South Yorkshire Passenger Transport Pension Fund

Actuarial valuation as at 31 March 2016

Valuation report

16 March 2017

Introduction

In accordance with Regulation 62 of the Local Government Pension Scheme (LGPS) Regulations 2013 (as amended), we have been asked by the South Yorkshire Pensions Authority ("the Authority"), on behalf of the Sheffield City Region Combined Authority, the Administering Authority for the South Yorkshire Passenger Transport Pension Fund ("the Fund"), to prepare an actuarial valuation of the Fund as at 31 March 2016.

The purpose of the valuation is to review the financial position of the Fund and to set appropriate contribution rates for First South Yorkshire Limited (referred to as "the Employer") for the period from 1 April 2017 to 31 March 2020. Contributions are set to cover any shortfall between the assumed cost of providing benefits built up by members at the valuation date and the assets held by the Fund and to also cover the cost of benefits that active members will build up in the future.

This report is provided further to earlier advice dated 22 September 2016 and 24 October 2016 which set out the background to the valuation and proposed underlying methods and assumptions derivation, and the initial results respectively.

This report summarises the results of the valuation and is addressed to the Administering Authority of the Fund. It is not intended to assist any user other than the Administering Authority in making decisions or for any other purpose and neither we nor Barnett Waddingham LLP accept liability to third parties in relation to this advice.

This advice is subject to and complies with Technical Actuarial Standards (TASs) issued by the Financial Reporting Council (namely, the Pensions TAS and generic TASs relating to reporting, data and modelling).

We would be pleased to discuss any aspect of this report in more detail.

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Barnett Waddingham
a true partnership approach

1 Summary of results

A summary of the results of the valuation is as follows:

Funding position

Using the agreed assumptions, the Fund had assets sufficient to cover 89% of the accrued liabilities as at 31 March 2016.

This is an improvement in the funding level since 2013.

Changes since 2013

The Public Sector Pensions Act 2013 and updated guidance from CIPFA have reintroduced and reinforced requirements to focus on securing **solvency** of the pension fund and **long-term cost efficiency.**

Method and assumptions

The resulting method and assumptions are set out in Appendix 2 which we believe are appropriate for the 31 March 2016 valuation.

Employer contributions

The agreed Employer contributions are set out in Appendix 3 in the Rates and Adjustment certificate to cover the period from 1 April 2017 to 31 March 2020.

The next actuarial valuation should be carried out with an effective date of 31 March 2019 and the contributions payable by the Employer will be reviewed as part of that valuation.

2 Background to valuation approach

The purpose of the 2016 actuarial valuation is to set appropriate contribution rates for the Employer for the period from 1 April 2017 to 31 March 2020. This is required under regulation 62 of the LGPS Regulations. The Regulations for actuarial valuations have changed since the 2013 valuation and so has the context surrounding the valuation. Regulation 62 specifies four requirements that the actuary "must have regard to" and are detailed below:

- "the desirability of maintaining as nearly constant a primary rate as possible";
- "the current version of the administering authority's funding strategy statement";
- "the requirement to secure the solvency of the pension fund"; and
- "the long-term cost efficiency of the Scheme (i.e. the LGPS for England and Wales as a whole), so far as relating to the pension fund".

We have considered these changes when providing our advice and choosing the method and assumptions to be used, and discussions have taken place with the Administering Authority before agreeing the final assumptions to calculate the results and set contribution rates. The following documents have been provided to the Administering Authority:

- A report dated 12 September 2016 setting out the background to the valuation and our advice on the method and assumptions to be used.
- An initial results report dated 24 October 2016.
- The Funding Strategy Statement which confirms the approach in setting employer contributions. This is consistent with the agreed approach and assumptions and complies with the updated version of CIPFA's Funding Strategy Statement guidance.

Note that not all these documents may be in the public domain.

The final assumptions have been agreed with the Administering Authority.

Membership data

A summary of the membership data used for the valuation is set out in Appendix 1.

The membership data has been checked for reasonableness and we have compared the membership data with information in the Fund accounts. Any missing or inconsistent data has been estimated where necessary. While this should not be seen as a full audit of the data, we are happy that the data is sufficiently accurate for the purposes of the valuation.

Benefits

Full details of the benefits being valued are as set out in the Regulations as amended and summarised on the LGPS website and in the Fund's membership booklet. We have made no allowance for discretionary benefits.

Assets

We have been provided with the audited Fund accounts for the years ending 31 March 2014, 31 March 2015 and 31 March 2016.

The market asset valuation as at 31 March 2016 was £204,310,000.

The Fund's long-term investment strategy has been taken into consideration in the derivation of the assumptions used. The Fund's investment strategy is set out in its Investment Strategy Statement.

3 Results

Previous valuation

The previous valuation was carried out by Barnett Waddingham as at 31 March 2013. The results are summarised in the valuation report dated 28 March 2014 and show a funding level of 86% corresponding to a deficit of £32,875,000.

The Employer contribution rate was calculated to be 23.1% of Pensionable Pay in order to cover the cost of future benefits being built up by active members. This included an allowance for expenses.

In addition, to fund the deficit shown at the valuation date the Employer agreed to pay the following deficit contributions:

- Lump sum of £1.5m payable on 10 April 2015;
- Lump sum of £2.5m payable on 10 April 2016;
- Lump sum of £3.0m payable on 31 March 2017;
- Lump sum of £3.25m payable on 31 March 2018;
- Lump sums of £3.5m payable on each 31 March from 2019 to 2023 inclusive.

Shortfall between assets and liabilities

Using the assumptions summarised in Appendix 2, the results of the valuation are set out in the tables below which show:

- The past service funding position which shows how well funded the Fund was at the valuation date; and
- The Employer contribution rate required for the accrual of future benefits for active members.

Active members pay contributions to the Fund as a condition of membership in line with the rates required under the Regulations.

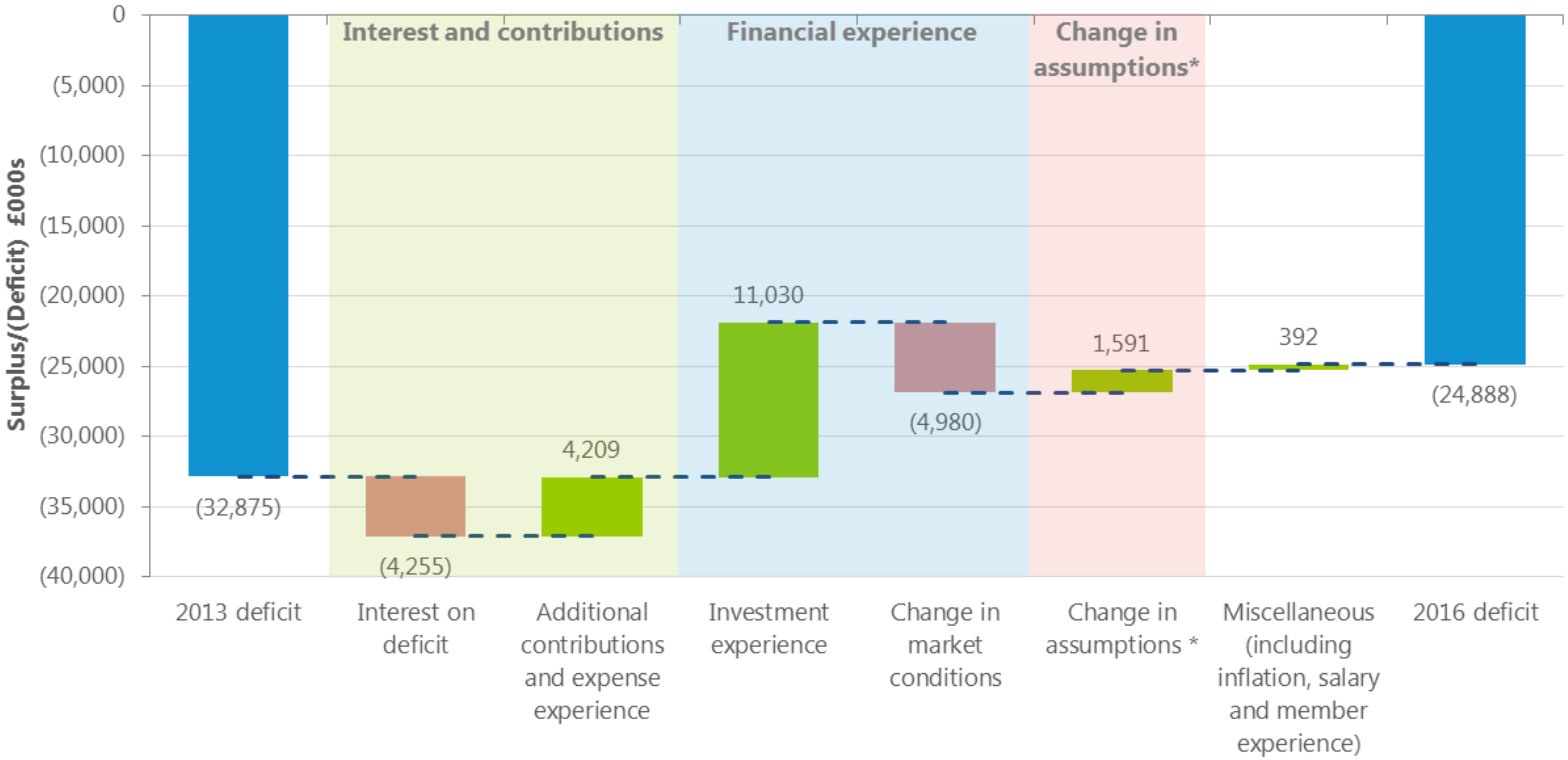
Past service funding position:	£000s
Active members	39,438
Deferred members	27,545
Pensioner members	162,215
Total expected cost	**229,198**
Market value of assets	**204,310**
Surplus/(Deficit)	**(24,888)**
Funding level	**89%**

Future service benefits:	% of Pensionable Pay
Contribution rate for accrual of pension and contingent benefits	33.5
Allowance for expenses	3.5
Less average member contribution rate	(6.5)
Employer contribution rate (primary rate)	**30.5**

There was a deficit of £24,888,000 in the Fund at 31 March 2016, and the Fund's assets were sufficient to cover 89% of its liabilities.

Reconciliation to previous valuation

The key factors that have influenced the funding level of the Fund over the intervaluation period are as follows:

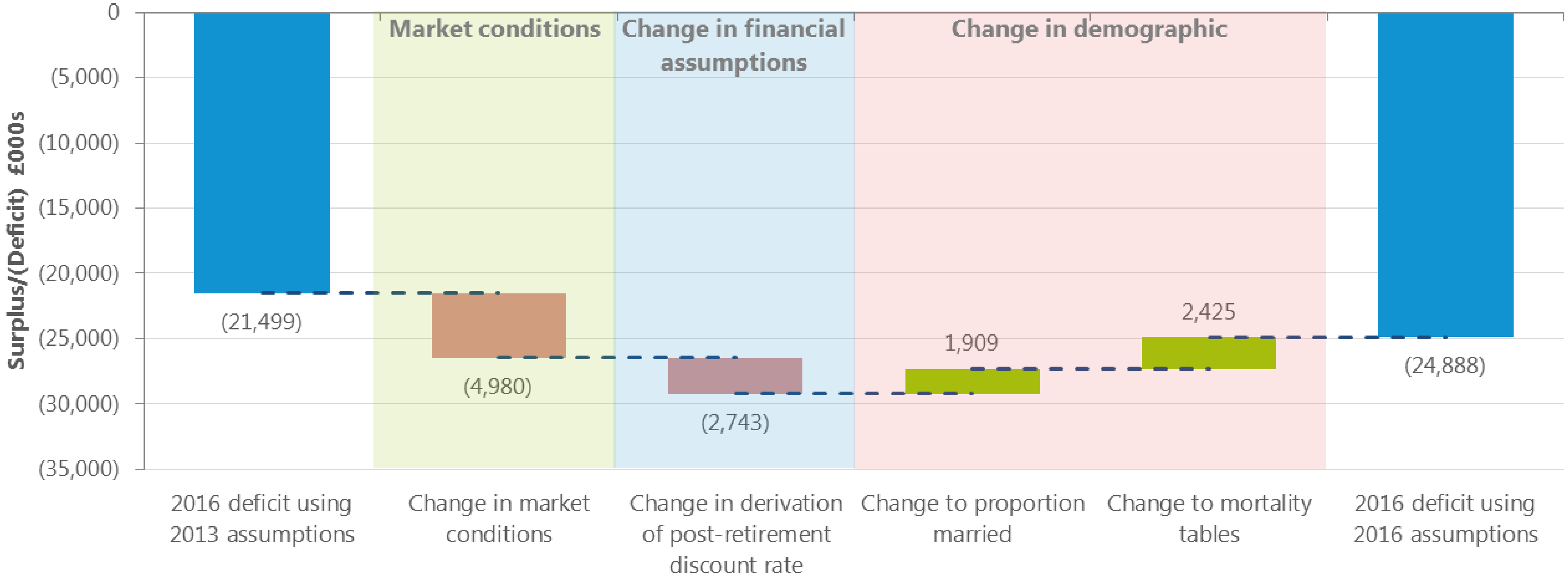


*excluding changes in market conditions.

If the liabilities had been calculated using the assumptions used for for the previous valuation, updated solely for changes in market conditions, the deficit would have been £26,479,000.

The Fund's funding position has improved since 31 March 2013 primarily as a result of good investment performance and contributions paid by the Employer, however this has been partly offset by changes in the financial conditions used to calculate the liabilities.

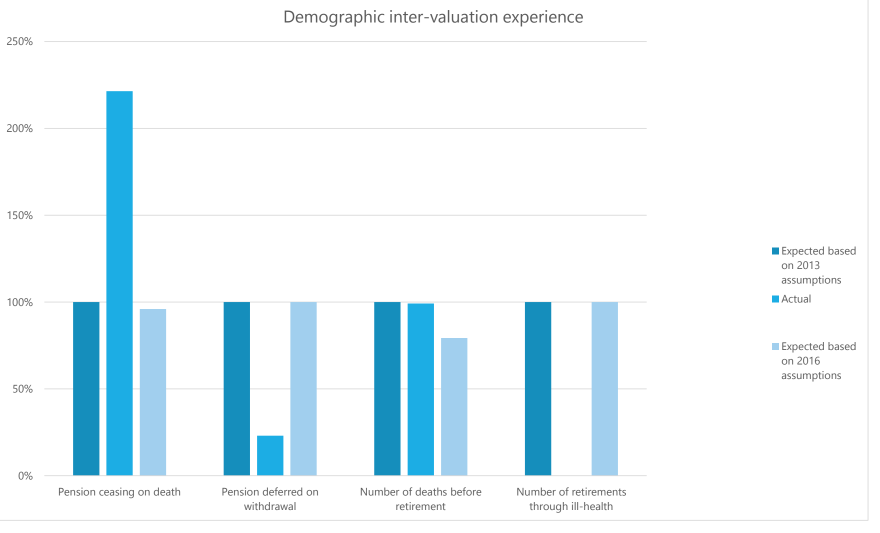
The total increase in the deficit due to changes in the assumptions (i.e. changes in market conditions, changes in financial assumptions and changes in demographic assumptions is £3,389,000 as illustrated below.



At the previous valuation the total contribution rate required to meet the cost of accruing pension was 27.5% pa. The average age of contributing members, when weighted by Pensionable Pay, has increased since 2013 which means that the contribution rate increases as a percentage of Pensionable Pay, all other things being equal. Using this time's funding assumptions the equivalent rate at 31 March 2016 is 33.5% pa. The allowance for expenses included in the total contribution rate has been increased to 3.5% pa (compared to 2.0% pa in 2013) to reflect actual experience.

Comparing experience with assumptions

A comparison of the actual demographic experience of members of the Fund over the intervaluation period, with that assumed by the assumptions adopted at the last valuation in 2013, is shown in the graph below. The graph also shows how the assumptions adopted for this valuation would have compared with those adopted at 2013.



Valuations on other bases – neutral estimate

The liability value as set out in the previous section is known as the Fund's "funding target" and should be consistent with the Administering Authority's Funding Strategy Statement. However, as part of the valuation, we have also considered an estimate of the liabilities represented with all margins for prudence removed (the "neutral estimate").

The neutral basis is set with the main purpose of providing the Administering Authority with an idea of the level of prudence contained within the funding basis. The neutral estimate represents our best estimate of the funding position, in other words, we believe that it is equally likely that the Fund will beat or miss the funding target based on the neutral assumptions derived.

For the assumptions used for the funding basis, it is appropriate to include a margin for prudence to protect against the risk of not meeting the funding target and to essentially build a cushion for future adverse experience.

The neutral estimate does not contain any margins for prudence.

The funding basis includes an allowance for prudence in the discount rate, commutation and mortality assumptions. The discount rates on the neutral basis are 7.3% p.a. pre-retirement, and for post-retirement are 2.3% p.a. for current pensioners and 2.9% p.a. for non-pensioners. These assumptions compare to 5.8% p.a. pre-retirement, and for post-retirement 2.15% p.a. for current pensioners and 2.70% p.a. for non pensioners under the ongoing funding assumptions. I have also allowed for 90% of members to take maximum cash at retirement and have made an adjustment of 130% to the S2 mortality tables. All other assumptions are the consistent with the ongoing funding basis.

The funding level on the neutral basis was 96%.

Projected future results

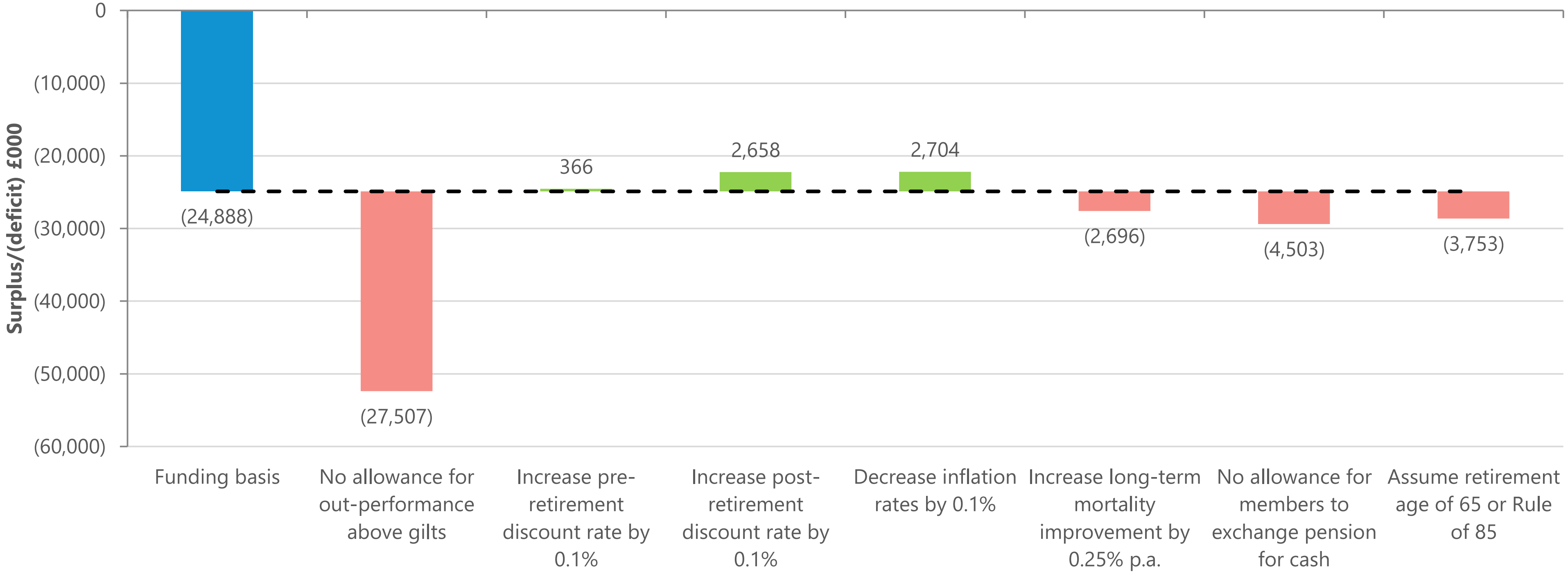
The progression of the funding level over time is influenced by a large number of factors, including the experience of the Fund's membership, the investment return achieved and the contributions paid.

If the assumptions used for the valuation are borne out in practice and contributions are paid in accordance with the Rates and Adjustments certificate, I estimate that 3 years after the valuation date (i.e. at the next valuation) the funding position will have improved, but not to the extent that the Fund would be fully funded.

4 Sensitivity analysis

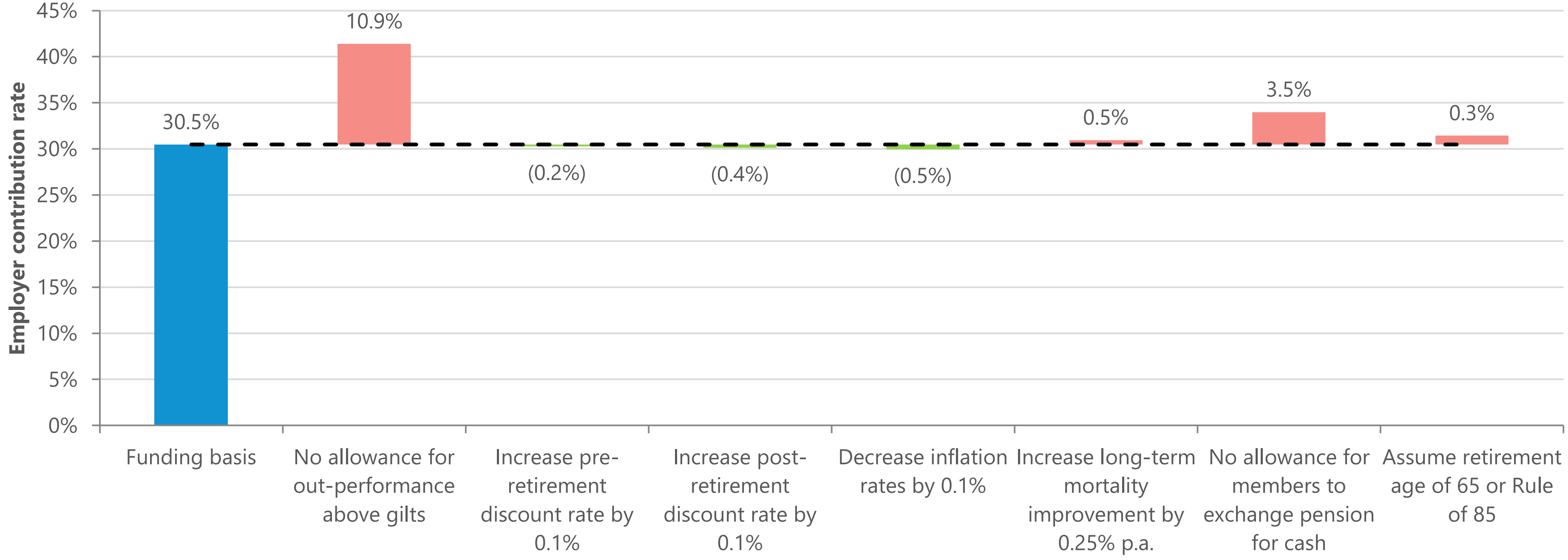
Sensitivities to the liabilities

The results set out in this report are based on a particular set of assumptions. The actual cost of providing the benefits will depend on the actual experience, which could be significantly better or worse than assumed. The sensitivity of the results to some of the key assumptions is shown below. The figures in the chart are shown relative to the deficit of £24,888,000 and the data labels on each bar show the absolute change in deficit.



Sensitivities to the Employer contribution rate (primary rate)

The calculated contribution rate required to fund benefits as they are earned from year to year will also be affected by the particular set of assumptions chosen. The sensitivity of the primary rate to changes in some key assumptions is shown below.



5 Final comments

Funding Strategy Statement

The assumptions used for the valuation must be documented in a revised Funding Strategy Statement to be agreed between the Fund Actuary and the Administering Authority. We have already provided comment to the Authority on the Statement.

Risks

There are many factors that affect the Fund's funding position and could lead to the Fund's funding objectives not being met within the timescales expected. Some of the key risks that could have a material impact on the Fund are:

- Employer covenant risk
- Investment risk
- Inflation risk
- Mortality risk
- Member options risk
- Legislative risk

Sensitivity to some of these risks was set out in section 4. Please note that this is not an exhaustive list. Further information on these risks and more can be found in our initial results report and will be set out in greater detail in the Funding Strategy Statement.

Rates and Adjustment Certificate

The contributions payable in respect of benefit accrual, expenses and any deficit contributions under the Employer's recovery period have been set out in Appendix 3 in the Rates and Adjustments Certificate in accordance with Regulation 62 of the Regulations. In this certificate no allowance will be made for additional costs arising which need to be met by additional contributions by the Employer such as non-ill health early retirements.

The Employer has agreed to pay deficit contributions to meet the Scheme's deficit in line with the previously agreed contribution payment schedule as set out on page 5 of this report, with an additional lump sum payment of £1.15 million to be made on 31 March 2024.

This document has been agreed between the Administering Authority and the Fund Actuary. Contributions have been set that in our opinion meet the regulatory requirements and the funding objectives set out in the Fund's Funding Strategy Statement.

The next formal valuation is due to be carried out as at 31 March 2019 however we would recommend that the financial position of the Fund is monitored regularly during the period leading up to the next formal valuation.

BA Thompson

Barbara-Ann Thompson FIA
Associate, Barnett Waddingham LLP

Appendix 1 Summary of membership data

A summary of the membership data used in the valuation is as follows. The membership data from the previous valuation is also shown for comparison.

Active Members

	31 March 2016			31 March 2013		
	Number	Average age	Pensionable Pay[1] £000s pa	Number	Average age	Pensionable Pay[2] £000s pa
Males	175	56	4,509	275	56	6,101
Females	10	52	244	17	54	406
	185	56	4,752	292	56	6,507

Deferred Members

	31 March 2016			31 March 2013		
	Number	Average age	Pension at Valuation Date £000s pa	Number	Average age	Pension at Valuation Date £000s pa
Males	336	55	1,130	398	53	1,352
Females	57	53	159	63	52	178
	393	55	1,288	461	53	1,530

Pensioner Members

	31 March 2016			31 March 2013		
	Number	Average age	Pension at Valuation Date £000s pa	Number	Average age	Pension at Valuation Date £000s pa
Males	1,221	68	7,993	1,151	67	7,131
Females	312	66	1,077	242	65	752
	1,533	68	9,070	1,393	66	7,883

- The numbers relate to the number of records and so will include members in receipt of, or potentially in receipt of, more than one benefit.
- Annual pensions are funded items only and include pension increases up to and including the 2016 pension increase order.
- Pensionable Pay is actual earnings.

In the table below we have set out the number of members who are assumed to reach retirement age over the period from 1 April 2016 to 31 March 2020 as required under the Rates and Adjustment Certificate.

Members may retire for a number of reasons including reaching normal retirement age, retiring through ill health or redundancy. The amounts set out in the table below are the new retirement benefit amounts, as at the current valuation date, that are assumed to come into payment in each of the intervaluation years.

Projected new benefits

Year to	Number of members	Retirement benefits £000s
31 March 2017	51	1,472
31 March 2018	49	1,066
31 March 2019	46	1,152
31 March 2020	41	960

[1] Based on salary definition in force at the valuation date.

Appendix 2 Actuarial assumptions

	31 March 2013 (non pensioner/pensioner)[2]	31 March 2016 (non pensioner/pensioner)[2]
Pre-retirement discount rate	6.60% pa	5.80% pa
Post-retirement discount rate	3.60% pa / 2.80% pa	2.70% pa / 2.15% pa
Retail Prices Index inflation (RPI)	3.60% pa / 3.40% pa	3.25% pa / 2.75% pa
Consumer Prices Index inflation (CPI)	2.70% pa / 2.50% pa	2.35% pa / 1.85% pa
Salary inflation	3.60% pa	3.25% pa
Mortality table	120% S1PA	120% S2PA
Ill health mortality table	120% S1PA + 6 years	120% S2PA + 6 years
Mortality projections	CMI_2012 Long term rate of improvement 1.0% pa	CMI_2015 Long term rate of improvement 1.25% pa
Age difference between husbands and wives	Males 3 years older	
Proportion married/leaving a dependant at retirement or earlier death	80% males 70% females	75% males 70% females
Allowance for early retirements	Members to retire at age 65 or the age they meet the rule of 85 plus one year if earlier. Allowance made for tapering. No allowance for early retirement for CARE benefits which are payable from State Pension Age.	
Allowance for withdrawals	See below	
Allowance for cash commutation	70% of members elect to take maximum cash	
Allowance for ill health retirements	See below	

[2] Average term of non-pensioner liabilities is approximately 19 years, average term of pensioner liabilities is approximately 12 years.

Withdrawals

An allowance is made for a certain proportion of active members to leave service each year before reaching Normal Pension Age in line with the following rates to the right.

Withdrawal statistics				
Age	**Male Officers**	**Female Officer**	**Male Manuals**	**Female Manuals**
20	0.1280	0.1300	0.1020	0.1900
25	0.0880	0.1540	0.1000	0.2020
30	0.0500	0.1380	0.0720	0.1720
35	0.0320	0.0840	0.0520	0.1340
40	0.0240	0.0540	0.0400	0.1000
45	0.0180	0.0380	0.0320	0.0720
50	0.0140	0.0260	0.0240	0.0480
55	0.0100	0.0160	0.0180	0.0280
60	0.0080	0.0080	0.0140	0.0140

Ill – health retirements

25% of the rates set out below:

On ill-health retirement of active members, members are assumed to be eligible for the higher tier of benefit with a 15% probability. No allowance is made for the "third-tier" of benefits.

Ill health statistics				
Age	**Male Officers**	**Female Officer**	**Male Manuals**	**Female Manuals**
19	0.0000	0.0000	0.0000	0.0000
24	0.0001	0.0001	0.0007	0.0005
29	0.0003	0.0005	0.0020	0.0010
34	0.0006	0.0011	0.0038	0.0018
39	0.0012	0.0021	0.0061	0.0032
44	0.0028	0.0038	0.0091	0.0060
49	0.0063	0.0079	0.0137	0.0110
54	0.0125	0.0169	0.0230	0.0200
59	0.0217	0.0316	0.0405	0.0340

Appendix 3 Rates and Adjustment Certificate

Regulatory background

In accordance with Regulation 62 of the Local Government Pension Scheme Regulations we have made an assessment of the contributions that should be paid into the Fund by the Employer for the period 1 April 2017 to 31 March 2020.

The method and assumptions used to calculate the contributions set out in the Rates and Adjustments certificate are detailed in the Funding Strategy Statement and in our report on the actuarial valuation dated 16 March 2017.

The primary rate of contribution as defined by Regulation 62(5) for the Employer for the period 1 April 2017 to 31 March 2020 is set out below. The primary rate is the cost of benefits accruing in each of the three years beginning 1 April 2017. In addition the Employer pays a secondary contribution as required under Regulation 62(7) that when combined with the primary rate results in the contributions as set out below.

Contribution rate summary

The primary rate for the Fund is 30.5% of payroll.

The Employer has agreed to pay contributions over the period 1 April 2017 to 31 March 2020 as follows:

In respect of benefits earned from year to year:	to 31 March 2018:	29.5% of payroll
	to 31 March 2019:	30.5% of payroll
	to 31 March 2020:	31.5% of payroll
In respect of the funding deficit:	£3.25 million to be paid on 31 March 2018	
	£3.5 million to be paid on each of 31 March 2019 and 31 March 2020.	

General notes

The Employer may pay further amounts at any time and future periodic contributions, or the timing of contributions, may be adjusted on a basis approved by us as the Fund Actuary. The Administering Authority, with the advice from us as the Fund Actuary may allow some or all of these contributions to be treated as a prepayment and offset against future certified contributions.

The certified contributions include an allowance for expenses and the expected cost of lump sum death benefits but exclude early retirement strain and augmentation costs which are payable by the employer in addition.