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University of Manchester Superannuation Scheme

The Scheme Funding Report as at 31 July 2019

23 October 2020

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Contents

Copies of the following key documents are also attached and form part of this report:

- Actuary's certification of the calculation of ***technical provisions***
- Valuation data report
- ***Statement of funding principles***
- ***Recovery plan***
- ***Schedule of contributions***
- ***Section 179 valuation*** certificate

Scheme Funding Report

Introduction and purpose of the report

This report is the ***scheme funding report*** of the University of Manchester Superannuation Scheme (the scheme) as at 31 July 2019 (the valuation date). We have prepared this report for the purpose of satisfying certain statutory requirements by summarising the results of the latest actuarial valuation. The ***scheme funding report*** was commissioned by and is addressed to the Trustee of the scheme. Unless agreed otherwise in writing, we do not accept any liability or responsibility to any third party in respect of this report. This report has been produced after all the decisions in relation to the valuation have been made.

Appendix 1 sets out requirements of the trust deed and rules and the statutory, regulatory and professional requirements covered by this report. The report contains the results of two funding assessments, the ***scheme funding valuation*** and the ***solvency valuation***. Terms in ***bold italics*** are described in the valuation glossary contained within the ***valuation guide*** (sent at the start of the valuation process), which should be referred to in conjunction with this report.

Unless otherwise stated, we have relied on the information and data you have supplied to us in preparing the report and information from other third party sources including our administration department, without independent verification. We will not be responsible for any inaccuracy in the report that is a result of any incorrect information provided to us. As such, Mercer makes no representations or warranties as to the accuracy of the information presented and takes no responsibility or liability (including for indirect, consequential or incidental damages), for any error, omission or inaccuracy in the data supplied by any third party.

Data

Details of the scheme benefits, membership and assets are given in the valuation data report. I have not considered AVC benefits and, apart from for the ***Section 179 valuation***, members whose benefits are secured by annuities.

Employer Covenant

The Trustee has taken independent covenant advice on the University's covenant and it has been rated as 'slightly strong' (grading 4 out of 9 bands).

Investment Strategy

The Trustee's investment objective is set out in their statement of investment principles e.g. to achieve an overall rate of return that is sufficient to ensure assets are available to meet all liabilities as and when they fall due. The asset allocation as at the valuation date shown in the valuation data report. In particular this shows that the current long term investment strategy is to hold 60% in growth assets and 40% in matching assets. This strategy is under review and the long term expected return being targeted with this strategy is 1.5% per annum above gilt yields. This report does not contain regulated investment advice in respect of actions you should take. No investment decision should be made based on this information without obtaining prior specific, professional advice relating to your own circumstances.

Results

Present value of the past service liabilities for:	Scheme funding valuation £'ms	Solvency valuation £'ms
Active Members	345.6	571.4
Deferred Pensioners	218.1	326.2
Pensioners	257.5	296.3
GMP equalisation reserve *	1.8	2.7
Expenses	0.0	21.9
Total Liabilities	823.0	1,218.5
Total Assets	689.6	689.6
Surplus / (Deficit)	(133.4)	(528.9)
Funding Level	84%	57%

* An allowance of 0.23% of the liabilities has been made for GMP equalisation.

The method used to calculate the GMP equalisation reserve is described in Appendix 2.

The future service contribution rate calculated in accordance with the ***statement of funding principles*** is equal to the contribution rate in respect of the future accrual of benefits that is specified in the ***schedule of contributions***.

Based on the results of the ***scheme funding valuation,*** the Trustee has agreed new contribution rates with the University. The contributions agreed at this valuation are set out in the Trustee's ***schedule of contributions.***

The estimated funding level as at 31 July 2022 is approximately 88% for the ***scheme funding valuation*** and 61% for the ***solvency valuation***. This assumes investment returns are 1.5% p.a. above the gilt yield curve, other economic and demographic experience is in line with the assumptions for the respective valuations and that the assumptions used for each valuation as at 31 July 2022 are the same as those used at this valuation.

Appendix 2 describes how the deficit has changed since the last valuation.

The liability figures in this report are calculated by projecting future benefit cash flows over the remaining lifetime of members and other beneficiaries of the scheme. The duration of these projected benefit cash flows is long and could extend for 60 or more years into the future. Each such potential cash flow is multiplied by an assumed probability of payment and then discounted to the valuation date to allow for potential investment returns between the valuation date and the time the payment is due.

Risks

One risk is that the experience of the scheme differs to that assumed and contributions paid in by the University need to change. Valuation results are particularly sensitive to key assumptions. The following table illustrates the sensitivity of the results of the ***scheme funding valuation*** to variations in these key assumptions. In particular, the table shows the impact of the assumptions made not being borne out in practice, with future experience instead being as illustrated. Each row of the table considers one change in isolation.

Change in assumption	Approximate increase in past service liabilities	Approximate increase in future service contribution rate (as a percentage of Pensionable Salaries)
Discount rate reduced by 0.25% per annum	49.1	2.2%
Pensionable salary increase assumption increased by 0.25% per annum	0.3	0.0%
Inflation assumption increased by 0.25% per annum (includes impact on pensionable salary increase assumption)	38.8	1.8%
Probability of death in any given year after retirement reduced by 10%	25.3	0.6%
Long term rate of mortality improvement increased by 0.25% per annum	10.8	0.4%

Impact of Scheme winding up at the valuation date

Using the results of the ***solvency valuation***, and ignoring the impact of annuity policies written in the Trustee’s name, I estimate that the scheme’s assets only covered 82% of the value of the ***PPF compensation benefits*** had the scheme wound up on the valuation date with no further funds being available from the University. We would need to obtain an actual quote to make an accurate assessment but in such a scenario the results suggest that the ***PPF*** would have taken on all of the scheme's assets and provided members with ***PPF compensation benefits***.

Next steps

The Trustee must make a copy of this report available to the University within seven days of receiving the report.

The Trustee must provide a copy of the ***recovery plan***, valuation summary and ***schedule of contributions*** to the Pensions Regulator within ten working days from the date that I certify the ***schedule of contributions***. The valuation summary must be submitted through the Pensions Regulator's on line system ("Exchange"). I will submit this information to the Regulator on your behalf, unless you instruct me to the contrary. Please note that this does not give me any obligation to verify any other information on Exchange.

Unless an actuarial valuation is commissioned, the Trustee must commission an ***actuarial report*** in each of the two years up to the next valuation.

Within a reasonable period of the date by which the actuarial valuation must be obtained, a ***summary funding statement*** must be issued to all members. The Pensions Regulator has indicated that a “reasonable period” for this purpose should not generally be more than three months.

The next actuarial valuation should be carried out as at 31 July 2022 or before.

Charles Cowling

Fellow of the Institute and Faculty of Actuaries
Scheme Actuary

Appendix 1

Trust Deed, Statutory, Regulatory and Professional Requirements

This report has been prepared in accordance with:

- Clause 12.2 of the trust deed and rules dated 5 December 1995
- Part 3 of the Pensions Act 2004, The Occupational Pension Schemes (Scheme Funding) Regulations 2005 (SI 2005/3377)
- The Occupational and Personal Pension Schemes (Disclosure of Information) Regulations 2013 (SI 2013/2734)
- The Pensions Regulator's Code of Practice no 3 – "Funding defined benefits"
- This work is subject to and complies with the following Technical Actuarial Standards (TASs) issued by the Financial Reporting Council:
  - Principles for Technical Actuarial Work.
  - Technical Actuarial Standard 300: Pensions.

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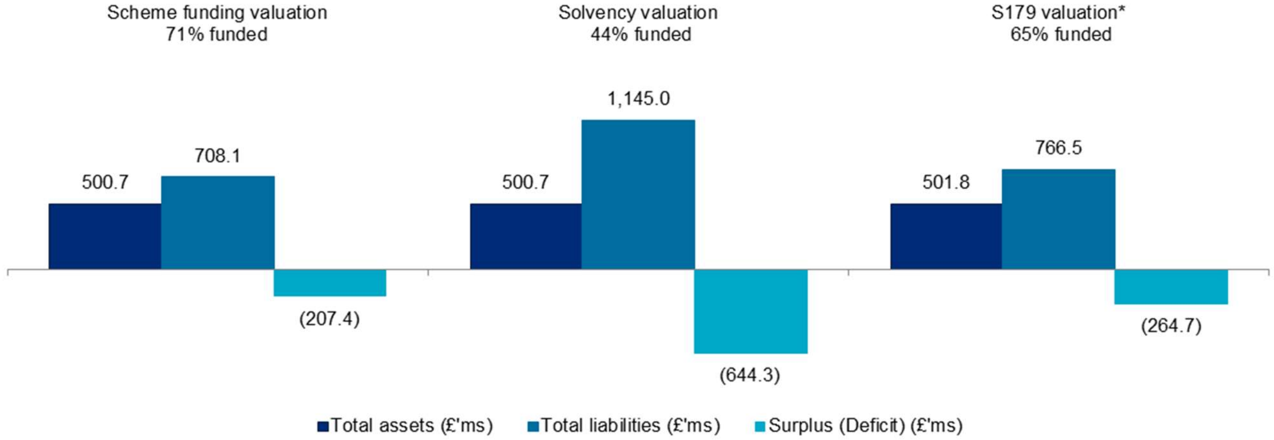
Unless agreed otherwise, no additional work will be performed after the date of this report nor will it be updated to take account of any events or circumstances arising hereafter.

Appendix 2

Review of the Intervaluation Period

Past service results at the previous valuation

The previous actuarial valuation was carried out as at 31 July 2016 and the funding position was:



Contributions

Employer contributions have been paid at the following rates in respect of the future accrual of benefits, death in service benefits and expenses:

1 August 2017 to 31 July 2018 - 19.75% of Pensionable Salary in respect of Final Salary and CARE active members

1 August 2018 to 31 December 2019 - 31.7% and 24.4% of Pensionable Salary in respect of Final Salary and CARE active members respectively.

1 January 2019 onwards - 19.75% of Pensionable Salary in respect of CARE active members

In addition, additional contributions have been paid as follows:

- £956,000 p.a. from 1 January 2019 (payable in quarterly instalments of £239,000)
- £6 million p.a. paid quarterly in arrears on each of 31 October, 31 January, 30 April and 31 July increasing with RPI, with the first increase applied on 1 August 2018 and annually thereafter.
- Monthly contributions of £10,000 paid by Graduate Prospects.

Final Salary and CARE members have paid contributions of 7.5% and 6.5% of Pensionable Salaries respectively. Member contributions were paid by the University for those members who participate in PensionChoice.

Benefits changes

With effect from 1 January 2019, final salary accrual ceased and all future service benefits changed to CARE benefits, with the rate of accrual reducing from 80ths to 100ths. The Scheme closed to new entrants with effect from 1 January 2019.

High court ruling on GMP inequalities

The English High Court ruling in Lloyds Banking Group Pension Trustees Limited v Lloyds Bank plc and others was published on 26 October 2018, and held that UK pension schemes with Guaranteed Minimum Pensions (GMPs) accrued from 17 May 1990 must equalise for the different effects of these GMPs between men and women. The case also gave some guidance on related matters, including the methods for equalisation and decided that method “C2” was lawful in principle and met the minimum requirements to achieve equality. Method C2 provides the better of male and female comparator pensions each year, subject to accumulated offsetting and an allowance for interest. The court decided that other methods are available, but would require employer agreement.

The Trustee of the scheme will need to obtain legal advice covering the impact of the ruling on their scheme, before deciding with the University on the method to adopt. The legal advice will need to consider (amongst other things) the options for GMP equalisation solutions, whether there should be a time limit on the obligation to make back-payments to members (the “look-back” period) and the treatment of former members (members who have died without a spouse and members who have transferred out for example).

The ***technical provisions*** and ***solvency valuation*** results within this report include an estimate of the impact if the method “C2” were to apply to past and future benefit payments (referred to below as the “GMP equalisation reserve”). I have assumed that there would be no limit on the “look-back” period for rectification and have only considered members who currently have GMP liabilities within the scheme (not members who have died without a spouse or members who have transferred out for example).

Change in membership

	Previous valuation	Current valuation
Number of		
Active members	3,331	3,432
Deferred members	2,834	3,257
Non insured pensioners	2,191	2,336
Insured pensioners	9	9
Total number of members	**8,365**	**9,034**

Financial experience in inter-valuation period

Assumption	Assumed rate at last valuation (per annum)	Average rate during inter-valuation period (per annum)
Investment returns[1]	2.88%[1]	9.5%
Rate of increase in earnings	3.75%	2.1%[2]
Revaluation up to retirement		
in line with RPI up to 5% p.a.	3.0%	3.1%
in line with CPI up to 5% p.a.	2.0%	2.2%
Pension increases in payment		
in line with RPI up to 5% p.a.	3.0%	3.1%
in line with CPI up to 5% p.a.	2.0%	2.2%
in line with CPI up to 3% p.a.	2.0%	2.1%

[1] Assumed investment return is equal to the discount rate. The investment return anticipated within the recovery plan was equivalent to a single discount rate of 3.7% p.a. over the recovery period.

[2] Members present at both valuations.

Impact of inter-valuation experience on the scheme funding valuation

Comparing actual experience against that allowed for within the ***scheme funding valuation*** assumptions provides a useful insight into:

- How the funding of the scheme on the scheme funding valuation basis has developed since the last valuation
- Some of the risks faced by the scheme
- How the funding of the scheme might develop if events were to repeat themselves

In order to illustrate the impact of the inter-valuation experience on the ***scheme funding valuation***, I have reconciled the assets and liabilities as at the previous valuation to those at the valuation date. In doing so I have calculated the value of the liabilities as at the valuation date using the same method and assumptions as at the previous valuation and then examined the impact of changes to financial conditions and, separately, the changes to assumptions and method underlying the proposed ***statement of funding principles***.

	£'m
Value of past service liabilities at previous valuation	708.1
Interest on the liabilities	64.3
Value of benefits accrued	79.2
Impact of actual salary and inflationary increases	(5.8)
Benefits paid	(49.6)
Impact of final salary benefits being paid up	(22.8)
Mortality experience and other membership movements	(7.3)
GMP equalisation reserve*	1.7
Impact of changes in financial conditions since previous valuation	130.7
Change in financial assumptions in the statement of funding principles	(24.7)
Change to morality assumptions in the statement of funding principles	(42.8)
Miscellaneous	(8.0)
Value of past service liabilities at current valuation	823.0

*This is different from the GMP equalisation reserve shown in the Results section because that figure includes changes in assumptions since the last valuation, which are shown separately in the table above.

	£'000s
Value of assets at previous valuation	500.7
Expected return on assets	45.7
Investment out performance	115.8
Employer contributions	79.3
Member contributions	2.5
Benefits paid	(49.6)
Expenses	(4.8)
Value of assets at current valuation	689.6

A similar analysis of the ***future service rate*** gives the following results:

	% of pensionable salaries
Overall future service rate at previous valuation	35.9%
Change in benefits	(12.9%)
Impact of changes in financial conditions since previous valuation	6.0%
Change in financial and mortality assumptions	(2.9%)
Change of expense allowance to a lump sum	(1.5%)
Overall future service rate at current valuation	24.6%

Appendix 3

Valuation Assumptions

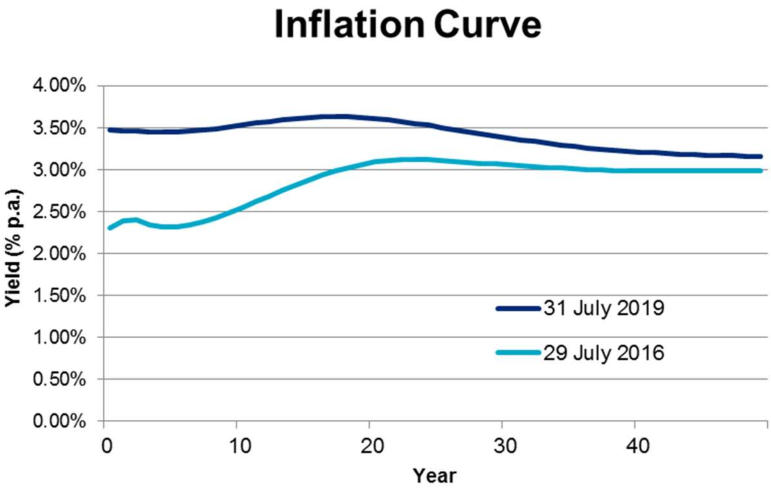
I consider the assumptions described in this appendix to be appropriate for the purpose of the calculations. These assumptions are used to calculate both the past service liabilities and the ***future service rate***.

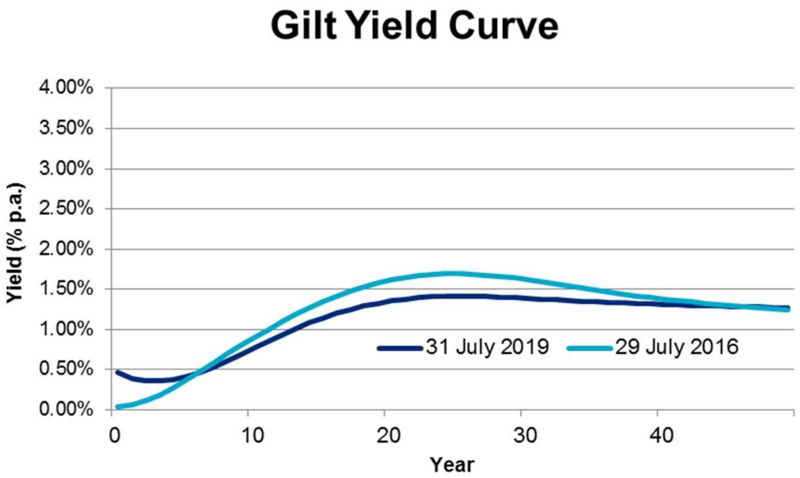
Scheme Funding and Solvency Valuations

The key financial data used to determine the financial assumptions are:

Financial data

The key financial data used to determine the financial assumptions at the valuation date are:





Financial data	Measure at last valuation date	Measure at this valuation date
Annualised yield on the FTSE Actuaries' Government Securities 20 Year Fixed Interest Yield Index	1.5% p.a.	1.3% p.a.
Bank of England's implied Retail Prices Index (RPI) spot curve at a term of 20 years	3.1% p.a.	3.6% p.a.

Scheme funding valuation

Financial assumptions

	Previous valuation (p.a.)	Current valuation (p.a.)
Return on assets over deficit recovery period	4.0% p.a. decreasing linearly over 20 years to 3.4% p.a.*	Nominal Gilt Yield Curve plus 1.50% p.a. at each term
Past Service Discount rate	2.9% p.a. decreasing linearly over 20 years to 2.5% p.a.**	Nominal Gilt Yield Curve plus 1.00% p.a. at each term
Future Service Discount Rate	3.1%	Nominal Gilt Yield Curve plus 1.50% p.a. at each term
Retail Prices Index (RPI) inflation	3.0%	Gilt Inflation Curve less 0.10% p.a. at each term
Consumer Prices Index (CPI) inflation	2.0%	RPI Inflation less 1.00% p.a. at each term
Rate of increase in earnings	3.75%	RPI Inflation plus 0.75% p.a. at each term
Revaluation up to retirement:		
In line with RPI up to 5% p.a.	3.0%	RPI Inflation at each term subject to a maximum of 5.00% p.a.
In line with CPI up to 5% p.a.	2.0%	CPI Inflation at each term subject to a maximum of 5.00% p.a.

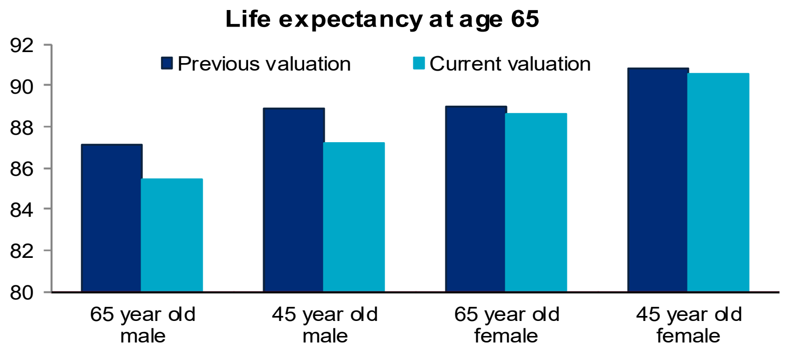
*Equivalent to a single discount rate of 3.75% p.a.

**Equivalent to a single discount rate of 2.6% p.a.

	Previous valuation	Current valuation
Pension increases in payment:		
In line with RPI up to 5% p.a.	3.0%	Derived at each term using Black Scholes Methodology with a volatility assumption of 1.75%
In line with CPI up to 5% p.a.	2.0%	Derived at each term using Black Scholes Methodology with a volatility assumption of 1.75%
In line with CPI up to 3% p.a.	2.0%	Derived at each term using Black Scholes Methodology with a volatility assumption of 1.75%

Demographic assumptions

	Previous valuation	Current valuation
Mortality before retirement	None	None
Mortality after retirement – base mortality table	100% of S2PMA (males) and 100% of S2PFA (females) projected to the valuation date using the method shown below.	100% of 2018 Vita Curves (males) and 100% of 2018 Vita Curves (females) projected to the valuation date using the method shown below.
Mortality after retirement - mortality improvements	CMI_2016 [1.50%]	CMI_2018 [1.50%]



	Current valuation	
	Cohort life expectancy at age 65	***Period life expectancy*** at age 65
65 year old male	85.42	84.27
45 year old male	87.21	
65 year old female	88.65	87.24
45 year old female	90.54	

<table>
<tr><th></th><th>Previous valuation</th><th>Current valuation</th></tr>
<tr><td>Allowance for commutation of pension for cash</td><td>None</td><td>None</td></tr>
<tr><td>Withdrawal rates</td><td colspan="2">Allowance has been made for members leaving the scheme at the following sample rates (per annum):
<table>
<tr><td>Age</td><td>Male</td><td>Female</td></tr>
<tr><td>25</td><td>14.6%</td><td>18.8%</td></tr>
<tr><td>35</td><td>8.6%</td><td>10.8%</td></tr>
<tr><td>45</td><td>3.0%</td><td>3.6%</td></tr>
<tr><td>55</td><td>Nil</td><td>Nil</td></tr>
</table></td></tr>
<tr><td>Early Retirement</td><td>For pre 1 April 2012 benefits:

Active members assumed to retire at age 62.

Deferred members with more than 5 years service assumed to retire at age 60.

Remaining deferred members assumed to retire at age 65.

For post 1 April 2012 benefits:

Members assumed to retire at age 65 unless they were over age 55 at 1 April 2012 (these members will be assumed to retire as set out above).</td><td>Active members

Members with more than 5 years service are assumed to retire at 62. A 3 year early retirement factor will be applied to post 1 April 2012 service unless the member was over the age of 55 on 1 April 2012, in which case no reduction will apply.

Members with less than 5 years service are assumed to retire at age 65.

Deferred members

Members with more than 5 years service are assumed to retire at age 60. A 5 year early retirement factor will be applied to post 1 April 2012 service unless the member was over the age of 55 on 1 April 2012, in which case no reduction will apply.

Members with less than 5 years service are assumed to retire at age 65.</td></tr>
<tr><td>Ill Health</td><td colspan="2">Active members assumed to retire early due to ill health at the following sample rates (per annum):
<table>
<tr><td>Age</td><td>Male</td><td>Female</td></tr>
<tr><td>25</td><td>Nil</td><td>Nil</td></tr>
<tr><td>35</td><td>0.1%</td><td>0.1%</td></tr>
<tr><td>45</td><td>0.2%</td><td>0.3%</td></tr>
<tr><td>55</td><td>1.0%</td><td>1.4%</td></tr>
</table></td></tr>
</table>

Allowance for dependants' pensions	
% married at retirement	Males 80%, Females 80%
Age difference	Males 3 years older than females
Discretionary benefits	None

Expense assumptions

Use the following table to summarise assumptions.

	Previous valuation	Current valuation
Allowance for the costs of levies to the Pension Protection Fund, insurance premiums for death in service benefits and management and administration expenses	2.0% p.a. of Pensionable Salaries	0.5% p.a. of Pensionable Salaries plus 1.7 Million p.a.

Solvency valuation

Key financial assumptions	(p.a.)
Pre retirement discount rate	Nominal Gilt Yield curve less 0.30% p.a. at each term
Post retirement discount rate	Nominal Gilt Yield curve with no adjustment
Inflation : RPI	Gilt Inflation Curve with no adjustment
Inflation : CPI	Gilt Inflation Curve less 0.8% p.a. until 2030 and less 0% p.a. after 2030

Revaluation up to retirement	(p.a.)
In line with RPI up to 5% p.a.	RPI Inflation at each term subject to a maximum of 5.0% p.a.
In line with CPI up to 5% p.a.	CPI Inflation at each term subject to a maximum of 5.0% p.a.
PPF compensation cap	Not applicable
Pension increase in payment	**(p.a.)**
In line with RPI up to 5% p.a. In line with CPI up to 5% p.a. In line with CPI up to 3% p.a.	Derived at each term using Black Scholes Methodology with a volatility assumption of 1.75%

Demographic assumptions

Mortality after retirement		100% of 2018 Vita Curves (males) and 100%% of 2018 Vita Curves (females) tables projected using CMI_2018 [1.75%] (males and females).
Allowance for commutation of pension for cash		None
Withdrawal rates		All active members are assumed to leave active service as at the valuation date.
Early Retirement		All members are assumed to retire at their normal retirement age, with a late retirement factor applied to any benefits that could have been taken at an earlier age.
Allowance for dependants' pensions		
	% married at retirement	Males 70%, Females 70%
	Age difference	Males 3 years older than females
Discretionary benefits		None

Expense assumptions

Allowance for wind up expenses	3% of the first £50m of liabilities, plus 2% of the next £50m of liabilities, plus 1% of liabilities in excess of £100m, plus a fixed expense
Allowance for other expenses	None

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Certificate of Technical Provisions

Name of the Scheme	University of Manchester Superannuation Scheme

Calculation of technical provisions

I certify that, in my opinion, the calculation of the scheme's technical provisions as at 31 July 2019 is made in accordance with regulations under section 222 of the Pensions Act 2004. The calculation uses a method and assumptions determined by the Trustee of the scheme and set out in the statement of funding principles dated (i.e. signed on behalf of the Trustee on) 20 October 2020.

Signature	
Name	Charles Cowling
Date of signing	
Name of employer	Mercer Limited
Address	Belvedere, 12 Booth Street, Manchester, M2 4AW
Qualification	Fellow of the Institute and Faculty of Actuaries