Government Actuary's Department

MRC Pension Scheme: University section

Actuarial valuation as at 31 December 2019

21 December 2020

Sue Vivian FIA

MRC Pension Scheme: University section

Actuarial valuation as at 31 December 2019

To the Trustee of the MRC Pension Scheme

At the request of the Trustee, and in accordance with Clause 15.24 of the Trust Deed and Rules, I have carried out an actuarial valuation of the University section as at 31 December 2019. The previous valuation of the Section was carried out by myself as at 31 December 2016.

This valuation has been carried out under Part 3 of the Pensions Act 2004 and in conformity to the relevant parts of the Occupational Pension Schemes (Scheme Funding) Regulations 2005 (SI 2005/3377) as amended.

Section 224(7) of the Pensions Act 2004 requires the Trustee to make this report available to the Employers[1] within seven days of their receiving it. This report must also be made available to members upon request. Any third parties who read this report should bear in mind that it is addressed to the Trustee. GAD does not accept any liability to third parties who read this report.

Sue Vivian

Fellow of the Institute and Faculty of Actuaries

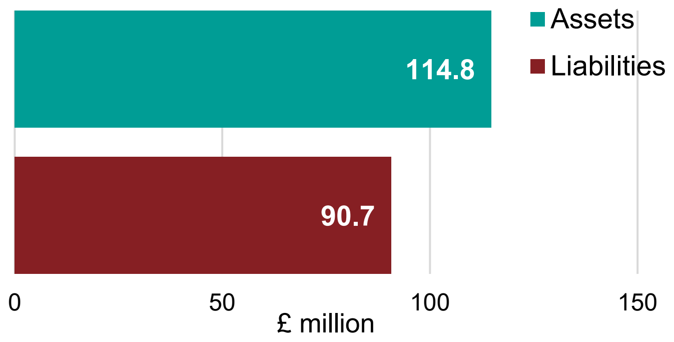
21 December 2020

[1] There is no requirement to provide a copy to those participating employers for whom MRC is empowered to act in relation to Part 3 of the Pensions Act 2004.

MRC Pension Scheme: University section - key valuation results

Technical Provisions as at 31 December 2019

Assets	£114.8m
Liabilities	£90.7m
Surplus	£24.1m
Funding Level	127%

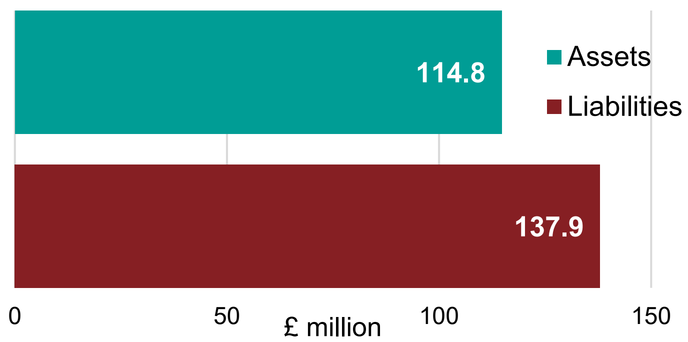


Cost of future accrual (SCRs) and contribution rates

Standard contribution rate in respect of accruing benefits	50.5%
Agreed rate of contribution payable by MRC from 1 April 2021	27.1%
Plus agreed rate of contribution payable by university employers from 1 April 2021	16.9%
Member contribution rate	6.5%

Solvency basis as at 31 December 2019

Assets	£114.8m
Liabilities	£137.9m
Deficit	£23.1m
Funding Level	83%



Contents

At GAD, we seek to achieve a high standard in all our work. We are accredited under the Institute and Faculty of Actuaries' Quality Assurance Scheme. Our website describes **the standards** we apply.

Summary of key results

1.1 The Scheme was sectionalised on 1 January 2014 into two sections, the MRC and University Sections. This report sets out the results of the actuarial valuation for the MRC Pension Scheme: University section (the 'Section') as at 31 December 2019 (the 'valuation date'). The results of the valuation of the MRC section are covered in a separate report. It has been carried out in accordance with Part 3 of the Pensions Act 2004. This report includes statements of:

- the Section's assets and technical provisions, to confirm the Section's funding position relative to the statutory funding objective
- the cost of new accrual for members in pensionable service, and confirmation of the rates of contribution to be paid to the Section
- the Section's solvency position

1.2 The valuation balance sheet, setting out the adequacy of the Section's assets in relation to its liabilities, is shown in table 1 below.

Table 1: Valuation balance sheet – statutory funding objective

	31 December 2019 £ million	31 December 2016 £ million
Assets (excluding AVCs)	**114.8**	**66.9**
Technical Provisions (or value of liabilities)		
Active	62.3	34.2
Deferred	19.8	8.8
Pensioners	8.6	2.9
Total Liabilities	**90.7**	**45.9**
Statutory funding objective surplus (deficit)	**24.1**	**21.0**
Funding level[1]	**127%**	**146%**

Totals may not equal sum of parts due to rounding

[1] The funding level is the ratio of the value of the assets to the value of the liabilities

1.3 The principal conclusions of this actuarial valuation, carried out on the basis of the statement of funding principles signed on 16 December 2020 are:

- the past service liability, the Section's technical provisions, as at 31 December 2019 are £90.7 million
- the market value of the Section's assets as at 31 December 2019 was £114.8 million and so represented 127% of the Section's technical provisions (with a surplus of £24.1 million)

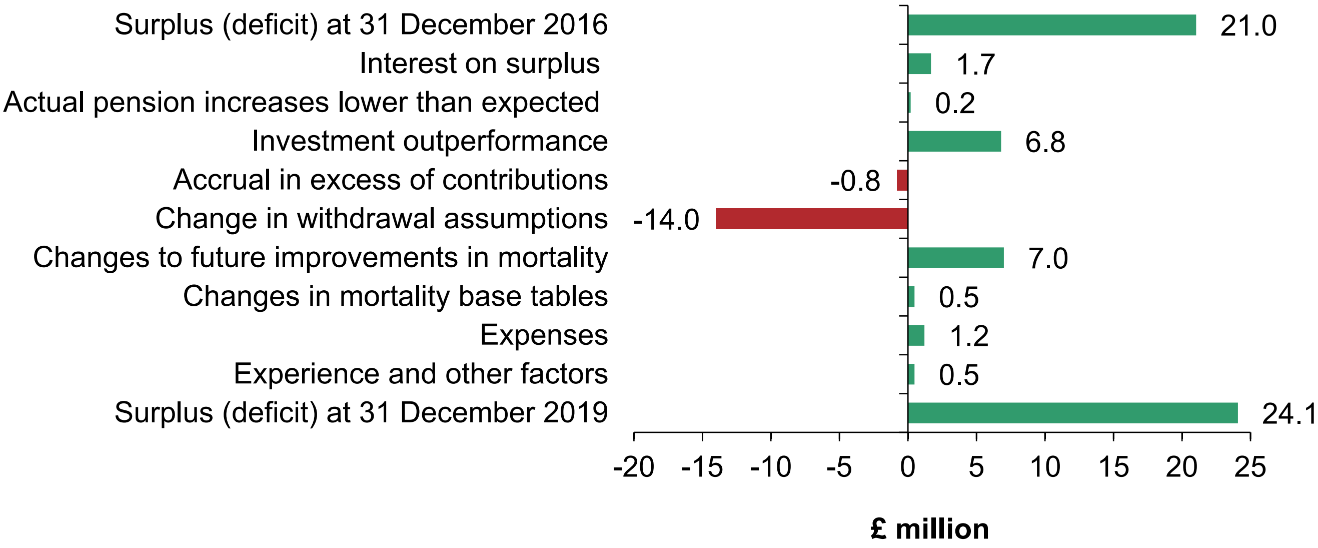
- at the previous valuation as at 31 December 2016 the assets represented 146% of the technical provisions (with a surplus of £21.0 million).
- as the Section remains in surplus no recovery plan is required.

1.4 The certification of the calculation of the technical provisions required under section 225 of the Pensions Act 2004 is provided in Appendix J.

Changes in the funding position since the previous valuation

1.5 Figure 1 shows the principal reasons for the change in the SFO funding position, from a surplus of £21.0 million at 31 December 2016 to one of £24.1 million at 31 December 2019.

Figure 1. Change in surplus between 31 December 2016 and 31 December 2019



1.6 The change in withdrawal assumptions item above reflects a change to the allowance for future pay growth. At the 2016 valuation an allowance for future pay growth was only incorporated for a period of up to five years after the valuation date, thereafter it being implicitly assumed that members' accrued benefits would be of equivalent value to those leaving with an entitlement to deferred benefits at that stage. At this valuation, it has been assumed that members will exit the Scheme in line with the demographic assumptions. This change in assumption has resulted in a reduction in the surplus of £14 million. The impact has been broadly offset by a combination of better than expected investment performance over the intervening period and revision to the mortality assumptions at this valuation.

Future progression of funding level on technical provisions basis

1.7 The next actuarial valuation of the Section is due as at 31 December 2022. If all the assumptions made for the purposes of assessing the statutory funding objective are borne out in practice, and contributions are paid in line with the schedule of contributions, the estimated funding level at the next valuation date is expected to have decreased from 127% to 119%.

Cost of accruing benefits

1.8 Table 2 shows the cost of new accrual for the active members, expressed as a percentage of pensionable salary (as defined in the Scheme rules). It has been calculated using the data, methods and assumptions described in Appendices B, C and D. The cost calculated at the previous valuation is shown for comparison.

Table 2: Cost of accruing benefits

	2019 valuation % of salary	2016 valuation % of salary
Cost of new accrual	50.5	44.4

1.9 The cost of accrual has increased from 44.4% of pensionable salary to 50.5% of pensionable salary. This is principally due to the change in approach to setting assumptions adopted for this valuation which places a higher expected value on benefits accruing. In particular, the longer allowance for future pay increases made for the current valuation.

1.10 Members contribute at an average rate of 6.5% of pensionable salary (summarised in Appendix A).

1.11 UKRI has agreed with the Trustee that from 1 April 2021 all the university employers will contribute at the rate of 16.9% of pay and MRC will pay the balance of accrual cost of 27.1%. Despite the surplus on the statutory funding objective these rates of contribution have been agreed in recognition of the alternative funding objective (see paragraphs 1.14 and 1.15). No offset against accrual cost having been considered as part of this valuation as the Section is not fully funded on that basis.

Solvency

1.12 The solvency valuation provides an estimate of the proportion of the accrued rights that would have been covered by the Section's assets at the valuation date, had the Section's benefits been bought out with an insurer at that date. This compares with the funding valuation, which assumes that the Section continues to pay members' benefits out of its own resources.

1.13 For the solvency valuation, the Section's assets are taken at market value while the assessed value of the liabilities is taken as the approximate cost of buying out the accrued benefits with an insurance company. More detail on the results of the solvency valuation and assumptions used can be found in Appendix F.

Table 3: Estimated solvency position

	31 December 2019 £ million	31 December 2016 £ million
Assets	114.8	66.9
Liabilities	137.9	61.7
Surplus / deficit	(23.1)	5.2
Funding level	83%	108%

Alternative funding objective

1.14 An alternative funding objective has been set for the Section. This is intended to form a benchmark against which the Trustee can assess whether the Section has sufficient assets to avoid a section 75 debt arising in the future, for the purposes of informing the rate of sponsor contribution to the Section. Under the alternative objective, liabilities will be assessed on a buy-out basis and compared to existing assets.

1.15 Results taking account of the alternative funding objective are shown below.

Table 4: Alternative Funding Objective results as at 31 December 2019

Alternative Funding Objective	31 December 2019	31 December 2016
	£ million	£ million
Market Value of Assets (excluding AVCs)	114.8	66.9
Total value of accrued benefits	134.0	65.6
Surplus/(Deficit) (Assets less value of benefits)	**(19.2)**	**1.3**
Funding level (Assets / Value of benefits)	**86%**	**102%**

Scheme benefits

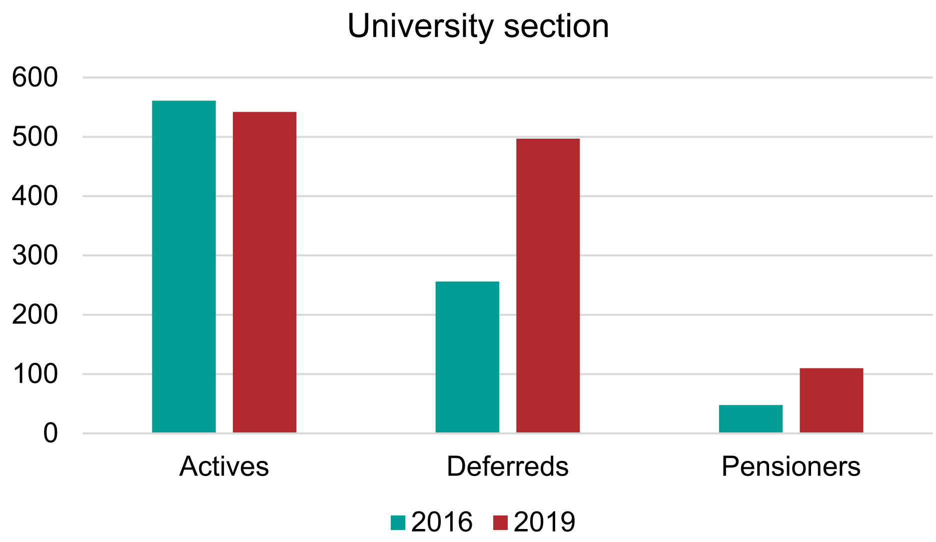
1.16 The principal benefits payable from the Scheme are summarised in Appendix A. The scheme introduced a career average revalued earnings ("CARE") scheme in respect of new joiners with effect from 1 April 2018.

Scheme membership data

1.17 The membership and financial data was provided by the Scheme's administrators, Mercer, on behalf of the Trustee for the valuation.

1.18 Figure 2 summarises the Section's membership data at 31 December 2019, with the corresponding data at 31 December 2016 shown for comparison. Further information is included in Appendix B. The number of active members of the University section as at 31 December 2019 has reduced slightly since the previous valuation. The numbers of deferreds and pensioners have both grown.

Figure 2: University section



1.19 The projected benefit cash flows in respect of past service benefits are illustrated in Appendix E. The Section's duration (or how long on average it is until the benefits of the scheme fall due) is around 28 years as at 31 December 2019.

1.20 Further information on the Scheme and the Section's membership data, including an analysis of demographic experience over the period since the 2016 valuation is contained within my papers 'Membership and financial data' and 'Analysis of experience and setting demographic assumptions' dated June 2020.

Valuation method

1.21 For the purposes of the valuation, the Section's assets have been taken into account at market value. This complies with the requirements of the scheme funding regulations when assessing whether the statutory funding objective has been met.

1.22 The Section's investment strategy is set out in the Trustee's statement of investment principles. The current strategy contains a benchmark allocation of:

- 80% 'lower risk' assets which are expected to generate lower returns than growth assets but will provide a better match to the liabilities, with less funding level volatility
- 20% 'growth' assets, which the Trustee expects to generate a long term return greater than low risk assets such as government bonds

1.23 Since the 2016 valuation the investment strategy has changed to include the 20% growth asset allocation. This was agreed as part of the consultation process with MRC following the 2016 valuation and was allowed for in that valuation. The intent of the growth asset allocation was to allow some investment risk as the Section grew with the hope that additional return would be achieved to offset the costs of targeting section 75 debt coverage. Further detail on the Section's assets at the valuation date can be found in Appendix B.

1.24 The value placed on the Section's liabilities, and the calculation of future contribution rates, depend on the members' benefits, the current membership profile, and the methods and assumptions used for the valuation.

1.25 This valuation uses the actuarial method known as the ‘Projected Unit’ method for the purposes of the Statutory Funding Objective and calculating the accrual cost. The Alternative Funding Objective uses the ‘defined accrued benefits’ method. For more details see Appendix C.

Statement of funding principles and valuation assumptions

1.26 Table 5 below shows a summary of the principal valuation assumptions.

1.27 Please refer to the statement of funding principles signed on 16 December 2020 for details of the Trustee policy for meeting the statutory funding objective and its alternative funding objective. The statement of funding principles also sets out the method and assumptions used to calculate the liabilities and the cost of accrual. Further information on the assumptions adopted are contained in Appendix D.

Table 5: University section - summary of main valuation assumptions

Main financial assumptions	31 December 2019 %pa		31 December 2016 %pa	
	SFO	AFO	SFO	AFO
Discount rate	2.0%	Gilt yield curve + 0.25% for pensioners; -0.25% for non-pensioners	2.6%	1.9%
Earnings increases (long-term)	3.5% + promotional scale	n/a	4.1%+ promotional scale[1]	5.0%+ promotional scale[1]
CPI (pension increases)	2.0%	3.0%	2.6%	3.0%
Base mortality tables	S3NXA table (U=2019), -1 age rating for men, no rating for women		S2NXA table (U=2016), -1 age rating	
Mortality – future improvements	ONS 2018 population projections		ONS 2014 population projections	

[1] For a maximum of 5 years

1.28 Further information on the derivation of the discount rates are set out in Appendix D.

Sensitivity of valuation results

1.29 The results of this review are sensitive to the choice of assumptions made. Changing the key valuation assumptions has an impact on the technical provisions and the amount of surplus in the Section. Table 6 illustrates the impact of a change in assumptions on the results of this valuation.

Table 6: University section - results on sensitivity testing

Sensitivity	Change in technical provisions (£m)	Surplus amount (£m)
Valuation results		
0.5% decrease to discount rate	14.6	9.5
0.25% increase to CPI	7.1	17.0
Members live one year longer on average	2.8	21.3

Financial risks

1.30 The Trustee's policy for meeting the statutory funding objective is to adopt a set of assumptions which produces a higher level of technical provisions than best estimate assumptions. This is a prudent approach that would lead to a surplus emerging at future actuarial valuations if the best estimate assumptions were borne out in practice. However, it is possible that future experience may be less favourable than the prudent assumptions adopted for the valuation.

1.31 The main risk to the financial position of the Section and the actions taken to mitigate those risks are set out in Appendix G.

Section 179 valuation

1.32 The results of the Section 179 valuation and certificate required to complete the scheme return are enclosed in Appendix I.

Transfer values

1.33 Based on the current Cash Equivalent Transfer Value (CETV) factors applicable, the Scheme's assets would be sufficient to pay unreduced transfer values for all members at the valuation date.

1.34 The limitations relating to this report are provided in Appendix L.

Implications of the valuation and next steps

1.35 The Trustee and employer have agreed a statement of funding principles and schedule of contributions. The actuarial certification of the schedule of contributions has been provided.

1.36 The Trustee must make this report available to the employer within seven days of receiving it.

1.37 The schedule of contributions should be submitted to The Pensions Regulator via the Exchange system by the statutory deadline of 31 March 2021.

1.38 The Trustee is required to submit certain information in relation to this valuation to The Pensions Regulator on the Scheme's annual scheme return via the Exchange system. The information that should be submitted is set out in Appendix K.

1.39 The Trustee should provide a summary funding statement to the members by 30 June 2021.

1.40 The next triennial valuation is due on the 31 December 2022.

Sue Vivian

Scheme Actuary

Fellow of the Institute and Faculty of Actuaries

21 December 2020

Appendix A: Summary of benefits

A.1 This Appendix summarises the main provisions of the MRCPS as at 31 December 2019 in respect of future service from that date. The benefits payable under the Scheme are detailed in the Trust Deed and Rules.

	Final Salary Members: Benefits are defined in terms of the member's salary and reckonable service. Prior to April 2016 the scheme was contracted-out of the State Second Pension (previously the State Earnings-Related Pension Scheme).	**CARE:** Members accrue pension on a Career Average Revalued Earnings (CARE) basis at the rate of 1/60th of pensionable salary. The scheme introduced a CARE scheme in respect of new joiners with effect from 1 April 2018.
Eligibility	All full-time and part-time employees who joined before 1 April 2018.	All full-time and part-time employees who joined on and from 1 April 2018.
Normal Retiring Age	Age 65 for Scientists and all new entrants since 1 September 1997. Age 60 for non-Scientists who were in service before 1 September 1997 and who did not opt to change their NRA to 65.	Member's State Pension Age (SPA).
Pensionable salary	Basic pay plus certain allowances (excluding overtime pay).	Member's salary as at 1 April. Salary being defined as total fixed salary plus London weighting allowance and responsibility allowance, contracted extra duties and permanent additions.
Final Pensionable salary	The best year's pensionable salary within the last 3 years.	N/A
Normal Retirement Benefits	• on retirement, a member's pension is equal to 1/80th of Final pensionable salary for each year of scheme membership (calculated in years and days) subject to a maximum of 40 years at NRA and 45 on later retirement • on retirement, a lump sum benefit equal to 3 times the annual pension. Members may opt to commute pension for additional lump sum, subject to overall HMRC limits, at the rate of £14: £1 pa • on death after retirement, a pension is payable to a dependant of the member at one half of the rate of the member's pension: i.e. effectively at 1/160th of Final pensionable salary per year of service	• on retirement, a member's pension is equal to 1/60th of pensionable earnings each scheme year (subject to a maximum of 45 years), revalued to retirement • on retirement, members may opt to commute pension for a lump sum, subject to overall HMRC limits, at the rate of £14: £1 pa • on death after retirement, a pension is payable to a dependant of the member at one half of the rate of the member's pension: i.e. effectively at 1/160th of Final pensionable salary per year of service, plus pension increases
Revaluation of active members' pensions	N/A	A revaluation percentage of 1.5% plus CPI (where CPI is no less than 0%) based on September CPI is applied each year. Each increase is applied every 1 April (it does not apply to any pension accrued in the preceding 12 months).

Pension Increases	Pensions in payment and deferment are increased each April in line with CPI in accordance with the Pensions (Increase) Acts.	
Ill-Health Retirement Benefits	A member who retires on ill-health grounds may receive an immediate pension and lump sum benefit, calculated in the same way as for normal retirement except that service is enhanced to Normal Retiring Age	A member who retires on ill-health grounds may receive an immediate pension which is not reduced for early payment. Their total ill-health pension will equal the total accrued pension plus an enhancement based on service to NRD.
Dependants' Pensions on Death in Service	A dependant's pension arising from death in service is equal to one-half of the pension that would have been payable had the member taken immediate ill-health retirement.	A dependant's pension arising from death in service is equal to 1/160th of pensionable earnings at date of death, for each year of service up to NRD (maximum of 45 years of service).
Short-term dependant's Pensions	• on death in service, dependants receive a short-term pension at the rate of the member's pensionable salary, for a period of 3 months (or for 6 months if there is an eligible child or children) • on death after retirement, dependants receive a short-term retirement pension equal to the member's pension for 3 months (or 6 months if there is an eligible child)	
Lump Sum Death Benefits	• on death in service, a lump sum equal to 4 times salary at death • on death after retirement, a balance payment equal to the excess (if any) of 5 times the annual pension, less pension payments and lump sum already received	
Children's Pensions	Pensions may be payable to eligible children following a member's death.	
Withdrawal	Provided the member has completed 2 years' service, a deferred pension and lump sum benefit based on accrued service are payable from NRD. For members with less than 2 years' service, a refund of contributions (less tax and a share of the Contributions Equivalent Premium) is payable. At the member's option, a transfer value may be paid to another pension arrangement (subject to certain restrictions).	
Member Contributions	Most active members contribute to the scheme either at the rate of 6½% (normal retiring age 65) of pensionable salary or at the rate of 6¼% (normal retiring age 60) of pensionable salary. A small minority of members have reserved rights to contribute to the scheme at the rate of 5%, 5¼% or 6% of pensionable salary. These rates are set out in the Rules of the scheme. Members may pay additional contributions on a voluntary basis.	Active members contribute to the scheme at the rate of 6½% of pensionable salary. Members may pay additional contributions on a voluntary basis.

Appendix B: Financial and membership data

B.1 The data I have taken into account in the valuation is summarised below.

Table B.1: University section - members at 31 December 2019

Category	Number of members	Average Age[1]	Total pensionable pay £000's p.a. £	Average accrued pension £
Active	542	50	25,853	3,040
Deferred	497	49	n/a	1,330
Pensioner	110	66	n/a	3,240

[1] Weighted by salary/pension

B.2 The liabilities in the University section consist of all liabilities arising from University section employment. All members also have entitlement to benefit within the MRC section. The liabilities for those benefits are included in MRC section.

B.3 The participating employers of the University Scheme and the dates of transfer of employment/participation are shown in the following table.

Table B.2: List of University section employers as at 31 December 2019

Employer	Number of members[3]	Payroll[1] £m	Payroll % total	Participation date(s)
University section				
London School of Hygiene and Tropical Medicine	27	1.4	2%	1 February 2018
University of Edinburgh	48	2.3	3%	1 October 2011
University of Oxford	52	2.8	4%	1 April 2010, 1 July 2013 and 1 July 2016
University of Cambridge	202	9.0	12%	1 May 2013, 1 October 2013, 1 September 2016, 1 December 2016, 1 March 2017, 1 July 2017 and 1 March 2018
University of Glasgow	51	2.0	3%	1 May 2013 and 1 June 2013
University of Southampton	12	0.5	1%	1 May 2013
University of Dundee	14	0.8	1%	1 May 2013
University College London	139	6.8	9%	1 August 2013 and 1 June 2017
University of Nottingham	6	0.3	0%	1 June 2016
Total[2]	**551[3]**	**25.9**	**100%**	

[1] whole time equivalent
[2] figures may not sum to totals due to rounding
[3] the figures shown include 9 members who are on zero-hour contracts who have been disregarded for other valuation purposes

B.4 Further details of the membership data were provided in the report on membership and financial data dated June 2020.

Financial data

B.5 The allocation of assets at 31 December 2019 and 31 December 2016 are shown below. Table B.3 summaries the Section's revenue accounts over the inter-valuation period.

Assets breakdown as at 31 December 2016 and 31 December 2019

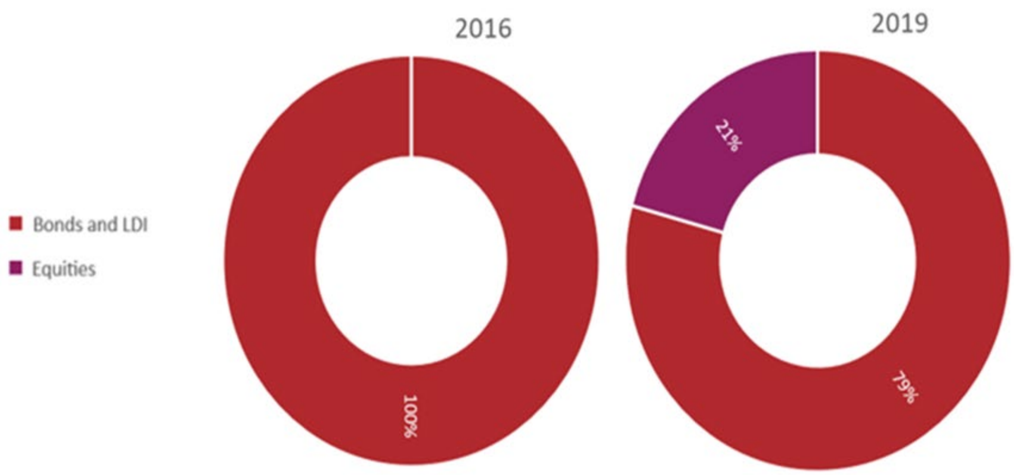


Table B.3: University section - revenue account 1 January 2017 to 31 December 2019

	2017 £ million	2018 £ million	2019 £ million	2017-19 £ million
Market value of assets at start of the period	**66.9**	**80.8**	**91.1**	**66.9**
Income				
Members' contributions	1.9	2.0	1.8	**5.7**
Employers' contributions	9.0	11.2	10.3	**30.5**
Employers' enhancement costs	0.0	0.0	0.0	**0.0**
Total income	**10.9**	**13.2**	**12.1**	**36.2**
Expenditure				
Retirement and death benefits	0.2	0.5	0.5	**1.1**
Transfers to other schemes	0.0	0.0	0.0	**0.1**
Administration costs	0.0	0.0	0.0	**0.1**
Total expenditure	**0.2**	**0.5**	**0.6**	**1.3**
Net income	**10.8**	**12.8**	**11.5**	**34.9**
Return on investments				
Investment revenue	0.2	0.4	0.5	**1.1**
Change in market value of investments	3.2	-2.6	11.9	**12.6**
Investment managers' fees	-0.2	-0.2	-0.3	**-0.7**
Net return on investments	**3.2**	**-2.4**	**12.2**	**13.0**
Market value of assets at end of period	80.8	91.1	114.8	**114.8**

Figures may not sum due to rounding

Appendix C: Valuation and funding methodology

Measuring the liabilities

C.1 The valuation of the Section's defined benefit liabilities involves placing a capitalised value on the Section's expected future payments in respect of benefits accrued prior to the valuation date. The Section's future benefit payments are cash flows that are expected to extend many years into the future. For example:

- for current pensioners the monthly amounts of pension payments, taking into account the dates on which the pensions are due to increase and the likelihood of the member continuing to receive the pension. Further cashflows are expected to arise for dependants following a pensioner's death
- for deferred pensioners similar cashflows are expected but with payment commencing in the future. In addition, there will be lump sum payments due at the time a deferred pensioner retires
- for active members the majority of the expected cashflows will arise following members' retirement, that is, a lump sum at retirement and monthly pension payments thereafter. There are however a wider range of factors which will influence the amount and incidence of the cashflows. For example, the age at which the member retires, whether he retires on normal or ill-health grounds, or whether he leaves service before drawing benefits

C.2 The Section's liabilities are then compared with the assets held. The Section's assets are taken into account at market value. The Section's liabilities are valued using financial assumptions consistent with market conditions at the valuation date. In this way, the valuation of the Section's liabilities is consistent with the asset valuation.

Funding objectives and valuation method

C.3 Every scheme which is subject to Part 3 of the Pensions Act 2004 is subject to the 'statutory funding objective' (SFO). This requires a scheme to have sufficient and appropriate assets to cover its 'technical provisions' (broadly speaking this means its liability for benefits already earned), or a plan to increase its assets to such a level. For the University section the Trustee has largely retained the objectives set for the 2016 valuation. These objectives target minimal reliance on the employer covenant with the alternative funding objective set in 2016 implicitly assuming a long term objective of buy-out level funding, subject to affordability consideration. By retaining an alternative funding objective of buy-out level funding, the Trustee will continue to seek to maintain sufficient assets in the scheme such that no section 75 debts will arise in future.

C.4 The scheme funding regulations require the Trustee to choose an 'accrued benefits funding method' to calculate the technical provisions. Before choosing a method the Trustee must take advice from the Scheme Actuary, and reach agreement with the employer.

C.5 At the 2016 valuation the Trustee adopted the 'Projected Unit' method for the statutory funding objective. GAD's paper entitled 'Advice on key assumptions and method' dated June 2020 contained advice on the funding method. This advised continued adoption of the Projected Unit method for the statutory funding objective and determining the accrual cost. This method allows for future increases in benefits for active members until their assumed dates of exit, and for pension increases in accordance with the Scheme rules after termination of service. For former members, the present values placed on pensions in payment and preserved pensions allow for future increases in these pensions in accordance with the rules.

C.6 Under the Projected Unit method the Trustee firstly calculates the liabilities earned in respect of service to date. If the existing assets are insufficient to cover these liabilities the Trustee must prepare a recovery plan to achieve full funding. The Trustee should aim for any shortfall to be eliminated as quickly as the employer can reasonably afford, in the light of all the relevant factors including the Trustee's assessment of the employer's covenant. The contribution required for continuing accrual is calculated separately.

C.7 The second part of the calculation under the Projected Unit valuation method determines the contributions to be paid for accruing benefits.

C.8 The alternative funding objective (AFO) incorporates a long-term objective of low dependency on the sponsoring employer. The AFO is aligned to a buy-out target thus the 'defined accrued benefits method' as adopted for the AFO for the 2016 valuation remains appropriate for this calculation.

C.9 Results on both funding objectives are shown below.

Table C.1: Statutory Funding Objective and Alternative Funding Objective results as at 31 December 2019

Valuation as at 31 December 2019	Statutory Funding Objective	Alternative Funding Objective
	£ million	£ million
Market Value of Assets (excluding AVCs)	114.8	114.8
Total value of accrued benefits	90.7	134.0
Surplus/(Deficit) (Assets less value of liabilities)	**24.1**	**(19.2)**
Funding level (Assets / Value of liabilities)	**127%**	**86%**

C.10 The above shows that as at 31 December 2019 under the Scheme's alternative funding objective there was a deficit of £19.2 million, which corresponds to an additional reserve, relative to the Statutory Funding Objective, of £43.3 million.

Appendix D: Assumptions

Summary of financial assumptions

D.1 The table below shows the main financial assumptions adopted for the valuation as at 31 December 2019 for both the SFO and AFO and, for comparison purposes, as at 31 December 2016.

Table D.1: University section - summary of main financial assumptions

Main financial assumptions	31 December 2019 %pa		31 December 2016 %pa	
	SFO	AFO	SFO	AFO
Discount rate	2.0%	Gilt yield curve + 0.25% for pensioners; -0.25% for non-pensioners	2.6%	1.9%
Earnings increases (long-term)	3.5% + promotional scale	n/a	4.1%+ promotional scale[2]	5.0%+ promotional scale[2]
RPI	N/a	3.4%	3.5%	3.5%
CPI (pension increases)	2.0%	3.0%	2.6%	3.0%
Discount rate net earnings increase	-1.5%	n/a	-1.5%	-3.1%
Discount rate net pension increases	0.0%	See comment below[1]	0.0%	-1.1%

[1] Varies by term
[2] For a maximum of 5 years

D.2 The discount rate for the SFO has been set equal to the assumed future rate of CPI. The rate is intended to represent a prudent measure of the return expected from the assets held now and in the future.

D.3 The discount rate under the AFO has been set by reference to gilt yields which have been derived from spot curves for nominal gilt yields as at 31 December 2019 produced by the Bank of England. The discount rate is intended to reflect insurers annuity pricing. The nominal discount rate is based on gilt yields less 0.25% for non-pensioners and plus 0.25% for pensioners.

Summary of demographic assumptions

D.4 The key demographic assumption is for pensioner mortality, that is, how long members are expected to survive and receive a pension. The mortality assumptions adopted for the 31 December 2019 valuation, and for comparison, for the 31 December 2016 valuation are summarised below in table D.2. Sample life expectancies are shown in tables D.3 and D.4.

Table D.2: University section - summary of mortality assumptions

	31 December 2019	31 December 2016
Baseline	S3NXA table (U=2019), -1 age rating for men, no rating for women	S2NXA table (U=2016), -1 age rating
Improvements	ONS 2018 population projections	ONS 2014 population projections

Table D.3: Remaining expectation of life – Current Age Retirement Pensioners

	31 December 2019	31 December 2016
Male 60	28.2 years	29.7 years
Male 65	23.3 years	24.7 years
Female 60	29.3 years	31.4 years
Female 65	24.4 years	26.4 years

Table D.4: Remaining expectation of life – Future Age Retirement Pensioners aged 40

	31 December 2019	31 December 2016
Male 60	29.9 years	31.9 years
Male 65	25.3 years	27.3 years
Female 60	30.9 years	33.5 years
Female 65	26.2 years	28.9 years

D.5 There have been no other changes to the demographic assumptions since the 2016 valuation. Specimen rates are contained in tables D.5 to D.7.

Table D.5: Assumed number of exits per 10,000 members in year following the age stated

Males Exact Age	Deaths	Ill-Health Retirement	Voluntary Resignations
20	3	2	975
25	3	2	810
30	4	2	705
35	5	3	540
40	8	4	360
45	13	6	210
50	24	13	105
55	37	31	30
Females Exact Age	**Deaths**	**Ill-Health Retirement**	**Voluntary Resignations**
20	2	2	4,949
25	2	3	4,599
30	3	4	2,969
35	4	6	1,394
40	6	7	629
45	9	9	338
50	14	20	225
55	19	40	113

Table D.6: Promotional salary scale in year after age stated

Age	Male members	Female members
20	100	100
25	128	136
30	157	169
35	185	198
40	207	221
45	228	244
50	247	258
55	263	267

Table D.7: Proportions partnered at death

Exact Age	Male members	Female members
20	10%	22%
30	70%	82%
40	90%	89%
50	99%	89%
60	100%	83%
70	94%	70%
80	71%	42%

Other assumptions

Age retirement:

All members assumed to retire at their Normal Retiring Age.

Age difference between member and spouse (or other dependant):

Male members at all ages = +3 years
Female members at all ages = -2 years
(Male assumed older)

Commutation

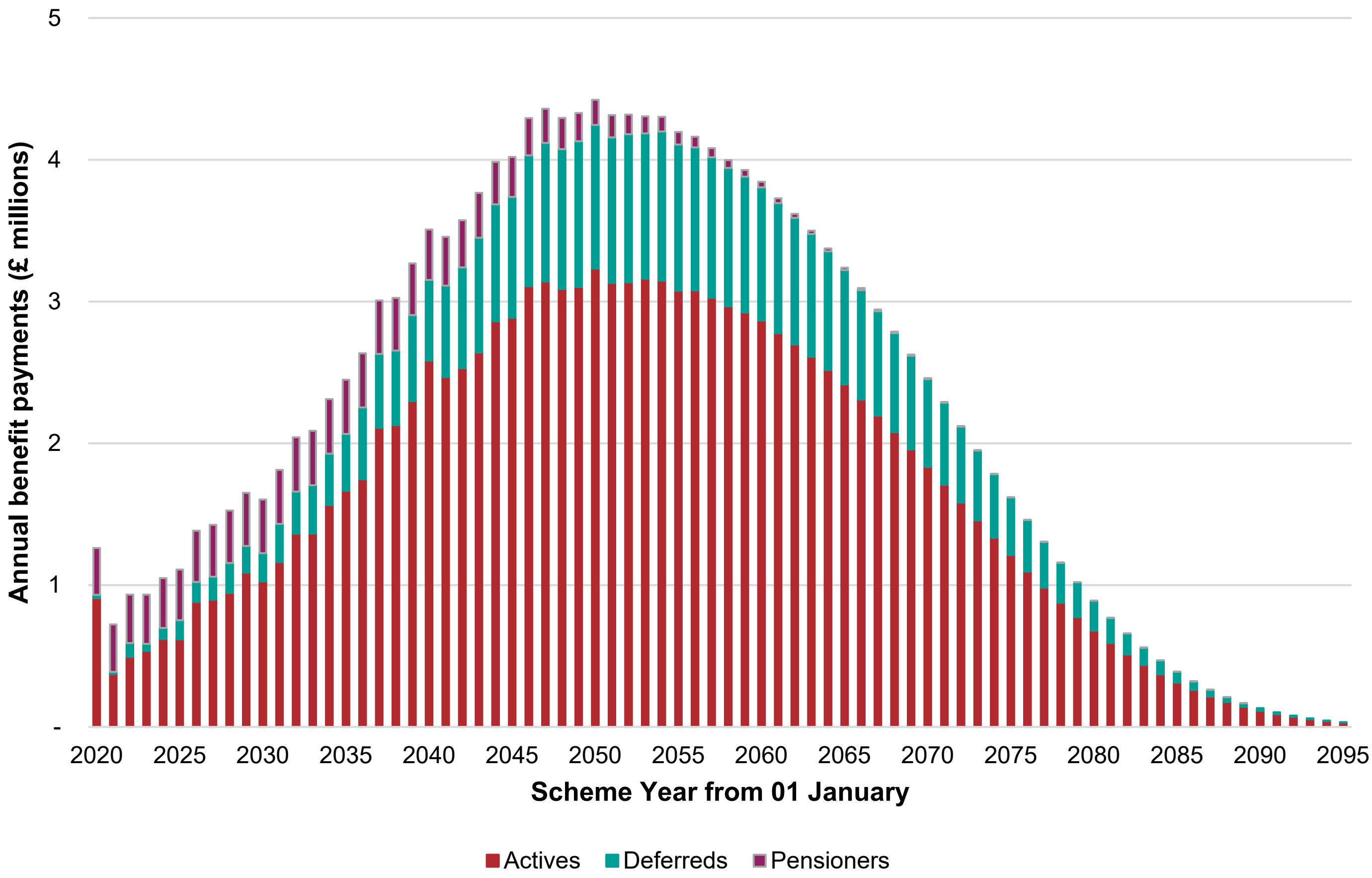
No allowance.

Remarriage rate

No allowance.

Appendix E: Projected benefit cashflows

Chart E.1: Annual projected benefit payments from 31 December 2019 by status



E.1 The above chart shows the projection of the Section's expected benefit payments split between actives, deferreds and pensioners over time. This includes only benefits accrued to the valuation date.

E.2 All active members over normal retiring age are assumed to retire in the year after the valuation date resulting in a higher (than realistic) projected benefit payment in the first year.

E.3 The Scheme's projected benefit payment reaches a peak of £4.4 million in 2050 as the Scheme matures and more members retire.

Appendix F: Solvency valuation

F.1 In accordance with scheme funding requirements and actuarial professional guidance, I have carried out a solvency valuation of the Section at 31 December 2019.

F.2 The solvency valuation provides an estimate of the proportion of the accrued rights that would have been covered by the Section's assets at the valuation date, had the Section's benefits been bought out with an insurer at that date. This compares with the funding valuation, which assumes that the Section continues to pay members' benefits out of its own resources. For the solvency valuation, the Section's assets are taken at market value while the estimated value of the liabilities is taken as the approximate cost of buying out the accrued benefits with an insurance company. An allowance for expenses is included within the liability figure.

Solvency results

F.3 The results of the solvency valuation are shown in Table F.1.

Table F.1 Solvency valuation results

	31 December 2019 £ million	31 December 2016 £ million
Market value of assets (excluding AVCs)	114.8	66.9
Liabilities including expenses	137.9	61.7
Surplus (deficit)	(23.1)	5.2
Solvency level (assets ÷ liabilities)	83%	108%

F.4 The solvency level was 83% at 31 December 2019. The Section's assets were not therefore expected to have been sufficient, on the assumptions made, to secure members' benefits with an insurer at the valuation date.

F.5 The solvency level was 108% at 31 December 2016. The decrease in the solvency funding level since December 2016 mainly reflects an increase in the estimated cost of insuring the benefits. The cost of accrual of benefits assessed on the current solvency basis is also higher than the actual contributions made to the Section since the last valuation.

F.6 The solvency level of 83% is lower than the funding level of 127% under the statutory funding objective. The main reason for the difference is that a lower discount rate has been used for the solvency valuation (gilt yields less 0.25% a year for non-pensioner members and gilts plus 0.25% a year for pensioners).

F.7 If the contributions are paid in accordance with the agreed schedule of contributions, and if the assumptions underlying the solvency calculation were to be fulfilled until the next actuarial valuation due as at 31 December 2022, approximate calculations suggest the Section's solvency funding level would be expected to improve from 83% at December 2019 to around 84% at December 2022. This assumes the assumptions underlying the pricing of insuring the benefits remain unchanged and the return on the Section's assets is in line with the best estimate expected return.

Solvency method and assumptions

F.8 I have not sought a quotation of the buy-out position of the Section from an insurance company at the valuation date. Instead, the solvency liabilities have been estimated on the following basis:

- the liabilities have been valued using a discount rate based on gilt yields less 0.25% a year for non-pensioner members and gilt yields plus 0.25% a year for pensioners at the valuation date. This is an approximate assumption informed by published information from consultancies and insurers on typical solvency terms
- I have made an allowance of 0.4% for future CPI increases being less than RPI increases. Historically, buy-out terms have not fully reflected the expected differential between RPI and CPI due to a shortage of matching CPI-linked assets and the requirement to hold mismatching reserves where appropriate
- active members have been assumed to leave pensionable service on the valuation date
- an allowance for wind-up and benefit installation expenses has been included in the liabilities, using the assumptions prescribed for PPF levy valuations
- there is no allowance made for commutation
- all other assumptions are consistent with those set out in Appendix D for the technical provisions

F.9 The basis adopted for the solvency valuation will not replicate exactly the terms which insurers would offer, should a buy-out actually occur. The solvency assessment is intended to be a guide only. Conditions in the buy-out market will change over time. The basis adopted for these results as at 31 December 2019 may not be appropriate at a future effective date.

F.10 Ultimately, the actual solvency position can only be established by completing a buy-out with an insurer.

Impact on member benefits

F.11 If the Section had wound up on 31 December 2019, the impact on members' benefits would depend on whether or not a replacement sponsor could be found. If the Section were to be wound up with a solvent employer, that employer would then be required to meet the entire shortfall to fully secure member benefits. In the event of the Section being wound up with no solvent employer it may become eligible for the Pension Protection Fund (PPF). This would result in the PPF assuming responsibility for the Section with benefits payable in accordance with the PPF's regulations.

F.12 Benefits payable by the PPF are lower in some respects than members' scheme benefit entitlements. Most members would therefore suffer some loss in the event that the Section transferred to the PPF.

Appendix G: Risk and uncertainties

G.1 The overriding obligation is to meet benefits payments as they fall due. There are a number of risks that the Scheme is exposed to, which the Trustee should keep under review. Some of the more significant risks are summarised in Table G.1 below.

Table G.1: Material risks to the Scheme

Risk	Discussion	Actions taken to mitigate the risk
Sponsor risk	The Trustee's funding strategy relies on the ongoing support of a sponsor to meet future funding deficits. In particular, if the Scheme had to be wound up because of the insolvency of the employer, the Scheme may have insufficient funds (after all higher-priority debts have been satisfied) to ensure that benefits can be bought out in full from the insurance market. In such a scenario the Scheme may transfer to the Pension Protection Fund with some loss of benefits for most members unless an alternative sponsor can be found.	The Trustee recognises that the monies available to the sponsor and to support the Scheme from time to time is a political decision. In assessing the strength of the sponsor covenant the Trustee has engaged extensively with MRC and UKRI. The Trustee will continue to regularly engage with the sponsor and will seek opportunities to reduce long term reliance on the sponsor once the Scheme reaches a position of significant maturity.
Investment underperformance	If the Scheme's invested assets return less than assumed in the valuation, there will be a shortfall that would need to be met from higher contributions.	The discount rate adopted is based on the expected return from the assets currently held. The majority of the Section's assets are invested in low risk assets. The discount rate is set by making a specific deduction against the best estimate return to incorporate an allowance for prudence The margin for prudence is designed to reduce the risk of asset underperformance but it does not remove all risk.
Inflation risk	Pension payments are increased based on CPI inflation. If CPI inflation is higher than assumed then the cost of providing benefits will increase. A further risk is the possibility of future changes in the basis for determining pension increases going forward.	No specific mitigation.

Risk	Discussion	Actions taken to mitigate the risk
Mismatching risk	The value of assets changes over time and may not be mirrored by the change in liabilities, which could result in an increased deficit emerging in the future. The valuation discount rate is linked to inflation, reflecting the inflation linked nature of the liabilities. However as there is currently no inflation hedging and the Section is not wholly invested in inflation linked bonds, it is unlikely changes in the asset value will be mirrored by changes in the liability values.	The Trustee is considering an investment strategy which seeks to recognise the inflation linked nature of the liabilities. This may include consideration of inflation hedging or holding a higher proportion of inflation linked bonds as opportunities arise.
Longevity risk	Pensions are paid for life. If the members and their dependants live longer on average than expected the cost of benefits will be higher than expected.	An allowance for future mortality improvements is included in the valuation assumptions to help mitigate the risk of future improvements in longevity but it is impossible to predict future mortality with any certainty.
Option risk	Members have a number of options in the Scheme such as taking early retirement, transferring benefits or commutation of pension for cash on retirement. If the terms of these turn out to have been more generous to the member than expected there will be an extra cost to the Scheme.	The terms on which member options are offered are intended to be such that there is either a minimal impact or a positive impact on the funding position, in order to minimise the financial risk to the Scheme arising from such options. The Trustee reviews the terms of such member options, and the assumed allowance for exercise of options at each valuation to ensure they are fit for purpose.
Legislative changes	There is the risk that future changes to legislation could affect members' benefits or funding requirements.	No allowance.
Other risks	Pension Schemes are subject to many other risks. For instance Brexit, Covid-19 and climate related risk.	No specific allowance has been included for other risks, these being allowed for implicitly in the round.

G.2 The Trustee should also be aware that in any actuarial calculation assumptions are made about future experience, which may or may not be borne out in practice. This means that the results of such a review are inherently uncertain.

Appendix H: Statement of funding principles: University section

Status

1. This statement of funding principles was prepared by the Trustee and signed on 16 December 2020 after obtaining the advice of the scheme actuary, Sue Vivian. It has been prepared in accordance with section 223 of the Pensions Act 2004 and associated regulations.

The statutory funding objective

2. This statement sets out the Trustee's policy for securing that the statutory funding objective is met. The statutory funding objective is defined in section 222 of the Pensions Act 2004. Every scheme must have sufficient and appropriate assets to cover its technical provisions.

Funding objectives in addition to the statutory funding objective

3. An alternative funding objective has been set for the Section. Under this objective the Trustee will, as far as possible, seek to maintain sufficient assets in the scheme to avoid section 75 debts arising in the future. Whilst the sponsor recognises it is not able to pay contributions at a level which would support an investment strategy to minimise the risk of such debts ever occurring the Trustee has set an objective to support the aim. Under the alternative objective liabilities will be assessed on a buy-out basis and compared to existing assets before any consideration is given to offsetting future accrual costs in light of any surplus of assets against Technical Provisions.

The technical provisions

4. The actuarial method to be used in the calculation of the technical provisions is the Projected Unit Method. The same method has also been used to calculate the Standard Contribution Rate (SCR) payable in respect of members' accruing benefits.

5. Full details of the assumptions used to calculate the technical provisions and the SCR are shown in the Annex attached. The employer[2] was consulted on these assumptions and has agreed to their adoption. The assumptions, when considered as a whole, have been set to be prudent.

Policy on discretionary increases and funding strategy

6. The Trustee has no powers to award discretionary benefits, except by the approval of the employer. No allowance for discretionary increases is included in the calculation of the technical provisions.

[2] Under the terms by which other employers participate in the Scheme, MRC (the Principal Employer) is empowered to act on behalf of all participating employers of the University Section in all regards under Part 3 of the Pensions Act 2004.

Employer Covenant

7. It is a requirement of the legislation and of the guidance issued by the Pensions Regulator that the Trustee should take into account the strength of the employers' covenant when determining appropriate financing for the scheme. The Trustee is satisfied that collectively the employers have a strong covenant, with a very low probability that the employers would be unable or unwilling to pay reasonable contributions.

Period within which and manner in which a failure to meet the statutory funding objective is to be rectified

8. The Trustee and the employers have agreed that any funding shortfalls identified at an actuarial valuation should be eliminated as quickly as the employers can reasonably afford by the payment of additional contributions, which would normally be expressed as a percentage of total Salary. In determining the actual recovery period for any particular recovery plan, the Trustee's principles are to take into account the following factors:

- the size of the funding shortfall;
- the business plans of the employers;
- the Trustee's assessment of the financial covenant of the employers; and
- any contingent security offered by the employers.

Arrangements by a person other than an employer or a scheme member to contribute to the scheme

9. There are no arrangements for a person other than the employers or members to contribute to the scheme.

Policy on reduction of cash equivalent transfer values (CETVs)

10. The Trustee will ask the actuary to advise them at each valuation of the extent to which the assets are sufficient to provide CETVs for all non-pensioners without adversely affecting the security of the benefits of other members and beneficiaries.

11. The Trustee is aware that, if coverage were to be less than 100%, they could reduce CETVs as permitted under legislation, after obtaining actuarial advice as to the appropriate extent. However, as the scheme is fully funded on the CETV basis, there is no policy on the reduction of CETVs currently in place.

Payments to employers

12. The Trust Deed of the scheme does not contain any provision for the payment of surplus monies to an employer, except on the winding up of the scheme.

Frequency of valuations and circumstances for extra valuations

13. The Section's last actuarial valuation under Part 3 (Scheme Funding) of the Pensions Act 2004 was carried out as at the effective date of 31 December 2016. Valuations will in normal circumstances be carried out every three years. An actuarial report on developments affecting the Section's funding level will be obtained as at each intermediate anniversary of that date.

14. The Trustee may call for a full actuarial valuation instead of an interim actuarial report when, after considering the actuary's advice, they are of the opinion that events have made it unsafe to continue to rely on the results of the previous valuation as the basis for future contributions. The consent of the employer would be sought if an accelerated valuation was being proposed.

Annex to the Statement of Funding Principles

Financial assumptions for determining the technical provisions

Discount rate (or, equivalently, the expected return on the assets)

1. The discount rate for the SFO is set equal to the CPI assumption. The rate is intended to represent a prudent measure of the return expected from the assets held now and in the future. The rate has been derived from the expected rates of return on the assets currently held by the scheme. The weightings applied to each of the different asset classes are as shown in Table 1 and are consistent with the benchmark allocation of assets held by the scheme as at 31 December 2019. The margins for prudence used to determine the initial discount rate are the same as those adopted for the 2016 valuation, with a deduction of 0.5% applied to growth assets and 0.1% to bonds

Table 1	Benchmark allocation 31 December 2019
Growth assets	
• **Equities**	80%
Bonds	20%
Total	100%

2. The discount rate under the AFO has been set by reference to gilt yields. The discount rate is intended to reflect insurers annuity pricing. The nominal discount rate is based on gilt yields less 0.25% for non-pensioners and plus 0.25% for pensioners.

Price inflation

3. The assumption for CPI inflation has been taken as the Bank of England long term inflation expectation, 2% per annum. For the 2016 valuation, the CPI assumption was derived from the published Bank of England implied future RPI inflation figure. An alternative approach has been adopted for the current valuation since government are consulting on abolishing the RPI measure.

Pension increases

4. Increases to pensions in payment in the Scheme (except for some increases to Guaranteed Minimum Pension benefits) are in line with those announced by Government under the Pensions Increase Acts, and currently based on the Consumer Prices Index (CPI). As set out above the assumption for CPI has been taken as the Bank of England long term inflation expectation, 2% per annum.

Pay Increases

5. The benefits accruing during service are linked to increases in members' pay, and it is therefore necessary to consider what increases in future pay levels might reasonably be anticipated. Salary inflation has been assumed to be 1.5% pa in excess of consumer price inflation i.e. 3.5% pa. This assumption is for general pay inflation only and is exclusive of any allowance for promotional increases.

6. In addition to general increases in pay, the scheme experience indicates some increase in pay levels by age and/seniority. Accordingly, age-related salary scales, illustrated in Table 2, have also been incorporated into members' projected salaries. These scales are the same as adopted for the 2016 valuation.

Table 2: Promotional salary scale in year after age stated

Age	Male members	Female members
20	100	100
25	128	136
30	157	169
35	185	198
40	207	221
45	228	244
50	247	258
55	263	267

Summary of financial assumptions for the actuarial valuation as at 31 December 2019

7. A summary of the financial assumptions for the actuarial valuation of the University section of the MRCPS as at 31 December 2019 is given in Table 3 below. The corresponding assumptions made for the previous valuation at 31 December 2016 are also shown for comparison.

Table 3: University section - summary of financial assumptions

Main financial assumptions	31 December 2019 %pa		31 December 2016 %pa	
	SFO	AFO	SFO	AFO
Discount rate	2.0%	Gilt yield curve + 0.25% for pensioners; -0.25% for non-pensioners	2.6%	1.9%
Earnings increases (long-term)	3.5% + promotional scale	n/a	4.1%+ promotional scale[2]	5.0%+ promotional scale[2]
RPI	N/a	3.4%	3.5%	3.5%
CPI (pension increases)	2.0%	3.0%	2.6%	3.0%
Discount rate net earnings increase	-1.5%	n/a	-1.5%	-3.1%
Discount rate net pension increases	0.0%	See comment below[1]	0.0%	-1.1%

[1] Varies by term

[2] For a maximum of 5 years

Demographic assumptions for determining the technical provisions

Mortality in retirement

Table 4: Summary of mortality assumptions

	31 December 2019	31 December 2016
Baseline	S3NXA table (U=2019), -1 age rating for men, no rating for women	S2NXA table (U=2016), -1 age rating
Improvements	ONS 2018 population projections	ONS 2014 population projections

8. Illustrative life expectancies of current and future pensioners are summarised in the tables below. This demonstrates that the change in basis represents a strengthening of the mortality basis relative to the assumption made in 2016.

Table 5: Remaining expectation of life - Current Pensioners

	31 December 2019	31 December 2016
Male 60	28.2 years	29.7 years
Male 65	23.3 years	24.7 years
Female 60	29.3 years	31.4 years
Female 65	24.4 years	26.4 years

Table 6: Remaining expectation of life – Future Pensioners aged 40

	31 December 2019	31 December 2016
Male 60	29.9 years	31.9 years
Male 65	25.3 years	27.3 years
Female 60	30.9 years	33.5 years
Female 65	26.2 years	28.9 years

9. There have been no other changes to the demographic assumptions since the 2016 valuation.

New entrants

10. No allowance has been made for new entrants for the calculation of technical provisions.

Age Retirement

11. The Normal Retirement Age (NRA) is 65 for all Scientific Staff, for all new entrants since 1997, and for those Non-Scientific Staff in post at that date who opted to switch from an NRA of 60. All members are assumed to retire at their Normal Retirement Age.

Commutation

12. The benefits provided by the Scheme include an explicit lump sum, equal to three times the initial pension. No allowance has been made for the possibility of commuting some pension for an additional cash lump sum at retirement.

Leaving service

13. Members may leave service by voluntary withdrawal, on death in service, by ill-health retirement, as well as by normal retirement (see paragraph 11 above). The assumed proportions of male and female members who leave service by the first three routes at different ages are illustrated in Table 7.

14. These assumptions are based on the experience of the MRCPS and similar larger schemes.

Table 7: Assumed number of exits per 10,000 members in year following the age stated

Males Exact Age	Deaths	Ill-Health Retirement	Voluntary Resignations
20	3	2	975
25	3	2	810
30	4	2	705
35	5	3	540
40	8	4	360
45	13	6	210
50	24	13	105
55	37	31	30
Females Exact Age	**Deaths**	**Ill-Health Retirement**	**Voluntary Resignations**
20	2	2	4,949
25	2	3	4,599
30	3	4	2,969
35	4	6	1,394
40	6	7	629
45	9	9	338
50	14	20	225
55	19	40	113

Age difference of dependants

15. It is assumed that male members are three years older than their dependants at all ages, whilst female members are two years younger than their dependants at all ages.

Percentage with dependants' benefits at death

16. Contingent benefits, payable on members' deaths, are payable to spouses, civil partners, and some other dependants. For valuation purposes, it is assumed that a proportion of scheme members who die will have a spouse of the opposite sex. Benefits payable to other groups are allowed for implicitly. Table 8 gives illustrative figures for the proportions of members who are assumed to give rise to a dependant's pension on their death.

Table 8: Proportions partnered at death

Exact Age	Male members	Female members
20	10%	22%
30	70%	82%
40	90%	89%
50	99%	89%
60	100%	83%
70	94%	70%
80	71%	42%

Remarriage rate

17. No allowance.

Expenses

18. No allowance included. The discount rates adopted for the valuation are assumed to be net of investment management expenses. The costs of other expenses will be met by the Scheme.

Appendix I: Section 179 valuation

I.1 I am required to report to the Trustee the value of the assets and protected liabilities as determined in accordance with Section 179 of the Pensions Act 2004 (Pension Protection Fund: Valuations to determine scheme underfunding). The guidance and assumptions underlying this determination are specified by the Pension Protection Board from time to time. The guidance and assumptions used for the current assessment are termed G8 and A9 and may be found at www.pensionprotectionfund.org.uk

I.2 The assets and protected liabilities determined in accordance with Section 179 as at 31 December 2019 are as follows.

Section 179 valuation	As at 31 December 2019
	£ million
Liabilities for members	96.1
Estimated wind up, installation and payment expenses	3.5
Total protected liabilities	99.7
Total assets	114.8
Section 179 funding level	**115%**

Figures do not sum due to rounding

I.3 The benefits valued for the section 179 valuation are in line with the benefit summary provided in Appendix A except where the scheme's own provisions are overridden by the PPF provisions as set out in part 4 of the Guidance.

I.4 The data and assets used for the section 179 valuation are as set out in Appendix B.

I.5 This appendix includes the section 179 valuation certificate which provides the information required to complete the section 179 valuation. The certificate is in the format required by the PPF; the terminology used in the certificate reflects the wording used in the section 179 valuation.

Section 179 Valuation Certificate

Scheme/Section details:	
Full name of scheme:	MRC Pension Scheme
Name of section, if applicable:	University Section
Pension Scheme Registration Number:	19017401
Address of the scheme (or section, where appropriate)	
Medical Research Council, 3rd Floor	
58 Victoria Embankment, London	
Post code: EC4Y 0DS	
S179 valuation	
Effective date of this valuation (dd/mm/yyyy)	31/12/2019
Guidance and assumptions	
S179 guidance used for this valuation	G8
S179 assumptions used for this valuation	A9
Assets	
Total assets (this figure should not be reduced by the amount of any external liabilities and should include the insurance policies referred below)	£114,769,000
Date of relevant accounts (dd/mm/yyyy)	31/12/2019
Percentage of the assets shown above held in the form of a contract of insurance where this is not included in the asset value recorded in the relevant scheme accounts	0%
Liabilities	
Please show liabilities for:	
Active members (excluding expenses)	£60,224,000
Deferred members (excluding expenses)	£26,666,000
Pensioner members (excluding expenses)	£9,227,000
Estimated expenses of winding up	£2,422,000
Estimated expenses of benefit installation/payment	£1,125,000
External liabilities	£0
Total protected liabilities	£99,664,000

Please provide the percentage of the liabilities shown above that are matched by insured annuity contracts for:

Active members	0%
Deferred members	0%
Pensioner members	0%

Proportion of liabilities

Please show the proportion of liabilities which relate to each period of service for:

	Before 6 April 1997	6 April 1997 to 5 April 2009 (inclusive)	After 5 April 2009
Active members	0.0%	0.0%	100.0%
Deferred members	0.0%	0.0%	100.0%

	Before 6 April 1997	After 5 April 1997
Pensioner members	0.0%	100.0%

Number of members and average ages

For each member type, please show the number of members and the average age (weighted by protected liabilities) as at the effective date of this valuation. Average ages should be rounded to the nearest whole year.

	Number	Average age
Active members	542	49
Deferred members	497	45
Pensioner members	110	64

I certify that this valuation has been carried out in accordance with the Pension Protection Fund (Valuation) Regulations 2005 and with the appropriate section 179 guidance and assumptions issued by the Board of the Pension Protection Fund. I also certify that the calculated value of the protected liabilities is, in my opinion, unlikely to have been understated.

Signature		Date	21 December 2020
Name	Sue Vivian		
Qualification	Fellow of the Institute of Actuaries	Employer	Government Actuary's Department

As required, under Part 9 of the Guidance on undertaking a s179 valuation, the s179 certificate should form part of the scheme actuary's s179 valuation report. The details contained in this certificate should be separately submitted to the PPF as part of the annual scheme return via the Pension Regulator's system "Exchange"

This certificate should not be sent directly to the Pension Protection Fund.

Appendix J: Actuarial certificate – calculation of technical provisions

Name of scheme: **The MRC Pension Scheme: University section**

Calculation of technical provisions

I certify that, in my opinion, the calculation of the scheme's technical provisions as at 31 December 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 16 December 2020.

Signature:	Susan Vivian	Date:	21 December 2020
Name:	Sue Vivian	Qualification:	FIA
Address:	Finlaison House 15-17 Furnival Street London, EC4A 1AB	Name of Employer:	GAD

Appendix K: Information for the scheme return

SSF (part 3 valuation details)		
Market value of assets	£114,769,000	
Technical provisions – excluding any reserve for future expenses in active, deferred and pensioner breakdown		
Technical provisions – active members	£62,327,000	
Technical provisions – deferred members	£19,791,000	
Technical provisions – pensioner members	£8,571,000	
Total technical provisions (include any reserve for future expenses)	£90,689,000	
Actuarial method adopted to calculate technical provision	Projected unit method	
Projection period, in years	N/A	
Insured benefits		
Have any insured benefits been excluded from the total technical provisions above?	N/A	
Date of valuation		
Effective date of this valuation	31 December 2019	
Life expectancy		
	Cohort	**Period**
Life expectancy for a male aged 65 now	23.3	22.2
Life expectancy at 65 for a male member aged 45 now	24.9	23.6
Life expectancy for a female aged 65 now	24.4	23.4
Life expectancy at 65 for a female member aged 45 now	25.8	24.5

Buyout valuation details	
Market value of assets	£114,769,000
Liabilities	
Liabilities for active members	£84,863,000
Liabilities for deferred members	£38,467,000
Liabilities for pensioner members	£10,645,000
Total liabilities (excluding expenses)	£133,975,000

Expenses	
Estimated expenses required to wind up the scheme on a buyout basis	£3,964,000
Date of valuation	
Effective date of this valuation	31 December 2019

Appendix L: Important limitations

L.1 In preparing this report, GAD has relied on the data and other information provided and described in this report. Any checks that GAD has made on this information are limited to those described in this note, including any checks on the overall reasonableness and consistency of the data. These checks do not represent a full independent audit of the data provided. In particular, GAD has relied on the general completeness and accuracy of the information supplied without independent verification.

L.2 This report has been prepared for the use of the Trustee of the MRC Pension Scheme. Other than the Trustee, no person or third party is entitled to place any reliance on the contents of this note, except to any extent explicitly stated herein, and GAD has no liability to any person or third party for any act or omission taken, either in whole or part, on the basis of this report.

L.3 This work has been carried out in accordance with the applicable Technical Actuarial Standards: TAS 100 and TAS 300 issued by the Financial Reporting Council (FRC). The FRC sets technical standards for actuarial work in the UK.