Government Actuary's Department

Local Government Pension Scheme (England and Wales)

Actuarial valuation as at 31 March 2013

Report on methodology

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1 Introduction

1.1 This report has been prepared by the Government Actuary's Department (GAD) in its capacity as actuarial advisor to the Department for Communities and Local Government (DCLG) in connection with the Local Government Pension Scheme (England and Wales).

1.2 The purpose of this report is to summarise certain miscellaneous assumptions and methodologies adopted for aspects of the valuation calculations. It also explains why the approaches taken are necessary and their financial impact on the valuation results.

1.3 The data and assumptions to be used for the valuation are the subject of separate reports.

1.4 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.

1.5 HM Treasury (HMT) Directions ("the HMT Directions"), made under the Public Service Pensions Act 2013, provide the legal framework for carrying out the valuation. References to the 'Directions' in this report are in respect of these Directions, specifically 'The Public Service Pensions (Valuations and Employer Cost Cap) Directions 2014 dated 11 March 2014 (as amended).

1.6 This report is intended solely for the use of DCLG. We are content for DCLG 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.

1.7 Third parties whose interests may differ from those of DCLG 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.

1.8 A draft of this report was circulated to shadow Scheme Advisory Board in October 2014. It has been signed alongside the formal valuation report. Some minor changes have been made since that draft to provide clarification, but these do not affect any of the recommendations.

2 Active membership projections

2.1 The Directions require the actuary to calculate the cost of benefits accruing over the period 1 April 2016 to 31 March 2019.

2.2 In addition to the assumptions used, the profile of the active membership over these periods affects the expected cost of the benefits.

2.3 The Directions therefore implicitly require the actuary to determine the expected active membership up to 31 March 2019 in order to determine the valuation results. However, for a practical application of the methodology we have focussed on the membership of the Scheme as at 31 March 2016 and 31 March 2019.

Total membership as at 31 March 2016 and 31 March 2019

2.4 In order to project the membership to 2019, it is necessary to make assumptions about the number of active members in 2019 and their payroll. This is a workforce issue, not an actuarial one, and we have sought input from DCLG.

2.5 Over recent years there has been a fall in the number of active members in the LGPS. This reduction may continue in future. However it is not certain whether the reduction in the number of active members will continue, and if it does what the size any future reduction might be. The number of active members in the LGPS in future depends on many factors, including the decisions of local authorities and other participating employers, and the impact of policies such as new Fair Deal. DCLG do not hold projections of the future number of members of the LGPS.

2.6 In the light of these uncertainties, DCLG have instructed us to assume that the payroll of LGPS active members remains constant (in 2013 earning terms) in the period to 2019.

Approach to determining the active membership of the LGPS as at 31 March 2016 and 31 March 2019

2.7 The valuation system does not directly allow for the run off of members from the various categories and replacement with new entrants. Because of this it is necessary to separately project the membership at the valuation date to the start and end of the implementation period (31 March 2016 and 31 March 2019) to enable the valuation results to be calculated.

2.8 There are two main alternative approaches which could be used to determine the active membership at future dates:

(i) Assume the active population remains relatively stable by total salary roll at each age.

(ii) Project forward the 31 March 2013 data, and allow for expected new members joining at future dates.

2.9 Since DCLG have instructed us to assume that the payroll of LGPS active members remains constant (in 2013 earning terms) in the period to 2019, and in the light of many other uncertainties about projection of active membership to 2019, the first option above seems most appropriate. We have applied this assumption to mean that over the period from the effective date to the end of the implementation period (31 March

2019) the overall profile of the membership in terms of distribution of pay by age and gender will remain stable.

2.10 If an alternative assumption were adopted the employer cost cap determined as part of the valuation would be likely to differ. In general any assumption which results in an ageing of the workforce will result in a higher employer cost cap being calculated and vice versa: increase the average age of the members by 1 year would increase the employer cost cap by about ½% of pay.

2.11 We have considered the alternative option in paragraph 2.8: projecting forward the 31 March 2013 data, and allowing for expected new members joining at future dates. This option requires an assumption about the number of redundancies in the period from 1 April 2013 to 31 March 2019. Projections which allowed for no redundancies would increase in the average age of the membership by about 1½ years. Projections which allowed for redundancies in line with the recent past would result in a slight decrease in the average age of the membership. The approach of assuming stable membership lies between these two scenarios.

2.12 In conjunction with overriding assumption above we also allow for the existing membership to 'run off' in accordance with the assumptions recommended for the valuation, but including allowance for redundancies in line with the recent past. These run off projections affect the employer contribution rate, because some existing members are assumed to have different retirement patterns than those for new entrants. However they do not have any impact on the employer cost cap.

2.13 To maintain a stable population requires an implicit assumption about the profile of new joiners to the scheme over the projection period. The charts below show the assumed pattern of new entrants.

Summary of the Scheme membership as at 31 March 2016 and 31 March 2019

2.14 We have projected the expected membership of the scheme as at 31 March 2016 and 31 March 2019 in line with the method described above.

2.15 The table below summarises the average age active membership data at these dates, which is stable in line with the projection methodology.

Table 2.3: Average age* of projected membership

	31 March 2013	31 March 2016	31 March 2019
Average age (years)	46.1	46.1	46.1

* weighted by salary

2.16 The graphs below summarise the active membership projected to these dates.

Chart 1: 2013 membership profile by pay

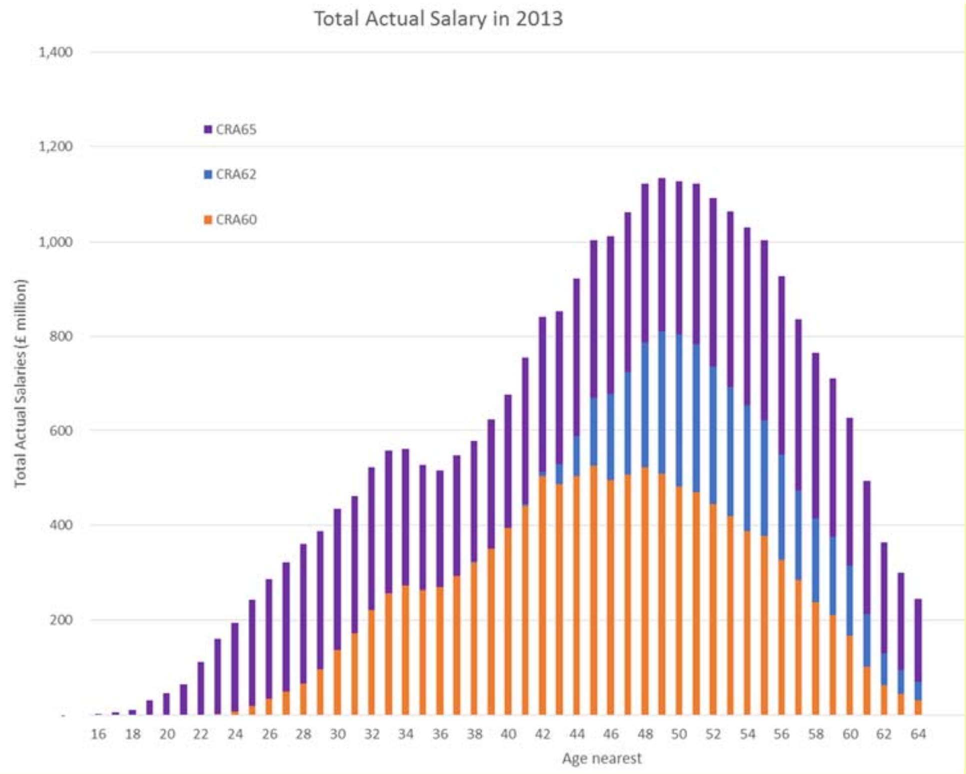


Chart 2: 2016 membership profile by pay

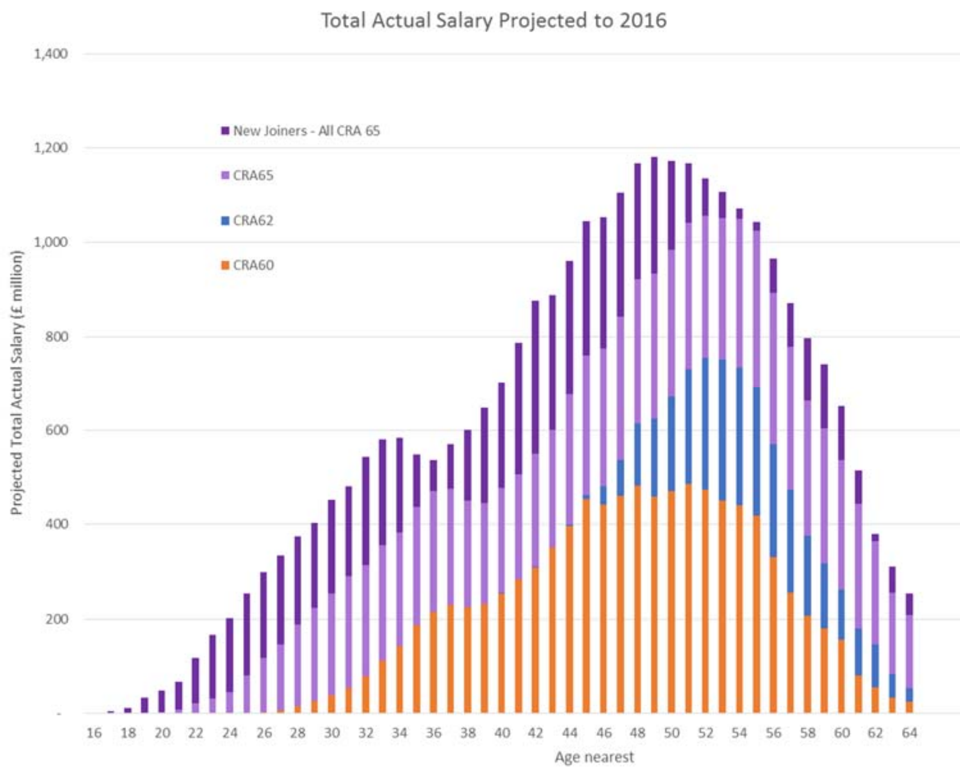
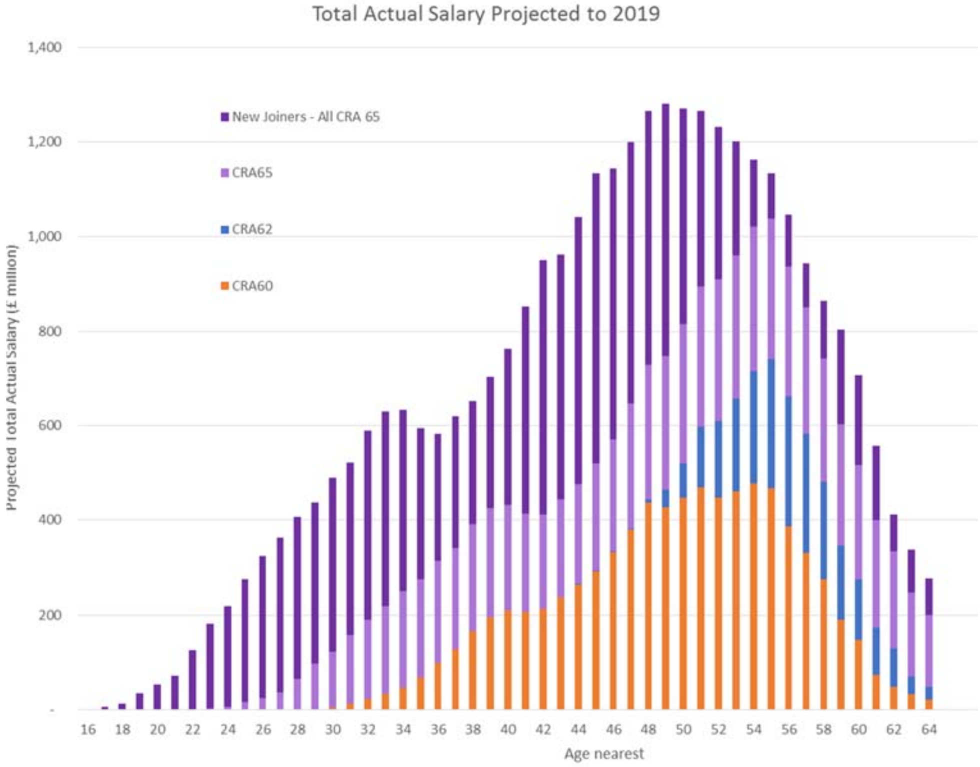


Chart 3: 2019 membership profile by pay



Membership projections for the employer cost cap

2.17 The same membership projections are used for the cost of accrual over 2016-19 (Direction 27(1)(d)) and for the proposed employer cost cap (Direction 53).

3 Accrual cost methodology

Grouping of membership data

3.1 Individual active members have been grouped together for the purposes of calculating past service liabilities and future service contribution rates. Grouping data in this way is appropriate where there is a high volume of data and where grouping should not in itself lead to a distortion in the results. The volume of data in this situation is more than sufficient to permit grouping without compromising the accuracy of the valuation results.

3.2 Active members have been grouped by gender, age (to nearest whole year), Normal Pension Age (to nearest whole year) and Critical Retirement Age (CRA). CRA reflects the rights to unreduced early retirement benefits in relation to certain periods of service (including some future service for certain categories of member). It 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). The CRA groups of 60 and 65 jointly cover around 86% of the total active membership at 31 March 2013 (weighted by salary); with CRA 62 being the balance of around 14%. The CRA group of 62 is therefore relatively minor, and hence grouping a wide range of actual CRAs does not introduce a significant element of approximation to the overall results.

3.3 Deferred pensions and pensions in payment have similarly been grouped for the purposes of calculating past service liabilities.

3.4 The cost of accrual for members in the 2014 Scheme has been determined using their salary at the time of accrual with revaluation to retirement (rather than the average revalued salary over all service).

Projected unit methodology

3.5 Direction 11 requires use of the projected unit methodology to determine the valuation results.

Determining costs of accrual for future period 2016-19

3.6 When determining the costs of accrual as required by Directions 27(1)(d) and 53(1) the cost has first been determined at the start and end of the relevant period based on the (projected) membership of the Scheme and the applicable assumptions at those times. The overall cost of accrual for the period is then determined as the average of the costs at the start and the end of the period.

Valuation of non-accruing benefits

3.7 Non-accruing benefits such as lump sums payable on death in service, or service enhancements on ill-health retirement or on death in service, are recognised only at the time such a benefit is expected to come into payment.

4 Approximations and miscellaneous items

Guaranteed Minimum Pensions (GMPs)

4.1 The scheme is not liable for the full indexation of GMPs and so makes savings on GMPs compared to the cost of providing a fully indexed pension. The savings for the Scheme have been estimated in an approximate and appropriate manner which is intended to be unbiased.

4.2 The approximation is based on the ratio of GMP to total pension liability for pensioners who are old enough for GMP to be in payment. This provides an indication of the total GMP that will have been accrued in the Schemes. The approximation is intended to be unbiased but its accuracy will be affected by changes in scheme size and earnings profile over the period of GMP accrual (1978-1997).

4.3 The total estimated savings are a little over 1% of total liabilities. The estimation of the GMP savings has no impact on the calculation of the employer cost cap.

4.4 Provided accurate GMP data is available as at 31 March 2014, the approximation will not apply to the starting value of the cost cap fund and so will not impact on the operation of the cost cap mechanism.

Earnings cap

4.5 For members who were subject to the Inland Revenue earnings cap, which affected members whose pensionable service commenced on or after 1 June 1989 and which ceased to apply at 6 April 2006, their period of pensionable service was adjusted in 2006 to reflect the limitation on pensionable pay over the relevant period. Following that adjustment, the earnings cap therefore no longer has any impact on members' benefits or contributions, and therefore does not impact on the employer cost cap.

Public Service Transfer Club (PSTC)

4.6 Costs arise on final salary PSTC transfers because the transfer value is usually less than the cost of providing the service credit granted. Most PSTC transfers over the 2016-19 period will be transfers of final salary benefits. Allowance has been made for the potential additional liabilities arising from inward transfers on PSTC terms by assuming that the level of transfers continues at recent levels and the cost of providing the service credit is about twice the transfer value received. Overall, the additional costs are equivalent to about 0.3% of pay. HMT has confirmed that these costs also apply to the calculation of the employer cost cap.

4.7 In the longer term, PSTC transfers will increasingly be transfers of career average benefits. The exact form of these transfers and distribution of the costs involved has yet to be determined. However, it is likely that PSTC costs to the Scheme will fall over time.

Expenses

4.8 No allowance has been made for expenses. Expenses are met separately outside the scheme's valuation framework.

Final pensionable pay

4.9 All liabilities have been based on pensionable pay at the valuation date as provided by the various actuarial firms which supplied data for the valuation. No explicit allowance has been made for the impact of prior years' earnings resulting in higher final pensionable pay for particular members since this effect is not expected to impact a material number of members. This simplification has no impact on the calculation of the employer cost cap.

Promotional pay awards

4.10 No allowance has been made for the impact of any freeze on promotional/progression salary increases.

Early and late retirements

4.11 Where members are assumed to retire before the date at which they may take all of their benefits unreduced, the current early retirement reduction factors are applied. These are a reasonable proxy for the actuarial neutral factors that would apply at the time based on the assumptions used for this valuation. The assumptions regarding retirement do not allow for members to retire after their Normal Pension Age, and in cases where parts of a member's benefits are subject to a late retirement adjustment for retirement at or before Normal Pension Age, it is assumed that the adjustment is on actuarially neutral terms.

Children's pensions

4.12 No allowance has been made for children's pensions (other than those already in payment), on grounds of immateriality.

State pension age

4.13 Under the 2014 Scheme a member's Normal Pension Age is set equal to their State pension age (SPA), or 65 if higher. Direction 18 sets out the SPA to be used in the valuation calculations, and for many members the SPA is not a whole year of age. For the purposes of the valuation we have taken SPA as being the nearest whole year of age to the actual SPA. If taken at an individual level, this approach would overstate the liability for some members and understate for others, but in aggregate should be neutral and therefore have no material impact on the valuation results.

Re-entry of members

4.14 Re-entry of members to pensionable service has been modelled by the use of a 'net' withdrawal assumption for active members. This explicitly allows for a proportion of those leaving active service to return within 5 years.

4.15 No explicit allowance has been made in the valuation for a proportion of those deferred at the valuation date to subsequently re-join. This simplification has no impact on the calculation of the employer cost cap.

Deferred members above NPA

4.16 Members above age 75 are assumed not to claim their benefits. If these members do claim their benefits then a slight deficit would emerge in the notional fund over time; conversely if members aged less than 75 do not claim their benefits a slight surplus would emerge in the notional fund over time. This has no impact on the employer cost cap.

4.17 We have not made any allowance for current deferred members returning to active service. We do not expect this simplification to materially affect the results of the valuation.

Member contribution yields

4.18 When calculating the valuation results we are required by the direction 18 to assume that no members ever have, or ever will, make an election under regulation 10 of the Local Government Pension Scheme Regulations 2013 (Temporary reduction in contributions), which we refer to as 'the 50/50 section'.

4.19 The contribution bands and rate in the LGPS have been set to target an average member contribution yield of 6.5% of pay. However this target allows for some members opting for the 50/50 section by members electing under regulation 10.

4.20 Based on consistent calculations, but assuming that no members opt for the 50/50 section, the member contribution yield would be 6.7%. The contribution yield expected from normal member contribution required under directions 28(c) and 53(1) is therefore taken to be 6.7%.

Role of 85: Taper protection

4.21 As a result of the phasing out of the 'Rule of 85', some members are entitled to tapered early retirement factors in respect of service during the implementation period (31 March 2016 to 31 March 2019)1. In calculating the employer contribution rate, no allowance has been made for the impact of tapered early retirement factors on the grounds of immateriality. This simplification has no impact on the calculation of the employer cost cap.

[1] The Local Government Pension Scheme (Transitional Provisions, Savings and Amendment) Regulations 2014, Schedule 2, paragraph 9.