Government Actuary's Department

Local Government Pension Scheme (Northern Ireland)

Actuarial valuation as at 31 March 2016
Report on membership data

Date: 18 December 2018
Author: Michael Scanlon FIA

Contents

1   Introduction

1.1   This report is addressed to the Department for Communities (DfC). It is also being made available to the Local Government Pension Scheme (Northern Ireland) ('LGPS NI' or 'the Scheme') Scheme Advisory Board (SAB) as part of the consultation process relating to the actuarial valuation of the LGPS NI which is being carried out as at 31 March 2016. The main purpose of the valuation is to compare the cost cap cost of the scheme with the employer cost cap. Note that this valuation does not report on the rate of employer contributions.

1.2   Pension scheme membership data for the Local Government Pension Scheme (the Scheme) is required for the actuarial valuation of the Scheme as at 31 March 2016, carried out in accordance with the Department of Finance's Public Service Pensions (Valuations and Employer Cost Cap) Directions (Northern Ireland) 2014 as amended ('DoF Directions').

1.3   The membership data is used for the following:

> to calculate valuation results including the cost cap cost of the scheme (membership data as at 31 March 2016)

> to assess the initial cost cap fund (membership data as at 31 March 2015)

> in the limited circumstances where it might be needed, to assess elements of the Scheme's demographic experience in order to recommend assumptions for the valuation (movements data 1 April 2013 to 31 March 2016)

1.4   The results of the valuation critically depend on the quality and accuracy of the data. The data provided was generally reasonable for the purposes of the valuation calculations, however, some aspects of the data were incomplete and/or unreliable for certain elements of our calculations.

1.5   The purposes of this report are:

> to discuss and summarise the membership data provided, and any adjustments made to the data; and

> 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.

1.6   All member data and supplementary accounting information provided and discussed in this report were supplied by the Northern Ireland Local Government Officers' Superannuation Committee ('NILGOSC'). Pension fund accounts for the relevant period are publicly available. GAD is grateful to NILGOSC for the prompt provision of data, and their responses to follow-up queries.

1.7   GAD has relied on the completeness and accuracy of the data and other information supplied by NILGOSC, as described in this report. Our checks on this data and information are limited to those described in this 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 accuracy of the data.

1.8   Summaries of the membership data used for the valuation are provided in section 2 of this report with further information in Appendix A.

1.9   We are required to comment on data quality. It has not been possible to fully resolve the data issues in the timescale required for the valuation. Therefore, to calculate results for the 2016 valuation of the Scheme requires assumptions in respect of incomplete and/or unreliable individual member records and movements data.   In GAD's opinion these adjustments and assumptions are reasonable and appropriate for the purpose of this actuarial valuation. However, it should be noted that the cost cap results in this report might have been different if more reliable data had been available.

1.10   Given the potential impact of data deficiencies, GAD recommends that the Department takes forward initiatives to improve valuation data quality before the next actuarial valuation as at 31 March 2020.

1.11   We are content for the Department for Communities 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.

1.12   Third parties whose interests may differ from those of the Department for Communities should be encouraged to seek their own actuarial advice where appropriate. Other than to the Department for Communities, 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.

1.13   This work has been carried out 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 as used for the 2013 valuation. Detailed tables are set out in Appendix A.

Chart 2.1: Number of active members

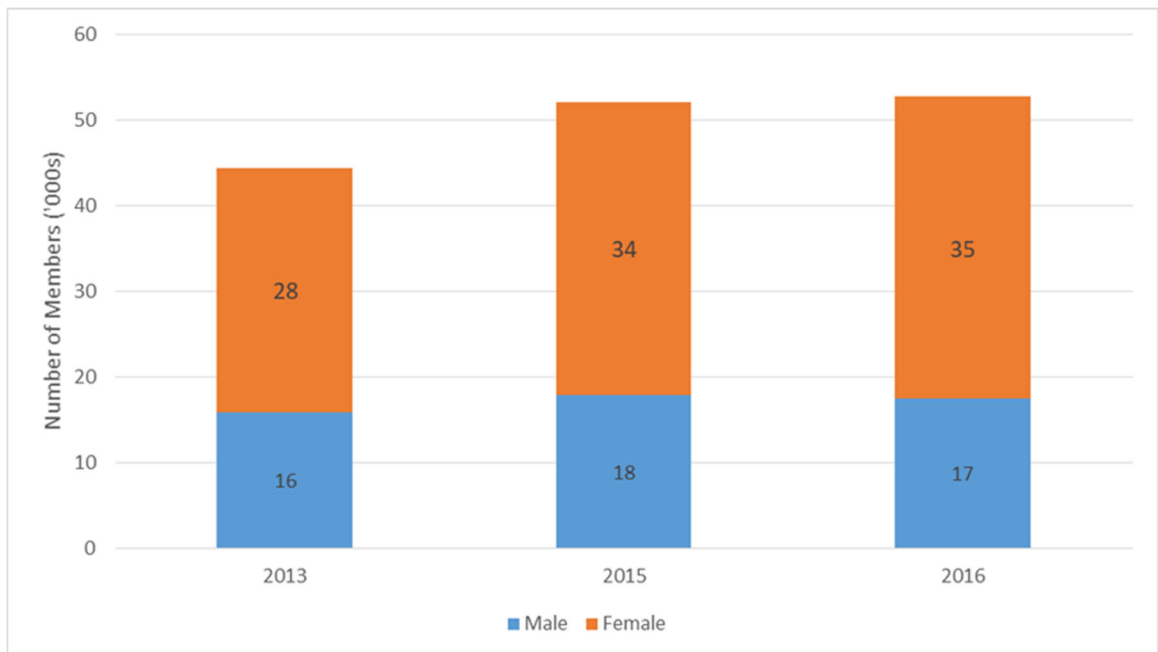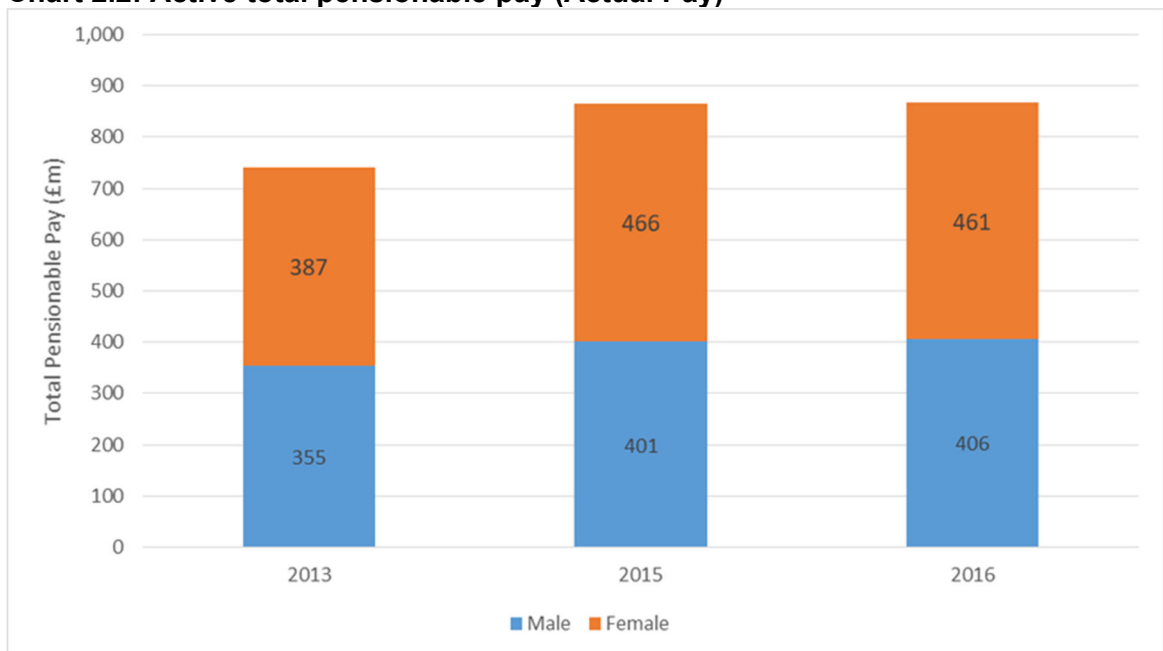**Chart 2.2: Active total pensionable pay (Actual Pay)**

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Chart 2.3: Number of deferred members
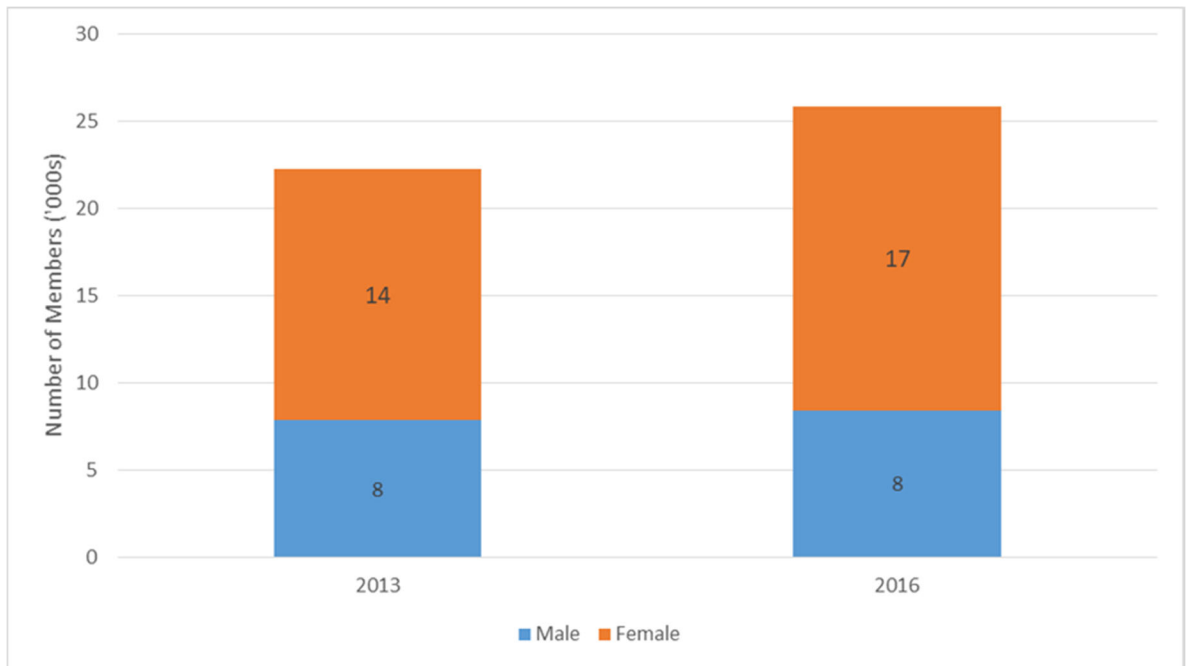
Chart 2.4: Total deferred pension
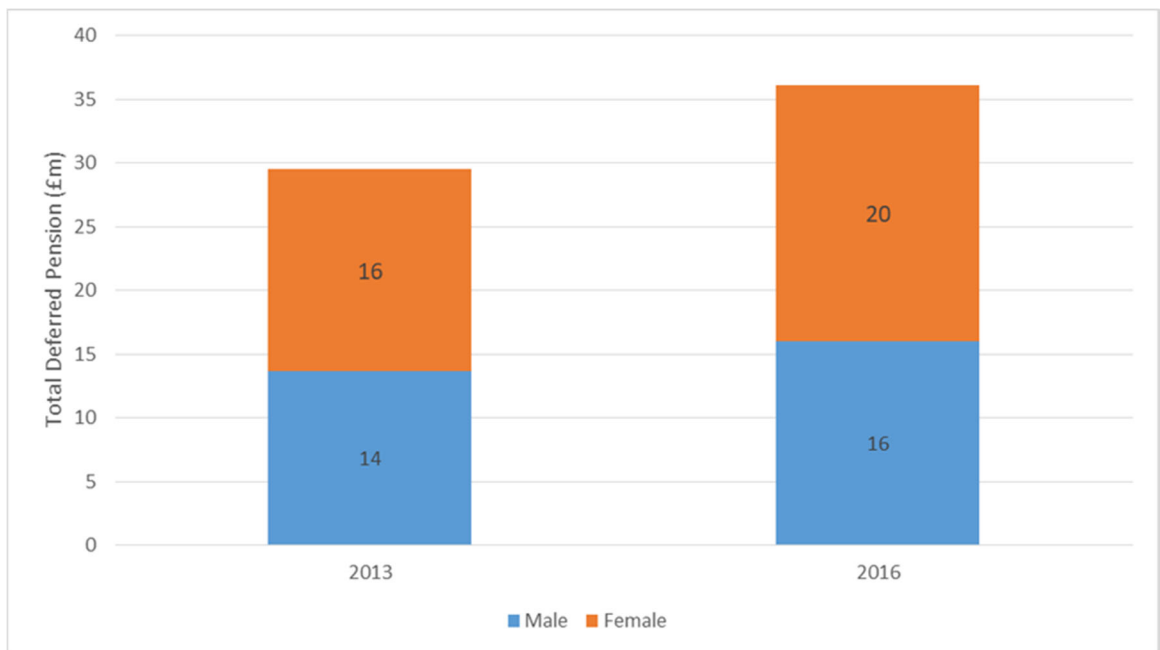
Chart 2.5: Number of pensioners
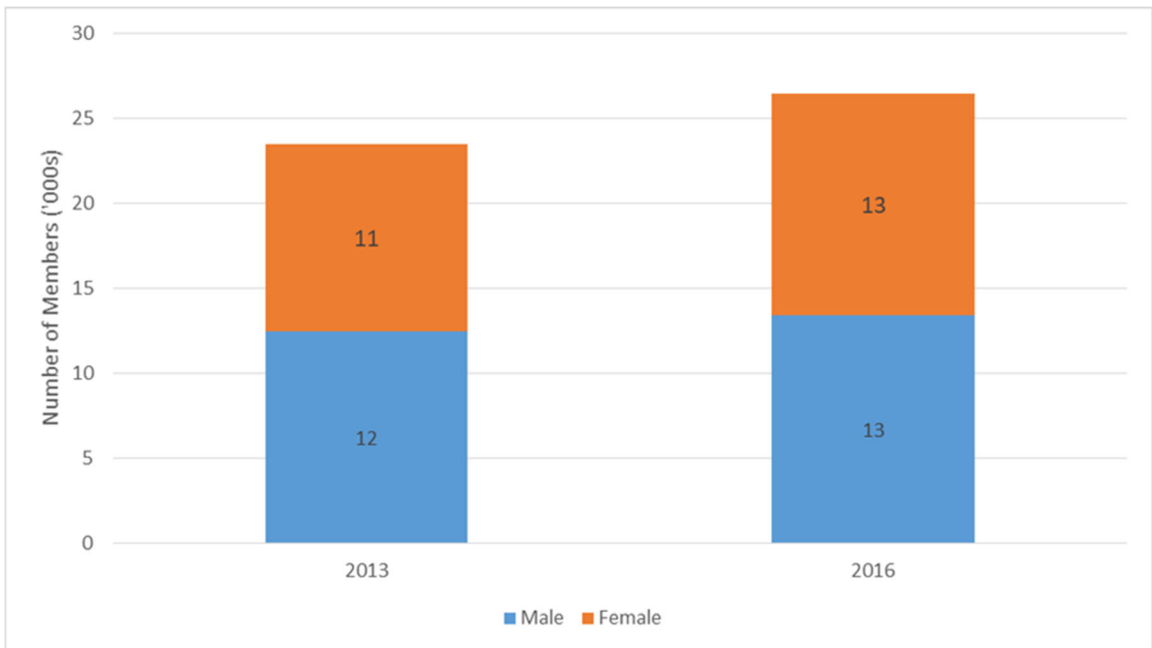
Chart 2.6: Total pension in payment (pensioners)

Chart 2.7: Number of dependants

Chart 2.8: Total pension in payment (dependants)

2.2   The charts above show an increase between 2013 and 2016 in the active, deferred and pensioner membership by both headcount and total salary/pension roll.

2.3   The data used in the charts above is as used for valuation purposes and reflects adjustments made following analysis of the data provided.

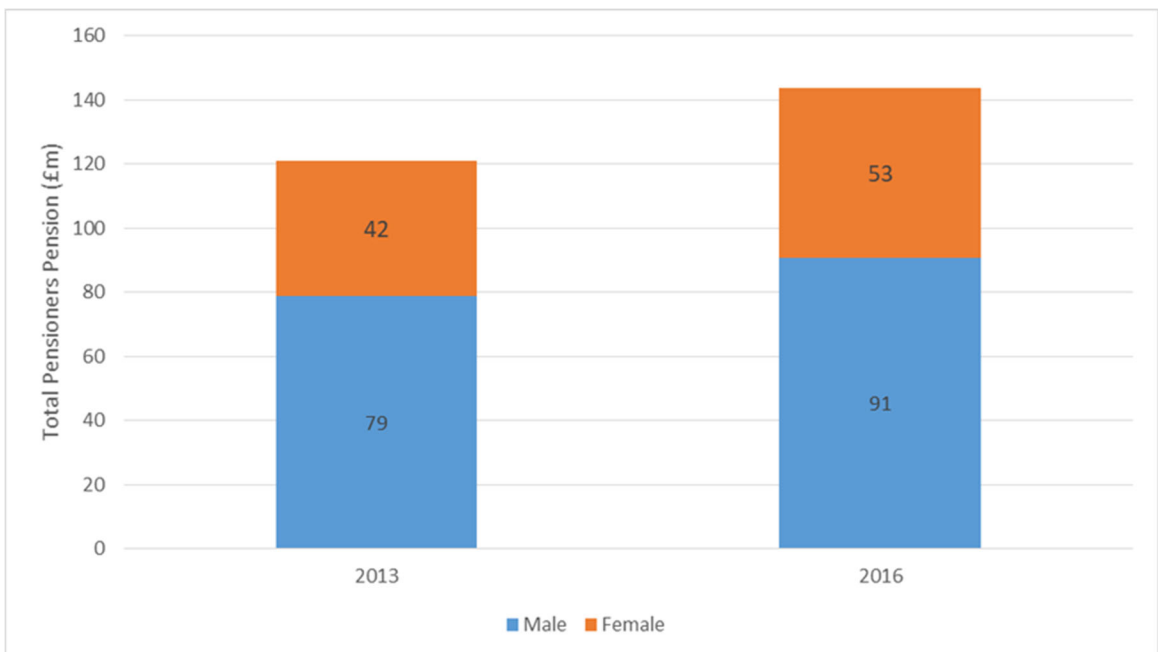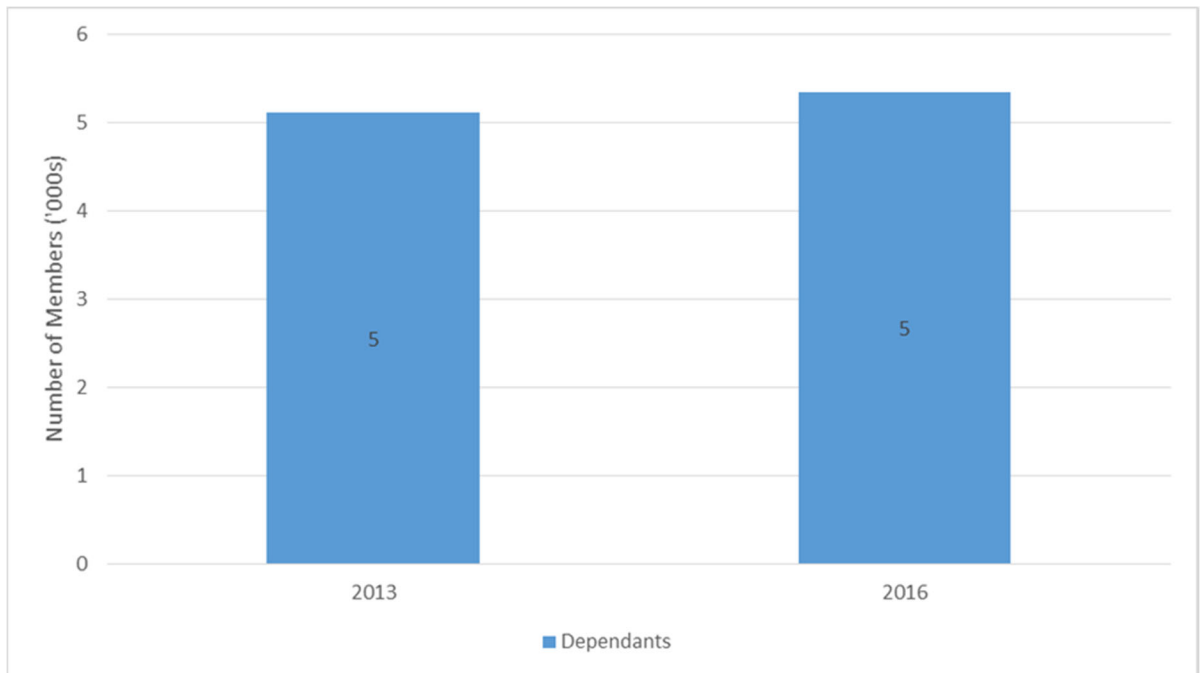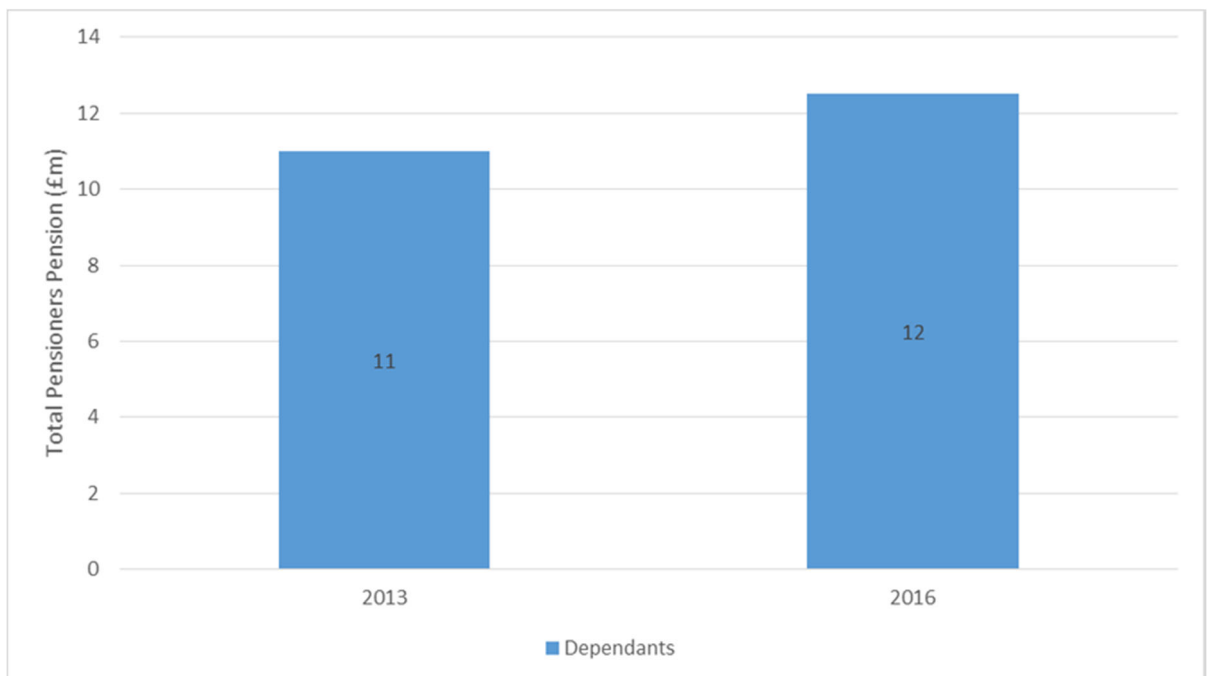2.4   Around 110,000 records were provided to GAD across all three membership categories (active, deferred and pensioner) as at 31 March 2016. Checks were applied to these records to ensure all key data items are provided and reliable for valuation purposes.

2.5   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. In others cases, records were retained but suspect data fields were amended as described in Section 3 and Appendix C.

Table 2.1: Uprating factors

31 March 2016	Uprating factor
Active members	1.034
Deferred members	1.002
Pensioners	1.001
Total membership	1.017

31 March 2015	Uprating factor
Active members	1.093

2.6   Making assumptions about missing data and allowing for known members with unusable data by uprating introduces uncertainty into the valuation results. Appendix D gives an indication of the potential level of uncertainty introduced by the approach taken to missing or unreliable data.

2.7   In GAD's opinion the adjustments and assumptions made in respect of incomplete and/or unreliable data are reasonable and appropriate for the purpose of this actuarial valuation. However, it should be noted that the cost cap results in this report might have been different if more reliable data had been available. Comments about the level of uncertainty introduced (set out in Appendix D) should be noted, and we recommended that NILGOSC takes forward initiatives to improve valuation data quality before the next actuarial valuation as at 31 March 2020.

Movements data

2.8   Where the assumptions adopted by the NILGOSC actuary meet the criteria set out in the DoF Directions, then they can also be adopted for the valuation calculations (at least to the extent that the assumptions are not otherwise specified in the Directions). Therefore, it was not be necessary to analyse the movements data relating to these assumptions.

2.9   Retirements of active members from 2010 to 2015 have been considered for the purpose of setting the retirement assumption to be used for the calculation of the initial cost cap fund. The critical retirement age data for active movements was not credible in many cases so we estimated CRA based on date of birth and date of joining for the purpose of this analysis.

3   Data provided and checks and adjustments made

Membership data as at 31 March 2016

3.1   We understand that the data initially received by GAD was the same as the data that Aon Hewitt used for their work on the actuarial valuation of the Scheme as at 31 March 2016. However, we were subsequently provided with a materially updated active member extract in January 2017 which was not provided to/used by Aon Hewitt.

3.2   Individual member data was supplied for all 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 B. The chart below shows the total number of valid records (i.e. key data items are complete and appear to be reliable), the total number of records excluded that are rated up for and the total number of immediate exclusions without rate up. Further details are set out in Appendix C.

Chart 3.1: Summary of data provided and excluded
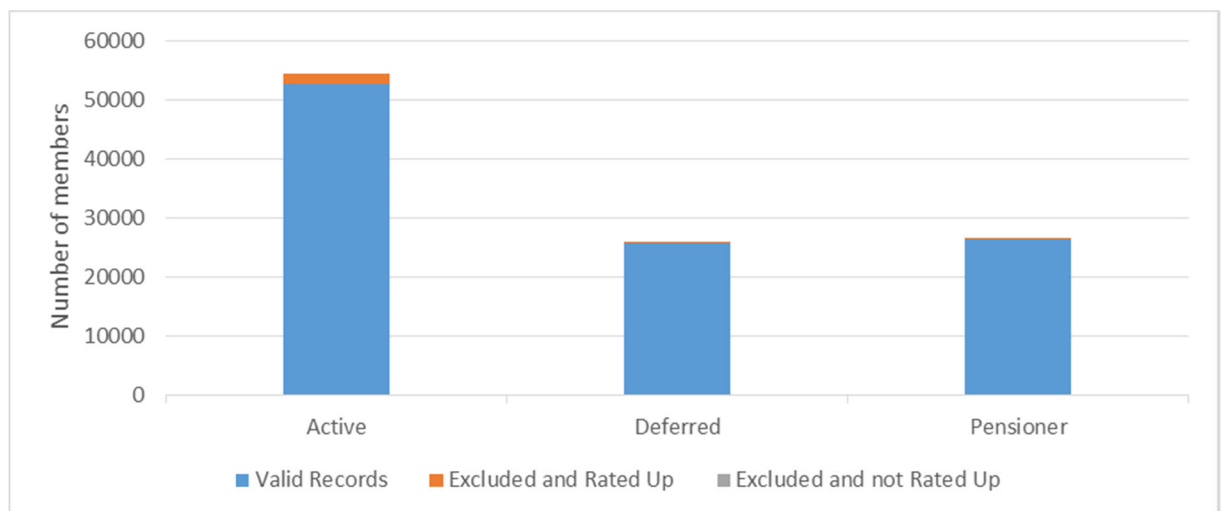
Checks made and adjustments applied

3.3   All key data items were checked against the specification requested for both completeness and consistency.

3.4   Checks were carried out to determine which records would need to be excluded by applying reasonableness tests. The checks also identified a number of areas where adjustments to the data were appropriate. The checks and adjustments applied are summarised in Appendix C.

3.5   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. Implicitly this uprating approach assumes that excluded records have the same average profile (ie age, sex, pay, service) as included records. Tables 3.3 and 3.4 show the derivation of the uprating factors[1].

Table 3.3: Derivation of uprating factors (31 March 2016)

31 March 2016	Number of valid records (A)	Number of exclusions	Number of members after exclusions (B)	Uprating factor (A/B)
Active members	52,691	1,718	50,973	1.034
Deferred members	25,861	60	25,801	1.002
Pensioners	31,785	29	31,756	1.001
Total membership	110,337	1,807	108,530	1.017

Table 3.4: Derivation of uprating factors (31 March 2015)

31 March 2015	Number of valid records (A)	Number of exclusions	Number of members after exclusions (B)	Uprating factor (A/B)
Active members	52,135	4,426	47,709	1.093

Accounting information

3.6   Published 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 C.

Benefit information

3.7   A summary of the benefits provided to members of the Scheme is given in Appendix E. DfC has confirmed that the only uncertainty that they are aware of about the form of benefits that the scheme is liable to provide is the potential requirement for sex equalisation of GMPs. No allowance has been made for this in the valuation calculations.

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[1] In practice uprating factors are determined for each identifiable valuation group

Appendix A: Summary of membership data

Active data

A.1 In this appendix we provide detail on the active member data as at 31 March 2016, and make comparisons with the data summarised in our data report as at 2013 ('Actuarial valuation as at 31 March 2013 Report on membership data' dated 6 March 2015) and Aon Hewitt's valuation reports as at 2013 and 2016 ('Actuarial Valuation as at 31 March 2013' dated 31 March 2014 and 'Actuarial Valuation as at 31 March 2016' dated 29 March 2017). We have broken the 2016 data down according to the members' Critical Retirement Age (CRA) – the earliest age that a member can take unreduced benefits in relation to certain periods of service (including some future service for certain categories of membership) .

A.2 CRA has been taken as either 60 (where that is the nearest whole year of CRA), 62 (where CRA is between 61 and 64 to the nearest whole year) or 65 (where that is the nearest whole year of CRA, or where the member does not have a CRA).

A.3 Actual pensionable salary was annualised for members with less than one year of service.

Table A1: Active data as 31 March 2016

	Number of members	Actual pensionable salary £m	FTE pensionable salary £m	Average actual pensionable salary (not weighted) £	Average age weighted by actual pensionable salary	Average Reckonable service (not weighted)	CARE pension £m
CRA 60	15,974 [1]	382.8	399.9	23,964	48.5	19.0	7.8
CRA 62	4,741 [1]	74.0	91.0	15,606	54.9	10.4	1.5
CRA 65	31,976 [1]	412.9	585.2	12,913	43.9	2.7	7.7
Total	52,691 [1]	869.7	1,076.1	16,506	46.5	8.3	17.0
AH [2]	52,817 [3]	850.7	Not available	16,100	46.2	8.3	16.7[4]

1 Excludes councillors
2 This row shows figures from the Aon Hewitt actuarial valuation report
3 Includes 421 councillor members
4 Implied from £317 average CARE pension and the number of members.

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A.4 "Average reckonable service" is the average final salary service. This is expected to drop in the future as no members are now accruing final salary service and those with accrued service will gradually leave and be replaced by members with no final salary service.

Table A2: Summary of active member data as at 31 March 2015

	Number of members[1]	Actual pensionable salary £m	FTE pensionable salary £m	Average actual pensionable salary (not weighted) £	Average Age (weighted by FTE pay)	Average Reckonable service (not weighted)	CARE pension £m
Total	**52,135**	**866.4**	**1,067.9**	**16,893**	**46.5**	**9.9**	**n/a**

1 Excludes councillors

Table A3: Summary of active member data as at 31 March 2013

	Number of members[1]	Actual pensionable salary £m	FTE pensionable salary £m	Average actual pensionable salary (not weighted) £	Average Age (not weighted)	Average Reckonable service (not weighted)
Data used by GAD	**44,375**	**741.9**	**Not available**	**16,700**	**46.4**	**Not used**
Data used by Aon Hewitt	**44,375**	**741.9**	**Not available**	**16,700**	**46.4**	**10.4**

1 Excludes councillors

Chart A1: Breakdown of Active Members pensionable salary by age
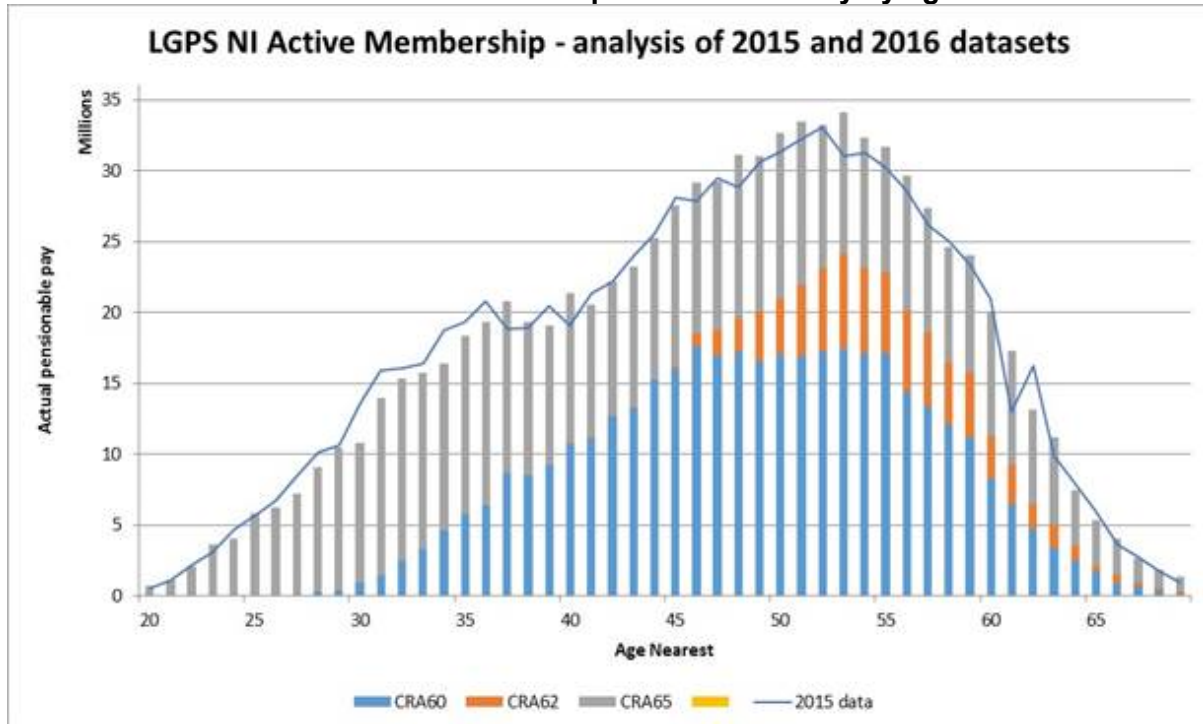
Deferred data

Table A4: Summary of Deferred pensioner data as at 31 March 2016

Category	Number of members	Total deferred pension[1] £m	Average pension[1] £	Average age
CRA 60[2]	8,192[3]	21.6	2,640	48.7[4]
CRA 62[2]	2,448[3]	2.9	1,188	54.4[4]
CRA 65[2]	15,221[3]	11.6	764	50.1[4]
Total	**25,861**[3]	**36.2**	**1,398**	**49.6**[4]
Data used by Aon Hewitt	**30,227** [5]	**36.2**	**1,200**	**46.0**[6]

1 Includes pension increase payable in April 2016
2 Critical retirement Age calculated based on Critical Retirement Date field in data, if CRD was blank CRA is set to be 65th birthday
3 Excludes councillors, 'undecided' and 'frozen' members
4 Weighted by deferred pension
5 Includes 4,787 members who at the valuation date were yet to decide whether to take a refund of contributions or whose records were in the process of being converted from active to deferred or pensioner status ['undecided' members] and 288 deferred councillor members
6 Report does not specify whether average age is weighted or not

Table A5: Summary of Aon Hewitt Deferred pensioner data as at 31 March 2013

Category	Number of members	Total deferred pension[1] £m	Average pension[1] £	Average age[2]
Total	**22,282**	**29.5**	**1,300**	**45.7**

1 Includes pension increase payable in April 2013
2 Report does not specify whether average age is weighted or not

Chart A2: Deferred pension data by age
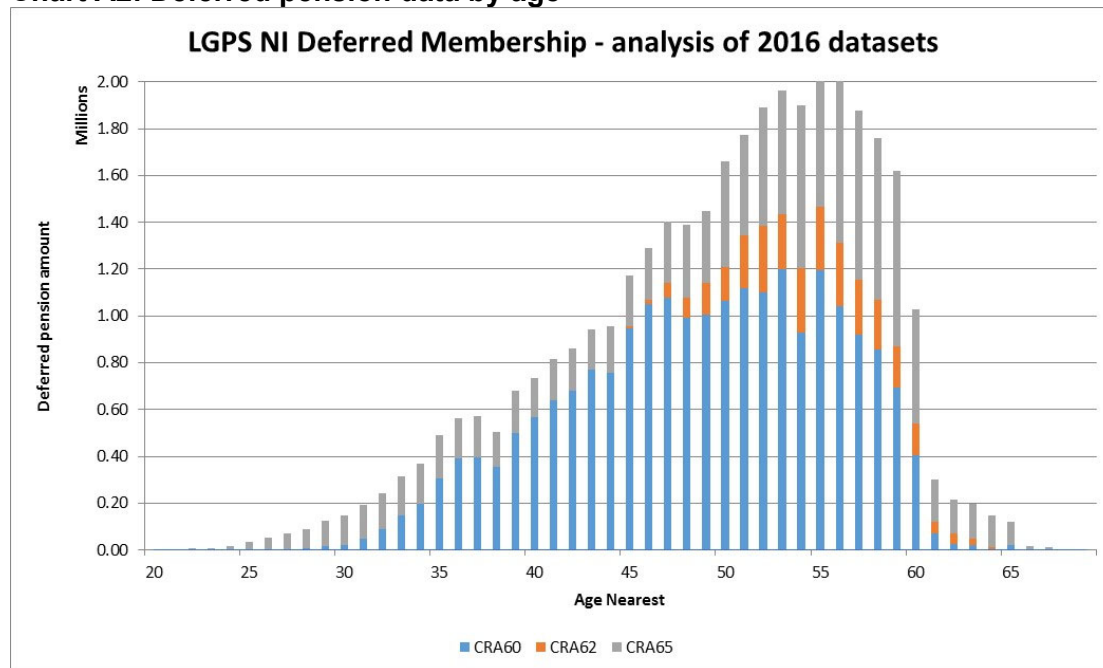
Pensioner data

Pensioners

Table A6: Summary of Pensioner data as at 31 March 2016

	Number of records	Total pension[1] (£m)	Average pension[1] (£)	Average age (years)
Age Retirement	18,764	106.3	5,663	70.1[2]
Ill-Health Retirement	7,681	37.3	4,861	66.3[2]
Total	**26,445**	**143.6**	**5,430**	**69.2[2]**
Data used by Aon Hewitt	**26,471**	**143.5**	**5,421**	**70[3]**

1 Includes pension increase payable in April 2016
2 Weighted by current pension in payment
3 Report does not specify whether average age is weighted or not

Table A7: Summary of Aon Hewitt pensioner data as at 31 March 2013

	Number of members	Total pension[1] £m	Average pension[1] £	Average age[2]
Total	**23,497**	**120.9**	**5,145**	**69.5**

1 Includes pension increase payable in April 2013
2 Report does not specify whether average age is weighted or not

Chart A3: Summary of pension amount by age

Dependants

Table A8: Summary of Dependant data as at 31 March 2016

	Number of members	Total pension[1] £m	Average pension[1] £	Average age
Spouse	4,961	12.0	2,413	74.8[2]
Children	378	0.5	1,401	18.7[2]
Total	**5,339**	**12.5**	**2,341**	**72.4[2]**
Data used by Aon Hewitt	**5,345**	**12.5**	**2,300**	**71.7[3]**

1 Includes pension increase awarded in April 2016
2 Weighted by current pension in payment
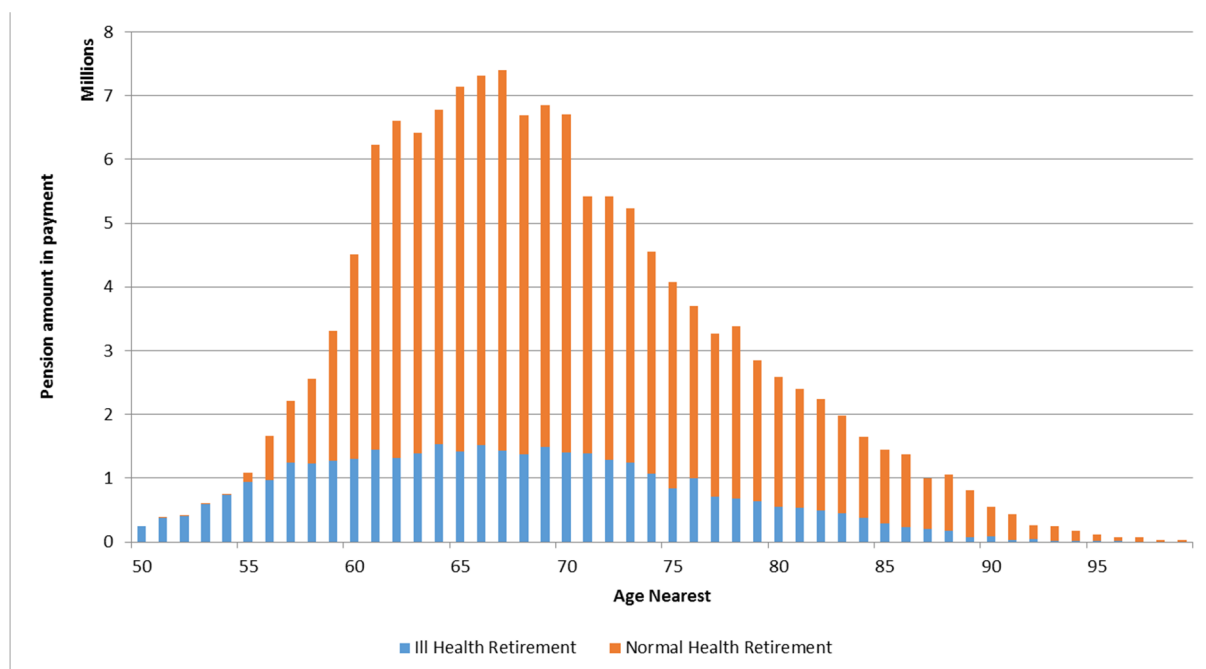3 Report does not specify whether average age is weighted or not

Table A9: Summary of Aon Hewitt Dependant data as at 31 March 2013

	Number of members	Total pension[1] £m	Average pension[1] £	Average age[2]
Total	**5,113**	**11.0**	**2,200**	**70.9**

1 Includes pension increase payable in April 2013
2 Report does not specify whether average age is weighted or not

Chart A4: Summary of Dependant pension amount by age
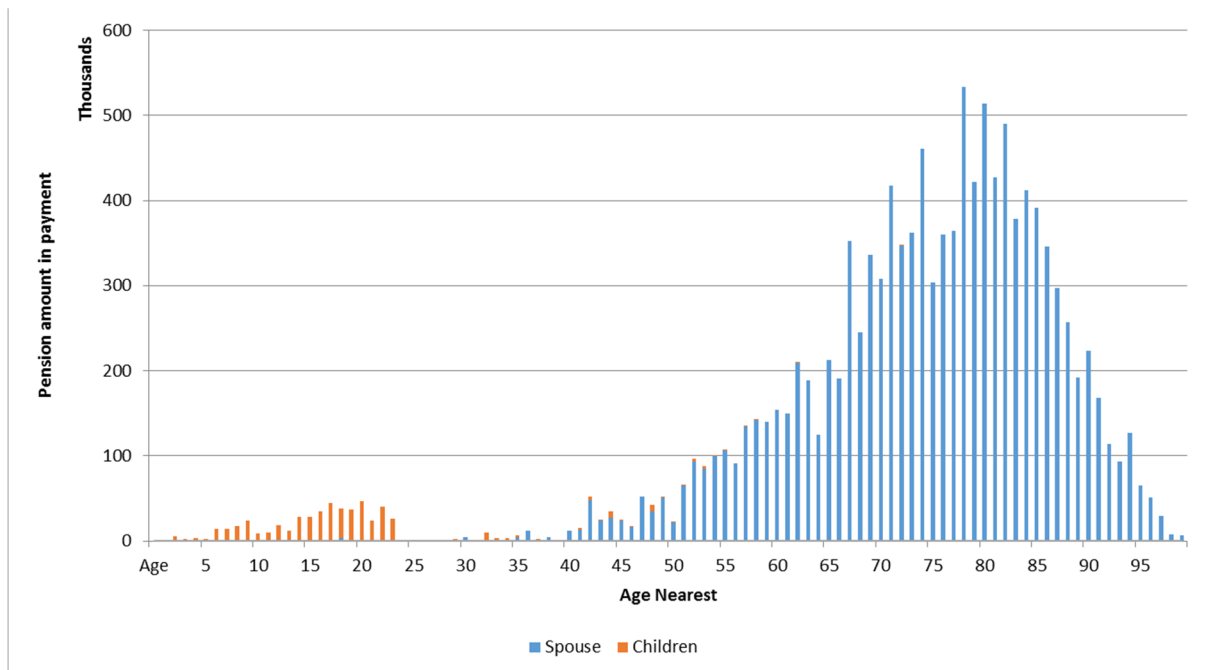
Appendix B: Data items – membership data

Individual membership data

B.1 Membership data was requested from NILGOSC as at 31 March 2016. A universal data specification was agreed across the UK between the local actuarial firms, GAD and the administration software providers to improve consistency and quality of data provided.

B.2 Because the data was provided as at the same date and in the same format, it was expected that the data was appropriate for the purpose of this valuation.

B.3 Individual member data was supplied for active members, deferred members and current beneficiaries of the Scheme, together with comparable data on movements during the three-year period ending on 31 March 2016.

B.4 Key data items are shown below. These are the items where a valid and reasonable data value is required to determine a liability.

Actives

> Identifier;
> Date of birth;
> Gender;
> Date of joining LGPS NI;
> Date of Transfer to 2015 Scheme;
> Part time Percentage;
> Pensionable Pay (LGPS CARE Definition);
> Pensionable Pay 50:50 (LGPS CARE Definition);
> Full Time Equivalent Pay (LGPS final salary Definition);
> Critical retirement ("rule of 85") date. May be before age 60.
> Calculation Service - 80ths (Years)
> Calculation Service - 80ths (Days)
> Calculation Service - 60ths (Years)
> Calculation Service - 60ths (Days)
> Revalued CRA Accrued main section CARE Pension Pot (£);
> Revalued tapered Accrued main section CARE Pension Pot (£);
> Revalued NPD Accrued main section CARE Pension Pot (£);
> Revalued NPD Accrued 50:50 CARE Pension Pot (£);
> Revalued Armed Forces' scheme CARE pension transferred in;
> Revalued Civil Service scheme CARE pension transferred in;
> Revalued Firefighters' scheme CARE pension transferred in;
> Revalued NHS scheme CARE pension transferred in;
> Revalued Police scheme CARE pension transferred in;
> Revalued Teachers' scheme CARE pension transferred in;
> Revalued CRA Accrued 50:50 CARE Pension Pot (£);
> Revalued tapered Accrued 50:50 CARE Pension Pot (£).

Pensioners and Dependants

> Identifier;
> Date of birth;
> Gender;
> Pensioner type;
> Main section Pension Amount (£ p.a.) at valuation date;
> 50:50 Pension Amount (£ p.a.) at valuation date;
> Date Pension Commenced;
> Tax Free Cash as a Right (£);
> Total Tax Free Cash Sum (£);
> Pension Amount (£ p.a.) at valuation date;
> Initial Pension Amount (final salary linked) (£ p.a.).

Deferred

> Identifier;
> Date of birth;
> Gender;
> Critical retirement ("rule of 85") date. May be before age 60;
> Total Revalued Deferred Lump Sum (£);
> Date Joined Fund.
> Revalued post 14 main section deferred pension (£ p.a.);
> Revalued post 14 50:50 deferred pension (£ p.a.);
> Revalued age 65 (final salary linked) deferred pension (£ p.a.);
> Total Revalued Deferred Pension (£ p.a.);
> Calculation Service - 80ths (Years);
> Calculation Service - 80ths (Days);
> Calculation Service - 60ths (Years);
> Calculation Service - 60ths (Days).

Appendix C: Checks and adjustments applied to the membership data

Summary of validation and review process applied to the data

C.1   First, all data provided was reviewed against the data specification for both completeness and consistency.

C.2   Detailed individual member checks were not undertaken. Our reviews were focused on the presence and consistency of the specified data items and especially those that are most significant for the valuation exercise.

C.3   We reviewed the totals and averages of certain key data elements against the data used by Aon Hewitt in their 2013 and 2016 valuations.

C.4   We were reluctant to remove individual data records, but some records will effectively be excluded from the valuation exercise since they have no meaningful entries (eg no pay data). Records with identifiable deficiencies were effectively replaced by an equivalent record of a typical/average member of the same category.

C.5   We compared the data received against the 2015/16 scheme accounts dated 6 September 2016, which sets out Scheme cash flow and other details gathered for the 2015-16 financial year. This comparison did not raise any concerns about the data received.

Summary of aggregate membership data

C.6   A summary of the aggregate membership data is given in the tables below:

> The first row of data in each table shows the data actually received;

> The second row shows the data before any "exclusions" (as described) made from the data supplied, but allowing for "amendments", such as the removal of duplicate entries and the annualising of pensionable pay for recent joiners;

> The third row shows the data after exclusions and uprating. Members were excluded because actual pensionable pay, FTE pay and CARE pension were missing or outside of acceptable ranges, or dates, such as date of birth, were not credible. In some cases the data was excluded without replacement (eg if it was expected that there was no liabilities in respect of this record. In other cases data was excluded with rating up (eg if it was expected that the record was valid, but key data fields were unreliable). The data after exclusions and uprating can therefore be viewed as covering all members.

> Averages are based on unweighted statistics to help illustrate the impact of exclusions, amendments and rating-up.

Actives as at 31 March 2016

Table C1: Summary of active member data as at 31 March 2016

	Number of members	Salary Roll £m	Average Age[1]	Average service[1]	% Female
Before Amendments	53,423	814.9	46.1	8.1	67.3%
Before Exclusions	53,423	862.6	46.1	8.1	67.3%
After Exclusions and uprating	52,691	869.7	46.2	8.3	66.9%

1 Averages in this table are unweighted, and so differ from those elsewhere in this report, which are weighted by pensionable salary.

C.7   A range of amendments were made to the dataset. Notable changes were:

C.7.1   732 records were excluded without rating up as a result of checks [these were 'status 8' members (i.e. defunct concurrent memberships where the membership pertaining to the record has been aggregated onto an ongoing active member record)]

C.7.2   1,718 records were excluded with rating up as a result of checks. This accounted for 3.2% of the data. 1,276 records were excluded due to unreasonable reckonable service, 523 records had unreasonable FTE pay. A number of records have failed multiple checks.

C.7.3   2,868 records were missing actual salaries. The part-time proportion for these records did not look reasonable. Therefore we used the full-time equivalent salary multiplied by the average part-time proportion from the overall membership (79%) to determine the actual salaries for all of these members. If this assumption was incorrect by 5%, then we expect that this would change the Cost Cap Cost of the Scheme by less than 0.1% of pay.

C.7.4   CARE pension data was missing for about 3% of members. We understand from NILGOSC that this may arise for members on career break, maternity leave or long-term sick leave. It is possible that some of these members have actually left service and should therefore be classified as deferred members but the employer has not informed NILGOSC. No further action has been taken so these members are effectively assumed to still remain in service (with nil CARE pension as at 31 March 2016).

Actives as at 31 March 2015

Table C2: Summary of active member data as at 31 March 2015

	Number of members	Salary Roll £m	Average Age (weighted by FTE pay)	Average service	% Female
Before Amendments	52,135	835.6 [1]	46.9	9.2	65.8%
After Exclusions and uprating	52,135	866.4	46.5	9.9	65.8%

1   Salaries equal to exactly £10,000 are excluded

C.8   A range of amendments were made to the dataset. Notable changes were:

C.8.1   If salary in the data equalled £10,000 exactly, the member record was replaced by the average record for the member's category.

C.8.2   1,991 records were missing salaries. We excluded those records and rated up the data to allow for the exclusions.

C.8.3   2,435 records had very low salary (below £8,000). We replaced the low salary with the average salary for their category. This rating up of salary roughly has a 0.2% impact on the cost cap.

C.8.4   2,741 records had a missing or nil spouse pension. The average spouse pension is 44% of the members' pension for other records and we assumed that this proportion applied to these records.

Deferred Pensioners as at 31 March 2016

C.9   Only those deferred members who were in service on or after 31 March 2015 will need to be valued for the Cost Cap process. However, the table and comments below refer to all deferred members.

Table C3: Summary of deferred pensioner data as at 31 March 2016

	Number of members	Pension Roll £m	Average Age[1]	% Female
Before Amendments	25,992	36.4	45.9	67.6%
Before Exclusions	25,992	36.4	45.9	67.6%
After Exclusions and uprating	25,861	36.2	45.9	67.5%

1 Averages in this table are unweighted, and so differ from those in Appendices, which are weighted by deferred pension.

C.10   A range of amendments were made to the processed dataset. Notable changes were:

C.10.1 As a result of checks, 131 records were excluded without rating. This accounted for 0.5% of the data. Of these: 59 records were Pension Credit members and 60 of these records were "status 8" members.

C.10.2 60 records were excluded with rating up as a result of checks. This accounted for 0.2% of the data. Of these: 34 records had an age outside of agreed range [over age 68] and 26 records have unreasonable member pension.

C.10.3 Around 18% of deferred records had a critical retirement date that was either blank or significantly different to a critical retirement date we calculated based on the date of birth and date joined fund fields. We will use the date joined fund field to calculate a critical retirement date for deferred members. (Note the data summaries below are split by critical retirement age.)

C.10.4 Around 2,300 active records which could not be identified as either stock or movements data from the active membership data file were excluded without rating up. There was a significant duplication with the records in the deferred data file, the quality of the data was poor and including these records would have significantly overstated the membership relative to the Aon Hewitt summary statistics. The total deferred pension for these members is estimated as around £3m based on the amount of lump sum recorded for these members.

C.10.5 Around 4,700 records appear in an "undecided" dataset. Almost all of these members were coded as "undecided" or "frozen". Through conversations with NILGOSC, we understand that the "undecided" members had left service and were in the process of having their record converted to a deferred or pensioner record. The "frozen" members have left service with an entitlement to a refund of contributions that has not yet been paid. The aggregate amount of refund of contributions payable to "frozen" members who were in service after 31 March 2015 (and are therefore in scope for Cost Cap calculations) is £0.1m which is immaterial so "frozen" members have been excluded from the data. "Undecided" members have been included in the deferred data. If there was insufficient detail in the data to value them, the data has been uprated.

C.10.6 There were also around 800 records in the main deferred dataset for which it was not clear whether they were movements or not. These members are included in the deferred stock data. These members are not expected to have a material impact on the cost cap calculations.

Pensioners as at 31 March 2016

C.11   Only those pensioner members who were in service on or after 31 March 2015 will need to be valued for the Cost Cap process. However, the table and comments below refer to all pensioner members.

Table C4: Summary of pensioner data as at 31 March 2016

	Number of members	Pension Roll £m	Average Age[1]	% Female
Before Amendments	26,445	143.6	70.0	49.4%
Before Exclusions	26,445	143.6	70.0	49.4%
After Exclusions and uprating	26,445	143.6	70.0	49.4%

Averages in this table are unweighted, and so differ slightly from those in Appendices, which are weighted by pension.

C.12   A range of amendments were made to the dataset. Notable changes to member pensioner records were:

C.12.1 29 records were excluded with rating up as a result of checks (e.g. dubious contingent spouse data or missing pension). This accounts for 0.1% of the data.

C.12.2 Any other potential errors identified would not have a material impact on the valuation results.

Table C5: Summary of dependant data as at 31 March 2016

	Number of members	Pension Roll £m	Average Age	% Children's pensions	% Female
Before Amendments	5,340	12.5	71.6	7.1%	81.2%
Before Exclusions	5,340	12.5	71.6	7.1%	81.2%
After Exclusions and uprating	5,340	12.5	71.6	7.1%	81.2%

Comparison with scheme accounts

C.13   For active contributing members, we compared the pensionable pay figures provided to us with estimated figures deduced from the scheme accounts. This involved using the employer contributions received over 2015/16.

Table C6: Comparison against accounting disclosures

Estimated 2015/16 pay roll estimate from accounts	£ 874,625,000
Actual pensionable salary in 2016 data (Table A1)	£ 869,700,000
Actual pensionable salary in 2015 data (Table A2)	£866,400,000
Comparison of accounts to 2016 data	Accounts 0.5% higher
Comparison of accounts to 2015 data	Accounts 0.9% higher

C.14   We are satisfied that the data we have been provided with is reasonably consistent with the accounts information in relation to active members.

C.15   No comparison has been made for deferred members because information to make such a comparison is not readily available.

C.16   For pensioner members (including dependant pensions in payment), we compared the pension figures provided to us with figures from the scheme accounts.

Table C7: Comparison against accounting disclosures (including dependants)

Pensions paid figure in 2015/16 accounts	£ 153,362,000
Pensions paid figure in 2015/16 accounts	£ 163,836,000
Total of pensioner and dependant pension in payment in 2016 data (Table A6 and Table A8)	£ 156,108,351
Comparison of 2015/16 accounts to 2016 data	1.8% lower

C.17   Although the pension total in the data is 1.8% higher than accounts, the accounts figure is a through 2015/16 value. The 2016/17 account data is higher than the data at 31 March 2016, as expected.

Appendix D: Uncertainty in valuation results arising from data deficiencies

Membership data

D.1   The table 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.

D.2   The table below illustrates the potential impact on the results if the actual liability for each missing member is in fact under/overstated by 10%.

Table D1: Impact on results if liabilities under/overstated by 10%

31 March 2016	Cost cap cost of the fund
Active members (uprating applied: 5%)	±0.1%
Deferred members (uprating applied: 2%)	Nil
Pensioners (uprating applied: 3%)	Nil

31 March 2015	Cost cap cost of the fund
Active members (uprating applied: 9%)	±0.2%

Data used to calculate cost cap net leavers liabilities (CCNLL)

D.3   The CCNLL 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.

D.4   To accurately calculate CCNLL 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.

D.5   There have been some difficulties for all schemes in using the valuation data to determine the CCNLL, and these difficulties are particularly acute for LGPS where members may have multiple employments and re-joining and aggregation of benefits occur. Further details on the approach taken to determining CCNLL in the absence of fully complete data is provided in the Assumptions Report.

D.6   We expect that the uncertainty introduced by the approach above is not more than 0.5% of pay. Although it should be noted that the deficiencies in the membership data discussed above could compound this scale of uncertainty.

Appendix E: Summary of benefits

E.1   The main benefit provisions of the Scheme, for service from 1 April 2009 to 31 March 2015 and for service from 1 April 2015, are shown in Table E1.

Table E1: Main benefit provisions of LGPS

	From 1 April 2009 to 31 March 2015	From 1 April 2015
Basis of provision	Final salary	Career average with revaluation of CPI
Contracted out/in	Contracted out	Contracted out to 2016 (Contracting out ceased on 5 April 2016)
Normal Pension Age (NPA)	65	State Pension Age, or 65 if higher
Early retirement	Transitional Rule of 85 for some members	Transitional Rule of 85 for some members
Pension accrual rate	1/60	1/49
Retirement lump sum accrual rate	By commutation (at 12:1)	By commutation (at 12:1)
Pensionable pay	Pay excluding non-contractual overtime and non-pensionable additional hours	Pay including non-contractual overtime and additional hours
Final Pay	Total Pensionable Pay in last 12 months prior to retirement or earlier exit, or in either of the previous two years if higher	N/A
Pensionable Service	Membership of Fund (years and days), plus periods of credited service	N/A
Dependant benefits	1/160 (on death in service, full prospective service is included).	1/160 (on death in service, full prospective service is included).
Lump sum on death in service	3 x Final Pay at exit	3 x Pensionable Pay at exit
Lump sum on death after retirement	10 years of current pension less pension already received	10 times pre commutation pension less commuted lump sum and pension already received
Ill health pension	2-Tier system with benefit tier depending on prospect of return to gainful employment. Tier 1 (no reasonable expectation of return to gainful employment before NPA) – service enhanced by full prospective service to NPA. Tier 2 (expectation of return to gainful employment before NPA) – service enhanced by 25% of prospective service to NPA.	
Ill health pension vesting period	1 year	2 years
Pension increases	Governed by the Pensions (Increase) Act 1971.	Governed by the Pensions (Increase) Act 1971
Statutory underpin		Underpin of benefits on 2009 Scheme structure for members aged over 55 in April 2012.