



Royal Borough of Greenwich Pension Fund

Actuarial valuation as at 31 March 2019

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Introduction

We have been asked by Royal Borough of Greenwich, the administering authority for the Royal Borough of Greenwich Pension Fund (the Fund), to carry out an actuarial valuation of the Fund as at 31 March 2019. The Fund is part of the Local Government Pension Scheme (LGPS), a defined benefit statutory scheme administered in accordance with the Local Government Pension Scheme Regulations 2013 (the Regulations) as amended.

The purpose of the valuation is to review the financial position of the Fund and to set appropriate contribution rates for each employer in the Fund for the period from 1 April 2020 to 31 March 2023 as required under Regulation 62 of the Regulations. 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 also to cover the cost of benefits that active members will build up in the future.

This report is provided further to earlier advice dated 11 October 2019 and 14 January 2020 which set out the background to the valuation and explained the underlying methods and assumptions derivation.

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 complies with Technical Actuarial Standards (TASs) issued by the Financial Reporting Council – in particular TAS 100: Principles for Technical Actuarial Work and TAS 300: Pensions.

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

Contents

4	Executive summary
5	Background to valuation approach
8	Results
11	Reconciliation to the previous valuation
14	Sensitivities to the liabilities
15	Sensitivities to the primary contribution rate
16	Final comments
19	Appendix 1 Summary of membership data and benefits
21	Appendix 2 Summary of assumptions
25	Appendix 3 Dashboard
27	Appendix 4 Rates and Adjustments Certificate

Executive summary

Some of the key results contained within this report are set out below:

1. Funding position

Using the agreed assumptions, the Fund had assets sufficient to cover 97% of the accrued liabilities as at 31 March 2019, an increase from 91% as at 31 March 2016. This has been mainly due to strong investment returns achieved by the Fund and deficit contributions paid by employers. However, the gains in the funding position have been partially offset by a reduction in future anticipated returns.

2. Contributions

The average primary rate has increased from 14.5% to 16.6% of payroll p.a. Secondary contributions have typically decreased due to the improved funding level. Total contributions have been kept stable where possible. Secondary contributions have been set to pay off any deficit over a maximum period of 17 years. Individual employer contributions are set out in Appendix 4 in the Rates and Adjustments Certificate to cover the period from 1 April 2020 to 31 March 2023.

3. Method and assumptions

The resulting method and assumptions are set out in Appendix 2 and we believe they are appropriate for the 31 March 2019 valuation.

4. McCloud

Regulatory uncertainties have put upward pressure on the 2019 valuation results. An allowance for McCloud/Sargeant has been made in the discount rate and more detail is included within this report.

5. Next valuation

Despite the consultation to move local actuarial valuations to a quadrennial cycle, the next actuarial valuation should be carried out with an effective date of 31 March 2022.

Background to valuation approach

The purpose of the 2019 actuarial valuation is to set appropriate contribution rates for each employer in the Fund for the period from 1 April 2020 to 31 March 2023, as required under Regulation 62 of the LGPS Regulations.

The contribution rates consist of two elements, the primary rate and the secondary rate:

- The primary rate for each employer is the employer's future service contribution rate (i.e. the rate required to meet the cost of future accrual of benefits) expressed as a percentage of pay.
- The secondary rate is an adjustment to the primary rate to arrive at the total rate each employer is required to pay (for example, to allow for deficit recovery). The secondary rate may be expressed as a percentage of pay or a monetary amount.

Regulation 62 specifies four requirements that the actuary "must have regard" to and these are detailed below:

1. The existing and prospective liabilities arising from circumstances common to all those bodies
2. The desirability of maintaining as nearly a constant a primary rate as possible
3. The current version of the administering authority's Funding Strategy Statement (FSS)

4. The requirement to secure the "solvency" of the pension fund and the "long-term cost efficiency" of the Scheme, so far as relating to the pension fund

The wording of the second objective is not ideal in that it appears to be aimed towards the primary rate rather than taking into account the surplus or deficit of the employer. We believe that if we achieve reasonably stable total individual employer rates (which seems like a preferable objective) then we will also meet the regulatory aim.

Definitions for "solvency" and "long-term cost efficiency" are included in CIPFA's Funding Strategy Statement guidance. These can be briefly summarised as:

- ensuring that employers are paying in contributions that cover the cost of benefit accrual and target a fully funded position over an appropriate time period using appropriate actuarial assumptions, and
- that employers have the financial capacity to increase contributions (or there is an alternative plan in place) should contributions need to be increased in future.

We have considered these four requirements when providing our advice and choosing the method and assumptions used and a number of reports and discussions have taken place with the administering authority before

agreeing the final assumptions to calculate the results and set contribution rates. In particular:

- The initial results report dated 11 October 2019 which provides information and results on a whole fund basis as well as more detailed background to the method and derivation of the assumptions
- The follow up report dated 14 January 2020 confirming the agreed actuarial assumptions following the meeting of 21 October 2019 and supplementary email on 30 October 2019 to revise our advice by amending an element of the future projections model of the mortality assumption
- The Funding Strategy Statement which will confirm the approach in setting employer contributions

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

The final assumptions have been agreed with the administering authority. We suggest that the Fund's Funding Strategy Statement is reviewed to ensure that it is consistent with this approach as well as complying with the updated version of CIPFA's Funding Strategy Statement guidance.

We confirm that in our opinion the agreed assumptions are appropriate for the purpose of the valuation. Assumptions in full are set out in Appendix 2.

Regulatory uncertainties

There are currently a few important regulatory uncertainties surrounding the 2019 valuation as follows:

- Effect of the McCloud and Sargeant cases and the cost cap on the future and historic LGPS benefits structure
- Change in timing of future actuarial valuations from a triennial cycle
- Guaranteed Minimum Pensions (GMP) equalisation

Although it is unclear what impact these uncertainties will have on the future benefits of individual members, we have considered these issues in the assumptions used to set the contribution rates for employers. We have made an allowance for the McCloud/Sargeant cases in our derivation of the discount rate and our approach taken to the treatment of McCloud/Sargeant will be disclosed in the Funding Strategy Statement.

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 set out in the Regulations as amended and summarised on the [LGPS website](#) and the Fund's membership booklet. We have made no allowance for discretionary benefits.

Valuation of liabilities

To calculate the value of the liabilities, we estimate the future cashflows that will be made to and from the Fund throughout the future lifetime of existing active members, deferred benefit members, pensioners, and their dependants. We then discount these projected cashflows using the discount rate which is essentially a calculation of the amount of money which, if invested now, would be sufficient together with the income and growth in the accumulating assets to make these payments in future, using our assumption about investment returns.

This amount is called the present value (or, more simply, the value) of members' benefits. Separate calculations are made in respect of benefits arising in relation to membership before the valuation date (past service) and for membership after the valuation date (future service).

To produce the future cashflows or liabilities and their present value we need to formulate assumptions about the factors affecting the Fund's future finances such as inflation, salary increases, investment returns, rates of mortality, early retirement and staff turnover etc.

The assumptions used in projecting the future cashflows in respect of both past service and future service are summarised in Appendix 2.

Assets

We have been provided with audited Fund accounts for each of the three years to 31 March 2019.

The market asset valuation as at 31 March 2019 was £1,332,469,000. Please note that this excludes members' additional voluntary contributions (AVCs).

For the purposes of the valuation, we use a smoothed value of the assets rather than the market value. The financial assumptions that we use in valuing the liabilities are smoothed around the valuation date so that the market conditions used are the average of the daily observations over the period 1 January 2019 to 30 June 2019. Therefore we value the assets in a consistent way and apply the same smoothing adjustment to the market value of the assets.

The smoothed asset valuation as at 31 March 2019 was £1,326,000,000. This was based on a smoothing adjustment of 99.5%.

The Fund's long-term investment strategy has been taken into consideration in the derivation of the discount rate assumption. The investment strategy is set out in the Fund's Investment Strategy Statement (ISS) that should be made publicly available on the Fund's website.

Previous valuation

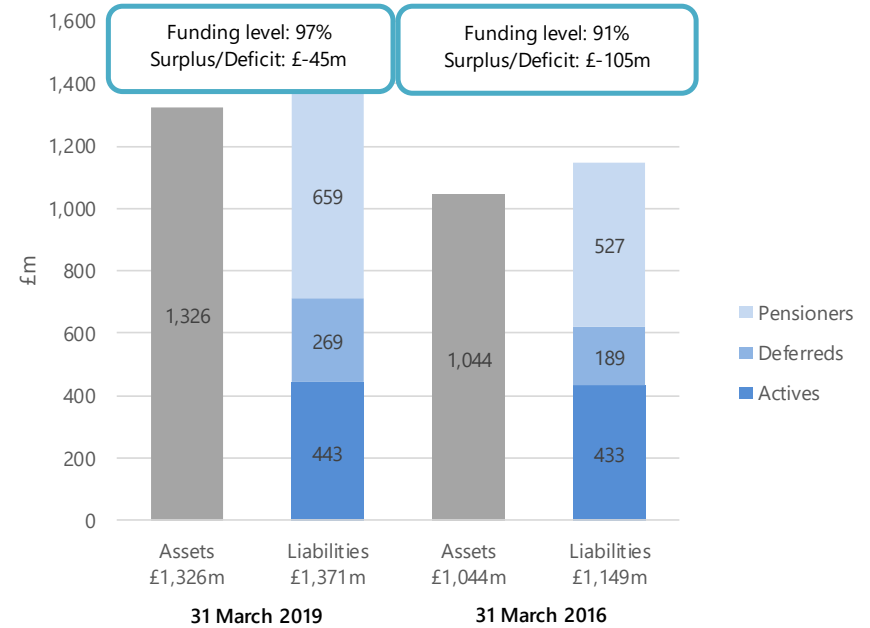
The previous valuation was carried out as at 31 March 2016 by Alison Hamilton FFA and Ross Anderson FFA. The results are summarised in the valuation report dated 31 March 2017 and reported a deficit of £105,000,000.

Results

Funding position

A comparison is made of the value of the existing assets with the value of the accrued liabilities. If there is an excess of assets over the liabilities then there is a surplus. If the converse applies there is a deficit.

Using the assumptions summarised in Appendix 2, the results of the valuation in terms of funding position are set out in the following graph. This shows how well funded the Fund was at the current and previous valuation dates.



There was a deficit of £45,000,000 in the Fund at the valuation date, corresponding to a funding level of 97%.

Contribution rates

The total contribution rate payable by employers consists of two elements: the primary rate and the secondary rate.

Primary rate

Using the assumptions summarised in Appendix 2, the resulting average primary rate across the whole Fund is set out in the table below after allowing for member contributions.

The primary rate for the whole Fund is the weighted average (by Pensionable Pay) of the individual employers' primary rates (after allowing for member contributions).

Primary rate	Valuation basis 31 March 2019 % of payroll p.a.	Previous valuation 31 March 2016 % of payroll p.a.
Average total future service rate	23.3%	21.3%
Less average member rate	-6.7%	-6.8%
Fund primary rate	16.6%	14.5%

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

Please note that expenses are dealt with in the derivation of the discount rate and therefore we make no explicit allowance in the primary rate for expenses.

Secondary rate

The secondary rate is an adjustment to the primary rate to arrive at the total rate each employer is required to pay (for example, to allow for deficit recovery). Where there is a deficit, contributions should be set to restore the funding positions to 100% over an agreed "recovery period".

Please note that the recovery period for individual employers varies across the Fund but the administering authority will set out their approach in their FSS to setting recovery periods to address each employer's shortfalls. Where there is a surplus, in line with the Fund's FSS, this may be reflected in contribution rates.

The primary and secondary rate of the individual employer contributions payable are set out in the Rates and Adjustments Certificate in Appendix 4. These will differ from the primary rate set out above as well as varying from each other as they are either based on the employer's own membership and experience or they are the employer's share of the contributions payable within a pool of employers.

The secondary contributions agreed with individual employers have been set at this valuation in order to restore the Fund to a funding position of 100% by 31 March 2037.

In Appendix 4 we also disclose the sum of the secondary rates for the whole Fund for each of the three years beginning 1 April 2020.

Standardised basis

As part of our calculations we have considered the results on a standardised basis as set by the Scheme Advisory Board (SAB). We are required to provide the Scheme Advisory Board with the results for the Fund for comparison purposes.

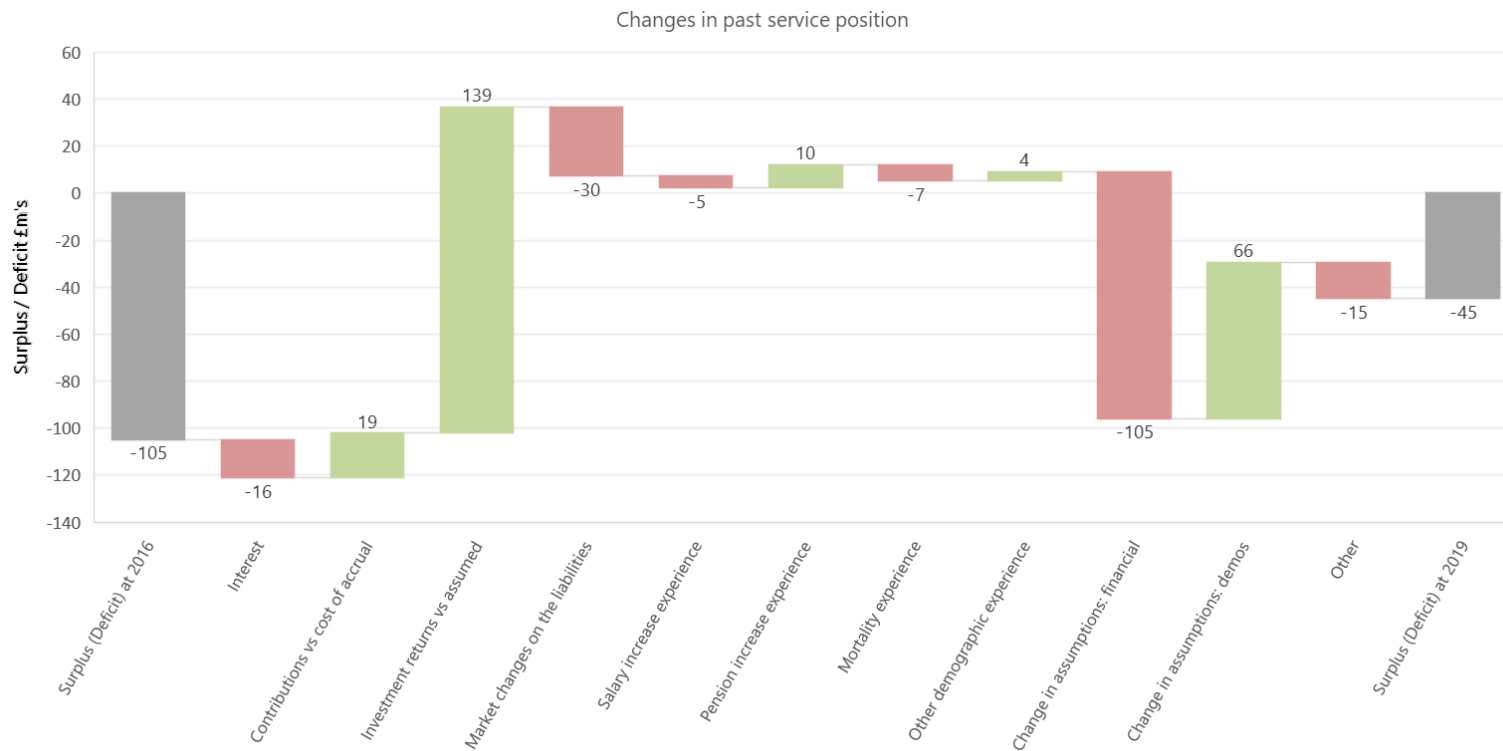
The standardised basis is set by the Government Actuary's Department (GAD) with some of the assumptions used being set locally (such as mortality) and some are set at Scheme level (including all the financial assumptions). It is not used to set contributions as it does not reflect the Fund's investment strategy or the administering authority's attitude to risk; contributions are set using the funding basis.

The results on the standardised basis as at 31 March 2019 are set out in the dashboard in Appendix 3. The dashboard has been introduced since the previous valuation to assist readers to compare LGPS valuation reports and the information will be used by GAD in their Section 13 review of the LGPS funds.

Reconciliation to the previous valuation

Funding position

The previous valuation revealed a deficit of £105,000,000. The key factors that have influenced the funding level of the Fund over the period are illustrated in the chart below.



Experience

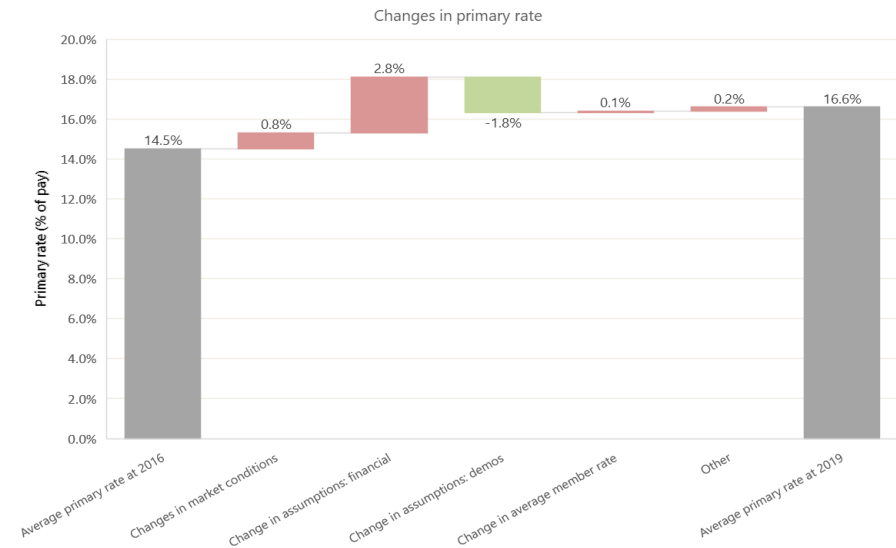
- Investment returns have been strong since 2016 leading to a profit of £139m. The Fund has returned over 9.4% p.a. compared to the assumed return of 5.5% p.a. over the three year period. Please note that the assumed return is a long-term assumption.
- Contributions paid were slightly higher than the cost of benefits accrued as the employers made deficit contributions resulting in a profit of £19m.
- Salary increases were greater than assumed with some offset from pension increases being less than assumed resulting in a net profit of £5m. The overall impact of other demographic experience was neutral.

Assumptions

- A review of the approach when setting the financial assumptions combined with the change in market conditions resulting in an increase in the liabilities of £135m
- Updating the mortality assumptions to allow for a fall in future life expectancies resulting in a decrease in the liabilities of £66m

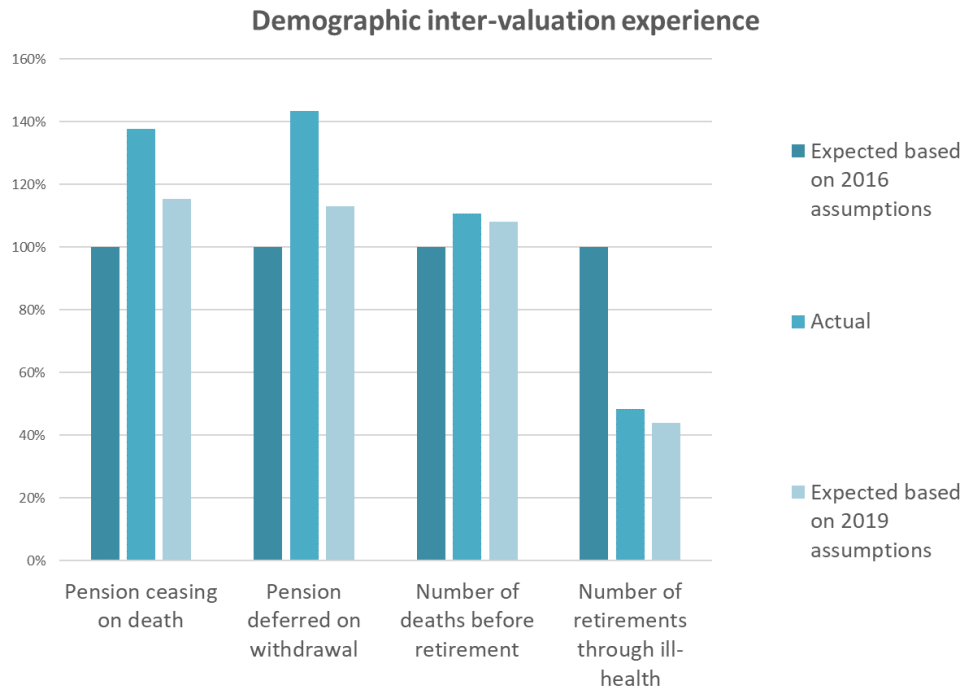
Primary contribution rate

The previous valuation resulted in an average primary rate of 14.5% of Pensionable Pay. The reasons for the change in the cost of future benefit accrual are set out in the reconciliation chart below.



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 2016 is shown in the graph below. The graph also shows how the assumptions adopted for this valuation would have compared with those adopted at 2016.



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 set out in the table below.

The figures in the table are shown relative to the deficit of £45,000,000 and funding level of 97% on the agreed funding basis.

Sensitivity analysis - Past service funding position

Valuation basis	Decrease discount rate by 0.1% p.a.	Increase CPI inflation by 0.1%	Increase salary assumption by 0.5%	Increase long-term rate of mortality improvement by 0.25%	Increase initial addition to mortality improvement by 0.5%	Twice as many ill-health retirements
£m	£m	£m	£m	£m	£m	£m
Smoothed asset value	1,326	1,326	1,326	1,326	1,326	1,326
Total past service liabilities	1,371	1,392	1,377	1,381	1,386	1,376
Surplus (Deficit)	-45	-66	-51	-55	-60	-50
Funding level	97%	95%	96%	96%	96%	96%

Sensitivities to the primary contribution rate

The calculated primary 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. Please note that the primary rate set out below does not include any adjustment via the secondary rate. The total contribution rate payable by employers will be a combination of the primary rate and a secondary rate adjustment, further details can be found in Appendix 4.

The figures in the table are shown relative to the primary rate of 16.6% of Pensionable Pay on the agreed funding basis.

Sensitivity analysis - Primary rate

	Valuation basis	Decrease discount rate by 0.1% p.a.	Increase CPI inflation by 0.1%	Increase salary assumption by 0.5%	Increase long-term rate of mortality improvement by 0.25%	Increase initial addition to mortality improvement by 0.5%	Twice as many ill-health retirements
	% of pay	% of pay	% of pay	% of pay	% of pay	% of pay	% of pay
Total future service rate	23.3%	23.9%	23.5%	23.4%	23.5%	23.5%	24.0%
less employee contribution rate	-6.7%	-6.7%	-6.7%	-6.7%	-6.7%	-6.7%	-6.7%
Total primary rate	16.6%	17.2%	16.8%	16.7%	16.8%	16.8%	17.3%

Final comments

Funding Strategy Statement (FSS)

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.

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
- Regulatory risk

Sensitivity to some of these risks were set out in the sensitivities section of this report. 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 Adjustments Certificate

The contributions payable in respect of benefit accrual and any deficit contributions under each employer's recovery period have been set out in Appendix 4 in the Rates and Adjustments Certificate in accordance with Regulation 62 of the Regulations and cover the period from 1 April 2020 to 31 March 2023. 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 contributions in the Rates and Adjustments Certificate are set so that each employer's assets (including future contributions) are projected to be sufficient to cover the benefit payments for their members, on the assumptions set out in this report. Where there is currently a deficit for an individual employer, recovery of this deficit is targeted in line with the Fund's FSS and all employers are projected to be fully funded after a recovery period length of no more than 17 years.

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

This report must be made available to members on request.

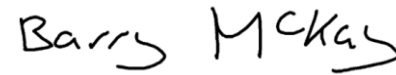
Post valuation events

Since the valuation date there has been some very significant movement in investment markets and in particular over the three months to 31 March 2020, largely driven by the COVID-19 crisis. However, our funding model is designed to help withstand short-term volatility in markets as it is a longer-term model and we also use smoothed assumptions over a six-month period with the ultimate aim of setting stable contributions for employers. Therefore, although the falls in equity and corporate bond markets have been significant, the ongoing funding position under our model will not have fallen to the same extent, as the model helps to mitigate some of the impact of extreme events.

Due to the timing of these movements in the valuation process and the anticipated effect on the ongoing funding position, please note that no adjustments have been made to the valuation results or to the employer contributions previously agreed. The results are based on the position as at 31 March 2019 and this information on “post valuation events” is provided for information only.

We will continue to monitor the Fund’s funding position and raise any individual employer cases with the Fund that we consider need any special attention. The impact of the COVID-19 crisis will be fully considered as part of the 2022 valuation when we revisit employer contributions.

The next formal valuation is due to be carried out as at 31 March 2022. However, we would recommend that the financial position of the Fund is monitored regularly during the period leading up to the next formal valuation. We would be happy to give more detail about the ways that this can be achieved.



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Appendices

Appendix 1 Summary of membership data and benefits

Membership data

The membership data has been provided to us by the administering authority on behalf of the Fund's administrators. We have relied on information supplied by the administering authority being accurate. A summary of the membership data is included below and data from the previous valuation is also shown for comparison.

The membership data has been checked for reasonableness and we have compared the membership data with information in the Fund's accounts. The numbers in the tables to the right relate to the number of records and so will include members in receipt of, or potentially in receipt of, more than one benefit.

Any missing or inconsistent data has been estimated where necessary. Whilst 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.

Membership summary

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. The 2019 average ages are weighted by liability calculated on the funding basis, while the 2016 average ages are unweighted.

Active members						
	31 March 2019			31 March 2016		
	Number	Pensionable pay £ms	Average age	Number	Pensionable pay £ms	Average age
Males	2,474	72	54	2,442	70	46
Females	6,523	123	53	6,285	116	46
Total	8,997	194	54	8,727	186	46
Deferred members (including undecided)						
	31 March 2019			31 March 2016		
	Number	Current Pension £ms	Average age	Number	Current Pension £ms	Average age
Males	2,997	7	53	2,336	5	47
Females	7,168	11	52	4,983	7	46
Total	10,165	18	52	7,319	13	46
Pensioner and dependant members						
	31 March 2019			31 March 2016		
	Number	Current Pension £ms	Average age	Number	Current Pension £ms	Average age
Males	2,723	24	68	2,520	21	71
Females	4,310	22	68	3,772	17	71
Total	7,033	46	68	6,292	38	71

Projected retirements

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 2019 to 31 March 2023 as required under the Regulations.

Projected new benefits		
Year to	Number of members	Retirement benefits £000's
31/03/2020	312	2,019
31/03/2021	124	1,072
31/03/2022	228	2,386
31/03/2023	242	2,332

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.

Allowance for GMP equalisation

On 26 October 2018 the judgement was published for the Lloyds Banking Group Pensions Trustees Ltd vs Lloyds Bank Plc & Ors on how their Guaranteed Minimum Pensions (GMPs) should be equalised. However, HM Treasury (HMT) have confirmed that the GMP judgement “does not impact

on the current method used to achieve equalisation and indexation in public service pension schemes”, which is set out here:

www.gov.uk/government/consultations/indexation-and-equalisation-of-gmp-in-public-service-pension-schemes/consultation-on-indexation-and-equalisation-of-gmp-in-public-service-pension-schemes

On 22 January 2018 the Government published the outcome to its indexation and equalisation of GMP in public service pension schemes consultation, concluding that the requirement for public service pension schemes to fully price protect the GMP element of individuals' public service pension would be extended to those individuals reaching State Pension Age (SPA) before 6 April 2021. HMT published a Ministerial Direction on 4 December 2018 to implement this outcome, with effect from 6 April 2016.

The assumption made at the 2019 valuation is that funds pay limited increases for members that have reached SPA by 6 April 2016, with the Government providing the remainder of the inflationary increase and that funds will be required to pay the full indexation on GMPs for those attaining SPA after 6 April 2016. This effectively assumes that the Government extends their current policy indefinitely and we believe this is a sensible approach to making an interim allowance for GMP equalisation.

Appendix 2 Summary of assumptions

A summary of the assumptions adopted for the valuation at 31 March 2019 is set out below. The assumptions used in the previous valuation are also given below for comparison.

Summary of financial assumptions

Assumptions	Assumptions used for the 2019 valuation	Assumptions used for the 2016 valuation
Financial assumptions		
Market date	31 March 2019	31 March 2016
CPI inflation	2.6% p.a.	2.4% p.a.
Salary increases		
<i>Short-term</i>	n/a	CPI to 31 March 2020
<i>Long-term</i>	3.6% p.a.	3.9% p.a.
Discount rate	5.0% p.a.	5.5% p.a.
Pension increases on GMP	Funds will pay limited increases for members that have reached SPA by 6 April 2016, with the Government providing the remainder of the inflationary increases. For members that reach SPA after this date, we have assumed that Funds are required to pay the entire inflationary increases	

Summary of demographic assumptions

Assumptions	Assumptions used for the 2019 valuation	Assumptions used for the 2016 valuation
Demographic assumptions		
Post-retirement mortality	Male / Female	Male / Female
<i>Member base tables</i>	S3PA_H	S2PA
<i>Member mortality multiplier</i>	90% / 95%	100.0%
<i>Dependant base tables</i>	S3DA	S2PA
<i>Dependant mortality multiplier</i>	100%	100.0%
<i>Projection model</i>	CMI 2018	CMI 2015
<i>Long-term rate of improvement</i>	1.25% p.a.	1.5% p.a.
<i>Smoothing parameter</i>	7.5	n/a
<i>Initial addition to improvements</i>	0.0% p.a.	n/a
Retirement assumption	Weighted average of each tranche retirement age	
Pre-retirement decrements	GAD 2016 scheme valuation with no salary scale with 125% multiplier for males and 100% multiplier for females, 50% IH decrement	GAD 2013 scheme valuation
50:50 assumption	Member data	Member data
Commutation	50% of maximum	50% of maximum
% members with qualifying dependant	75% / 70%	75% / 70%
Age difference	Males are 3 years older	Males are 3 years older

Demographic assumptions – sample rates

The following tables set out some sample rates of the demographic assumptions used in the calculations. These sample rates are based on those set by the Government Actuary's Department (GAD) based on analysis of the Local Government Pension Scheme (LGPS) in England and Wales.

Allowance for ill health early retirements

A small proportion of members are assumed to retire early due to ill health. In the table below we set out an extract of some sample rates from the GAD tables used:

Age	Males	Females
25	0.01%	0.00%
30	0.01%	0.01%
35	0.02%	0.01%
40	0.04%	0.03%
45	0.09%	0.06%
50	0.18%	0.13%
55	0.36%	0.28%
60	0.74%	0.62%
65	1.51%	1.34%

Please note the above rates are the raw decrements as set by GAD. Our assumption is that there will be 50% of the number of ill-health retirements assumed by GAD.

The proportion of ill-health early retirements falling into each tier category has been assumed to be as follows for both males and females:

Tier 1	Tier 2	Tier 3
75%	15%	10%

Death before retirement

A small number of members are assumed to die before reaching retirement age. In the table below we set out an extract of some sample rates from the GAD tables used:

Age	Males	Females
25	0.02%	0.01%
30	0.03%	0.01%
35	0.05%	0.02%
40	0.06%	0.03%
45	0.09%	0.05%
50	0.13%	0.08%
55	0.21%	0.12%
60	0.32%	0.19%
65	0.50%	0.29%

Please note the above rates are the raw decrements as set by GAD. We have applied a 125% multiplier for males to the rates assumed by GAD.

Allowance for withdrawals

This assumption is regarding active members who leave service to move to deferred member status. Active members are assumed to leave service at the following sample rates:

Age	Males	Females
25	9.21%	10.17%
30	7.25%	8.07%
35	5.70%	6.40%
40	4.48%	5.07%
45	3.53%	4.03%
50	2.78%	3.19%
55	2.18%	2.53%
60	1.72%	2.01%
65	1.35%	1.59%

Appendix 3 Dashboard

Past service funding position - local funding basis

Funding level (assets/liabilities)	97%
Funding level (change since previous valuation)	+6%
Asset value used at the valuation	£1,326,000,000
Value of liabilities	£1,371,000,000
Surplus (deficit)	-£45,000,000
Discount rate(s)	5.0% p.a.
Assumed pension increases (CPI)	2.6% p.a.

Method of derivation of discount rate, plus any changes since previous valuation	In line with page 10 of the Funding Strategy Statement
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Assumed life expectancies at age 65:

Average life expectancy for current pensioners - men currently age 65	21.2 years
Average life expectancy for current pensioners - women currently age 65	23.8 years
Average life expectancy for future pensioners - men currently age 45	22.7 years
Average life expectancy for future pensioners - women currently age 45	25.4 years

Past service funding position - SAB basis (for comparison purposes only)

Market value of assets	£1,332,469,000
Value of liabilities	£1,341,000,000
Funding level on SAB basis (assets/liabilities)	99%
Funding level on SAB basis (change since last valuation)	7%

Contribution rates payable

Primary contribution rate	16.6% of pay
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Secondary contribution rate (cash amounts in each year in line with CIPFA guidance)

Secondary contribution rate 2020/21	£3,646,000
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Secondary contribution rate 2021/22	£3,779,000
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Secondary contribution rate 2022/23	£3,916,000
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Giving total expected contributions:

Total expected contributions 2020/21 (£ figure based on assumed payroll)	£37,105,000	Based on assumed payroll of	£201,561,000
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Total expected contributions 2021/22 (£ figure based on assumed payroll)	£38,458,000	Based on assumed payroll of	£208,909,000
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Total expected contributions 2022/23 (£ figure based on assumed payroll)	£39,860,000	Based on assumed payroll of	£216,526,000
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Average employee contribution rate (% of pay)	6.7% of pay
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Employee contribution rate (£ figure based on assumed payroll)	£13,505,000 p.a.	Based on assumed payroll of	£201,561,000 p.a.
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Additional information

Percentage of liabilities relating to employers with deficit recovery periods longer than 20 years	0%
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Percentage of total liabilities that are in respect of Tier 3 employers	0%
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Appendix 4 Rates and Adjustments 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 participating employers for the period 1 April 2020 to 31 March 2023.

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 our report on the actuarial valuation dated 31 March 2020.

The primary rate of contribution as defined by Regulation 62(5) for each employer for the period 1 April 2020 to 31 March 2023 is set out in the table overleaf. The primary rate is the employer's contribution towards the cost of benefits accruing in each of the three years beginning 1 April 2020. In addition each employer pays a secondary contribution as required under Regulation 62(7) that when combined with the primary rate results in the minimum total contributions as set out below. This secondary rate is based on their particular circumstances and so individual adjustments are made for each employer.

Secondary rate summary

The secondary rates across the entire Fund (as a percentage of projected Pensionable Pay and as a monetary amount) in each of the three years in the period 1 April 2020 to 31 March 2023 is set out in the table below.

Secondary Contributions	2020/21	2021/22	2022/23
Total as a % of payroll	1.8%	1.8%	1.8%
Equivalent to total monetary amounts of	£3,645,786	£3,778,703	£3,916,465

The average percentage of Pensionable Pay shown is based on the deficit contributions on a whole Fund level, paid over a maximum 17 year deficit recovery period. The total monetary amounts reflect the individual employers' deficit recovery plans.

General notes

Employers 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 participating employers in addition.

The monetary amounts are payable in 12 monthly instalments throughout the relevant year unless agreed by the administering authority and an individual employer.

Employer Code	Employer name	Primary rate	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
		(% pay)	2020/21	2021/22	2022/23	2020/21	2021/22	2022/23
Greenwich Leisure related								
18	Greenwich Leisure Ltd	15.2%	1.2%	1.2%	1.2%	16.4%	16.4%	16.4%
46	Libraries Contract to Greenwich Leisure Ltd	15.2%	1.2%	1.2%	1.2%	16.4%	16.4%	16.4%
51	Adventure Play Contract to Greenwich Leisure Ltd	15.2%	1.2%	1.2%	1.2%	16.4%	16.4%	16.4%
57	GLL (Children's Centre East)	15.2%	1.2%	1.2%	1.2%	16.4%	16.4%	16.4%
58	GLL (Children's Centre South)	15.2%	1.2%	1.2%	1.2%	16.4%	16.4%	16.4%
Other admission bodies								
59	Homestart (Children's A)	17.3%	-	-	-	17.3%	17.3%	17.3%
61	Quaggy	18.6%	-	-	-	18.6%	18.6%	18.6%

Employer Code	Employer name	Primary rate (% pay)	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
			2020/21	2021/22	2022/23	2020/21	2021/22	2022/23
Academies								
31	St Paul's Academy	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
44	Halley Academy	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
47	Greenwich Free School	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
48	Charlton Park Academy	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
49	Eltham Harris Academy	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
50	Shooters Hill Academy	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
53	Royal Greenwich UTC	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
55	Crown Woods College	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
56	Woolwich Polytechnic	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
62	St Thomas More RC Catholic Comprehensive School	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
64	Endeavour Partnership Trust	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
65	Maritime Academy Trust	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
66	Int Academy of Greenwich	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
67	Inspire Partnership Trust	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%

Employer Code	Employer name	Primary rate (% pay)	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
			2020/21	2021/22	2022/23	2020/21	2021/22	2022/23
68	Compass Partnership of Schools	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
69	Greenwich Catholic School Trust	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
75	Leigh Academy Blackheath	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
Council related								
1	The Royal Borough of Greenwich	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
2	Joint Crematorium Committee	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
7	Greenwich Mencap	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
8	Woolwich Simba Project	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
19	Avante	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
20	Bridge 86 Ltd	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
21	St Marys Community Complex	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
23	West Greenwich House Community Centre	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
24	First Step Trust	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
25	Greenwich CDA	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
27	Advocacy in Greenwich	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%

Employer Code	Employer name	Primary rate (% pay)	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
			2020/21	2021/22	2022/23	2020/21	2021/22	2022/23
34	Sanctuary Housing Ltd	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
37	Glyndon Community Centre	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
40	Greenwich Service Plus	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
41	G4S	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
45	Charlton Athletic Community Trust	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
54	Heritage Trust	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
63	Oxleas NHS Foundation Trust (camhs)	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
70	Westgate Cleaning (St Marys)	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
72	May Harris Multi Services Ltd	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
73	Westgate Cleaning Sherington	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
74	Taylor Shaw	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
76	Taylor Shaw Nightingale	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
77	May Harris (Hawksmoor)	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
501	RBG Employer 501 Hawksmoor	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
502	RBG Employer 502 Discovery	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%

Employer Code	Employer name	Primary rate (% pay)	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
			2020/21	2021/22	2022/23	2020/21	2021/22	2022/23
504	RBG Employer 504 (Morden Mount)	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%
505	RBG Employer 505 (Eglinton)	16.6%	1.9%	1.9%	1.9%	18.5%	18.5%	18.5%

Post valuation employers

A number of employers joined the Fund on or after 1 April 2019 and their rates were certified at their date of joining and have been reviewed as part of the 2019 valuation process where necessary. The table summarises the contributions required from these employers from 1 April 2020. Other new employers joining the Fund (or existing employers taking on new contracts) will be notified of their required contributions separately.

Employer Code	Employer name	Primary rate (% pay)	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
			2020/21	2021/22	2022/23	2020/21	2021/22	2022/23
-	CACT Live Well	16.3%	-	-	-	16.3%	16.3%	16.3%
-	John Roan School	17.0%	1.5%	1.5%	1.5%	18.5%	18.5%	18.5%
-	Nourish Catering Ltd	22.5%	-4.0%	-4.0%	-4.0%	18.5%	18.5%	18.5%
80	Pacific Support Services	21.7%	-3.2%	-3.2%	-3.2%	18.5%	18.5%	18.5%