ITEM No …16……..…..

REPORT TO: **PENSION SUB-COMMITTEE OF THE POLICY & RESOURCES COMMITTEE & PENSION BOARD – 8 MARCH 2021**

REPORT ON: **TAYSIDE PENSION FUND ACTUARIAL VALUATION AT 31 MARCH 2020**

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

REPORT NO: **80-2021**

1 PURPOSE OF REPORT

This report updates the Sub-Committee on the Actuarial Valuation of Tayside Pension Fund at 31 March 2020.

2 RECOMMENDATION

Members are asked to note the information contained within this report.

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 2020 actuarial valuation is that the employer's contributions for financial years 2018/19, 2019/20 and 2020/21 will continue at 17.0%, 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 2020.

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 2021 to 31 March 2024. 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 2020 in relation to the previous valuation are as follows:

	2020 Valuation		2017 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	6.40	4.00	7.50	4.70
Gilts	0.90	-1.50	1.90	-0.90
Bonds	1.90	-0.50	2.60	-0.20
Property	5.90	3.50	6.30	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 2020 are as follows:

	2020 Valuation		2017 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	3.40	1.00	3.80	1.00

7 VALUATIONS OF LIABILITIES

The valuation of the liabilities is made using assumptions on pension increases. The assumption at 31 March 2020 for pension increases is 2.4% per annum (2.8% 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 2017 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. Reduced improvements on mortality and lower than expected increases in both salary and pensions also contributed positively to the valuation.

9 TAYSIDE PENSION FUND - VALUATION RESULTS AT 31 MARCH 2020

At 31 March 2020 the Tayside Pension Fund had a surplus of assets over liabilities of £289m (£212.75m at previous valuation). This is translated into a funding level of 109% (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 remains at the 17% p.a. of pensionable pay, utilising the surplus to maintain a stable contribution rate via a negative secondary rate adjustment from the primary rate of 22.9% (21.5% at previous valuation).

11 POST 31 MARCH 2020 EXPERIENCE

Since the valuation date the funding position has improved 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 2020.

ROBERT EMMOTT
EXECUTIVE DIRECTOR OF CORPORATE SERVICES **26 February 2021**

VALUATION REPORT

Tayside Pension Fund

Actuarial valuation as at 31 March 2020

16 February 2021

Graeme Muir FFA | Barnett Waddingham LLP

Introduction

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 2020. 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 2021 to 31 March 2024 as required under Regulation 60 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 to also cover the cost of benefits that active members will build up in the future.

This report is provided further to earlier advice dated 19 November 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.

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Executive summary

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

1. Funding position

Using the agreed assumptions, the Fund's funding level has increased from 107% at 31 March 2017 to 109% at 31 March 2020.

2. Changes in assumptions

Compared to the 2017 valuation we are assuming lower levels of future inflation and also lower investment returns. We have maintained the same 10% volatility reserve in the value of assets used in the valuation. Following a review of mortality experience in the Fund we are also assuming lower life expectancies compared to 2017.

3. Contributions

Primary contribution rates have increased due to the reduction in future anticipated returns. However, due to the improved funding level employer contributions have generally been maintained and are set out in Appendix 4 in the Rates and Adjustments Certificate.

4. Regulatory risks

Regulatory uncertainties remain including the outcome of the cost cap mechanism and other possible changes to the Scheme. There is an allowance in the level of prudence built into the discount rate to reflect these uncertainties.

5. McCloud

Following guidance issued by the SPPA following the valuation date, an explicit allowance for the proposed remedy for the McCloud /Sargeant cases has been included in the valuation. The cost has been assessed as £13m.

Background to valuation approach

The purpose of the 2020 actuarial valuation is to set appropriate contribution rates for each employer in the Fund for the period from 1 April 2021 to 31 March 2024, as required under Regulation 60 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).

Regulation 60 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 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

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 methods and assumptions used. A number of reports and discussions have taken place with the administering authority before agreeing the final assumptions to determine the results and set contribution rates. In particular:

- The initial results report dated 19 November 2020 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 Funding Strategy Statement which includes the Fund's objectives in setting employer contributions.

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

We suggest that the Fund's Funding Strategy Statement is updated with the results of this valuation.

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 2020 valuation as follows:

- Effect of the McCloud and Sargeant cases and the cost cap on the future and historic LGPS benefits structure
- A possible change in the timing of future actuarial valuations from a triennial to a quadrennial cycle
- Guaranteed Minimum Pensions (GMP) equalisation
- The Goodwin case

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.

Based on the available data we have made an explicit allowance for the proposed remedy for the McCloud/Sargeant cases for active and deferred liabilities.

The remaining uncertainties are reflected in the level of prudence included in the discount rate. Details on the derivation of the discount rate can be found in Appendix 2.

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 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 future 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 2020.

The market asset valuation as at 31 March 2020 was £3,672,321,000. 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 2020 to 30 June 2020. 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 as at 31 March 2020 was £3,658,000,000. This was based on a smoothing adjustment of 110.4%.

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.

Results

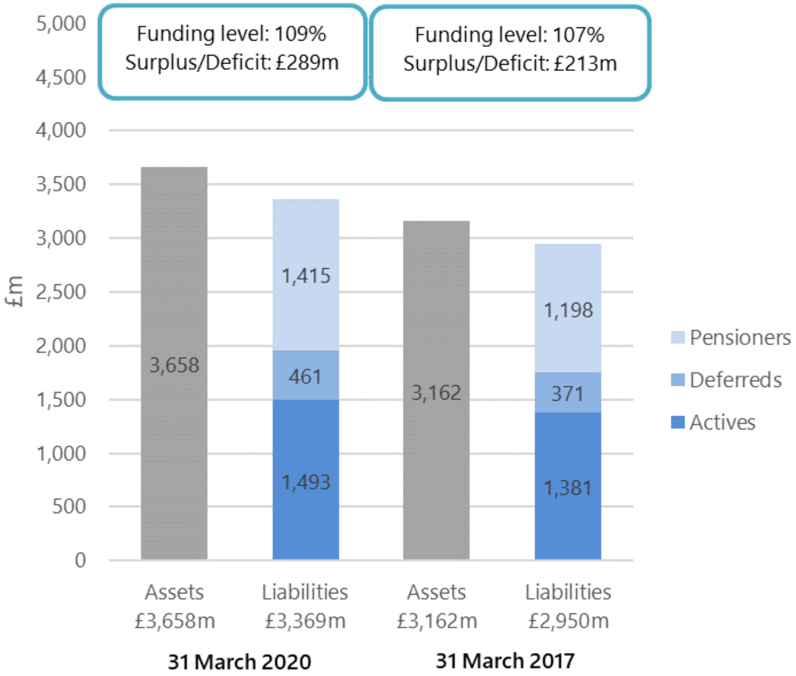
Funding position

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

The previous valuation was carried out as at 31 March 2017. The results are summarised in the valuation report dated 28 March 2018 and reported a surplus of £212,750,000.

Using the assumptions summarised in Appendix 2, the results of the valuation are set out in the graph below. This shows how well funded the Fund was at the valuation date.

There was a surplus of £289,000,000 in the Fund at the valuation date, corresponding to a funding level of 109%.



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.

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

Primary rate	Valuation basis 31 March 2020 % of payroll p.a.	Previous valuation 31 March 2017 % of payroll p.a.
Average total future service rate	29.0%	27.6%
Less average member rate	-6.1%	-6.1%
Fund primary rate	**22.9%**	**21.5%**

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

The primary and secondary rate of the individual employer contributions payable are set out in the Rates and Adjustments Certificate in Appendix 4. Most employers are part of a common funding pool and therefore share the same primary and secondary rate.

In Appendix 4 we disclose the projected sum of the secondary rates for the whole Fund for each of the three years beginning 1 April 2021. Unless an alternative arrangement has been agreed on for an employer, the secondary rate is minus 5.9% of payroll maintaining the total contribution rate payable at 17.0%.

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 2020 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 surplus of £212,750,000. The key factors that have influenced the funding level of the Fund over the period are illustrated in the chart below.

Experience

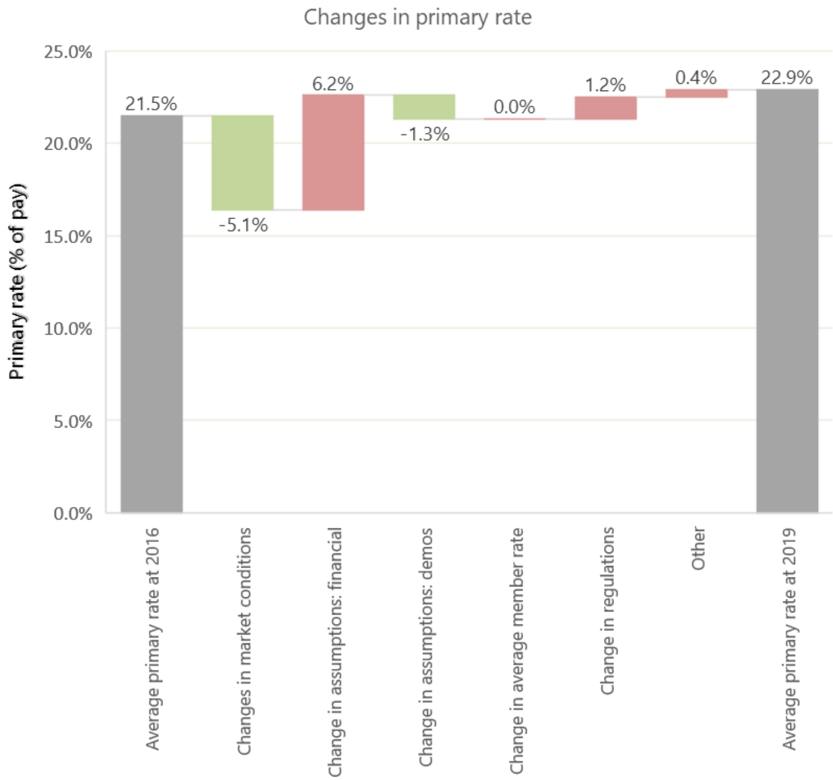
- Investment returns in market value terms were strong in 2018 and 2019 but negative in 2020. The overall result was a loss of £226m compared to the assumed return. The Fund returned 2.2% p.a. in market value terms compared to the assumed return of 4.5% p.a. over the three year period. Please note that the assumed return is a long-term assumption.
- Contributions paid were lower than the cost of benefits accrued as most employers benefitted from a contribution reduction due to the Fund's surplus in 2017 resulting in a reduction in surplus of £49m.
- Salary increases were slightly higher than assumed but this was offset by pension increases being lower than assumed resulting in a net gain of £17m.
- The overall impact of the mortality experience together with other demographic experience was neutral.

Previous assumptions

- Changes in the financial assumptions combined with the change in market conditions results in a net increase in the surplus of £232m - effectively balancing out the loss due to lower than expected investment returns over the intervaluation period.
- Updating the mortality assumptions to allow for a fall in future life expectancies and other demographic assumptions resulting in a decrease in the liabilities of £84m.
- The estimated cost of the impact of the McCloud remedy was £13m. More details on this can be found in Appendix 1.

Primary contribution rate

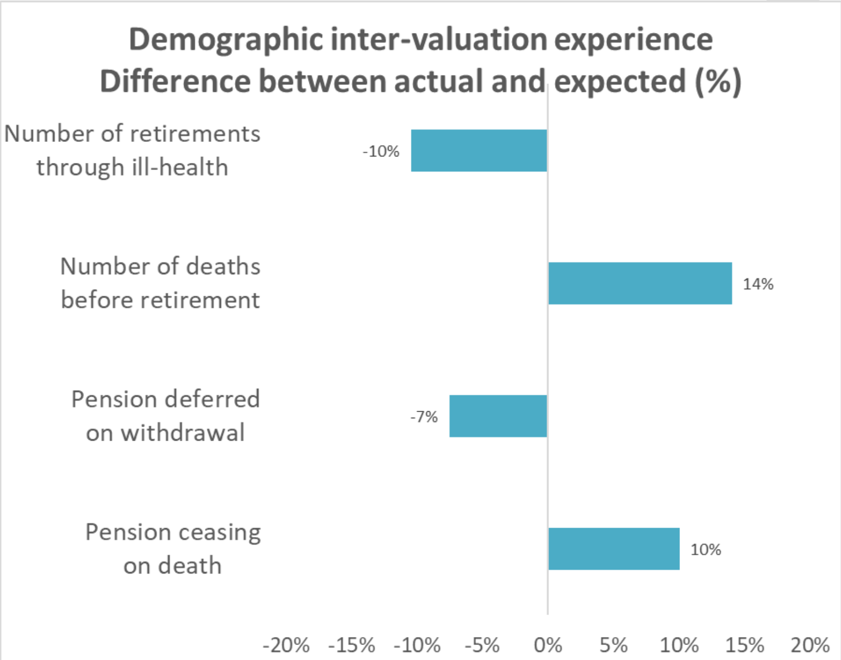
The previous valuation resulted in an average primary rate of 21.5% of Pensionable Pay. The reasons for the change in the cost of future benefit accrual are set out in the reconciliation chart below.



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 2017, is shown in the graph below.

These assumptions are either based on those set by the Government Actuary's Department (GAD) based on analysis of the LGPS, or in the case of pensions ceasing on death, based on Fund specific analysis. Details about the assumptions can be found in Appendix 2.



Projected future results

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

The projected funding position in 3 years' time is 106%. This allows for contributions to be paid as described in Appendix 2 and assumes that investment returns and other experience over the next three years is in line with the assumptions used for the valuation as set out in Appendix 2.

As noted above, 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 include employer covenant risk, mortality risk and financial risks (including inflation and investment risk). For example if investment returns were 1% p.a. less than the assumed discount rate, the estimated funding position would be 103%.

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 £289,000,000 and funding level of 109% 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 initial addition to mortality improvement by 0.5%	Increase long-term rate of mortality improvement by 0.25%	Twice as many ill-health retirements
	£m	£m	£m	£m	£m	£m	£m
Smoothed asset value	3,658	3,658	3,658	3,658	3,658	3,658	3,658
Total past service liabilities	3,369	3,425	3,379	3,423	3,416	3,396	3,380
Surplus (Deficit)	**289**	**233**	**279**	**235**	**242**	**262**	**278**
Funding level	109%	107%	108%	107%	107%	108%	108%

Sensitivities to the primary and total 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.

The figures in the table are shown relative to the primary rate of 22.9% of Pensionable Pay and a total rate of 17.0% of Pensionable Pay on the agreed funding basis. The total rate is based on a secondary rate of -5.9% which is payable by all employers in the common funding pool for which no alternative arrangement has been agreed.

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 initial addition to mortality improvement by 0.5%	Increase long-term rate of mortality improvement by 0.25%	Twice as many ill-health retirements
	% of pay	% of pay	% of pay	% of pay	% of pay	% of pay	% of pay
Total future service rate	29.0%	29.8%	29.2%	30.5%	29.4%	29.4%	29.8%
less employee contribution rate	-6.1%	-6.1%	-6.1%	-6.1%	-6.1%	-6.1%	-6.1%
Total primary rate	**22.9%**	**23.7%**	**23.1%**	**24.4%**	**23.3%**	**23.3%**	**23.7%**
Total contribution rate	**17.0%**	**17.8%**	**17.2%**	**18.5%**	**17.4%**	**17.4%**	**17.8%**

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 60 of the Regulations and cover the period from 1 April 2021 to 31 March 2024. 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.

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

There were some very significant movements in investment markets over the months leading up to and following the valuation date, 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 volatility in equity and corporate bond markets has been significant, the ongoing funding position under our model has been relatively stable as the model helps to mitigate most of the impact of extreme events.

The next formal valuation is due to be carried out as at 31 March 2023 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.

Graeme Muir FFA
Partner
Barnett Waddingham LLP

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.

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 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 2020 average ages are weighted by liability calculated on the funding basis, while the 2017 average ages are unweighted.

Active members

	31 March 2020			31 March 2017		
	Number	Pensionable pay £ms	Average age	Number	Pensionable pay £ms	Average age
Males	6,045	157	53	5,958	154	47
Females	13,367	258	52	12,752	255	46
Total	19,412	415	53	18,710	409	46

Deferred members (including undecided)

	31 March 2020			31 March 2017		
	Number	Current Pension £ms	Average age	Number	Current Pension £ms	Average age
Males	4,756	9	51	3,854	8	46
Females	10,940	17	51	8,684	13	47
Total	15,696	26	51	12,538	20	47

Pensioner and dependant members

	31 March 2020			31 March 2017		
	Number	Current Pension £ms	Average age	Number	Current Pension £ms	Average age
Males	6,549	49	68	6,644	46	71
Females	10,200	44	67	8,531	33	70
Total	16,749	94	68	15,175	79	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 2020 to 31 March 2024 as required under the Regulations.

Projected new benefits		
Year to	Number of members	Retirement benefits £ms
31/03/2021	811	9
31/03/2022	843	9
31/03/2023	974	13
31/03/2024	938	14

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 Lloyd's 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 2017 valuation was 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.

McCloud/Sargeant judgement and cost cap

The HMT cost cap mechanism was brought in after Lord Hutton's review of public service pensions with the aim of providing protection to taxpayers and employees against unexpected changes (expected to be increases) in pension costs. The cost control mechanism only considers "member costs".

These are the costs relating to changes in assumptions made to carry out valuations relating to the profile of the Scheme members; e.g. costs relating to how long members are expected to live for and draw their pension. Therefore, assumptions such as future expected levels of investment returns and levels of inflation are not included in the calculation, so have no impact on the cost management outcome.

The 2016 HMT cost cap valuation revealed a fall in these costs and therefore a requirement to enhance Scheme benefits.

However, on 20 December 2018 there was a judgement made by the Court of Appeal which resulted in the Government announcing their decision to pause the cost cap process across all public service schemes. This was in relation to two employment tribunal cases which were brought against the Government in relation to possible discrimination in the implementation of transitional protection following the introduction of the reformed 2015 public service pension schemes from 1 April 2015. Transitional protection enabled some members to remain in their pre-2015 schemes after 1 April 2015 until retirement or the end of a pre-determined tapered protection period. The claimants challenged the transitional protection arrangements on the grounds of direct age discrimination, equal pay and indirect gender and race discrimination.

The first case (McCloud) relating to the Judicial Pension Scheme was ruled in favour of the claimants, while the second case (Sargeant) in relation to the Fire scheme was ruled against the claimants. Both rulings were appealed and as the two cases were closely linked, the Court of Appeal decided to combine the two cases. In December 2018, the Court of Appeal ruled that the transitional protection offered to some members as part of the reforms amounted to unlawful discrimination. On 27 June 2019 the Supreme Court denied the Government's request for an appeal in the case.

The Scottish Government's consultations to remedy the age discrimination cases for the Scottish LGPS ended on 23 October 2020 but the remedy has yet to be implemented. On 13 May 2020 the SPPA published their position regarding how the expected changes should be allowed for at the 2020 valuation. Based on the available data we made explicit member specific allowances for the impact of McCloud for all active and deferred members. No allowance was made for the pensioners as the available membership data holds insufficient information to make a reasonable estimate.

Appendix 2 Summary of assumptions

Derivation of 2020 discount rate

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 19 November 2020.

Asset class	2020 allocation	Neutral assumption (p.a.)
Equities	70.0%	6.4%
Gilts	4.3%	0.9%
Corporate bonds	13.7%	1.9%
Property	12.0%	5.9%
Less expenses		0.2%
Neutral return (allocation times neutral assumption less expenses)		**5.4%**
Less prudence adj.		-1.5%
Prudent discount rate assumption		**3.9%**
Relative to CPI		**1.5%**

A summary of the assumptions adopted for the valuation at 31 March 2020 is set out below. The assumptions used in the previous valuation are also shown for comparison.

Summary of financial aassumptions

Assumptions	Assumptions used for the 2020 valuation	Assumptions used for the 2017 valuation
Financial assumptions		
Market date	31 March 2020	31 March 2017
CPI inflation	2.4% p.a.	2.8% p.a.
Salary increases	3.4% p.a.	3.8% p.a.
Discount rate	3.9% p.a.	4.5% 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 2020 valuation	Assumptions used for the 2017 valuation
Demographic assumptions		
Post-retirement mortality	Male / Female	Male / Female
Member base tables	S3PA_H	S2PA
Member mortality multiplier	110%	130%
Dependant base tables	S3DA	S2PA
Dependant mortality multiplier	120%	130%
Projection model	CMI 2019	CMI 2016
Long-term rate of improvement	1.25% p.a.	1.5% p.a.
Smoothing parameter	7.5	7.5
Initial addition to improvements	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, 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	Husbands are 3 years older	Husbands 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 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 for the Fund 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%

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)	109%
Funding level (change since previous valuation)	2%
Asset value used at the valuation	£3,658,000,000
Value of liabilities	£3,369,000,000
Surplus (deficit)	£289,000,000
Discount rate(s)	3.9% p.a.
Assumed pension increases (CPI)	2.4% p.a.
Method of derivation of discount rate, plus any changes since previous valuation	In line with the Funding Strategy Statement
Assumed life expectancies at age 65:	
Average life expectancy for future pensioners - men currently age 65	19.2 years
Average life expectancy for future pensioners - women currently age 65	22.4 years
Average life expectancy for future pensioners - men currently age 45	20.6 years
Average life expectancy for future pensioners - women currently age 45	24.0 years

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

Market value of assets	£3,672,000,000
Value of liabilities	£2,894,000,000
Funding level on SAB basis (assets/liabilities)	127%
Funding level on SAB basis (change since last valuation)	-23%

Contribution rates payable

Primary contribution rate	22.9% of pay		
Secondary contribution rate (cash amounts in each year in line with CIPFA guidance)			
Secondary contribution rate 2021/22	-£25,000,000		
Secondary contribution rate 2022/23	-£26,000,000		
Secondary contribution rate 2023/24	-£27,000,000		
Giving total expected contributions:			
Total expected contributions 2021/22 (£ figure based on assumed payroll)	£73,000,000	Based on assumed payroll of	£430,000,000
Total expected contributions 2022/23 (£ figure based on assumed payroll)	£76,000,000	Based on assumed payroll of	£444,000,000
Total expected contributions 2023/24 (£ figure based on assumed payroll)	£78,000,000	Based on assumed payroll of	£459,000,000
Average employee contribution rate (% of pay)	6.1% of pay		
Employee contribution rate (£ figure based on assumed payroll)	£26,000,000 p.a.	Based on assumed payroll of	£430,000,000 p.a.
Additional information			
Percentage of liabilities relating to employers with deficit recovery periods longer than 20 years	0%		
Percentage of total liabilities that are in respect of Tier 3 employers	6%		

Appendix 4 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 2021 to 31 March 2024.

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.

The primary rate of contribution as defined by Regulation 60(8) for each employer for the period 1 April 2021 to 31 March 2024 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 2021.

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.

Primary and secondary rate summary

The primary rate for the whole Fund is the weighted average (by payroll) of the individual employers' primary rates, and is 22.9% of payroll p.a.

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 2021 to 31 March 2024 is set out in the table below.

Secondary Contributions	2021/22	2022/23	2023/24
Total as a % of payroll	-5.8%	-5.8%	-5.8%
Equivalent to total monetary amounts of	-£25m	-£26m	-£27m

The average percentage of Pensionable Pay shown is based on the deficit contributions on a whole Fund level. The total monetary 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	Secondary rate (% pay plus monetary adjustment)			Total contributions (primary rate plus secondary rate)		
		(% pay)	2021/22	2022/23	2023/24	2021/22	2022/23	2023/24
20	Dundee City Council	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
30	Perth and Kinross Council	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
40	Angus Council	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
200	Tay Road Bridge	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
203	University of Abertay Dundee	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
204	University of Dundee	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
205	Dundee Citizens Advice Bureau	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%

Employer code	Employer name	Primary rate	Secondary rate (% pay plus monetary adjustment)			Total contributions (primary rate plus secondary rate)		
		(% pay)	2021/22	2022/23	2023/24	2021/22	2022/23	2023/24
207	Dundee Voluntary Action	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
208	Dovetail Enterprises	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
211	Carolina House Trust	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
213	Tayside Joint Police Board	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
215	Tayside Fire and Rescue	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
217	Abertay Housing Association	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
218	Dundee Contemporary Arts Ltd	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
219	Tayside Valuation Joint Board	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
220	Dundee Science Centre	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
222	Tayside Contracts	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
223	Scottish Social Work and Social Care	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
224	Scottish Social Services Council	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
228	Scottish Police Services Authority	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
229	Highlands & Islands Airports	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
232	Leisure and Culture Dundee	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%

Employer code	Employer name	Primary rate	Secondary rate (% pay plus monetary adjustment)			Total contributions (primary rate plus secondary rate)		
		(% pay)	2021/22	2022/23	2023/24	2021/22	2022/23	2023/24
233	Tayplan	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
236	Dundee and Angus College	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
237	Idverde	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
238	Sodexo	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
300	Live Active Ltd	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
302	Perth College	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
304	Perth Theatre Company Ltd	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
305	Perth Citizens Advice Bureau	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
306	Perth And Kinross Society for the Blind	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
307	Balnacraig School	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
317	Perth Countryside Trust	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
318	TACTRAN	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
319	MITIE PFI LTD	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
320	Culture Perth and Kinross	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
401	Montrose Port Authority	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%

Employer code	Employer name	Primary rate	Secondary rate (% pay plus monetary adjustment)			Total contributions (primary rate plus secondary rate)		
		(% pay)	2021/22	2022/23	2023/24	2021/22	2022/23	2023/24
403	Montrose Links Trust	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
404	Carnoustie Golf Links Community	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
405	Forfar Day Care Centre	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
408	Dorward House	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
409	Rossie Secure Accommodation Services	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
418	Robertson Facilities Management	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
419	Angus Alive	22.9%	-5.9%	-5.9%	-5.9%	17.0%	17.0%	17.0%
206	Travel Dundee	22.9%	17.1%	17.1%	17.1%	40.0%	40.0%	40.0%