REPORT TO: **PENSION SUB-COMMITTEE OF THE CITY GOVERNANCE COMMITTEE & PENSION BOARD – 18 MARCH 2024**

REPORT ON: **TAYSIDE PENSION FUND ACTUARIAL VALUATION AT 31 MARCH 2023**

REPORT BY: **EXECUTIVE DIRECTOR OF CORPORATE SERVICES**

REPORT NO: **82-2024**

1 PURPOSE OF REPORT

This report updates the Sub-Committee on the Actuarial Valuation of Tayside Pension Fund at 31 March 2023.

2 RECOMMENDATION

Members are asked to note the information contained within this report and approve the actuarial recommendations contained in Appendix A.

3 FINANCIAL IMPLICATIONS

The purpose of the three yearly actuarial valuation is to ensure that the Pension Fund has sufficient resources to provide for their members' pensions and lump sum benefits. The contribution from employees is fixed by statute and the only adjustable variable at each valuation is the level of employer's contributions.

The outcome of the 2023 actuarial valuation is that the employer's contributions for financial years 2024/25, 2025/26 and 2026/27 will reduce from 17.0% to 15.7%, with exception of Travel Dundee where a fixed 40% employer contribution is applicable, and employers who choose to close the Fund to new members, where individual contribution rates will apply.

4 INTRODUCTION

An actuarial valuation is required every three years in accordance with Regulation 60 of the Local Government Pension Scheme (Scotland) Regulations 2014. Appendix A provides the full report of the actuarial valuation of Tayside Pension Fund undertaken as at 31 March 2023.

The main 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 2024 to 31 March 2027. Regulation 60 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 Scotland as a whole), so far as relating to the pension fund.

5 VALUATION PROCESS

The primary objective of the Fund is to provide for member's pension and lump sum benefits on their retirement or for their dependants on death before or after retirement.

Contributions are paid by the employees and employers into the Fund. The employees' contributions are fixed by statute. 1st April 2009 introduced the application of tiered banded contributions at various rates from 5.5% to 12%. The actuarial valuation determines the contributions payable by the employers.

The actuary values the assets and liabilities of the Fund to calculate whether the Fund has a surplus or a deficit. The level of the surplus or deficit determines how much the employer's contribution should be set at to balance the Funds position.

6 VALUATION OF ASSETS

To determine the value of assets, the actuary makes various assumptions about the level of returns that are going to be achieved by the Fund. The assumptions at 31 March 2023 in relation to the previous valuation are as follows:

	2023 Valuation		2020 Valuation	
Asset Class	Nominal Return % p.a.	Real Return (relative to CPI) % p.a.	Nominal Return % p.a.	Real Return (relative to CPI) % p.a.
Equities	6.5	3.8	6.40	4.00
Gilts	4.2	1.5	0.90	-1.50
Bonds	5.0	2.3	1.90	-0.50
Property	6.1	3.4	5.90	3.50

Additionally, an assumption is made of the level of additional contribution the Fund will receive due to increases in pay. The assumptions for pay increases at 31 March 2023 are as follows:

	2023 Valuation		2020 Valuation	
	Nominal Return % p.a.	Real Return (relative to CPI) % p.a.	Nominal Return % p.a.	Real Return (relative to CPI) % p.a.
Pay increases	3.7	1.00	3.40	1.00

7 VALUATIONS OF LIABILITIES

The valuation of the liabilities is made using assumptions on pension increases. The assumption at 31 March 2023 for pension increases is 2.7% per annum (2.4% at previous valuation). The cost of providing for benefits depends not only upon the amount but also the incidence of benefits paid i.e. at what point in the future benefits begin to be paid and how long they continue to be paid. The actuary uses statistical assumptions on the incidence of retirement, and mortality to calculate the incidence of benefits paid.

8 INTERVALUATION EXPERIENCE

The actual experience of the Tayside Pension Fund since the last valuation at 31 March 2020 also has an impact on the valuation. Overall the experience of the Fund compared to the assumptions adopted at the previous valuation has been positive overall with greater than expected investment returns which have had a positive impact, as have reduced improvements on mortality.

9 TAYSIDE PENSION FUND - VALUATION RESULTS AT 31 MARCH 2023

At 31 March 2023, Tayside Pension Fund had a surplus of assets over liabilities of £410m (£289m at previous valuation). This is translated into a funding level of 110% (including a 10% volatility reserve to allow for adverse short-term financial experience in the period to the next valuation).

Based on the above results the actuary recommends that the Fund's employer's common contribution rate reduces to 15.7% p.a. of pensionable pay (17% at previous valuation) utilising the surplus to maintain a stable contribution rate via a negative secondary rate adjustment from the primary rate of 22.5% (22.9% at previous valuation).

11 **POST 31 MARCH 2023 EXPERIENCE**

Since the valuation date the funding position continues to improve, although the period has seen significant volatility in financial markets, and this is anticipated to continue throughout the inter-valuation period.

12 **POLICY IMPLICATIONS**

This report has been screened for any policy implications in respect of sustainability, strategic Environmental Assessment, Anti-Poverty, Equality Impact Assessment and Risk Management.

There are no major issues.

13 **CONSULTATIONS**

The Chief Executive and Head of Democratic and Legal Services have been consulted in the preparation of this report.

14 **BACKGROUND PAPERS**

Barnett Waddingham - Tayside Pension Fund Actuarial Valuation (draft) as at 31 March 2023.

ROBERT EMMOTT
EXECUTIVE DIRECTOR OF CORPORATE SERVICES **28 March 2024**

VALUATION REPORT

Tayside Pension Fund

Actuarial valuation as at 31 March 2023

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Barnett Waddingham LLP

27 March 2024

Contents

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 110% of the accrued liabilities as at 31 March 2023, a slight increase from 109% at the 2020 valuation.

2. Contributions

Individual employer contributions are set out in Appendix 5 in the Rates and Adjustments Certificate to cover the period from 1 April 2024 to 31 March 2027. The existing surplus is amortised over a period of 12 years from 1 April 2024 for open employers.

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 2023 valuation. The key assumptions used are a discount rate assumption of 4.3% p.a. and a CPI inflation assumption of 2.7% p.a. We have maintained the same 10% volatility reserve in the value of assets as used at the last valuation.

4. Investment performance

Investment returns have been strong since the previous valuation, but resulting gains in the funding position have been partially offset by a reduction in future anticipated investment returns net of inflation (i.e. a reduction in the real discount rate) and higher than expected pension increases awarded during the intervaluation period.

5. Regulatory changes

There have been a number of important regulatory changes since the 2020 valuation including cost management and climate risk.

Details of how we have approached each change is detailed in this report.

Background

We have been asked by Dundee City Council, the administering authority for the Tayside Pension Fund (the Fund), to carry out an actuarial valuation of the Fund as at 31 March 2023. 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 (Scotland) Regulations 2018 (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 2024 to 31 March 2027 as required under Regulation 60 of the Regulations.

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 report is provided further to earlier advice dated 20 November 2023 which set out the background to the valuation and explained the underlying methods and assumptions derivation.

This advice complies with Technical Actuarial Standards (TASs) issued by the Financial Reporting Council – in particular Technical Actuarial Standard 100: General Actuarial Standards (TAS 100) and Technical Actuarial Standard 300: Pensions (TAS 300).

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

Valuation methodology

Setting contributions

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 net of member contributions) 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 as a monetary amount.

Regulation 60 specifies 4 requirements that the actuary "must have regard" to:

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.

CIPFA's FSS guidance includes further details, summarised as follows:

- **"solvency"** means 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
- **"long-term cost efficiency"** means 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.

Assumptions used

We have considered these four requirements when providing our advice and choosing the method and assumptions used.

A number of reports and discussions have taken place with the administering authority and, where required, its investment advisors before agreeing the assumptions to calculate the results and set contribution rates. In particular:

- The initial results dated 20 November 2023 provides information and results on a whole fund basis as well as background to the method and derivation of the assumptions.
- The follow up report dated 12 December 2023 confirming the agreed actuarial assumptions.
- The climate analysis report dated 27 March 2024 considers climate risk in the context of the Fund's 2023 actuarial valuation. It considers whether the 2023 valuation funding strategy is sufficiently robust in the context of this climate scenario analysis and any potential contribution impacts.
- The FSS which will confirm the approach in setting employer contributions.

Note that not all of these documents may be in the public domain and may be restricted to the administering authority which has no obligation to share them with any third parties.

The assumptions detailed in this report have been agreed with the administering authority. The Fund's FSS has been reviewed in collaboration with the administering authority to ensure that it is consistent with this approach. The FSS complies with the latest version of CIPFA's FSS guidance but we understand that this guidance is currently under review by the Scheme Advisory Board's Compliance and Reporting Committee. This updated guidance had not come into effect as at the date of this report.

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.

Valuation of liabilities

To calculate the value of the liabilities, we estimate the future cashflows which 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 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.

Valuation of assets

We have been provided with audited Fund accounts for each of the three years to 31 March 2023.

The market asset valuation as at 31 March 2023 was £4.83bn. 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 2023 to 30 June 2023. Therefore, we value the assets in a consistent way and apply the same smoothing adjustment to the market value of the assets. The smoothed assets also include a 10% volatility reserve deduction which may be used in the instance of future adverse experience to help achieve stability in funding.

The smoothed asset valuation net of the volatility reserve and smoothing adjustment of 99.8% was £4.34bn. More detail can be found in Appendix 1.

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 results

The previous valuation was carried out as at 31 March 2020 by Barnett Waddingham. The results are summarised in the valuation report dated 11 March 2021 and reported a surplus of £289m.

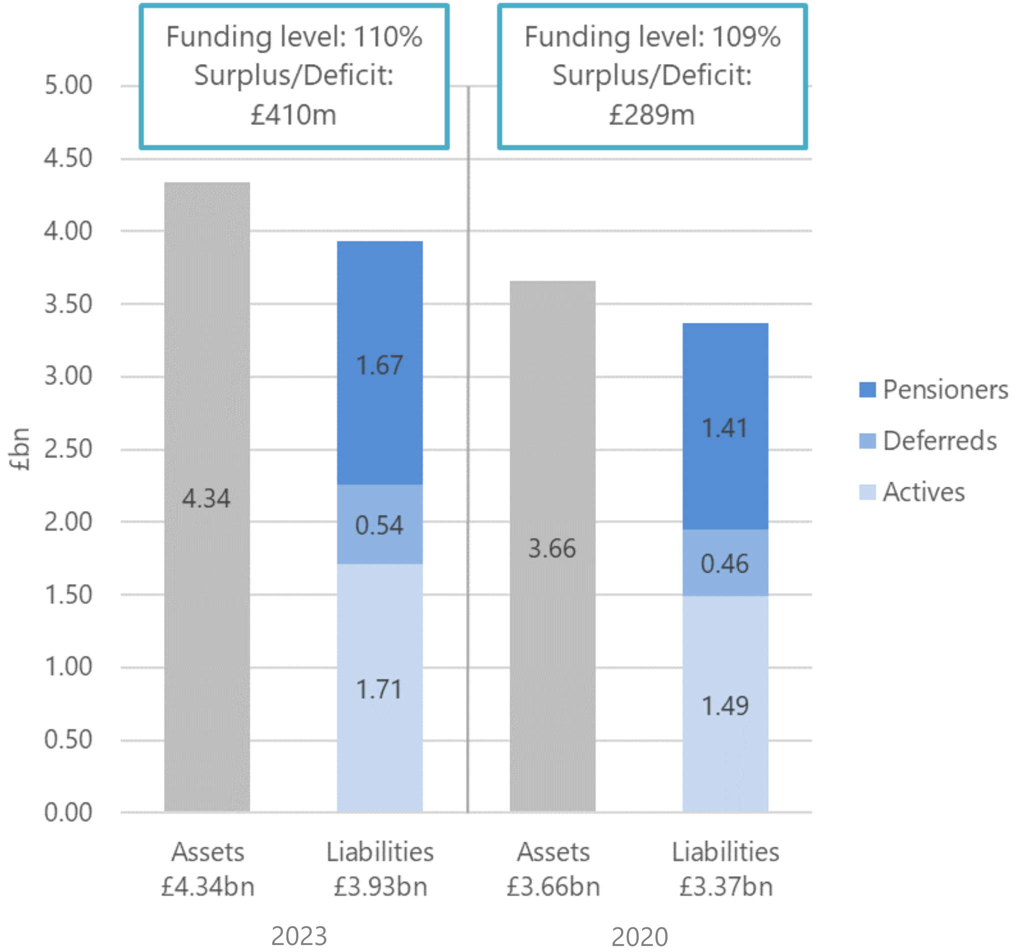
Results

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 funding position is set out in the graph below. This shows the funding position of the Fund at the current and previous valuation dates.

There was a surplus of £410m in the Fund at the valuation date, corresponding to a funding level of 110%.



Contribution rates

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). This includes a comparison to the primary rate at the previous valuation.

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

Primary rate	2023 valuation of payroll p.a.	2020 valuation of payroll p.a.
Average total future service rate	28.6%	29.0%
Less average member rate	-6.1%	-6.1%
Fund primary rate	**22.5%**	**22.9%**

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 allowed for 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". Where there is a surplus, some of the surplus may be amortised over an appropriate period to keep employer contribution rates as stable as possible.

The recovery period for individual employers varies across the Fund. The administering authority's approach to setting recovery periods is set out in the FSS. Where there is a surplus, this may also be reflected in contribution rates in line with the Fund's FSS.

The primary and secondary rate of the individual employer contributions payable are set out in the Rates and Adjustments Certificate in Appendix 5. These will differ from the average Fund 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.

In Appendix 5 we also disclose the sum of the secondary rates for the whole Fund for each of the three years beginning 1 April 2024. Unless an alternative arrangement has been agreed on for an employer, the aggregate secondary rate is minus 6.8% of payroll leading to a total aggregate contribution rate payable of 15.7%.

The secondary contributions agreed with the administering authority have been set at this valuation in order to restore the Fund to a funding position of 100% by no later than 2036.

Projected funding position

Based on the assumptions as set out in Appendix 2 and the contributions certified and set out in Appendix 5, we estimate that the funding position of the whole fund will decrease to 108% by 31 March 2026, the next valuation date, as some of the surplus is used up. This projection is based on the assumptions made for this valuation and contributions being the certified amounts. This projection does not allow for any actual experience since 31 March 2023 nor any other risks or uncertainties. Some of these additional risks are set out later in this report and in Appendix 3.

Standardised basis

Following the funding valuation, a "Section 13" report (prepared under Section 13 of the Public Service Pensions Act 2013) will be prepared to report on whether the following aims are achieved: compliance, consistency, solvency and long-term cost efficiency, and to identify any funds that cause concerns.

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 SAB with the results for the Fund for comparison purposes.

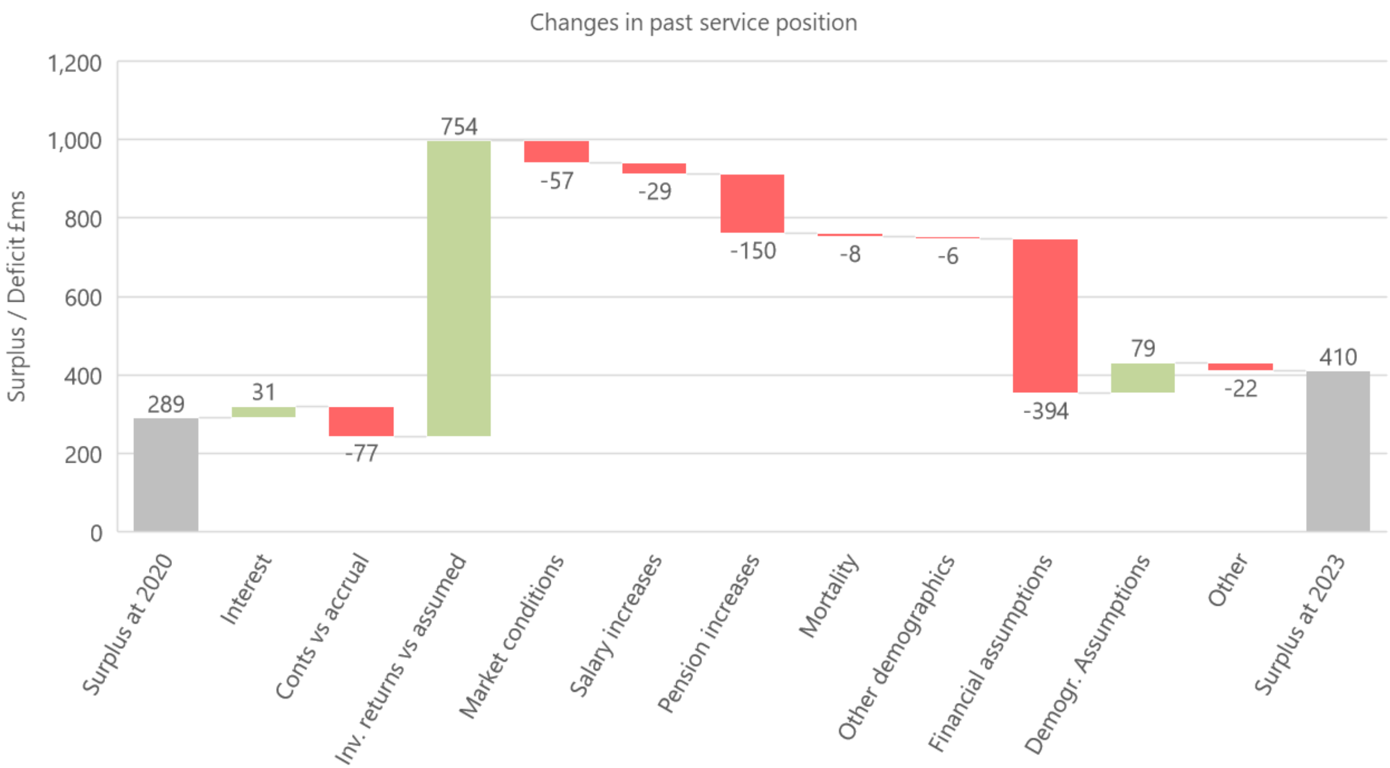
The standardised basis is set using assumptions advice from the Government Actuary's Department (GAD) with some of the assumptions used being set locally (such as mortality) and some are set at Scheme level (including all the financial assumptions). It is not used to set contributions as it does not 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 2023 are set out in the dashboard in Appendix 4. The dashboard should assist readers in comparing LGPS valuation reports and the information will be used by GAD in their "Section 13" report.

Reconciliation to previous valuation

Funding position

The previous valuation revealed a surplus of £289m. The key factors that have influenced the funding level of the Fund over the period are illustrated in the chart below.



Experience

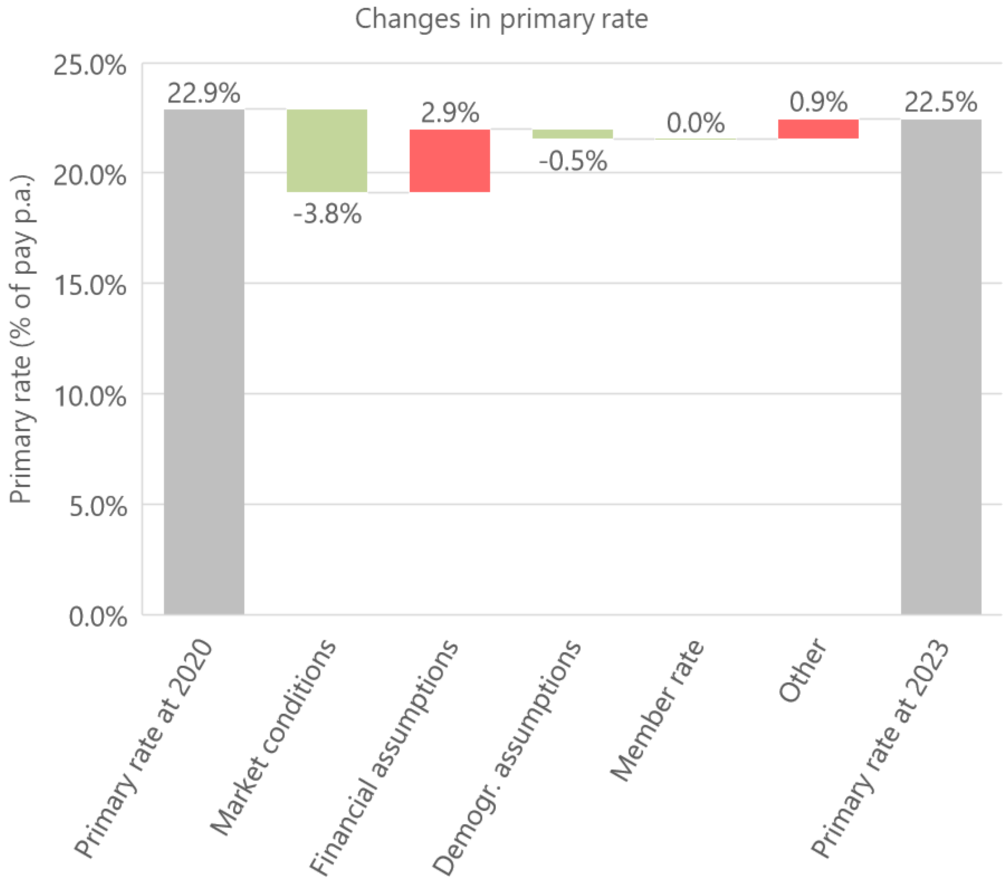
- Investment returns have been strong since 2020 leading to a gain of £754m.
- Contributions paid were lower than the cost of benefits accrued, resulting in a loss of £77m.
- Pension increases and salary increases were higher than assumed which has led to a combined loss of £179m.
- The overall impact of mortality and other demographic assumptions was a small gain of £65m.

Assumptions

- A review of the financial assumptions combined with the change in market conditions resulted in a decrease in the surplus of £451m.

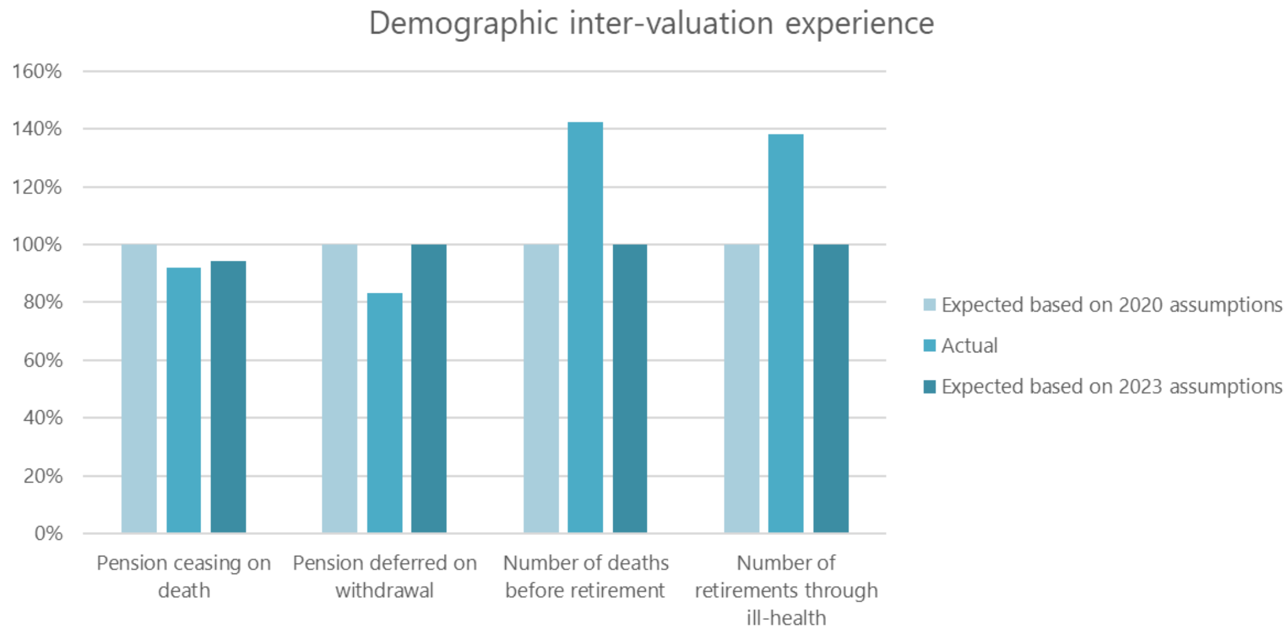
Primary contribution rate

The previous valuation resulted in an average primary rate of 22.9% 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 2020 is shown in the graph below. The graph also shows how the assumptions adopted for this valuation would have compared with those adopted at 2020.



The number of deaths before retirement and retirements through ill-health have been higher than expected over the intervalatuation period. This might to some extent be linked to the COVID-19 pandemic which has led to higher than normal mortality and morbidity rates particularly during 2020 and 2021. As it is not clear yet what the long-term impact on these pre-retirement deaths and ill-health retirements will be we have maintained our assumptions from the last valuation. We will keep monitoring the development closely and adjust our assumptions appropriately at future valuations.

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 surplus of £410m and funding level of 110% on the agreed funding basis.

2023 sensitivity analysis of funding position	2023 Valuation basis £bn	Decrease discount rate by 0.1% p.a. £bn	Increase CPI inflation by 0.1% p.a. £bn	Increase salary assumption by 0.5% p.a. £bn	Increase long-term rate of mortality improvement by 0.25% p.a. £bn	Increase initial addition to mortality improvement by 0.5% £bn	Decrease 2022 weighting parameter by 25% £bn
Smoothed asset value	4.34	4.34	4.34	4.34	4.34	4.34	4.34
Total past service liabilities	3.93	3.99	3.99	3.98	3.96	4.03	4.09
Surplus / (Deficit)	**0.41**	**0.35**	**0.35**	**0.36**	**0.38**	**0.31**	**0.25**
Funding level	**110%**	**109%**	**109%**	**109%**	**110%**	**108%**	**106%**

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 5.

The figures in the table are shown relative to the primary rate of 22.5% of Pensionable Pay on the agreed funding basis.

2023 sensitivity analysis of primary rate	2023 Valuation basis	Decrease discount rate by 0.1% p.a.	Increase CPI inflation by 0.1% p.a.	Increase long-term rate of mortality improvement by 0.25% p.a.	Increase initial addition to mortality improvement by 0.5%	Decrease 2022 weighting parameter by 25%
	% of payroll p.a.	% of payroll p.a.	% of payroll p.a.	% of payroll p.a.	% of payroll p.a.	% of payroll p.a.
Average total future service rate	28.6%	29.3%	29.4%	29.0%	29.4%	29.7%
Less average member rate	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%
Fund primary rate	**22.5%**	**23.2%**	**23.2%**	**22.8%**	**23.2%**	**23.6%**

Further comments

Funding Strategy Statement (FSS)

The assumptions used for the valuation have been documented in a revised Funding Strategy Statement 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
- Climate risk

The sensitivity of the funding results to some of these risks was 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 FSS.

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 5 in the Rates and Adjustments Certificate in accordance with Regulation 60 of the Regulations and cover the period from 1 April 2024 to 31 March 2027. 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 12 years from 1 April 2024.

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 FSS.

This report must be made available to members on request.

Graeme D Muir FFA
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Hagen Eichel FFA
Senior consulting actuary
Barnett Waddingham LLP

Appendix 1 Summary of data and benefits

Membership data

The membership data has been provided to us by the administrators of the Fund. We have relied on information supplied by the administrator and the administering authority being accurate. 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 below 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 queried with the Fund and 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.

Benefits

Full details of the benefits being valued are set out in the Regulations as amended and summarised on the https://www.scotlgpsmember.org/. We have made no allowance for discretionary benefits.

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. Please note that the average ages at 31 March 2023 are weighted by salary for active members and by pension for deferred and pensioner/dependant members, the average ages at 2020 are weighted by liability in line with the 2020 valuation report.

Data used	Data at 31 March 2023			Data at 31 March 2020		
Active members	Number	Pensionable pay £m	Average age (salary-weighted)	Number	Pensionable pay £m	Average age (liability-weighted)
Males	5,989	180	48.4	6,045	157	53.4
Females	13,883	314	46.6	13,367	258	51.9
Total	19,872	494	47.3	19,412	415	52.5
Deferred members (including undecided)	Number	Pension £m	Average age (pension-weighted)	Number	Pension £m	Average age (liability-weighted)
Males	5,586	12	49.8	4,756	9	51.0
Females	13,411	22	50.2	10,940	17	50.8
Total	18,997	34	50.0	15,696	26	50.9
Pensioner and dependant members	Number	Pension £m	Average age (pension-weighted)	Number	Pension £m	Average age (liability-weighted)
Males	6,910	58	71.8	6,549	49	68.2
Females	11,341	57	70.6	10,200	44	66.9
Total	18,251	115	71.2	16,749	94	67.6

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 2023 to 31 March 2027 as required under the Regulations.

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 £m's
31 March 2024	1,006	14
31 March 2025	933	13
31 March 2026	1,044	16
31 March 2027	811	14

Guaranteed Minimum Pension (GMP) equalisation and indexation

On 23 March 2021, the Government published the outcome to its GMP Indexation consultation, concluding that all public service pension schemes, including the LGPS, will be directed to provide full indexation to members with a GMP reaching State Pension Age (SPA) beyond 5 April 2021. This is a permanent extension of the ‘interim solution’ that has applied to members with a GMP reaching SPA on or after 6 April 2016. Details of the consultation outcome can be found here.

As with the previous valuation, we have assumed that the Fund will pay limited increases for members that have reached SPA by 6 April 2016, with the Government providing the remainder of the inflationary increase. For members that reach SPA after this date, we have assumed that the Fund will be required to pay the entire inflationary increase. We are comfortable that our approach is consistent with the consultation outcome.

Appendix 2 Summary of assumptions

A summary of the assumptions adopted for the valuation at 31 March 2023 and as at 31 March 2020 is set out below.

Assumptions		2023 valuation	2020 valuation
Financial assumptions			
CPI inflation		2.7%	2.4%
Salary increases		3.7%	3.4%
Discount rate		4.3%	3.9%
Pension increases on GMP		Funds will pay limited increases for members reaching SPA by 6 April 2016, and full increases for others	
Demographic assumptions			
Post-retirement mortality		Male / Female	Male / Female
	Base table pensioners	105% / 115% of S3PA_H	110% of S3PA_H
	Base table dependants	115% of S3DA	120% of S3DA
	CMI Model	CMI 2022	CMI 2019
	Long-term rate of improvement	1.25%	1.25%
	Smoothing parameter	7.0	7.5
	Initial addition to improvement	0%	0%
	2020/21/22 weighting parameter	0% / 0% / 25%	n/a
Retirement assumption		Weighted average	Weighted average
Pre-retirement decrements		GAD 2016 scheme val: no salary scale, 50% multiplier to ill-health rates and 100% multiplier to pre-retirement mortality rates	GAD 2016 scheme val: no salary scale, 50% multiplier to ill-health rates and 100% multiplier to pre-retirement mortality rates
50:50 assumption		Member data	Member data
Commutation		50% of max	50% of max
Family statistics			
	% with qualifying dependant	75% (M) / 70% (F)	75% (M) / 70% (F)
	Age difference	3 years	3 years

Discount rate derivation

The following table shows the derivation of the discount rate at this valuation. Further details of this and the derivation of all assumptions were set out in our separate report to the administering authority dated 20 November 2023.

Asset class	Strategic asset allocation	Neutral assumption (p.a.)
Equities	65.0%	6.5%
Fixed Income	13.0%	4.8%
Property	12.0%	6.1%
Local and Alternative Opportunities	10.0%	5.6%
Less expenses		0.2%
Neutral return		**6.0%**
Less prudence adjustment		1.7%
Prudent discount rate assumption		**4.3%**
Relative to CPI		**1.6%**

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).

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
70%	30%

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 100% multiplier 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 Regulatory uncertainties

There are currently a few important regulatory uncertainties surrounding the 2023 valuation as follows:

- Effect of the McCloud and Sargeant cases;
- Cost management reviews which could affect future and historic LGPS benefits;
- Change in timing of future actuarial valuations from a triennial cycle; and
- Climate change risks and opportunities.

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.

McCloud

When the Government reformed public service pension schemes in 2014 and 2015 they introduced protections for older members. In December 2018, the Court of Appeal ruled that younger members of the Judges' and Firefighters' Pension schemes have been discriminated against because the protections do not apply to them. The Government has confirmed that there will be changes to all main public sector schemes, including the LGPS, to remove this age discrimination. A consultation has been run in relation to the changes proposed for the LGPS and amended regulations came into force on 1 October 2023.

For the 2023 valuation, we have valued the benefits in line with the McCloud regulations. The data extracts received for valuation purposes did not include the full pay or service history we require to value the cost of the anticipated benefit changes. We therefore made estimates (for active members only) based on the information that is held in data extract provided as well as the membership data used for the 2020 valuation. Our estimates involve projecting members CARE benefits against the equivalent final salary benefit to determine, for each active member, whether the underpin may bite and the liability value if it does. There still remains uncertainty over the long-term effects of the McCloud judgment but where data has been available, we have been able to estimate the impact of McCloud on individual employers and funding positions and contributions have been set accordingly.

Cost management reviews

There remain uncertainties around the 2016 and 2020 cost management exercises. Although we understand that the Scheme Advisory Board (SAB) will not be recommending any Scheme changes, this is still to be announced. However, we anticipate the impact of any changes to be small and therefore we have not made an explicit allowance for these.

Further cost management reviews will be carried out and may lead to future benefit changes. However, as the aim of this monitoring is to keep the cost of benefits within an affordable range, we can be relatively comfortable that future reviews will not have a significant impact on the value we currently place on the liabilities, therefore we have not made an explicit allowance for these.

Climate change risks and opportunities

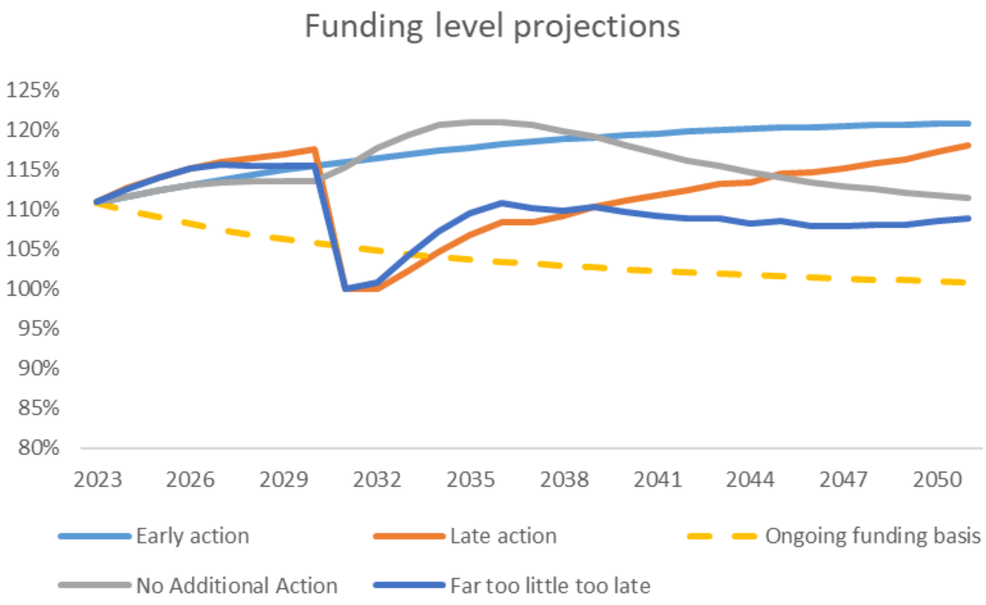
Climate risk is an important consideration for the 2023 valuation. As part of the 2023 valuation process we have used scenario analysis to identify the impact of shorter term climate risk (transition risk) and longer term climate risk (physical risk) on the Fund's potential funding outcomes. This analysis was developed for LGPS funds based on the Department for Work and Pensions regulations, as we await final regulations which apply directly to the LGPS. The analysis was discussed with GAD, who agreed a set of four key principles for how LGPS funds would undertake climate change scenario analysis as part of the 2023 valuation.

Our analysis considered the potential impact on the future investment return outlook (and therefore discount rate) and inflation (and therefore inflation-linked assumptions), for the purpose of projecting asset and liability values and primary rates. We have also considered additional elements such as the potential impact on life expectancy changes and employer covenant. The analysis supports the level of prudence in the funding strategy.

Under the key principles, it was agreed that each fund should select two scenarios to consider as a minimum including: "Paris-aligned" and higher temperature outcome, and compare these to the funding basis.

- "Paris-aligned" is an optimistic basis which assumes that good progress is made towards the ambitions made in the 2015 Paris Agreement.
- A higher temperature outcome assumes that no new climate policies are introduced beyond those already agreed, resulting in a growing concentration of greenhouse gas emissions and a larger increase in global temperatures.

Our analysis considers four scenarios which are detailed in our climate scenario analysis report. The impact of the on the funding position of each scenario is considered in projected funding level graph below.



Our "early action" scenario aims to represent a "Paris-aligned" scenario, and our "no additional action" scenario represents a higher temperature outcome.

One of the other key principles agreed with GAD was for results to be considered over a period of at least 20 years. The funding level is projected over a period of 30 years as can be seen in the graph above.

Detail on the Fund's approach will also be included in the FSS.

COVID-19 crisis

The 2020 valuation report and Rates and Adjustments Certificate were finalised during the first waves of the COVID-19 pandemic. Due to the timing of events, no adjustment was made to the 2020 results. There still remains uncertainty over the long-term effects of COVID-19 but where data has been available, we have been able to consider the impact of COVID-19 on individual funds through the longevity analysis and in setting the mortality assumptions for the Fund. On balance, we would expect the pandemic to lead to a modest reduction in future improvements in life expectancy.

Therefore, we are comfortable that contributions have been set appropriately to allow for COVID-19, based on the data available. More data will be available at the next formal valuation in 2026 where we will update our analysis. We will also continue to monitor the situation during the intervaluation period.

Appendix 4 Dashboard

GAD Dashboard

Past service funding position - local funding basis		
Funding level (assets/liabilities)	%	110%
Funding level (change since previous valuation)	%	1%
Asset value used at the valuation	£m	4,340
Value of liabilities	£m	3,930
Surplus (deficit)	£m	410
Discount rate – past service	% pa	4.3%
Discount rate – future service	% pa	4.3%
Assumed pension increases (CPI)	% pa	2.7%
Method of derivation of discount rate, plus any changes since previous valuation		In line with the Funding Strategy Statement
Life expectancy for current pensioners – men age 65	years	18.8
Life expectancy for current pensioners – women age 65	years	21.5
Life expectancy for future pensioners – men age 45	years	20.1
Life expectancy for future pensioners – women age 45	years	23.1
Past service funding position - SAB basis (for comparison purposes only)		
Market value of assets	£m	4,834
Value of liabilities	£m	3,685
Funding level on SAB basis (assets/liabilities)	%	131%
Funding level on SAB basis (change since last valuation)	%	4%

GAD Dashboard

Contribution rates payable		**2023 Valuation**	**2020 Valuation**
Primary contribution rate	% of pay	22.5%	22.9%
Secondary contribution rate (cash amounts in each year in line with CIPFA guidance)	£m		
Secondary contribution rate - 1st year of rates and adjustment certificate	£m	-34	-25
Secondary contribution rate - 2nd year of rates and adjustment certificate	£m	-35	-26
Secondary contribution rate - 3rd year of rates and adjustment certificate	£m	-36	-27
Giving total expected contributions			
Total expected contributions - 1st year of rates and adjustment certificate (£ figure based on assumed payroll)	£m	81	73
Total expected contributions - 2nd year of rates and adjustment certificate (£ figure based on assumed payroll)	£m	84	76
Total expected contributions - 3rd year of rates and adjustment certificate (£ figure based on assumed payroll)	£m	88	78
Assumed payroll (cash amounts in each year)			
Total assumed payroll - 1st year of rates and adjustment certificate (£m)	£m	512	430
Total assumed payroll - 2nd year of rates and adjustment certificate (£m)	£m	531	444
Total assumed payroll - 3rd year of rates and adjustment certificate (£m)	£m	551	459
3-year average total employer contribution rate	% of pay	15.8%	17.0%
Average employee contribution rate (% of pay)	% of pay	6.1%	6.1%
Employee contribution rate (£ figure based on assumed payroll of £m)	£m pa	31	26

GAD Dashboard

Deficit recovery plan		**2023 Valuation**	**2020 Valuation**
Latest deficit recovery period end date for any employer in deficit in fund	Year	n/a	n/a
Earliest surplus spreading period end date for any employer in surplus in fund	Year	2036	2033
Where a deficit recovery period or surplus spreading period end date is not provided, the latest time horizon end point for valuation funding plan for any employer in deficit	Year	n/a	n/a
Where a deficit recovery period or surplus spreading period end date is not provided, the earliest time horizon end point for valuation funding plan for any employer in surplus	Year	n/a	n/a

Additional information			
Percentage of liabilities relating to employers with deficit recovery periods of longer than 20 years	%	0%	
Percentage of total liabilities that are in respect of Tier 3 employers	%	6%	
Included climate change analysis/comments in the 2023 valuation report	Yes/No	Yes	
Value of McCloud impact on the local funding basis	£m	19	

Appendix 5 Rates and Adjustments Certificate

Regulatory background

In accordance with Regulation 60 of the Local Government Pension Scheme (Scotland) Regulations 2018 we have made an assessment of the contributions that should be paid into the Fund by participating employers for the period 1 April 2024 to 31 March 2027.

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 27 March 2024.

The primary rate of contribution as defined by Regulation 60(8) for each employer for the period 1 April 2024 to 31 March 2027 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 2024. In addition each employer pays a secondary contribution as required under Regulation 60(8) 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.

Primary and secondary rate summary

The primary rate for the Fund is the weighted average (by payroll) of the individual employers' primary rates and is 22.5% p.a. of payroll.

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 2024 to 31 March 2027 is set out in the table below.

Secondary contributions	2024/25	2025/26	2026/27
Total as a % of payroll	-6.7%	-6.6%	-6.6%
Equivalent to total monetary amounts of	-£34,113,828	-£35,251,950	-£36,434,000

These amounts reflect the individual employers' secondary rates.

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.

Employer code	Employer name	Primary rate (% pay)	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
			2024/25	2025/26	2026/27	2024/25	2025/26	2026/27
Employers participating in common funding pool								
20	Dundee City Council	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
30	Perth And Kinross Council	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
40	Angus Council	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
200	Tay Road Bridge	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
205	Dundee Citizens Advice Bureau	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
207	Dundee Voluntary Action	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
208	Dovetail Enterprises	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
213	Tayside Joint Police Board	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
215	Tayside Fire And Rescue	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
218	Dundee Contemporary Arts Ltd	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
219	Tayside Valuation Joint Board	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
220	Dundee Science Centre	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
222	Tayside Contracts	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
223	Scottish Social Work and Sorcial Care	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
224	Scottish Social Serv. Council	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
229	Highlands & Islands Airports	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
232	Leisure and Culture Dundee	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%

Employer code	Employer name	Primary rate (% pay)	Secondary rate (% pay plus monetary adjustment) 2024/25	2025/26	2026/27	Total contributions i.e. primary (% of pay) plus secondary 2024/25	2025/26	2026/27
233	Tayplan	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
236	Dundee and Angus College	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
237	Idverde	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
300	Live Active Ltd	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
302	Perth College	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
304	Perth Theatre Company Ltd	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
305	Perth Citizens Advice Bureau	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
306	Perth And Kinross Society for the Blind	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
317	Perth Countryside Trust	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
318	TACTRAN	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
319	MITIE PFI LTD	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
320	Culture Perth and Kinross	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
401	Montrose Port Authority	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
403	Montrose Links Trust	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
405	Forfar Day Care Centre	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
408	Dorward House	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
409	Rossie Secure Accommodation Services	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
418	Robertson Facilities Management	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
419	Angus Alive	22.5%	-6.8%	-6.8%	-6.8%	15.7%	15.7%	15.7%
Individual Closed employers								
203	University of Abertay Dundee	24.4%	-2.9%	-1.4%	-	21.5%	23.0%	24.4%
204	University Of Dundee	31.1%	-9.4%	-4.7%	-	21.7%	26.4%	31.1%
206	Travel Dundee	31.7%	8.3%	8.3%	8.3%	40.0%	40.0%	40.0%
217	Abertay Housing Association	25.3%	-2.9%	-1.5%	-	22.4%	23.8%	25.3%