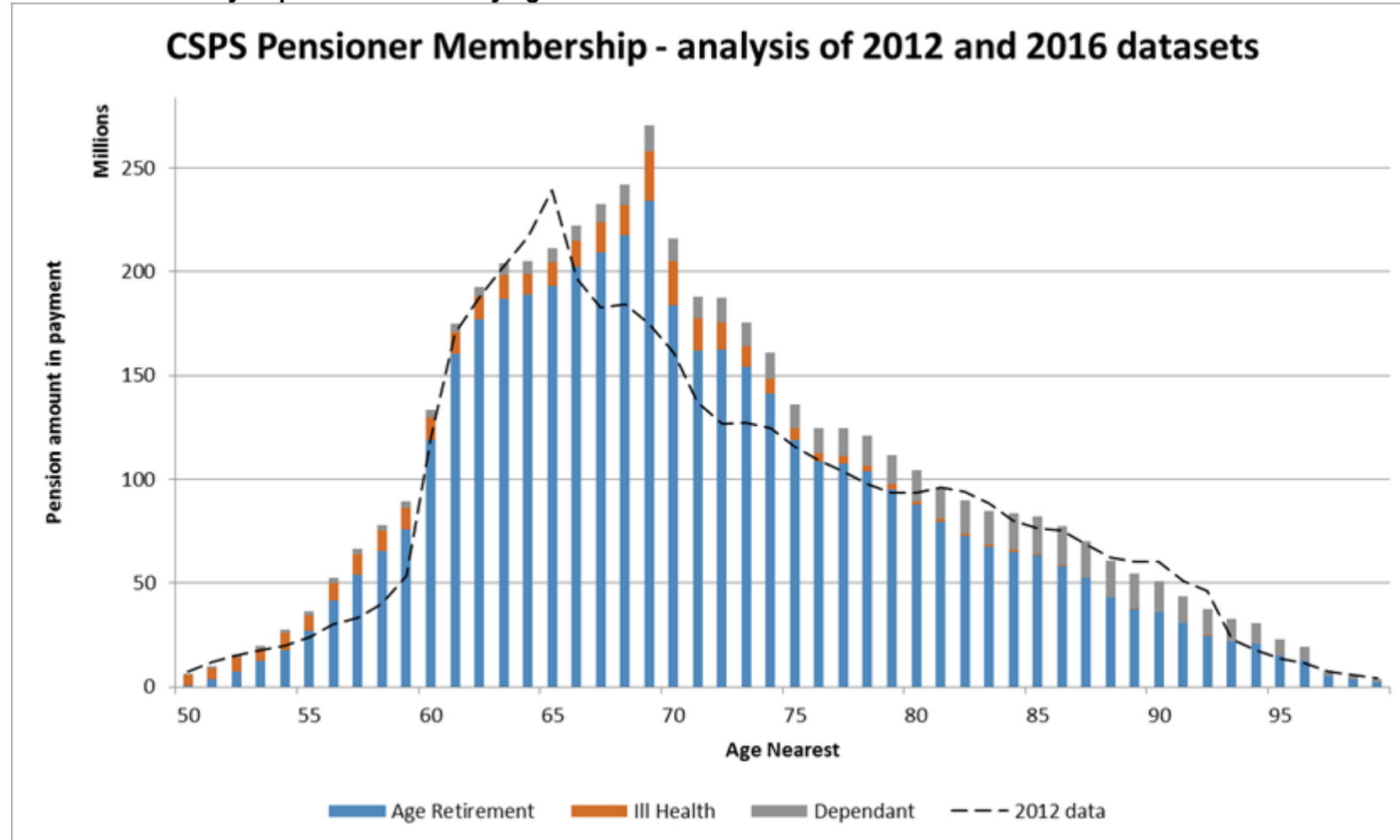




Chart A10: Active membership: Distribution of whole time equivalent pensionable pay as at 31 March 2016

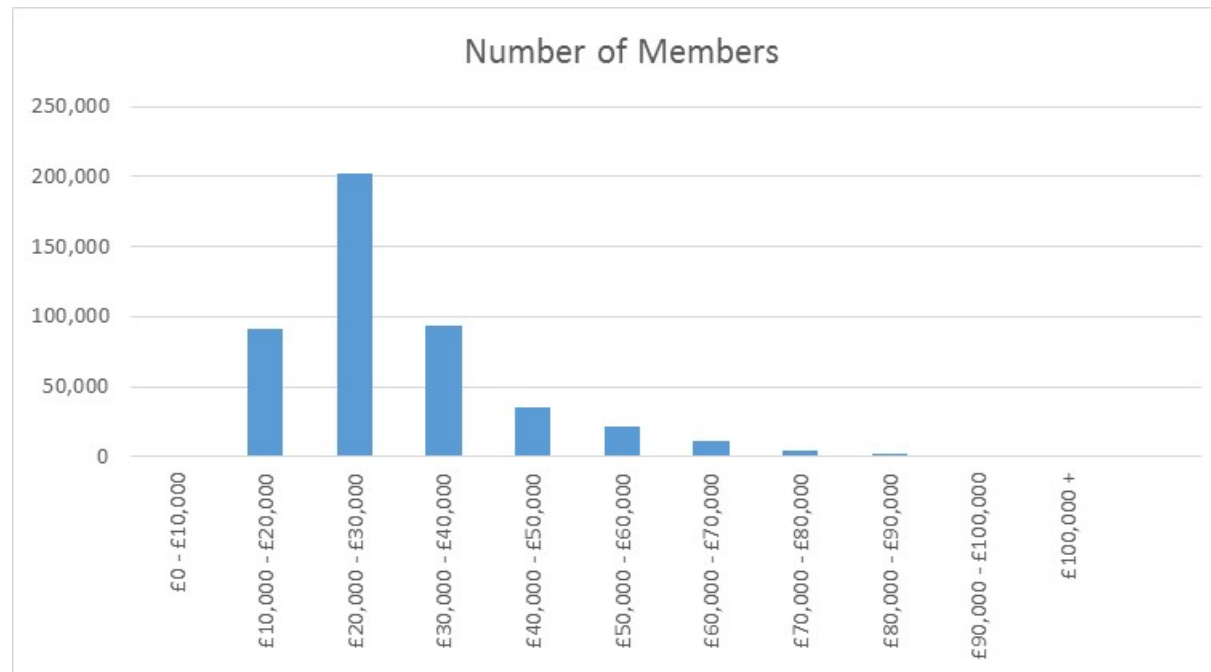
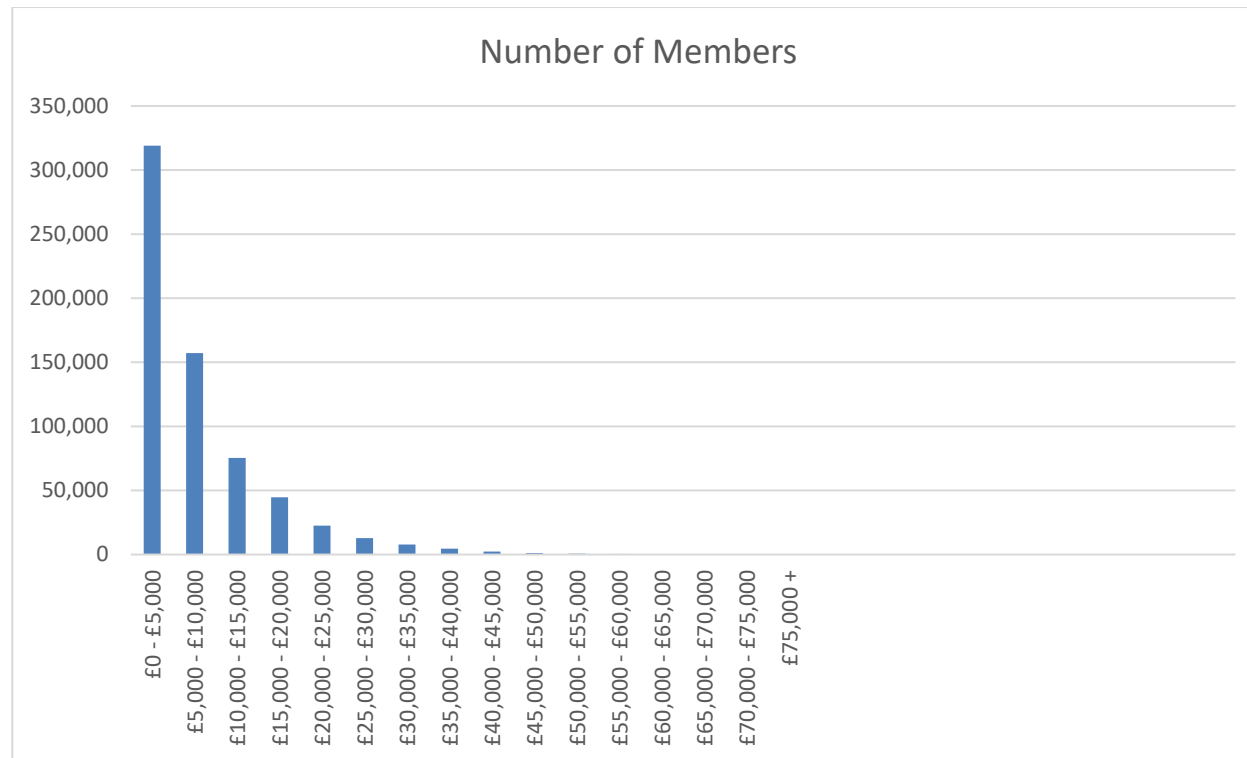




Chart A11: Pensioner membership: Distribution of pension as at 31 March 2016





Appendix B: Summary of movements data 2012-2016

Table B1: Reconciliation of active membership over the intervaluation period (2012-16) and the prior intervaluation period (2007-12)

| | Reconciliation of membership over intervaluation period 2012-2016 000s | Prior intervaluation period 2007-2012 000s |
|-----------------------------------|---|--|
| Actives | | |
| Number at 31/3/12 | 532 | *638 |
| Additions | | |
| • New entrants | 78 | 106 |
| Deductions: | | |
| • Deaths | (2) | (3) |
| • Retirements | (52) | ^a (49) |
| • Withdrawals | (63) | ^a (196) |
| • Unknown | | (1) |
| Number expected at 31/3/16 | 494 | *495 |
| Valuation data at 2016 | 464 | *532 |

* Numbers quoted at 31 March 2007

* Numbers quoted at 31 March 2012

^a The number of retirements and withdrawals recorded in the 2007-2012 reconciliation are not directly comparable to the number in the 2012-2016 reconciliation as early retirements, partial retirements and withdrawals were not recorded in the same way between the two datasets, and the 2007-2012 movements data included partial retirements and members awaiting awards, which are not included in the 2012-2016 data.

B.1 Separate entrant and exit records were included in the active movements dataset provided by MyCSP. However, the quality of new entrant records was lower than the exit data. Therefore, new entrant data provided by MyCSP has not been used to analyse the experience over the intervaluation period.

B.2 Instead, the 'new entrants' used to analyse the experience over the intervaluation period (and included in the reconciliation above) have been determined as follows:

- > 2016 membership data was used to identify members who joined over the intervaluation period and who were still present as at 31 March 2016; and
- > exit data was used to identify members who joined and left during the intervaluation period.

New entrants data is required to determine the membership of the scheme during the intervaluation period (ie the number of members that could potentially exit the scheme over the period), which is then used to analyse the scheme's experience. If the number of new entrants determined using this method are too high/low the rate of exits (retirements, withdrawals etc.) may be under-/over-stated.

B.3 It has not been possible to identify and remove members who have left or retired as a direct result of redundancy or Civil Service Reform, which may have distorted the experience data, and in particular for withdrawals and age retirements.



- B.4 The number of retirements in normal health included in the above reconciliation do not include around 17,000 partial retirements (as these do not result in exit from active status). Partial retirements (above normal pension age – see below) are however included in the analysis carried out on retirement experience over the intervaluation period.
- B.5 The number of retirements in normal health included in table B1 include retirements both before and after normal pension age (NPA). In line with the 2012 valuation, we have only included retirements after NPA in our analysis of retirement experience, and early retirements (pre-NPA) are included in the analysis of voluntary withdrawals. This is not an unreasonable approach as early retirements are broadly cost neutral on a deferred benefit basis.

Table B2: Reconciliation of deferred and pensioner membership over the intervaluation period (2012-16) and the prior intervaluation period (2007-12)

| | Reconciliation of membership over intervaluation period 2012-2016 000s | Prior intervaluation period 2007-2012 000s |
|--|---|--|
| Deferreds | | |
| Number at 31/3/12 | 377 | *329 |
| Additions | | |
| New deferreds | 53 | not available |
| Deductions: | | |
| • Deaths | 1 | |
| • Retirements | 23 | |
| • Rejoiners to active | 5 | |
| • Other exits ^α | 23 | not available |
| Number expected at 31/3/16 | 378 | not available |
| Valuation data at 2016 | 360 | *377 |
| Pensioners | | |
| Number at 31/3/12 | 610 | *555 |
| Additions | | |
| • New pensioners including new dependants | 130 | 159 |
| Deductions: | | (114) |
| • Deaths | (96) | |
| • Other cessations ^β | (13) | |
| Number expected at 31/3/16 | 631 | *600 |
| Valuation data at 2016 | 649 | *610 |

* Numbers quoted at 31 March 2007

* Numbers quoted at 31 March 2012

^α 'Other exits' includes the 23,000 records that were removed as part of the 2014 data cleanse

^β 'Other cessations' includes the removal of 6,400 dependant records as part of a data cleansing exercise as their removal represents a genuine change between the 2012 and 2016 valuation positions



- B.6 In the 2012 valuation data around 20,000 members who were categorised as “P status” were included in the deferred data, but we now believe that these should have been included in the pensioner data. This helps to explain the differences between the expected number of members as at 31 March 2016 and the actual number of members in the deferred and pensioner reconciliations.
- B.7 The number of pensioners within each pensioner type (ie normal health and ill health) did not reconcile well due to deaths of ill health pensioners being recorded as deaths of normal health pensioners, and therefore for the analysis of pensioner mortality the normal health and ill health experience will be combined.

Table B3: Summary of active exits experience

| Movement Type | Number of movements | Average age of movement |
|---------------------------------------|----------------------------|--------------------------------|
| Death | 1,734 | 54.5 |
| Ill Health Retirement | 2,883 | 52.1 |
| Normal Health Retirement ² | 66,794 | 59.8 |
| Withdrawal | 63,952 | 41.8 |

Table B4: Summary of deferred pensioner exits experience

| Movement Type | Number of movements | Average age of movement |
|-----------------------|----------------------------|--------------------------------|
| Death | 594 | 51.9 |
| Retirements | 22,372 | 57.5 |
| Ill Health Retirement | 543 | 51.9 |
| Other ³ | 28,755 | 55.8 |

Table B5: Summary of pensioner exits experience

| Movement Type | Number of movements | Average age of movement |
|--|----------------------------|--------------------------------|
| Member death | 66,280 | 84.2 |
| Dependant death | 29,933 | 89.8 |
| Other (from pensioner status) ⁴ | 7,951 | 73.5 |
| Other (dependant data cleanse) | 5,110 | 88.2 |

² Table B3 includes members who have taken partial retirement over the intervaluation period. Such movements are not included in the reconciliation of the active membership in table B1.

³ The ‘Other’ deferred exits are predominately the 23K records removed during the 2014 data cleanse.

⁴ Around 1,300 records with unknown pension type and ‘Other’ movement type were classified as pensioner movements, but were subsequently identified as dependant movements, and as such ‘Other (from pensioners status)’ is overstated by 1,300 and ‘Other (dependant data cleanse)’ is understated by around 1,300.



Appendix C: Data items – membership data

Key data items are shown below. These are the items where a valid and reasonable data value is required to determine a liability.

Actives

- a. identifier;
- b. date of birth;
- c. gender;
- d. protection status;
- e. current member section (classic, premium, classic plus, nuvos or alpha);
- f. previous member section (classic, premium, classic plus, nuvos) [only required for members in service before 1 April 2015];
- g. full-time equivalent pensionable pay at the extract date;
- h. actual annual pensionable pay at the extract date;
- i. total 80ths reckonable service for member's benefits;
- j. total 80ths reckonable service counting for spouse's pension;
- k. total 60ths reckonable service for member's benefits;
- l. total 60ths reckonable service counting for spouse's pension;
- m. accrued nuvos pension at extract date;
- n. accrued Alpha pension at extract date.

Pensioners and Dependants

- a. identifier;
- b. date of birth;
- c. gender;
- d. pensioner group;
- e. protection status (only expected for retirements after 31 March 2015);
- f. PCPSP scheme section at date of last retirement (classic, premium, classic plus or nuvos);
- g. date PCSPS pension payment commenced;
- h. total PCSPS pension in payment including pension increases awarded to the extract date;
- i. total PCSPS contingent spouse's pension;
- j. date alpha pension payment commenced;
- k. total alpha pension in payment, including pension increases awarded to extract date;
- l. total alpha contingent spouse's pension.
- m. currency of pension payments



Deferred pensioners

- a. identifier;
- b. date of birth;
- c. gender;
- d. protection status (only expected for leavers after 31 March 2015);
- e. date of transfer to 2015 scheme;
- f. date of most recent exit from active service;
- g. date deemed for deferred pension increases
- h. PCSPS scheme section (classic, premium, classic plus or nuvos);
- i. PCSPS preserved pension at date of leaving
- j. PCSPS preserved lump sum (classic / classic plus only) at date of leaving
- k. Alpha preserved pension at date of leaving



Appendix D: Data items - movements data

Actives

The following data was provided separately for each year of the inter-valuation period for active staff who joined, rejoined or left the Scheme during that year:

- a. unique identifier
- b. gender
- c. date of birth
- d. protection status
- e. PCSPS member section (classic, premium, classic plus, nuvos) [only required for members in service before 1 April 2015]
- f. method of entry/exit
- g. date of entry/exit
- h. date of prior exit for rejoiners with service aggregated
- i. reckonable service at entry for rejoiners
- j. (for exits only) calendar service at exit (for most recent period of service)
- k. (for exits only) total non-retirement related lump sum benefits payments from PCSPS
- l. (for exits only) total non-retirement related lump sum benefits payments from alpha
- m. Employer
- n. pre-fresh start prison officer indicator [Y/N]

Deferreds

For deferred pensioners whose pension started or ceased during each year in the inter-valuation period, we were provided with the following details for each individual:

- a. unique identifier for individual
- b. gender
- c. date of birth
- d. protection status (only expected for leavers after 31 March 2015)
- e. PCSPS member section (classic, premium, classic plus, nuvos) [only required for members in service before 1 April 2015]
- f. reason for entry to/exit from deferred status
- g. date of entry to/exit from deferred status
- h. date of last exit from active service
- i. total non-retirement related lump sum benefits payments from PCSPS (for exits only)
- j. total non-retirement related lump sum benefits payments from alpha (for exits only)
- k. pension credit member indicator [Y/N]



Pensioners

For pensioners and dependants whose pension started or ceased during each year in the inter-valuation period, we were provided with the following details for each individual:

- a. unique identifier for individual
- b. for dependants, the unique identifier of the member
- c. gender
- d. date of birth
- e. protection status (only expected for leavers after 31 March 2015)
- f. PCSPS member section (classic, premium, classic plus, nuvos) [only required for members in service before 1 April 2015]
- g. pensioner group
- h. reason for entry to/exit from pensioner status
- i. date of pension commencing/ceasing
- j. PCSPS pension coming into payment before commutation, at date of pension commencement (not abated and long-term amounts)
- k. PCSPS pension coming into payment after commutation, at date of pension commencement (not abated and long-term amounts)
- l. alpha pension coming into payment before commutation, at date of pension commencement
- m. alpha pension coming into payment after commutation, at date of pension commencement
- n. lump sum paid from PCSPS scheme which is not as a result of commutation (classic or pre-2002 members only)
- o. lump sum paid from PCSPS scheme as a result of commutation
- p. lump sum paid from alpha as a result of commutation
- q. PCSPS pension at date of exit
- r. alpha pension at date of exit
- s. proportion of PCSPS pension taken on partial retirement
- t. proportion of alpha pension taken on partial retirement
- u. date of birth of spouse or partner where a dependant's pension comes into payment
- v. total pensioner related lump sum payments from PCSPS (for exits only)
- w. total pensioner related lump sum payments from alpha (for exits only)



Appendix E: Checks and adjustments applied to the membership data

Checks and exclusion

Exclusions and upratings were identified as follows.

Table E1 – Active members as at 31 March 2016

| Reason for Exclusion | Number of exclusions ^β |
|--|-----------------------------------|
| Duplicate records removed ⁺ | 0 |
| No liability exclusions (members in partnership or record has no benefit) ⁺ | 9,793 |
| Dummy or duplicate data ⁺ | 1,912 |
| FTE pay missing or outside reasonable range (£10k to £300k) | 2,397 |
| actual pay outside reasonable range (£1 to £1k above FTE pay) | 2,117 |
| 80th service and/or 60th service not consistent with scheme member is in | 6,899 |
| Unprotected member with zero or nil alpha pension | 5,361 |
| Nuvos pension larger than 75% of FTE pay | 264 |
| Missing date of birth or age range outside reasonable range (16-75 years) | 117 |
| alpha pension outside reasonable range (over £5k) | 56 |
| Total number of exclusions* | 28,097 |
| Total exclusions for rating up* | 16,410 |

⁺ Indicates initial exclusions which are assumed to have no attaching liability and therefore we have not uprated for these members (ie invalid records).

^β If a record fails for more than one reason it is included multiple times in the numbers of exclusions shown

* Totals only count failed records once (ie they ignores multiple failures). Therefore, the total number of exclusions is not the sum of the number of exclusions for each reason.



Table E2 – Active members as at 31 March 2015

| Reason for Exclusion | Number of exclusions^ß |
|--|---|
| Duplicate records removed [†] | 0 |
| No liability exclusions (members in partnership or record has no benefit) [†] | 12,429 |
| Dummy or duplicate data [†] | 279 |
| FTE pay missing or outside reasonable range (£10k to £300k) | 3,593 |
| Member could not be assigned category (missing information on record) | 12,429 |
| actual pay outside reasonable range (£1 to £1k above FTE pay) | 3,260 |
| nuvos pension, 80th service and/or 60th service not consistent with scheme member is in | 12,580 |
| Nuvos pension larger than 75% of FTE pay | 361 |
| Missing date of birth or age range outside reasonable range (16-75 years) or part-time proportion outside reasonable range | 368 |
| Total number of exclusions* | 25,778 |
| Total exclusions for rating up* | 13,105 |

[†] Indicates initial exclusions which are assumed to have no attaching liability and therefore we have not updated for these members (ie invalid records).

^ß If a record fails for more than one reason it is included multiple times in the numbers shown

* Totals only count failed records once (ie they ignores multiple failures). Therefore, the total number of exclusions is not the sum of the number of exclusions for each reason.



Table E3 – Deferred members as at 31 March 2016

| Reason for Exclusion | Number of exclusions^ß |
|---|---|
| Duplicate records removed ⁺ | 229 |
| Age outside appropriate range (16 to 75) and member could not be assigned a category (missing information on record) ⁺ | 1,873 |
| No liability exclusions (identified against list of nil liability members provided by MyCSP) ⁺ | 1,964 |
| Dummy data (records with same identifier that has the same, nil or missing pension) ⁺ | 14,020 |
| Member pension outside reasonable range (less than £100 pa) | 13,098 |
| Pre2015 pension missing or outside reasonable range (less than £100 pa) ^α | 13,166 |
| Age at leaving service outside reasonable range (16 to 75) | 135 |
| Missing date of birth | 9 |
| Total number of exclusions | 18,646 |
| Total exclusions for rating up | 1,236 |

⁺Indicates initial exclusions which are assumed to have no attaching liability and therefore we have not updated for these members (ie invalid records).

^α The majority of these records identified do not have pre-2015 benefits but have been classified as classic, classic plus, premium or nuvos. The majority of these members also fail the Member pension outside reasonable range.

^ß If a record fails for more than one reason it is included multiple times in the numbers shown

* Totals only count failed records once (ie they ignores multiple failures). Therefore, the total number of exclusions is not the sum of the number of exclusions for each reason.



Table E4 – Pensioners as at 31 March 2016

| Reason for Exclusion | Number of exclusions ^β |
|---|-----------------------------------|
| Duplicate records removed ⁺ | 0 |
| No liability exclusions (suspended records or pension commenced after the valuation date) ⁺ | 16,117 |
| Dummy or duplicate data or Member could not be assigned a category (missing information on record) ⁺ | 191 |
| Pension missing | 1,600 |
| Annual pension outside reasonable range (£100 to £75k) | 1,586 |
| Missing date of birth | 25 |
| Total number of exclusions* | 17,925 |
| Total exclusions for rating up* | 1,617 |

+Indicates initial exclusions which are assumed to have no attaching liability and therefore we have not uprated for these members (ie invalid records).

^β If a record fails for more than one reason it is included multiple times in the numbers shown

* Totals only count failed records once (ie they ignores multiple failures). Therefore, the total number of exclusions is not the sum of the number of exclusions for each reason.

Table E5 – Summary of total exclusions for data as at 31 March 2016

| | Total number of excluded records (valid and no liability) | Total number of valid records excluded |
|------------------|---|--|
| Actives | 28,097 | 16,410 |
| Deferreds | 18,646 | 1,236 |
| Pensioners | 17,925 | 1,617 |
| Total exclusions | 64,668 | 19,263 |

Table E6: Total data supplied as at 31 March 2016

| 31 March 2016 | Total number of records provided | Invalid records excluded | Valid records | Number of records after rate ups |
|---------------|----------------------------------|--------------------------|---------------|----------------------------------|
| Actives | 475,689 | 11,687 | 464,002 | 464,002 |
| Deferreds | 377,396 | 17,410 | 359,986 | 359,981 |
| Pensioners | 665,646 | 16,308 | 649,338 | 649,338 |

Table E7: Total data supplied (31 March 2015)

| 31 March 2015 | Total number of records provided | Invalid records excluded | Valid records | Number of records after rate ups |
|---------------|----------------------------------|--------------------------|---------------|----------------------------------|
| Actives | 478,512 | 12,673 | 465,839 | 465,839 |



Table E8: Derivation of uprating factors (31 March 2016)

| 31 March 2016 | Number of valid records (A) | Number of exclusions that are rated up | Number of members after exclusions (B) | Uprating factor (A/B) |
|-------------------------|-----------------------------|--|--|-----------------------|
| Active members | 464,002 | 16,410 | 447,592 | 1.04 |
| Deferred members | 359,986 | +1,236 | 358,750 | 1.00 |
| Pensioners | 649,338 | 1,617 | 647,721 | 1.00 |
| Total membership | 1,473,326 | 19,263 | 1,454,063 | 1.01 |

* Five records could not be uprated for the deferred membership – all records within their respective group were excluded so no remaining record could be uprated.

Table E9: Derivation of uprating factors (active membership 31 March 2015)

| 31 March 2015 | Number of valid records (A) | Number of exclusions that are rated up | Number of members after exclusions (B) | Uprating factor (A/B) |
|----------------|-----------------------------|--|--|-----------------------|
| Active members | 465,839 | 13,105 | 452,734 | 1.03 |

Adjustments applied to data for included members

- > **Scheme section for actives:** Scheme section for active members was reassigned based on their service fields or nuvos pension. For example, a member with 80ths service and no other service or nuvos pension was assigned to Classic. Pre-Fresh Start prison offices were also assigned to Classic.
- > **Scheme section for deferreds:** Members with unknown or default scheme section codes were reassigned to Classic, and members with a scheme section code of "ZZ" were reassigned to Premium.
- > **Deferred revaluation:** Deferred pension amounts were provided for each deferred member as at their date of leaving the scheme. Deferred pensions for each member were revalued up to the valuation date from their deemed date for pension increases, or where this did not appear to be reasonable, from their date of leaving the scheme.
- > **Pension increases:** Pensions in payment provided for pensioners who are aged below 55 and who retired in normal health do not include pension increases since retirement. Pension increases were therefore applied from each member's date pension commenced to the valuation date.
- > **Pensioner type:** normal health pensioners and members for which the pensioner type was unknown whose age when their pension commenced was below age 50 were reclassified as ill-health pensioners. Members with unknown pensioner type whose current age was below 25 were reclassified as child dependants, and all other members with unknown pensioner type were reclassified as normal health pensioners. Dependants were assigned as children if young or spouse otherwise.
- > **Ill health pensioner records:** Pensioners were reassigned as ill-health pensioners if in the 2012 valuation data they were identified as being ill-health.



- > **Dependants' pensions:** data on contingent spouse/partner pension was unreliable, and so average spouse/partner proportion assumed for each member.
- > **Guaranteed minimum pensions (GMPs):** GMP data was incomplete. An adjustment will be applied to the overall liabilities to allow for GMPs on an approximate basis.

Checks on updated dataset

Financial accounting information taken from published scheme accounts were used to perform independent checks on the dataset supplied.

Actives – as at 31 March 2016

For actives the total pensionable payroll in the adjusted 2016 actives data (£13.22bn) was compared with pensionable pay derived from employer contribution payments recorded in the resource accounts (£13.12bn). The pensionable payroll from the data is fairly close (0.8% higher) to that implied from employer contributions.

Actives – as at 31 March 2015

The total pensionable payroll in the adjusted 2015 actives data (£12.86bn) was compared with pensionable pay derived from employer contribution payments recorded in the resource accounts (£12.97bn). The pensionable payroll from the data is fairly close (0.8% lower) to that implied from employer contributions.

Pensioners – as at 31 March 2016

For pensioners the total pensioner payroll in the adjusted pensioner data (£5.13bn) was compared with total pensions paid during 2015/16 and 2016/17 recorded in the resource accounts (£5.06bn and £5.17bn respectively). The pensioner payroll from the data is only 0.2% higher than our estimated pensioner payroll of £5.12bn (which is the average of the total pensions paid in 2015/16 and 2016/17).

It was not possible to undertake any independent checks on the deferreds data.



Appendix F: Uncertainty in valuation results arising from data deficiencies

Membership data

The table below below illustrates the potential impact if known data omissions are subsequently found to have been handled incorrectly. Since it is not possible to undertake independent checks for all categories of members and a full reconciliation has not been achieved against all prior datasets there is the potential for currently unidentified problems with the data to emerge in future. For example a group of deferred members could be identified where no liability has previously been determined. The impact of such unknowns emerging at subsequent valuations could be considerably more than the sensitivity indicated below.

The table below illustrates the potential impact on the results if the actual liability for each excluded member is in fact under/overstated by 10%.

| | Impact of error in assumption for missing data | |
|-----------------------------------|--|---------------------------------------|
| | Uncorrected employer contribution rate | Employer contribution correction cost |
| Actives (uprating applied: 4%) | 0.1% | 0.1% |
| Deferreds (uprating applied: 0%) | nil | nil |
| Pensioners (uprating applied: 0%) | nil | nil |

Movements data

Setting assumptions

Assumption setting relies on analysis of movements data in consideration with such other relevant information which is available. The setting of demographic assumptions is to some extent subjective and a matter of interpretation. Changes in assumptions may be expected at successive valuations as circumstances change even with full data. Thus the absence of fully complete movements data does not necessarily introduce uncertainty into the valuation results provided there is other relevant information available to inform those assumptions. Further commentary on assumption setting is provided in the "Civil Service Pension Schemes: Actuarial Valuation at 31 March 2016: Advice on Assumptions" report dated today.

Net Leavers Liability (NLL)

The NLL is a component part of the cost cap calculation and is a quantification of the amount of pre-reformed liabilities which fall out of the cost cap fund at a valuation owing to members which have left service since the previous valuation (or since the initial cost cap fund was set in the case of the 2016 valuation), net of the additional liabilities in respect of members with pre-reformed service who rejoined active membership during 2015-16.

To accurately calculate NLL in accordance with the directions requires full movement data for all members who were active in 2015 and are no longer active at the 2016 valuation. Further details on the approach taken to determining NLL in the absence of fully complete data is provided in the Assumptions Report.



Appendix G: Checks and exclusions applied to the movements data

Checks were undertaken to ensure all records with sufficient information to assign the movement to the correct category for analysis were taken into account.

The active movements data is used to analyse experience of members who retire, die or leave active service. For these purposes only relevant records and those with reasonable critical data were used for analysis purposes. The subset of data used, checks applied and resulting numbers of exclusions are shown below.

Table G1 – Active members

| Reason for Exclusion | Number of exclusions ^β |
|--|-----------------------------------|
| Number of exits from active status in raw data | 200k |
| Removed assumed duplicates and other multiple records ⁺ | 57k |
| Removed records where exit dates do not fall within the intervaluation period ⁺ | 4k |
| Life assurance only exits | 6k |
| Total exclusions | 66k |
| Total exits form active status analysed ^α | 134k |

⁺ Indicates initial exclusions which are assumed to have no attaching liability and therefore we have not uprated for these members

^β If a record fails for more than one reason it is included multiple times in the numbers shown

^α Total number of exits from active status analysed includes around 17,000 partial retirements, which are not included in the number of retirements in the reconciliation of active members in table B1 in Appendix B.

The pensioner movements data was used to analyse mortality experience, family statistics and commutation of pension. For these purposes only relevant records and those with reasonable critical data were used for analysis purposes. The subset of data used, checks applied and resulting numbers of exclusions are shown below.

Table G2 – Pensioners

| Reason for Exclusion | Number of exclusions ^β |
|--|-----------------------------------|
| Number of exits from deferred status in raw data | 110k |
| *Removed duplicates and other multiple records | 1k |
| Total exclusions | 1k |
| Total exits from pensioner status analysed | 109k |

* predominantly members with multiple exits over the intervaluation period



Appendix H: Summary of benefits

The Directions require the PCSPS and alpha to be taken into account in aggregate for the purposes of the 2016 valuation. The summary of benefits provided is shown separately for the PCSPS and alpha. The criteria by which scheme membership will be determined from 1 April 2015 are also shown.

PCSPS

The main benefit provisions of the PCSPS for each category of member are shown in Table H1. Members of the Classic Plus section have some benefits which were accrued in the Classic section but they are now accruing the same benefits as members of the Premium section. Pre-Fresh Start Prison Officers are entitled to a modified version of the benefit structures set out below. In particular, unreduced pensions are payable from age 55 and service after 20 years counts double.



Table H1: Main benefit provisions of PCSPS

| | Classic | Premium | Nuvos |
|--|---|--|---|
| Basis of provision | Final salary | Final salary | Career average |
| Contracted out/in prior to 2016⁺ | Contracted out | Contracted out | Contracted out |
| Normal Pension Age (NPA) | 60 | 60 | 65 |
| Pension accrual rate | 1/80 | 1/60 | 2.3% |
| Retirement lump sum accrual rate | 3 x pension plus commutation at £12:£1pa | Cash by commutation only (£12: £1pa) | Cash by commutation only (£12: £1pa) |
| Final Pensionable pay | Best 12 months in last 3 years | Better of: a) last 12 months' pensionable pay b) best pensionable pay in last 4 scheme years c) average of best 3 consecutive years' pensionable pay in last 13 years (revalued in line with the PI Act to date of exit) | Nuvos is CARE rather than final salary scheme with revaluation in service using the same increase as produced by the PI Act (currently CPI) |
| Dependant benefits | 50% of member pension (pre-commutation) | 37.5% of member pension (pre-commutation) | 37.5% of member pension (pre-commutation) |
| Ill health pension | Benefits payable immediately without reduction for early retirement. Benefits are based on enhanced service as follows: Actual service: 2 to 5 years – no enhancement 5 to 10 years – service doubled (subject to maximum of potential service to 65) More than 10 years – greater of 6 and 2/3 years (subject to maximum of potential service to 60) or service enhanced to 20 years (subject to maximum of potential service to 65) | Benefits payable immediately without reduction for early retirement. Benefits are based on enhanced service as follows: Lower tier (likely to be able to work in some employment): 2-5 years – service doubled 5 to 10 years – service enhanced to 10 years Over 10 years – no enhancement Upper tier (unlikely to work in any capacity in future): full potential service to age 60 Subject in all cases to a maximum enhancement of ½ potential service to 60 | Benefits payable immediately without reduction for early retirement. Benefits are based on enhanced service as follows: Lower tier (likely to be able to work in some employment): Accrued pension only Upper tier (unlikely to work in any capacity in future): Enhancement = (accrued pension/contributing years) x (years to age 65) |
| Pension increases | In payment – increased in line with the PI Act (currently CPI), on excess over GMP In deferment – total pension increased in line with the PI Act (currently CPI) | | |



Alpha

The main benefit provisions of the alpha scheme are shown in Table H2.

Table H2 - Main benefit provisions of alpha

| Alpha | |
|--|--|
| Basis of provision | Career average with revaluation each year whilst in service in line with prices as defined by HMT Order (currently CPI) |
| Contracted out/in prior to 2016⁺ | Contracted out |
| Normal Pension Age (NPA) | Higher of a member's State Pension Age and 65 |
| Pension accrual rate | 2.32% each year |
| Retirement lump sum accrual rate | Cash by commutation only (£12: £1pa) |
| Final Pensionable pay | Not applicable |
| Dependant benefits | 37.5% of member pension (pre-commutation) |
| Ill health pension | Consistent with the benefits on ill health retirement in the Nuvos section of PCSPS |
| Early Retirement | Benefits reduced for early payment. The reduction is actuarially neutral on a deferred benefit basis. |
| Pension increases | In payment – increased in line with the PI Act (currently CPI), on excess over GMP In deferment – total pension increased in line with the PI Act (currently CPI) |

⁺benefits unaffected by contracting-out status

Criteria for scheme membership from 1 April 2015

Protected Members

All active members who, as at 1 April 2012, had 10 years or less to their current NPA (i.e. Classic, Premium and Classic Plus section members who are aged 50 and over on 1 April 2012, and Nuvos section members who are aged 55 or over on 1 April 2012) will remain in the PCSPS until they retire.



Tapered Members

Active members who, as at 1 April 2012, were between 10 and 13½ years from their NPA (i.e. Classic, Premium and Classic Plus section members who were aged between 46½ and 50 on 1 April 2012, and Nuvos section members who were aged between 51½ and 55 on 1 April 2012) had the option to remain in their current scheme with linear tapering so that for every month of age that they are beyond 10 years from their NPA, they lose two months of protection. At the end of the protected period, they will be transferred into alpha. Alternatively, these members could opt to transfer into alpha with effect from 1 April 2015.

Unprotected members

All other active members will transferred to the new arrangements on 1 April 2015.



Appendix I: Salary Bands

- I.1 Except for pre-Fresh Start prison officers, active members have been grouped into salary bands 1 to 4. Salary bands effective from 1 April 2014 to 31 March 2015, and 1 April 2015 to 31 March 2016 are set out in table I1.

Table I1: Salary bands

| | April 2014 to March 2015 | April 2015 to March 2016 |
|---------------|---------------------------------|---------------------------------|
| Salary Band 1 | £22,000 and under | £22,000 and under |
| Salary Band 2 | £22,001 to £44,500 | £22,001 to £45,000 |
| Salary Band 3 | £44,501 to £74,500 | £45,001 to £75,000 |
| Salary Band 4 | £74,501 and over | £75,001 and over |