CAMBRIDGE COLLEGES' FEDERATED PENSION SCHEME

Actuarial Valuation as at 31 March 2020

Scheme Funding Report

Prepared for the Management Committee acting as the Trustee of the Cambridge Colleges' Federated Pension Scheme

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1. EXECUTIVE SUMMARY

1.1 Introduction

This report sets out the results of the actuarial valuation of the Cambridge Colleges' Federated Pension Scheme ("the Scheme") as at 31 March 2020.

1.2 Prudence and Covenant

The Trustee employed KPMG to undertake an independent covenant assessment for the Colleges. This confirmed that all of the Colleges had Strong covenants.

1.3 Funding Level

The Scheme's funding level on the Statutory Funding Objective at the valuation date was 78%, equivalent to a deficit of £61.6 million. At the previous valuation as at 31 March 2017, the ongoing funding level was 87%. The main reasons for the deterioration are lower than assumed investment returns and changes in the valuation basis. The latter is principally due to the adoption of a lower assumption for future investment return only partly offset by lower assumptions for future price inflation.

Note that for Recovery Plan purposes, we have allowed for the improvement in the Scheme's funding position up to 31 December 2020. At this point the funding level had improved to 88% with an estimated deficit of £37.7 million. At the date of signing this Report, there has been no worsening in the funding position since this later update.

1.4 Future service cost and deficit funding contribution

The average ongoing joint (College plus members) contribution rate for future service benefits, ignoring the past service position, is 35.54% of Contribution Pay. This rate includes member contributions and an allowance for the premiums for death in service costs (using the revised rates in force from 1 July 2021). It excludes allowances for expenses and for the premiums for group income protection.

This compares with the comparable current contribution rate at which joint contributions are being paid of 30.73% of Pensionable Salaries, before the adjustment for the previous deficit. The main reasons for the increase are changes in the valuation assumptions.

All College Sections (with one exception) have a funding deficit at 31 March 2020. The Colleges and the Trustee have agreed to fund the deficits over a variety of periods in the form of a fixed monetary amount per annum. The amounts due and Recovery Plan end dates for each College are set out in Appendix F.

1.5 Solvency position

The solvency position of the Scheme, measured by reference to the estimated cost of buying out the benefits with an insurance company, was 45%.

If the Scheme was fully funded on the Statutory Funding Objective the solvency funding level would be 58%.

1.6 PPF Section 179 position

The PPF Section 179 position of the Scheme has been measured in line with the prescribed assumptions and benefits as laid down by the PPF Board. At the valuation date the Section 179 funding position was 52%.

1.7 CETVs

I recommend that the CETV basis be reviewed following completion of this valuation.

1.8 Factors

The actuarial factors used in individual member calculations should be reviewed following the completion of the valuation to reflect changing economic and demographic conditions.

1.9 Timescale and future valuation requirements

Recovery Plans have been put in place for those Sections which have a deficit.

A summary of this valuation report plus copies of the Recovery Plans and Schedules of Contributions will need to be sent to TPR within 10 working days of the date of signature of this report.

Finally, a Summary Funding Statement should then be sent to members updating them on the Scheme's funding position. This should be issued by 30 September 2021.

2. INTRODUCTION

2.1 Background

This report on the actuarial valuation of the Cambridge Colleges' Federated Pension Scheme ("the Scheme") as at 31 March 2017, was commissioned by and is addressed to the Management Committee, acting as the Trustee of the Scheme. It has been prepared under Clause 18.2 of the Trust Deed & Rules dated 9 March 2004 and Section 224 of the Pensions Act 2004. These state that the Trustee is required to obtain an actuarial valuation at least every three years. Actuarial reports in intervening years are required for those College Sections with more than 100 members.

2.2 Purposes

The purposes of the valuation are:

- to review the Scheme's funding position relative to its funding target;
- to determine contribution rates for funding Scheme benefits;
- to assess the Scheme's solvency position; and
- to satisfy statutory requirements.

2.3 Previous valuations

The Scheme was last valued as at 31 March 2017 and the results were contained in my report dated 28 June 2018.

2.4 Inter-valuation review

The previous valuation recommended joint (College plus members) contributions to the Scheme at an average rate of 30.73% of members' Contribution Pay inclusive of allowance for member contributions and death-in-service insurance premiums. Allowances for expenses and the premiums required for Group Income Protection (GIP) benefit were payable separately in addition to these amounts. Recovery Plans were put in place by the Trustee for each College Section for whom the valuation showed a shortfall.

The Scheme auditors have confirmed that College contributions have been paid in line with the agreed rates. Member contributions have been paid in accordance with the Rules of the Scheme.

The rates of investment return earned in each of the inter-valuation years were as follows:

Year ending	2020	2019	2018
Return (%)	1.6%	7.9%	-2.3%

2.5 References for earlier advice on this valuation

An earlier document, the Report on the Proposed Assumptions on the actuarial valuation dated 5 December 2019, set out my initial advice to the Trustee regarding the commencement of the valuation process. It included drawing the Trustee's attention to the Pension Regulator's Code of Practice 3 dated July 2014 ("the Code") and the different funding methods that are available to them and how they may choose a set of assumptions. It also included detail of the 9 Principles set out in the Code including the Management of Risk and Working Collaboratively with the Colleges to reach a funding solution that strikes the right balance between the needs of the Scheme and those of the Colleges.

Initial results of the funding valuation were addressed to the Trustee and were set out in my Summary of Initial Results report, dated 28 September 2020. I also provided the Trustee with a funding update as at 31 December 2020 set out in my letter dated 4 February 2021.

The above advice was reviewed by the Trustee, and following discussion with the Colleges, the agreed assumptions to be used are set out in Appendix E.

I have not provided any advice to the Trustee on College matters. In particular, in recommending assumptions to the Trustee I provided no advice on factors affecting the Colleges or its Industry which may affect such factors as pay increases or rates of withdrawal of Scheme membership. In addition, in calculating the contribution rates in accordance with the Statement of Funding Principles, I have not provided any advice on other related Colleges' matters such as business plans, expenditure commitments or Industry reports. The Trustee has received separate independent advice on the Employer Covenant from KPMG.

2.6 Third party Statement

The calculations in the report use methods and bases appropriate for the purpose described above. Figures required for other purposes, such as Colleges' accounting, should be calculated in accordance with the specific requirements for such purposes and it should not be assumed that the figures contained in this report are appropriate. The report may be provided to the Colleges and to Scheme members in accordance with the disclosure legislation and regulations, but may only be disclosed to other parties with our consent. The report does not grant any rights to Scheme members or other third parties and may not necessarily cover all the implications for a third party. I and Cartwright Group Ltd do not accept any liability to any third parties in respect of the contents of this report.

2.7 Reporting requirements

This report, when read in conjunction with the reference material set out above, is compliant with the following Technical Actuarial Standards (TAS) issued by the Financial Reporting Council:

- TAS 100 – Principles for Technical Actuarial Work; and
- TAS 300 – Pensions.

The calculations undertaken to produce this report have complied with the above TAS.

The actuarial information contained in this report has been peer reviewed in accordance with Actuarial Profession Standards (APS) X2 – Review of Actuarial Work.

3. BACKGROUND

3.1 The Scheme

The Scheme is deemed to be a registered pension scheme under the terms of Schedule 36 of the Finance Act 2004.

There are 25 Participating Colleges in the Scheme, each with their own segregated Section. Of the 25 College Sections, currently:

- 3 of the College Sections remain open to new entrants;
- 18 College Sections are closed to new entrants; and
- 4 Sections are closed for all accrual. Churchill College closed on 31 March 2007, and the last active members left service at Lucy Cavendish in May 2012, at King's College in August 2015 and at Hughes Hall in September 2016.

3.2 Core benefits under Rules

We have valued the Scheme benefits set out in the Definitive Trust Deed and Rules of the Scheme dated 9 March 2004 together with subsequent Deeds of Amendment. We have been provided with a conformed copy of the Trust Deed & Rules incorporating Deeds of Amendment dated 31 March 2004, 2 December 2009, 29 January 2010, 2 December 2013, 19 June 2015, 31 March 2016, 29 September 2016, 28 February 2017, 30 March 2017, 30 April 2019, 30 June 2019, 1 August 2019 and 30 September 2019. References to Contribution Pay in this report have the same meaning ascribed to them as in the above documents. A summary of the benefits valued is set out in Appendix C, although it should be borne in mind that in the event of any discrepancy between that summary and the Rules, the Rules will prevail.

Members may pay Additional Voluntary Contributions (AVCs) to purchase added years' service and increase benefits payable from the Scheme. Liabilities and assets shown in this report include those derived from AVCs.

3.3 Allowance for discretionary benefits

The Scheme Rules allow discretionary benefits to be provided to members.

In recent years this option has not been exercised and therefore no discretionary benefits have been granted.

3.4 Allowance for insured benefits

The Trustee maintains insurance policies to cover the liability for the lump sum and spouse's pension benefits provided on death in service. We have allowed for the premiums payable under these policies within the contribution rates recommended. The allowance is based on the premium rates in force from 1 July 2021.

Pensions in payment are not insured, being wholly paid by the Scheme.

3.5 Allowance for member options

Allowance has been made for Members commuting some of their pension for cash at retirement, and for an assumed pattern of early retirements.

3.6 Allowance for GMP equalisation

Because some College Sections were contracted-out of the State Earnings-Related Pension Scheme (SERPS) between 1990 and 1997, the benefits for individuals who were members of these Sections between these dates include a 'Guaranteed Minimum Pension' (GMP). In broad terms, this replicates the pension that the member would otherwise have earned under SERPS. Reflecting the structure of the State Pension Scheme at the time, GMPs accrued at different rates for men and women and are payable at different ages (65 for men, 60 for women).

In general, occupational pension schemes have had to provide equal benefits for men and women since the 'Barber' case on 17 May 1990. However, because GMPs replicate State benefits (which were exempt from the Barber judgment), there has been considerable uncertainty as to whether this equalisation requirement extends to GMPs. As a result, the majority of occupational pension schemes have not yet taken any action on GMP equalisation.

The High Court Ruling on 26 October 2018 in the "Lloyds Bank" case now confirms that schemes must take action to address GMP equalisation. If a member's benefit would be higher by calculating their benefits accrued since 1990 using the GMP applicable to an individual of the opposite sex, then they must be increased accordingly, including paying arrears to members who have already retired.

There are a variety of methods of GMP equalisation being considered as a result of the Lloyds Bank case. No member will be worse off as a result of this exercise.

Further details were set out in my Report on Proposed Assumptions and as discussed and agreed with the Management Committee in 2019, we have made allowance for GMP equalisation via Method D2.

The overall impact of GMP equalisation on the value of the liabilities is to increase them by just under £0.7 million. I would stress that this excludes the costs of carrying out an exercise actually to implement GMP equalisation, which are likely to be substantial.

It also excludes the impact of the subsequent Lloyds Bank Judgement regarding previous transfers out of the Scheme. The Judgment confirmed that any GMP equalisation impact from these members' benefits remains a liability of the Trustee.

3.7 Scheme changes since previous valuation

There have been no changes to the Scheme's benefits since the last valuation. However, as noted in the Report on Proposed Assumptions, some College member contribution rates have been amended and some Colleges have closed to new entrants.

3.8 Legislative changes since previous valuation

There have been no legislative changes that have affected the Scheme's benefits since the previous valuation.

3.9 Membership data

The data for the valuation was provided by the Pensions Administration Office on behalf of the Trustee. Whilst we have taken reasonable steps to satisfy ourselves that the data provided is of adequate quality for the purposes of the valuation, ultimately we have relied on the accuracy of the information provided. The membership data covered details of 684 active members, 838 deferred pensioners, 1,442 pensioners and 15 pending members.

A more detailed summary is provided in Appendix A of this report.

We carried out the following data checks:

Full reconciliation of membership numbers with the previous valuation and with the Pensions Administration Office:

- Comparison and reconciliation with previous valuation data and accounting data; and
- Missing data and full consistency checks on an item by item basis.

All queries were resolved quickly and satisfactorily.

The membership statistics we have in our data extract differ from those set out in the final Scheme accounts due to timing differences in the extractions. However, we have reconciled the numbers with the Pensions Administration Office and would like to thank them for their very helpful assistance.

3.10 Asset data

The audited Scheme accounts show that the market value of the Scheme's assets at 31 March 2020 amounted to £221,931,785. This includes assets in relation to members' AVCs, which relate to added years' service credits. There are no money purchase related assets or insured pensioners. Appendix B provides a more detailed breakdown of the Scheme's assets.

3.11 College matters

We have not provided any advice to the Trustee in connection with the Colleges.

3.12 Material post valuation date events

Financial market movements

Following the effective date of the valuation, gilt yields have fluctuated, while the values of equities have increased. The Trustee commissioned us to review the financial position of the Scheme as at 31 December 2020 and we have set out details of this update in Section 7.

Financial markets can be expected to continue to be volatile in the near future and I recommend that the Trustee keeps the funding position of the Scheme and the adequacy of the Recovery Plan contributions under review.

Future calculation of RPI

The UK Statistics Authority has proposed that the method used to calculate RPI should be changed to the method used to calculate the CPIH (Consumer Price Index with allowance for housing costs and council tax), effectively aligning RPI with the CPIH Index. Consent to make this change before 2030 was required from the Chancellor of the Exchequer, due to the impact that it could have on index-linked gilts. The Chancellor has confirmed that this consent will not be granted. Therefore, we believe that this change may proceed from 2030.

Note that a group of large pension funds have recently banded together and are likely to challenge this proposed change in the courts.

GMP Equalisation – Further Lloyds Bank Judgment

In November 2020, a secondary Judgement in this case confirmed that the liability to adjust members' benefits to address the inequalities caused by GMPs extends to those individuals who have previously transferred their benefits out of the Scheme. In due course this will require investigative work to first identify affected members and to then determine where any compensation due should be paid.

4. FUNDING PRINCIPLES

4.1 Statutory funding objective

The Statutory Funding Objective is set out in the Statement of Funding Principles dated 21 May 2021 included as Appendix D to this report.

Under Rule 3.10 of the Scheme's Trust Deed & Rules dated 9 March 2004, the rate at which each College makes contributions to the Scheme is determined by the Trustee, after taking actuarial advice and after consulting the College. In accordance with the Pensions Act 2004, the Trustee has sole responsibility for preparing the Statement of Funding Principles.

4.2 Agreed funding target

The agreed funding target for the Scheme is the Technical Provisions. I would stress that achieving this target may mean that other targets may still not be met. In particular, in current market conditions if the Scheme were to be 100% funded on the Technical Provision, it would only be 58% funded on the Solvency target, i.e. Technical Provisions are not the same as wind up costs. Unless further funds were to be available, on a winding-up of the Scheme it would not be possible to secure members' benefits in full.

4.3 Funding objectives

Based on the Technical Provisions as a funding target, the agreed funding objectives are as follows:

- to assume that the Scheme will invest in a range of assets and credit should be taken for the assumed long term out-performance of these assets relative to gilts equivalent to 1.9% per annum;
- subject to the above, to adopt a set of assumptions which is prudent;
- not to make any allowance for any mis-matching of assets and liabilities;
- not to make any allowance for discretionary benefit increases for each College Section;
- to eliminate any deficit relative to the funding target by increases in the rate of contributions over a period which does not exceed 20 years from the valuation date; and
- in terms of overall prudence, the Trustee should take into account their assessment of the strength of covenant of the sponsoring Colleges, the risks inherent in the Scheme's investment strategy and the Scheme's solvency position.

4.4 Changes to funding objectives

The additional objective in relation the covenant and investment strategy has been added.

4.5 Funding implications on stability of contribution rate

The funding objective includes allowance for investment in equity type assets, and makes no allowance for the mis-matching of assets and liabilities. Since the returns on equities can be volatile over even relatively short periods of time, this means that the contribution rate will be less stable than would apply were these factors not included.

4.6 Funding implications for paying CETVs in full

The funding objective adopted is such that if the Scheme meets its objective there will be more than sufficient assets to pay unreduced transfer values.

5. VALUATION METHOD AND ASSUMPTIONS

5.1 Funding method

Different funding methods were adopted for different College Sections, depending on College status and College choice in some cases. The methods adopted were:

- Projected Unit Method (PUM)
- Attained Age Method (AAM)
- Defined Accrued Benefit Method (DABM)

These methods differ in how the future service contribution rate is determined.

5.2 Future Service Contribution Rate

Projected Unit Method (PUM)

Under this method, the capital value of the benefits accruing over the year following the valuation date, based on members' Pensionable Salaries projected to the date of their retirement, death or earlier exit, is expressed as a percentage of the total current Contribution Pay, to give the future service contribution rate.

Attained Age Method (AAM)

Under this method, a capital value is placed on the benefits which will accrue to the present active members after the valuation date, based on their service after that date and Pensionable Salaries projected to the date of their retirement, leaving service or death. A capital value is also placed on the total projected Contribution Pay for the members throughout their expected future membership, and the ratio of these two values then gives the future service contribution rate, expressed as a percentage of Contribution Pay.

Defined Accrued Benefit Method (DABM)

This method is used only for a Section which is closed to all accrual, so that no calculation of a future service contribution rate is required.

5.3 Allowance for new entrants

Projected Unit Method

The PUM will result in a relatively stable future service contribution rate provided the profile of the active membership, by age, sex and salary, does not change significantly between actuarial valuations. There is therefore an implicit assumption that there are new entrants to the Section concerned. If the Section is closed to new entrants, the future service contribution rate will therefore be expected to rise in the future as the active membership ages.

Colleges whose Section is closed to new entrants, but whose Section is funded on this basis, are aware of this issue.

Attained Age Method

Under the AAM, no allowance is made for new entrants; the contribution rate is determined solely on the basis of current members. This method therefore anticipates the ageing effect for a closed Section, where the active membership is expected to age between actuarial valuations.

Defined Accrued Benefit Method

Under the DABM no allowance is made for new entrants as the Section has closed to future benefit accrual. As there is no future benefit accrual there is no need to calculate a future service contribution rate.

5.4 Previous funding method

For both this valuation and the previous valuation, the Trustee decided to give those Colleges whose Section is closed to new entrants the choice of adopting either the AAM or the PUM, after considering the possible impact on future contribution rates.

The following College Sections are closed to new entrants and the table indicates the method chosen for the 2020 valuation and any change from 2017.

College	2020 Method	2017 Method
Clare Hall	PUM	PUM
Corpus Christi	PUM	PUM
Gonville & Caius	PUM	AAM
Murray Edwards	PUM	PUM
Newnham	PUM	AAM
St. Catharine's	PUM	PUM
St John's	PUM	PUM
Trinity Hall	PUM	PUM
Wolfson	PUM	PUM

Other Colleges with Sections closed to new entrants have adopted the AAM method, whilst those College Sections which remain open to new entrants have continued to use the PUM.

5.5 Factors to consider in choosing funding method

Under the Code, the Trustee is required to consider the following factors (inter alia) when choosing a funding method:

- the ability and willingness of the Colleges to make advance provision for future events; and
- the likely number of new entrants to the Scheme in future.

We have not provided any advice to the Trustee in connection with these factors. The Trustee has satisfied itself that the chosen funding method is appropriate bearing in mind the above factors.

5.6 Valuation assumptions

The valuation assumptions are given in Appendix E. Details of how they were derived are set out in the Trustee's Statement of Funding Principles included in Appendix D.

Note that the Trustee has considered each assumption individually. No assumption has been adjusted as a proxy to compensate for shortfalls in another assumption.

5.7 Assets

As for the previous valuation, we have used a market-related basis to value both the assets and liabilities of the Scheme. Assets are included at their market value, whilst liabilities are valued using financial assumptions based on the yields implied by these market values. This does lead to a degree of volatility in the valuation results from one valuation to the next but I believe it ensures that a compatible and consistent approach is adopted to valuing both assets and liabilities, and that it will provide a more appropriate estimate of the cost of the Scheme benefits in current market conditions.

5.8 Recovery Plan

The Statement of Funding Principles describes a Recovery Plan for removing any funding deficit. The Recovery Plan for each College Section requires the deficit to be removed by fixed additional annual contributions payable over an agreed period.

Under the Code the Trustee should aim for any shortfall to be eliminated as quickly as the Colleges can reasonably afford. What is possible and reasonable, however, will depend on the Trustee's assessment of the Colleges' covenant.

When considering the structure of the Recovery Plan and the contribution required, the Trustee has taken into account the following matters:

- the Colleges' business plans and the likely effect any potential recovery plan would have on the future viability of the Colleges.
- the Scheme's membership profile. A longer recovery period may be more appropriate in a scheme where most members have many years to go before retirement than in one where the vast majority are already receiving pensions.
- the ability of the Trustee to pursue a College to make good a deficiency in the event of a scheme wind-up.
- the Colleges' expenditure commitments.

- the value of any contingent security provided by the Colleges bearing in mind both the term and enforceability.
- whether there are any impending member movements which would have a potentially significant effect on funding, such as major retirements or bulk transfer (in or out);
- the anticipated level of the risk-based element of the Pension Protection Fund levy, year on year, over the course of the recovery period and how this is met by the Colleges;

We have not provided any advice to the Trustee in connection with the above factors. The Trustee has satisfied itself of these factors when determining the appropriate period over which the deficit should be paid.

6. FUNDING VALUATION RESULTS

6.1 Results

The following Section summarises the results of the valuation on the Scheme's funding objective using the basis described in Section 5 and Appendix E.

6.2 Past service position/technical provisions

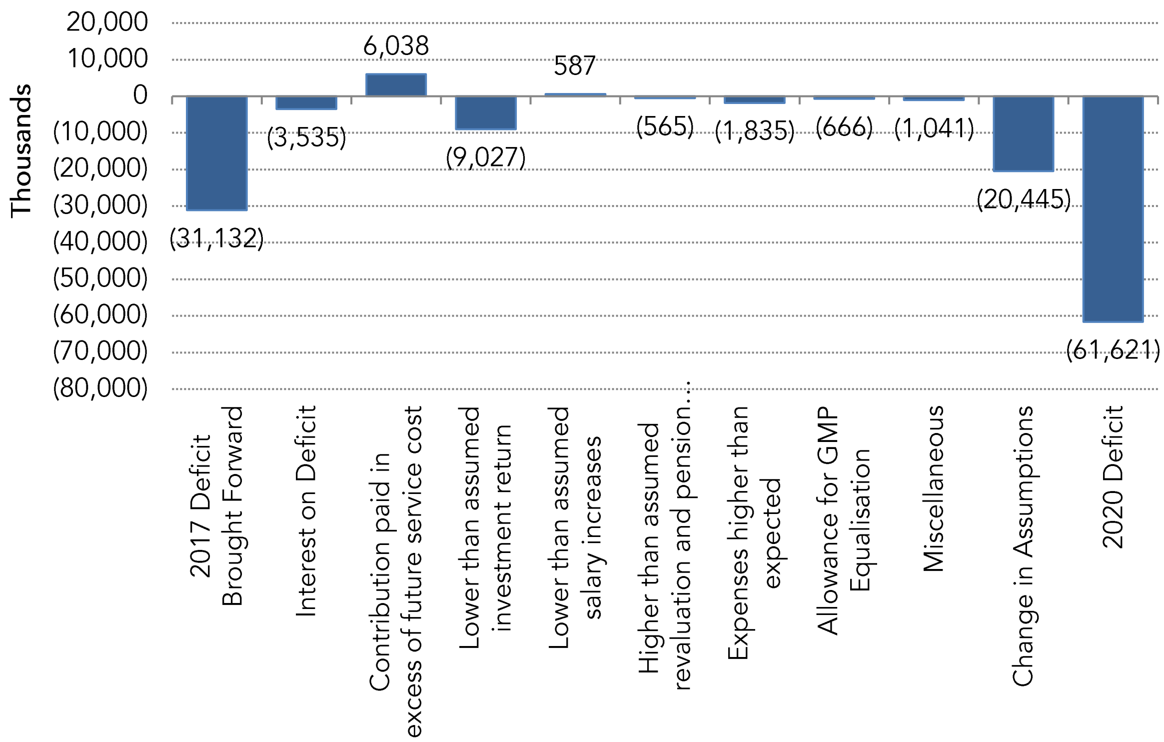
		£000's
Value of benefits in respect of service before 31 March 2020:		
Active Members		97,618
Deferred Pensioners		58,741
Current Pensioners		127,194
Technical Provisions	(A)	283,553
Market Value of Scheme Assets	(B)	221,932
Past Service Surplus/(Deficit)	(B-A)	(61,621)
Level of Funding of Past Service Benefits	(B/A)	78%

The Trustee and the Colleges should be aware that the Technical Provisions are not the same as the cost of winding up the Scheme. This is shown in Section 10 of this report.

The past service deficit of £61.6 million compares to the deficit disclosed by the previous valuation of £31.1 million. An approximate analysis of the principal factors affecting the level of deficit since the last valuation is given below.

The miscellaneous item in the analysis includes, for example, the effects of variations over the inter-valuation period between actual experience and the assumptions made for mortality and withdrawals used in the previous valuation.

	£000's
Surplus/(Deficit) as at 31 March 2017	(31,132)
Interest on Surplus/(Deficit)	(3,535)
Value of Excess contributions paid	6,038
Expected (deficit)/surplus as at 31 March 2020	**(28,629)**
Investment returns lower than assumed	(9,027)
Salary increases lower than assumed	587
Pension increases & revaluation higher than assumed	(565)
Expenses higher than expected	(1,835)
Allowance for GMP equalisation	(666)
Miscellaneous	(1,041)
Change in Assumptions	(20,445)
Actual Surplus/(Deficit) as at 31 March 2020	**(61,621)**



6.3 Significant variations

The most significant variations in the analysis are as a result of:

- Investment returns were lower than expected over the 3 year period; and
- Changes in the valuation basis, mainly as a result of lower assumed future investment returns only partly offset by lower future inflation expectations.

6.4 Future service cost

The average ongoing joint (College plus members) future contribution rate for future service benefits, ignoring the past service position, is 35.54% of Contribution Pay. This rate includes member contributions and an allowance for current (2021) premiums for death in service costs. It excludes allowances for expenses and for the premiums for group income protection. Further details are shown below:

	% of Contribution Pay
Total Average Joint Contribution Rate (excluding expenses and GIP costs)	33.32
Death in Service Insurance Premium allowance (based on current premium rates)	2.22
Total Joint Contribution Rate	35.54
Average Member Contributions	(8.87)
Average College Contribution Rate	26.67

This compares with the current average contribution rate at which joint contributions are being paid of 30.73% of Contribution Pay, before the adjustment for the previous deficit. The main reason for the increase is the changes in the valuation assumptions, in particular the reduction in the assumption for future investment return.

6.5 Deficit funding contributions

All College Sections (with one exception) have a funding deficit. The Trustee has agreed with each College the term over which the deficit should be repaid. In each case a fixed monetary amount is payable. The details of the agreements are set out in Appendix F.

The assumptions used in drawing up the Recovery Plans are those defined in the Statement of Funding Principles as set out in Appendix D.

6.6 Expenses

I have reviewed the current allowances for the ongoing expenses of the Scheme and compared them to recent actual inter-valuation experience.

Over the previous 3 years, the ongoing expenses excluding PPF levies and investment advisor professional fees have averaged £449,000 per annum, a slight reduction of 1% since the previous review. However, investment advisor professional fees are now included within the accounts as part of "other professional fees" and have not been split out within the Scheme accounts since 2018. They were obtained separately from the Pensions Administration Office for this analysis.

Once these investment advisor fees are included then the average expenses are £554,000 per annum. I consider that these professional fees should now be included within this particular analysis as they are generally not split out.

I recommend that the expense allowances continue to be expressed as a per member charge plus a per College Section charge, the latter reflecting those expenses which are independent of membership numbers.

Assuming that the per College Section charge remains the same as previously agreed, then the appropriate allowances for future expenses are:

Per Member Charges including inv. expenses £ p.a.		Per College Section Charge £ p.a.
Active:	230.38	3,000
Deferred:	87.96	
Pensioner:	171.74	

Note that the directly attributable PPF expenses should also be paid on top of the above rates by the individual Colleges.

6.7 Future progression and material developments

Based upon the above total contributions and assuming that experience matches the adopted assumptions for the funding calculations the above funding level is expected to improve to 82% over the period to the next actuarial valuation. This is because Colleges' contributions are more than sufficient to meet the expected interest on the deficit and the cost of future pension accrual.

If we allow for the asset improvement to 31 December 2020 (see Section 7), then we expect the funding level to improve further to 91%.

I have highlighted some issues that may affect future Scheme funding in 3.12. I am not aware of any other material developments that would affect funding over the next 3 years.

6.8 Further issues: CETVs

As the Scheme has a funding deficit, the Trustee is permitted, should it so decide, to consider offering reduced Cash Equivalent Transfer Values (CETVs) to members asking for a transfer value quotation, to reflect the level of underfunding.

When assessing the level of reduced transfer values, it is appropriate to have regard to the order of priority for securing the members' liabilities should the Scheme be wound up.

If the Trustee wishes to reduce transfer values to reflect the degree of underfunding in the Scheme, we would be pleased to calculate the appropriately reduced amounts, taking into consideration the priority order of liabilities. This would need to be calculated separately for each College.

I recommend that the CETV basis be reviewed following completion of this valuation.

6.9 Scheme factors

The actuarial factors used in individual member calculations are due for review following the valuation to reflect the changes in economic and demographic conditions since the last valuation.

7. FUNDING RESULTS AS AT 31 DECEMBER 2020

7.1 Introduction

Given the volatility in investment markets at 31 March 2020 resulting from the Covid-19 pandemic, at the request of the Trustee, we reviewed the funding position at 31 December 2020. At this point equity markets had partially recovered from significant falls at the end of March.

7.2 Member Data

The Pensions Administration Office have supplied us with their current Scheme membership data as at 31 March 2020 and then provided subsequent member movement information to 31 December 2020. Whilst we have undertaken reasonable steps to satisfy ourselves that the data provided is of adequate quality for the purposes of the valuation, ultimately we have relied upon the accuracy of the information provided.

7.3 Asset Data

The Pensions Administration Office provided us with a Schedule containing details of the bid value of the assets held by the Scheme's investment managers as at 31 December 2020 split by College, the balances held in the Trustee's bank accounts and details of known net current assets at that date. We have assumed that any other net current assets or liabilities are not significant. They have also supplied us with College related cash balances and details of the cash flows related to the Colleges during the year ending 31 December 2020 plus details of any contributions due but not received until after 31 December 2020. The overall assets have been split by College in accordance with the agreed Trustee's valuation method.

The Scheme assets at 31 December 2020 are as follows:

	£
Assets held by investment managers	265,507,976
Balance of the Trustee bank accounts	796,998
Net Current Assets	46,530
Total	266,351,504

7.4 Financial Assumptions at 31 December 2020

Economic	Funding assumptions for valuation as at 31 December 2020 (% per annum compound)
Rate of interest: • before retirement • after retirement	 2.55 2.55
Asset return	3.45
Rate of salary increases:	To 31 March 2021: Nil Thereafter: 2.85
Rate of increase in pensions in payment: • Guaranteed Minimum Pension (GMP) earned for service before 6 April 1988 • GMP earned for service between 6 April 1988 and 5 April 1997 • Pension in excess of GMP earned to 31 March 2004 • Pension earned between 1 April 2004 and 31 March 2016 • Pension earned after 31 March 2016	 0.0 2.05 3.15 3.15/3.05 1.85
Rate of increases to pensions in deferment: • Excess pension accrued prior to 6 April 2009 • Excess pension accrued from 6 April 2009 • GMP	 2.35 2.35 Statutory

Compared to the financial assumptions used at 31 March 2020, the interest rates are 0.15% p.a. lower and the inflation assumptions are 0.25% p.a. higher. Both these changes are a direct result of changes in gilt yields and both act to increase the value placed on the Scheme's liabilities.

7.5 Demographic Assumptions at 31 December 2020

The demographic assumptions used at 31 December are the same as those used at 31 March 2020.

7.6 Past service funding position at 31 December 2020

		£000's
Value of benefits in respect of service before 31 December 2020:		
Technical Provisions	(A)	304,035
Market Value of Scheme Assets	(B)	266,352
Past Service Surplus/(Deficit)	(B-A)	(37,683)
Level of Funding of Past Service Benefits	(B/A)	88%

7.7 Change in funding position since 31 March 2020

	£000's
Surplus/(Deficit) as at 31 March 2020	(61,621)
Expected return on assets less interest on liabilities	256
Expected contributions received less service cost and expenses	758
Investment returns higher than assumed	38,946
Lower inflation than assumed and miscellaneous items	2,731
Change in Assumptions	(18,753)
Surplus/(Deficit) as at 31 December 2020	**(37,683)**

7.8 Allowing for post-valuation date experience

The Trustee has agreed that the Recovery Plans for those College Sections which are in deficit should allow for the improvement in funding position up to 31 December 2010.

I am required to certify that Recovery Plans are sufficient to eliminate deficits based on the Scheme's funding position at the date the Certificate is given. I have considered the further change in funding position from 31 December 2020 to the date of this report, and confirm that I am able to certify these Recovery Plans as required.

8. FUNDING RISKS AND SENSITIVITIES

8.1 Funding Risks

There are risks inherent with any funding objective, even if the funding target is met, and the following risks should be appreciated and where possible mitigated.

8.2 Sponsor risk

If the Colleges become insolvent or are otherwise unable to meet the contribution rate set then the risk is that members may not receive all benefits they expect. The Trustee takes a prudent approach to funding to mitigate this risk to some extent.

8.3 Investment return

If the assets under-perform the returns assumed in setting the funding target then additional contributions may be required at subsequent valuations.

8.4 Investment matching risk

The Scheme invests significantly in equity type assets, whereas the solvency target is closely related to the return on bonds. If the Scheme were to wind-up when these equity type assets have fallen in value relative to the matching assets of bonds, members may not receive their full expected benefits. If the Scheme were not to wind-up, additional contributions may be required.

8.5 Longevity risk

If future improvements in mortality exceed the assumptions made then additional contributions may be required. The Trustee has taken a prudent approach to possible future improvements in longevity to help mitigate this risk.

8.6 Solvency risk

As the funding target is not a solvency target, and the investment strategy does not follow that required for a solvency target, the assets of the Scheme may not be sufficient to provide all members with the full value of their benefits on a Scheme wind-up.

8.7 Inflation risk

Some Scheme benefits are linked to inflation (RPI/CPI). If actual inflation is higher than expected or if future inflation expectation increases then additional contributions may be required at subsequent valuations.

8.8 Concentration of assets

If the Scheme invests a significant proportion of its assets in one class of investments for example UK equities, or in one specific investment it is exposed to an increased risk from falls in that investment. This may reduce the level of funding and require additional contributions to correct. The Trustee have no such investment.

8.9 Self-investment risk

If the Scheme invests in the Colleges in any form it is at risk that the value of this investment will fall if the Colleges perform badly. This will coincide with the time the Colleges are least able to make additional contributions to correct the situation. The Trustee do not invest in the Colleges to help avoid this risk.

8.10 Member option risk

If members of the Scheme exercise options allowed by the Scheme on a scale which is sufficient to lead to an increase in costs, the Scheme funding position may worsen. The Trustee has taken a prudent approach to allowing for member options to help mitigate this risk.

8.11 Climate related risk

The world's climate is changing and this poses risks to the provision of benefits for members. These could arise from:

- Physical risks – the risks arising from potential degradation to physical assets; e.g. property damage, disruption of resource availability, due to extreme weather events such as flooding and in the longer-term from changes to rainfall patterns affecting land use and the movement of populations reducing local workforce availability.

- Transition risks – depending on the nature and speed of mitigation and adaptation policies and requirements by governments and regulators related to climate change, transition risks may pose varying levels of financial and reputational risk to pension funds from the potentially rapid reduction in the market value of, or income generated by, assets.

- Liability impacts – extreme hot or cold weather might impact death rates, whereas generally warmer winters might improve life expectancy and so longevity improvement trends.

Investment management is delegated to managers who will be aware of this risk in their portfolio construction. It is difficult to predict the impact on life expectancy for members largely based in the UK. Furthermore, the Trustee should consider the extent to which climate change may impact businesses (and so College covenants).

It is difficult to quantify any specific impact at this point in time – the Trustee should keep this under review as more evidence develops.

8.12 Summary

The above list is not exhaustive but covers the main risks for the Scheme. Some of the risks can be reduced by adjusting the funding strategy, for example investment matching risk. Other risks cannot be removed, for example longevity risk, and the Trustee must be aware of these risks and monitor them closely.

8.13 Sensitivities

I have undertaken various sensitivity analyses, so that the Trustee can assess the impact of varying the assumptions used to value the liabilities. The figures shown below should enable the Trustee to assess the impact of changes in the various assumptions.

The sensitivity analysis has generally been performed assuming that one, and only one, of the key assumptions is changed at any one time unless otherwise stated. The results are as follows:

- If the discount rate is reduced by 0.5%per annum, the Technical Provisions increase by approximately 9.0%;
- If the salary increase rate is revised from Nil to 2.6% in the year to 31 March 2021, the Technical Provisions increase by approximately 0.4%;
- If the inflation rate increases by 0.5% per annum the Technical Provisions increases by approximately 8.3%;
- Where retirement ages are assumed to be under age 65, if they are assumed to be increased by 1 year for males and females the Technical Provisions would reduce by approximately 0.8%;
- If cash commutation is not allowed for, then Technical Provisions would increase by approximately 6.4%; and
- If the allowance for the future long term rate of mortality improvements is increased by 0.25% per annum, the Technical Provisions increase by approximately 0.8%.

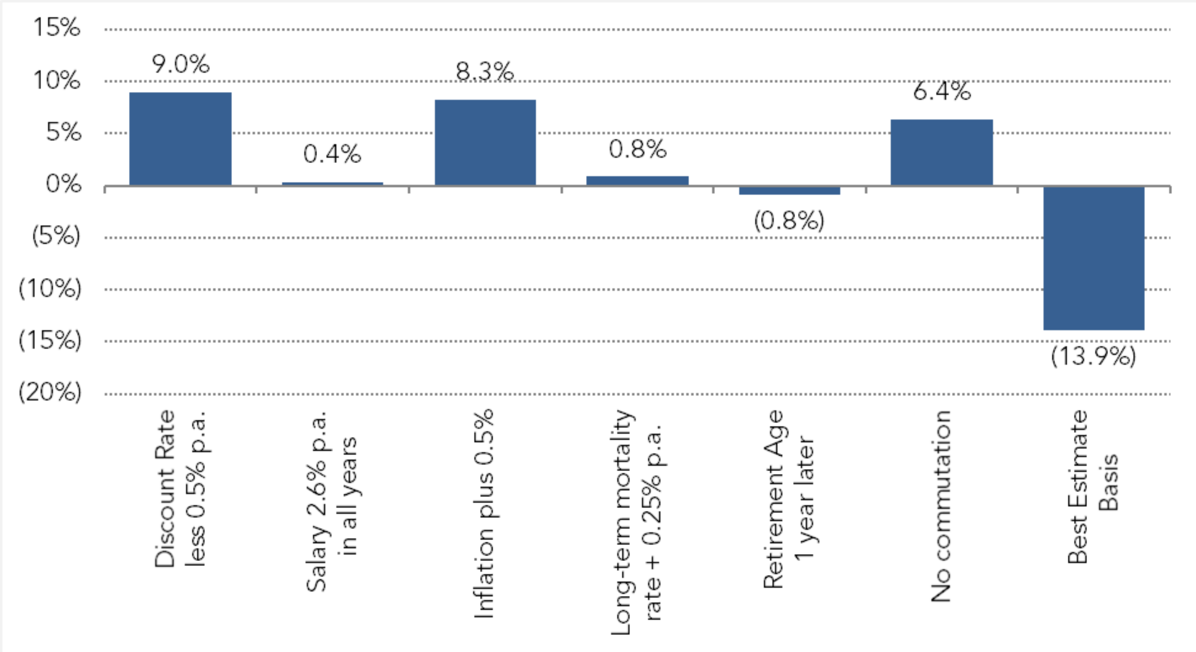
If the assumptions were to be moved in the opposite direction the impact would be reversed in a similar way to that shown here.

We have also included a 'best estimate' valuation with the following margins removed from the assumptions:

- 0.9% from the investment return; and
- removing the future additional mortality improvement rate.

The impact of these changes is to reduce the value of the liabilities by 13.9%.

The results are illustrated in the following chart:



The chart shows that the discount rate and inflation assumptions have the greatest impact on the size of the Scheme's liabilities. As a result the Scheme's funding position is likely to deteriorate significantly if the Scheme's assets do not attain the real investment returns assumed.

9. PENSION PROTECTION FUND – SECTION 179 VALUATION

9.1 Background

The Scheme is required to pay levies to the Pensions Protection Fund (PPF). The PPF provides a minimum level of compensation for members of pension schemes that wind-up in deficit.

In order to assess the appropriate levy the PPF require pension schemes to submit Section 179 valuations at least every three years. The Section 179 valuation requires the Scheme Actuary to value the PPF level of benefits using a method and assumptions defined by the PPF board, and detailed on their website.

		£000's
Value of benefits in respect of:		
• Active Members		171,922
• Deferred Pensioners		100,783
• Current non-insured pensioners		135,991
• Expenses of benefit installation		2,458
• Expenses of winding up		12,044
Total Section 179 liabilities	(A)	423,198
Market Value of Scheme Assets	(B)	221,932
Section 179 Surplus/(Deficit)	(B-A)	(201,266)
Level of Section 179 Funding	(B/A)	52%

9.2 Changes since previous valuation

The previous valuation followed guidance G6 and used assumptions A8. In accordance with the requirements of the PPF these have been updated to guidance G8 and assumptions A9 for this valuation.

The PPF funding level has deteriorated since the last valuation from 60% to 52%, mainly as a result of:

- lower investment return assumptions placing a higher value on PPF liabilities;
- contributions by the Employer being insufficient to cover the costs of accrual on the PPF basis; and
- interest on the deficiency from the previous valuation.

9.3 Additional information

These results will need to be supplied to the Pensions Regulator and the PPF Board via the Pensions Regulator's online Exchange system. When submitting information on the Exchange the following additional information is required:

1. Section 179 guidance used	G8
2. Section 179 assumptions used	A9

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%

The percentage of liabilities shown above that are matched by insured annuity contracts for:

3. Active members	0%
4. Deferred members	0%
5. Pensioner members	0%

The proportion of liabilities which relate to each period of service:

	Pre-6 April 1997	6 April 1997 to 5 April 2009	Post-5 April 2009
Active members	7%	33%	60%
Deferred members	10%	59%	31%
Pensioners	27%	73%	

Number of members and averages ages:

	Number of Members	Average Age
Active members	684	52
Deferred pensioners	853	51
Pensioners	1,442	70

The average age shown is weighted by PPF liabilities as at the effective date of this valuation, for each member type, and rounded to the nearest whole year.

9.4 Development of future PPF funding level

The future PPF funding level can be expected to decrease as members pass Normal Retirement Age and so become entitled to a higher level of compensation from the PPF. Against this, any deficit recovery contributions will improve the funding level. Investment returns in excess of those assumed to be achieved will also improve the funding level.

Member movements will also have an effect, though these are expected to be less material than the above factors. In practice, the position can be expected to be volatile.

10. SOLVENCY POSITION

10.1 Solvency

We have separately considered the solvency position, assuming that the Scheme was wound-up at the valuation date and members' accrued benefits were secured by the purchase of deferred and immediate annuity policies issued by an insurance company.

10.2 Summary of Assumptions

The key assumptions adopted for the solvency valuation are shown below. The equivalent assumptions for the solvency valuation at the previous valuation are also shown for comparison:

	Solvency valuation	Previous solvency valuation
Pre-retirement return	0.60%	0.73%
Post-retirement return – deferred members	0.60%	1.37%
Post-retirement return - pensioners	0.80%	1.43%
RPI inflation maximum 5%	2.90%	3.25%
CPI inflation maximum 2.5%	2.25%	2.15%
Mortality post-retirement	S3PA CMI_2019 with long term improvement of 1.25% p.a. for males and females, plus 0.5% p.a. additional improvement rate with standard smoothing factor (7.0)	S2PA CMI_2014 with long term improvement of 1.5% p.a. for males and 1.25% for females with no additional improvement and standard smoothing (7.5)
Proportions married	80% for all	Males 85% Females 75%

10.3 Expenses

We have included an estimate of the expenses associated with organising a wind-up equal to 2% of the liabilities. The true cost of winding-up the Scheme may be higher or lower than this estimate.

10.4 Summary

On this basis the solvency position of the Scheme at the valuation date is shown below:

		Solvency valuation £000's	Previous solvency valuation £000's
Value of benefits in respect of:			
Active Members		195,197	213,504
Deferred Pensioners		122,090	118,272
Current Pensioners		162,801	139,654
Expenses		9,602	9,429
Total solvency liabilities	**(A)**	489,690	**480,859**
Market Value of Scheme Assets	**(B)**	221,932	**212,015**
Solvency Surplus/(Deficit)	**(B-A)**	(267,758)	**(268,844)**
Level of Solvency Funding	**(B/A)%**	**45%**	**44%**

10.5 Changes since previous valuation

The solvency shortfall has broadly stayed the same in monetary terms although the funding level has changed from 44% to 45% since the last valuation, mainly as a result of:

- lower investment return assumptions;
- contributions by the Colleges being insufficient to cover the costs of pension accrual on a solvency basis; and
- interest on the solvency deficiency from the previous valuation.

10.6 Expected solvency level at next triennial valuation

Assuming that all actuarial assumptions in this Section are borne out in practice and allowing for the Recovery Plans adopted in Appendix F, then I expect the solvency level to remain broadly the same at the next valuation.

We would expect the solvency level to have improved further had we allowed for the improvement in the assets to 31 December 2020, however we have not quantified this.

10.7 Comparison with scheme funding

If the Scheme's funding objective had been met in full the level of solvency funding would have increased to 58%.

The Solvency basis places a higher value on the Scheme liabilities than the Funding basis. This is due to different assumptions adopted under this basis. This basis provides a useful reference point for the Trustee and Colleges when considering the adequacy of the Technical Provisions.

10.8 Debt on Colleges

Under current legislation if the Scheme were to be wound-up the deficit on the solvency basis would be imposed as a debt due from the Colleges. If the Colleges are unable to pay the debt in full, then the liabilities would be met in the order of priority set out in the Scheme's Trust Deed and Rules as overridden by the Pensions Act 1995 and subsequent Regulations.

10.9 Priority order

The cover, on the solvency basis, of the Scheme benefits using the order of priority, which would apply as at the date of signature of this report is as follows:

Liability	Cover
Expenses and money purchase benefits	100%
Benefits provided by the Pensions Protection Fund	51%
Benefits in excess of those provided by the Pensions Protection Fund	0%

This table shows that at the valuation date the benefits provided by the Pensions Protection Fund (PPF) were not covered in full. In addition, Appendix G confirms that no College Section had a Solvency surplus. Therefore at this date if the Scheme had wound up without receiving additional funds it would have entered the PPF. This would have resulted in members' benefits being reduced below their full entitlements.

10.10 Future progression and material developments

Based upon the assumptions adopted for the solvency calculations, payments of College contributions at the rate detailed in Appendix F are projected to be insufficient to fund on the solvency basis. Consequently the above solvency position is expected to deteriorate over the period to the next actuarial valuation.

College contributions at the rate detailed in Appendix F are also likely to worsen the level of coverage on the current order of priorities. However in the period to the next valuation the change is unlikely to be significant.

11. INVESTMENT STRATEGY

11.1 Background

The Pensions Act 1995 requires the Trustee regularly to review the Statement of Investment Principles to ensure that it is consistent and compliant with Section 36 ("Choosing Investments"). We have therefore set out below some comments on the nature of the Scheme's liabilities to assist in this review.

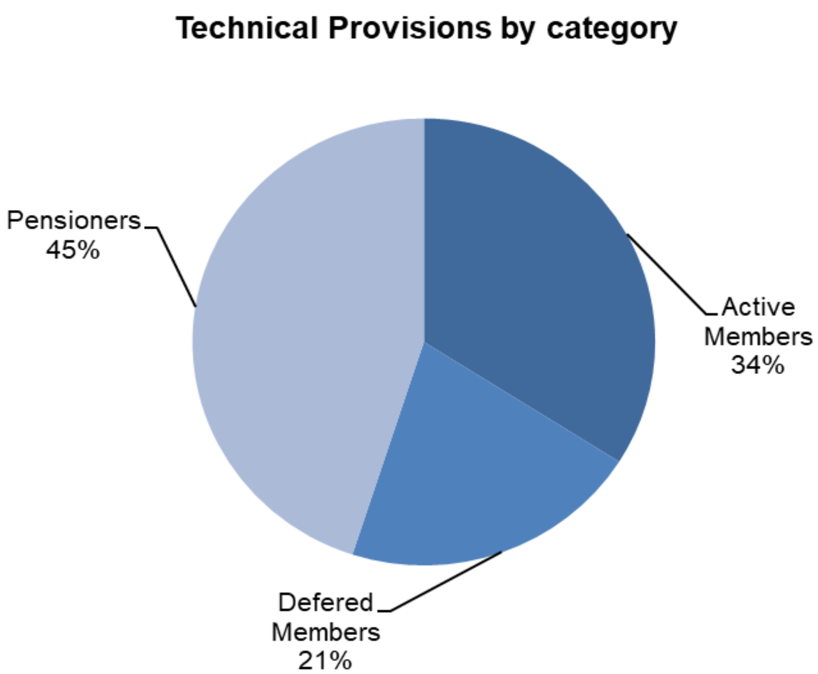
11.2 Asset split

Appendix B provides details of the Scheme's assets at the valuation date. At that time approximately 63% of the assets were invested in equities, hedge funds and property assets, which provide unknown future returns. The remainder of the assets were invested in gilts, corporate bonds and cash, which, if held until maturity, provide known returns assuming that there are no defaults.

11.3 Liability split

The chart below shows the breakdown of the Scheme's Technical Provisions by Member Category.

Technical provisions by member category



Equities and property assets are typically assumed to provide some level of out-performance, but their returns are volatile. Therefore, any scheme that includes assets of this type and uses investment return assumptions allowing for out-performance will experience a more volatile funding level.

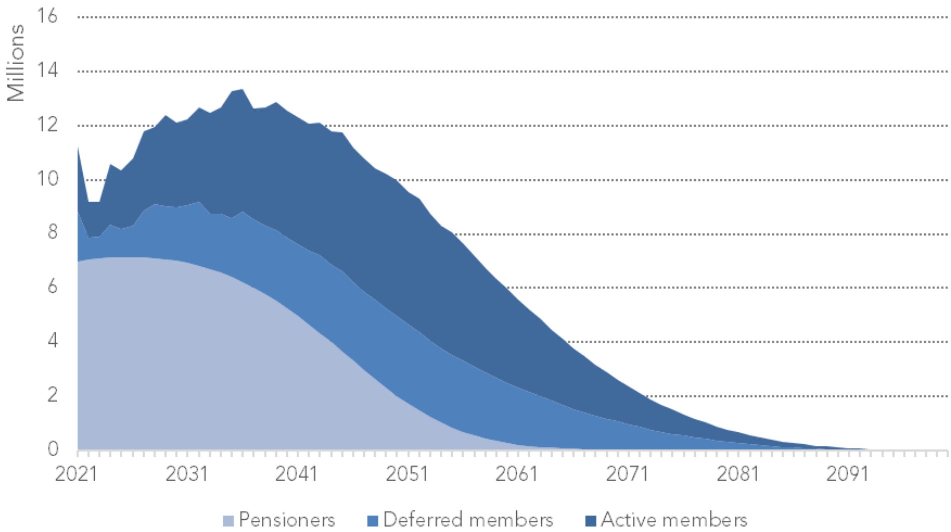
In many schemes pensioner members are often matched by the scheme holding gilts and/or bonds because these provide a known return and their values will change in a similar way when interest rates change. The other scheme liabilities are matched by more volatile out-performance assets.

11.4 Comparison

Looking at the chart, the Scheme has a significant proportion (45%) of its liabilities directly related to pensioners. The Scheme assets are only 37% invested in bonds, cash and derivative and so this may increase the volatility of the funding level as the assets and liabilities will not change value in the same way.

11.5 Scheme Cash Flows

The chart below shows the anticipated future cash flows of the Scheme based on the assumptions underlying the Scheme Funding basis.



11.6 Recommendation

There are a number of different funding measures the Scheme can match against in order to reduce risk with respect to the funding measure.

Alternatively, the Trustee might wish to accept a certain degree of mismatching in the expectation of higher investment returns. I understand that the Trustee have reviewed their investment policy and appreciate the risks associated with this element of mismatching. Given the strength of the College covenants this does not appear to be an unreasonable approach.

12. CONCLUSIONS

12.1 Funding level and Recovery Plans

The Scheme's funding level on the Statutory Funding Objective at the valuation date was 78%, equivalent to a deficit of £61.6 million. At the previous valuation the ongoing funding level was 87%. The main reasons for the change are lower than assumed investment returns and changes in the funding assumptions. By 31 December 2020 the funding level had improved to 88% equivalent to a deficit of £37.7million

The ongoing future joint contribution rate for the Colleges and members is 35.54% of Contribution Pay, from 1 July 2021, including an allowance for the 2021 death in service costs but excluding allowances for expenses and the 2021 premiums for income protection.

We have updated the allowances for Scheme expenses to allow for professional investment fees.

There are a variety of options that have been adopted to fund the deficits in individual College Sections. The final positions are set out in Appendix F.

12.2 Solvency and PPF Section 179 funding level

The solvency position of the Scheme has been measured by reference to the estimated cost of buying out the benefits with an insurance company. As at the valuation date the solvency funding level of the Scheme was 45%.

The PPF funding level, based on the PPF Board benefits and assumptions, was 52%.

12.3 CETVs

I recommend that the CETV basis be reviewed following completion of this valuation.

12.4 Factors

The actuarial factors used in individual member calculations should be reviewed following the completion of the valuation to reflect changing economic and demographic conditions.

12.5 Timescale and future valuation requirements

The next triennial valuation is due to take place as at 31 March 2023. For each College Section with more than 100 members, interim actuarial reports will be required as at 31 March 2021 and 31 March 2022.

For each College Section with a Recovery Plan, a summary of this valuation report plus copies of the Recovery Plan and Schedule of Contributions needs to be sent to TPR within 10 working days of this report being signed.

Finally a Summary Funding Statement should then be sent to members updating them on the Scheme's funding position. This should be issued by 31 September 2021.

Robert. J. Sweet

R J SWEET
Scheme Actuary
Fellow of the Institute and Faculty of Actuaries

21 May 2021

RJS/SC/QL/dn/di

Appendix A – Membership Data

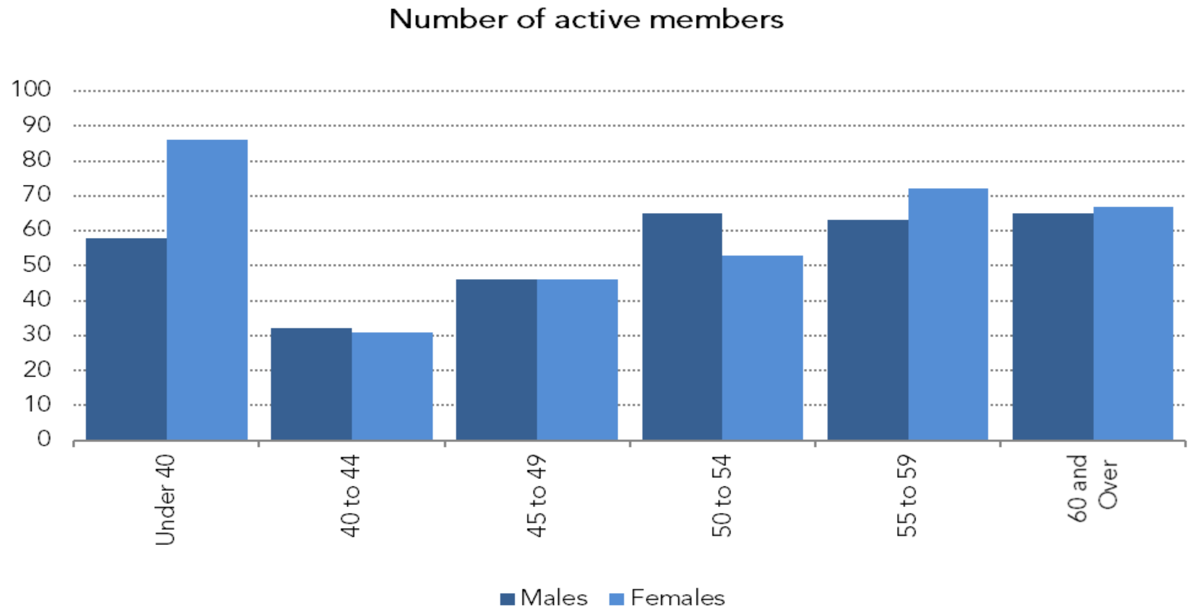
The Scheme membership data was supplied by Pension Administration Office on behalf of the Trustee. We have relied on the accuracy of the information provided.

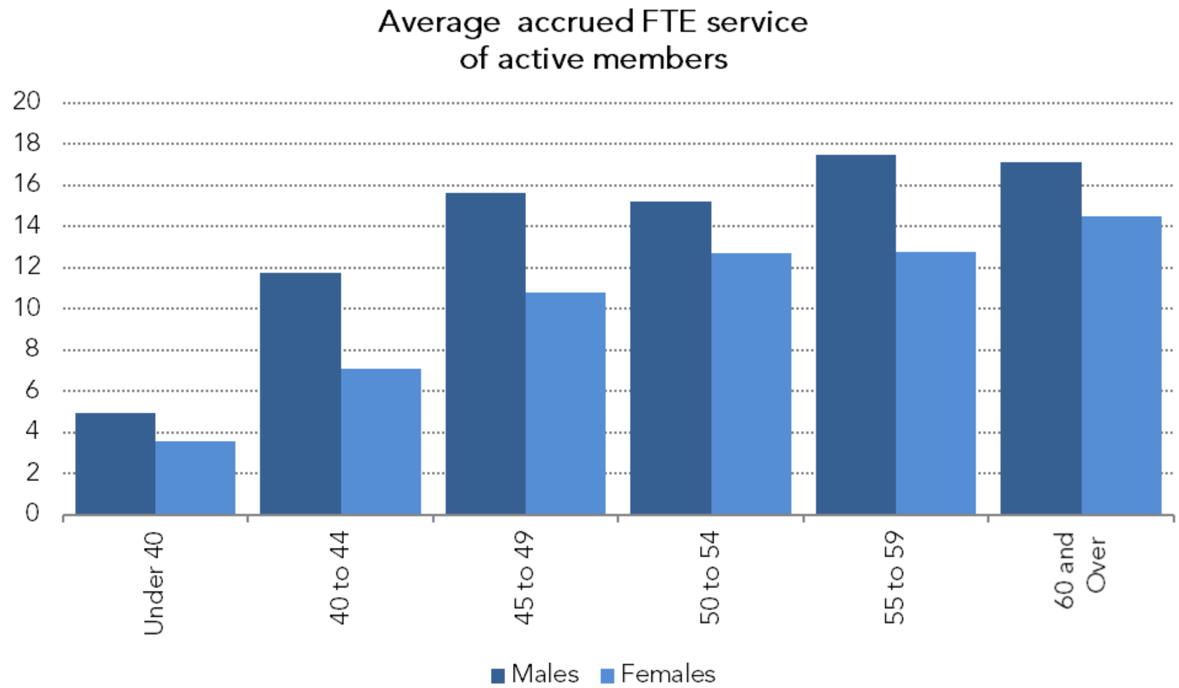
The data used in the valuation is summarised below, the previous valuation data is summarised in brackets for comparison.

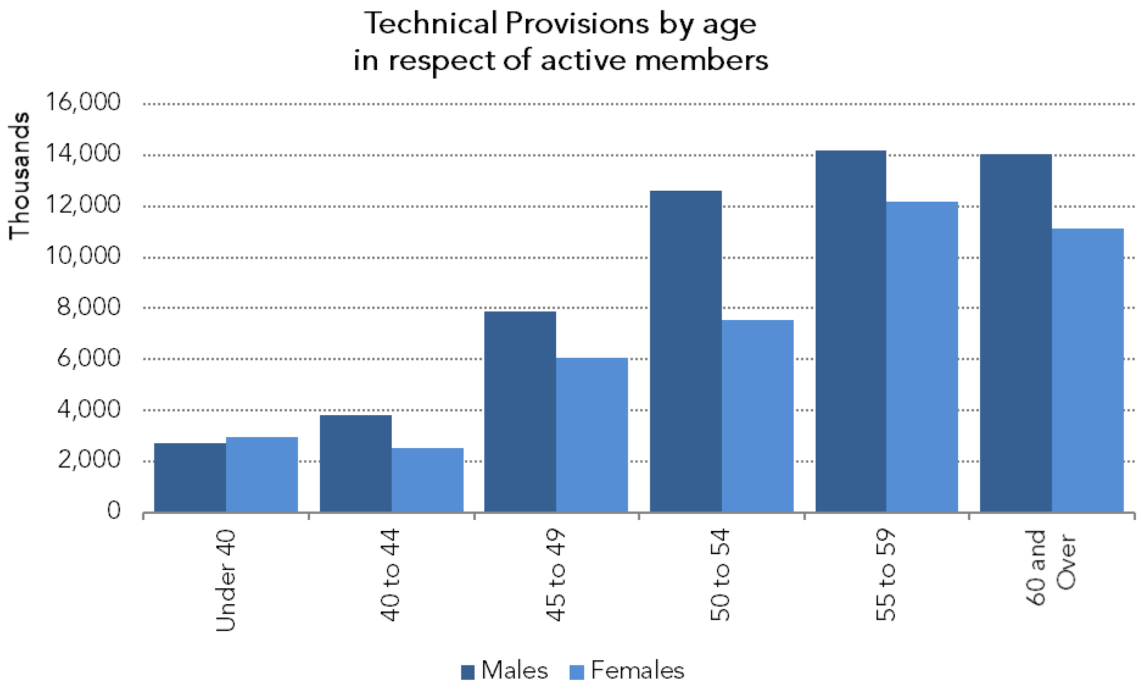
Active Members	Males	Females	Total
Number of members	329 (402)	355 (385)	684 (787)
Total Contribution Pay p.a.	£9,234,171 (£10,266,573)	£8,578,342 (£8,656,433)	£17,812,513 (£18,923,006)
Average Contribution Pay p.a.	£28,067 (£25,589)	£24,164 (£22,484)	£26,042 (£24,094)
Average past service (years)	13.9	10.1	12.0
Average age (unweighted)	50.5	49.5	49.9
Discounted mean term to retirement (years)	9.9	9.6	9.8

Notes

1. We have reconciled the above number of members with the Administration Office. The audited accounts shows a figure of 688 actives. The difference of 4 is due to timing differences between the two extracts.
2. The figures for the previous actuarial valuation are shown in brackets where available.
3. Included in these statistics are 132 active members who have not yet retired, but who have reached age 60.
4. Total Contribution Pay shown above are the actual Contribution Pay paid to members (i.e. not full time equivalent for part-timers) as provided to us by the Scheme's Administrator.
5. The Average Past Service is the full time equivalent past service for all members and is represented in the graph below. It includes transferred-in added years, augmentations and AVC added years where appropriate.
6. The discounted Mean Term to Retirement is the average term to the assumed retirement date, weighted by members' Technical Provisions.


Number of active members
100
90
80
70
60
50
40
30
20
10
0
Under 40
40 to 44
45 to 49
50 to 54
55 to 59
60 and Over
Males
Females


Average accrued FTE service of active members
20
18
16
14
12
10
8
6
4
2
0
Under 40
40 to 44
45 to 49
50 to 54
55 to 59
60 and Over
Males
Females

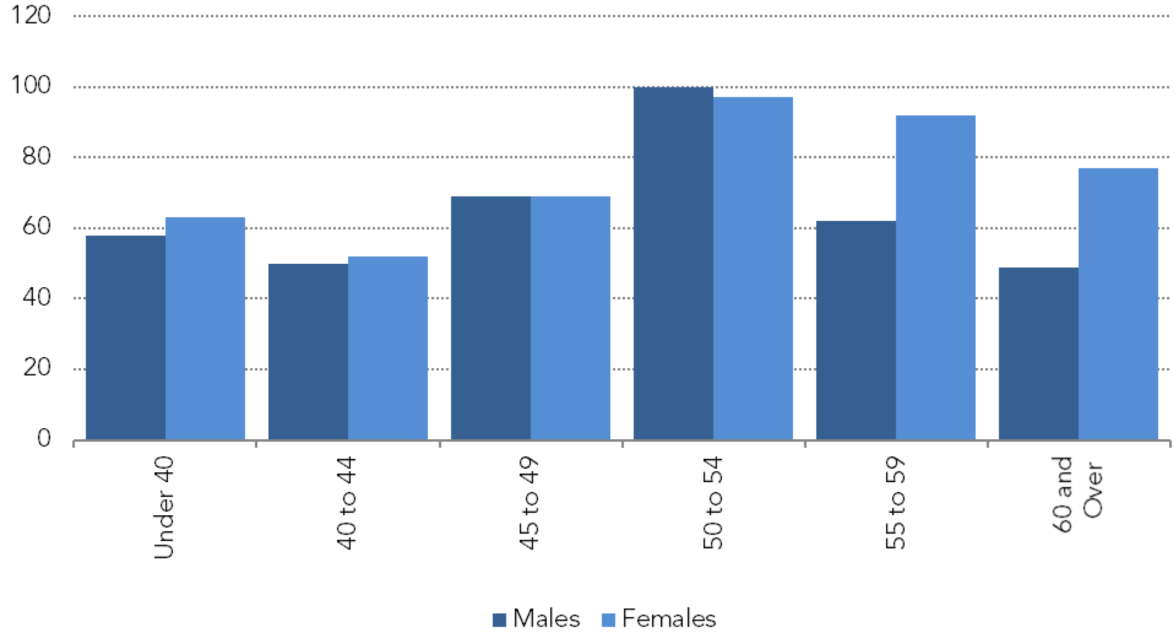


Deferred members	Males	Females	Total
Number of members	388 (366)	450 (449)	838 (815)
Total deferred pensions p.a. payable as at valuation date	£1,427,292 (£1,240,921)	£1,094,365 (£1,065,542)	£2,521,657 (£2,306,463)
Average deferred pension p.a. payable as at valuation date	£3,679 (£3,390)	£2,432 (£2,373)	£3,009 (£2,830)
Average age (unweighted)	49.9	51.0	50.5
Discounted mean term to retirement (years)	9.9	8.8	9.4

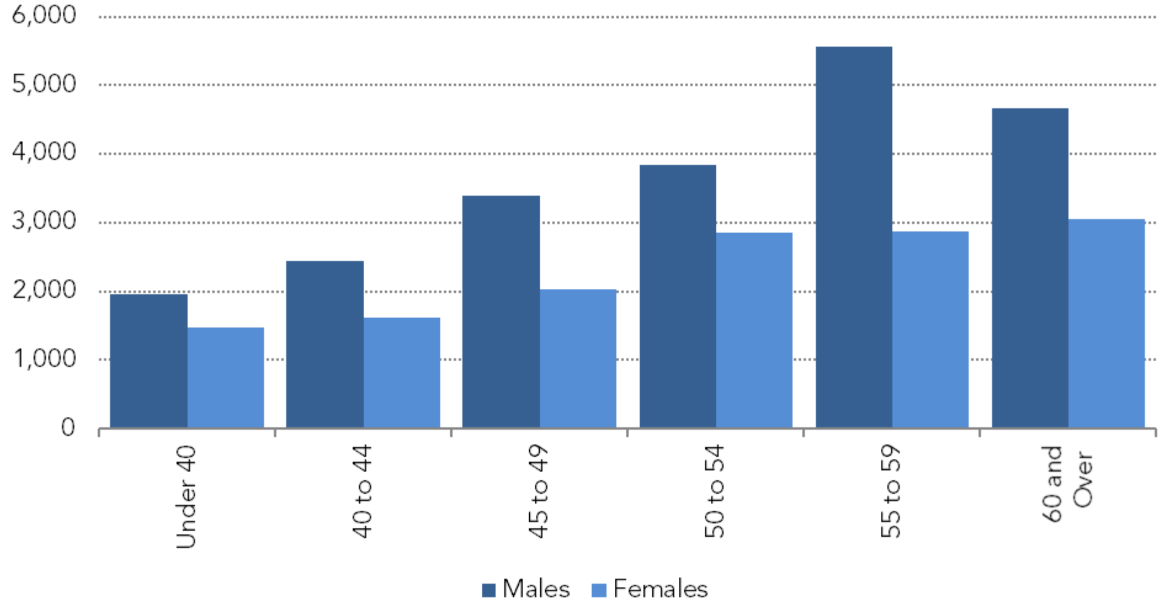
Notes

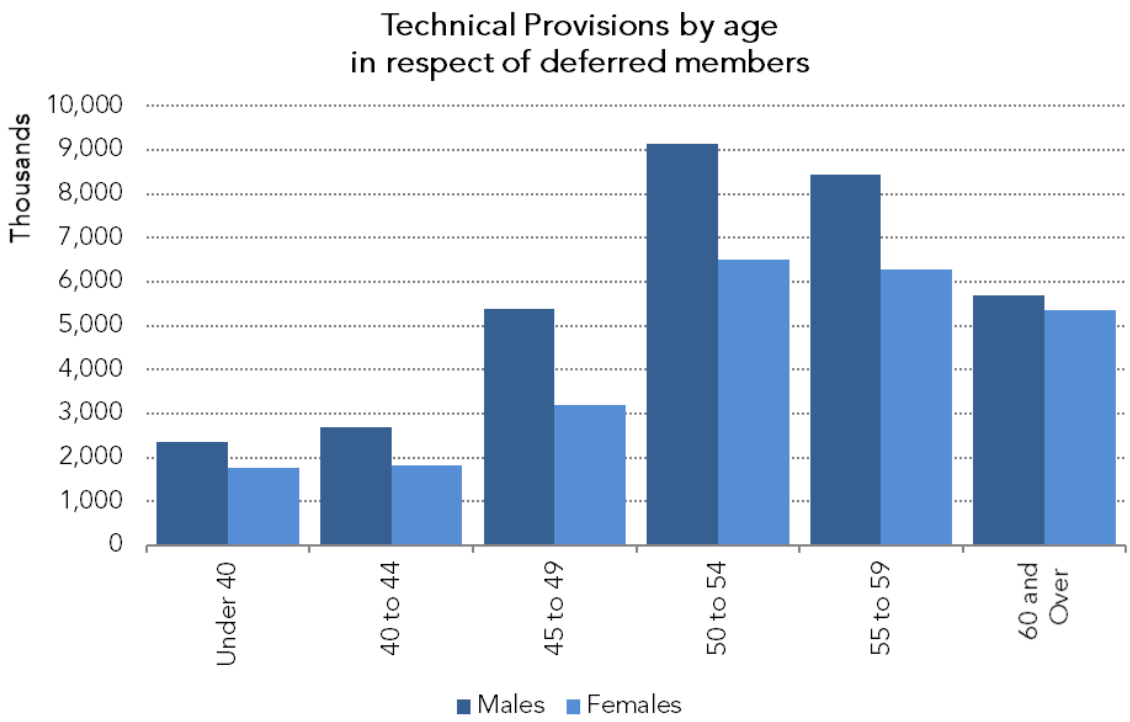
1. We have reconciled the above number of members with the Administration Office. The audited accounts shows a figure of 838 deferreds.
2. The figures for the previous actuarial valuation are shown in brackets where available.
3. Included in these statistics are 102 deferred pensioners who have not yet retired, but who have passed age 60.
4. The following graphs illustrate the current statistics in greater detail.
5. The discounted Mean Term to Retirement is the average term to the assumed retirement date weighted by members' Technical Provisions.
6. In addition to the above, there are 15 pending members who are awaiting a refund of contributions. We have valued these refunds and they are included in the value of the liabilities.

Number of deferred members



Average pension at leaving of deferred members

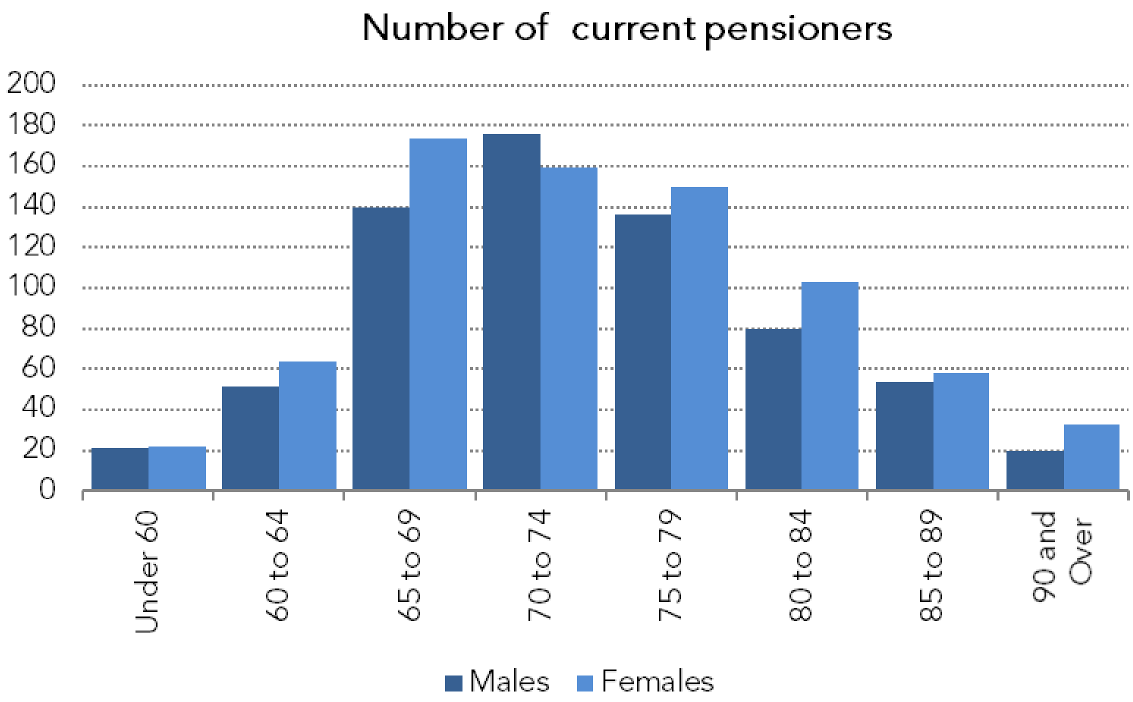


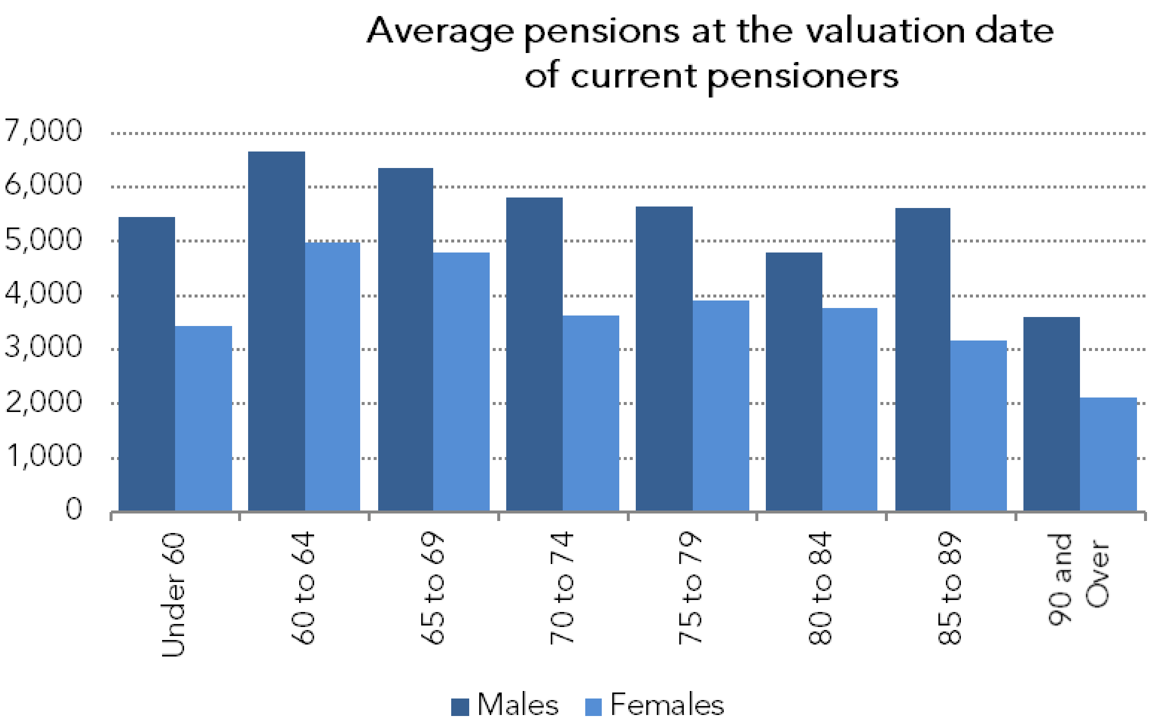


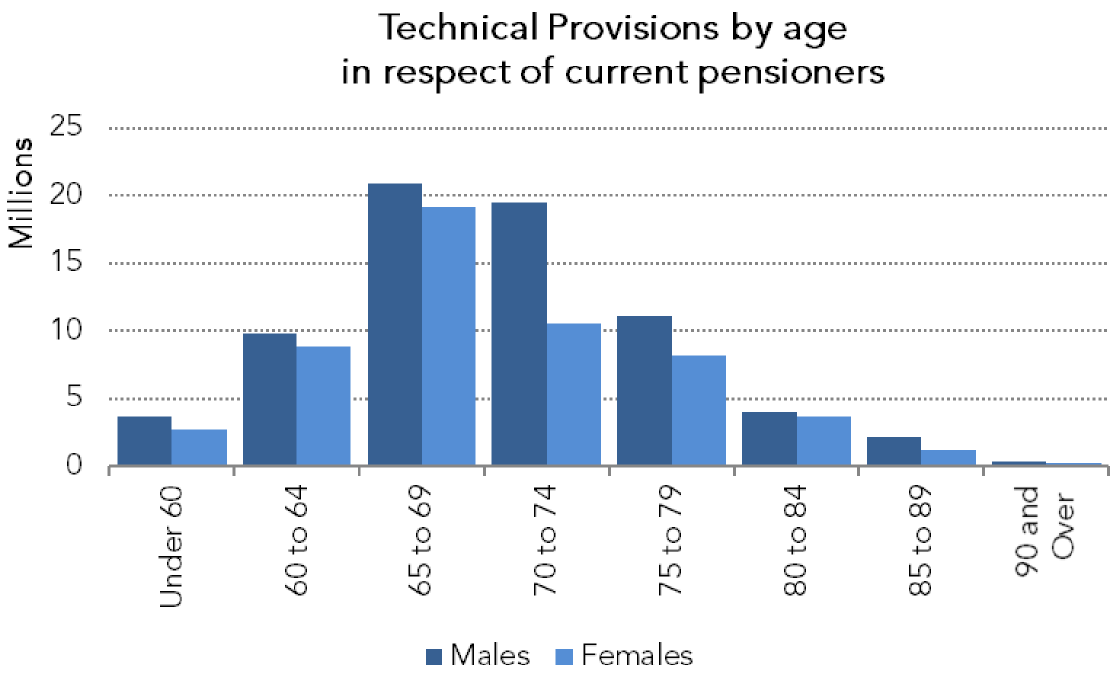
Pensioners	Males	Females	Total
Number of members	679 (657)	763 (684)	1,442 (1,341)
Total pensions p.a. payable as at valuation date	£3,897,711 (£3,364,849)	£3,029,639 (£2,386,706)	£6,927,351 (£5,751,555)
Average pension p.a. payable as at valuation date	£5,740 (£5,122)	3,971 (£3,489)	£4,804 (£4,289)
Average age (unweighted)	74.2	74.4	74.3

Notes

1. We have reconciled the above number of members with the Administration Office. The audited accounts shows a figure of 1,446 pensioners. The difference of 4 is due to timing differences between the two extracts.
2. The figures for the previous actuarial valuation are shown in brackets where available
3. There are 190 dependant pensioners included in the above statistics. In addition, there are 4 children's pensions in payment.
4. The following graphs illustrate the current statistics in greater detail.


Number of current pensioners
200
180
160
140
120
100
80
60
40
20
0
Under 60
60 to 64
65 to 69
70 to 74
75 to 79
80 to 84
85 to 89
90 and Over
Males
Females


Average pensions at the valuation date of current pensioners
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Under 60
60 to 64
65 to 69
70 to 74
75 to 79
80 to 84
85 to 89
90 and Over
Males
Females

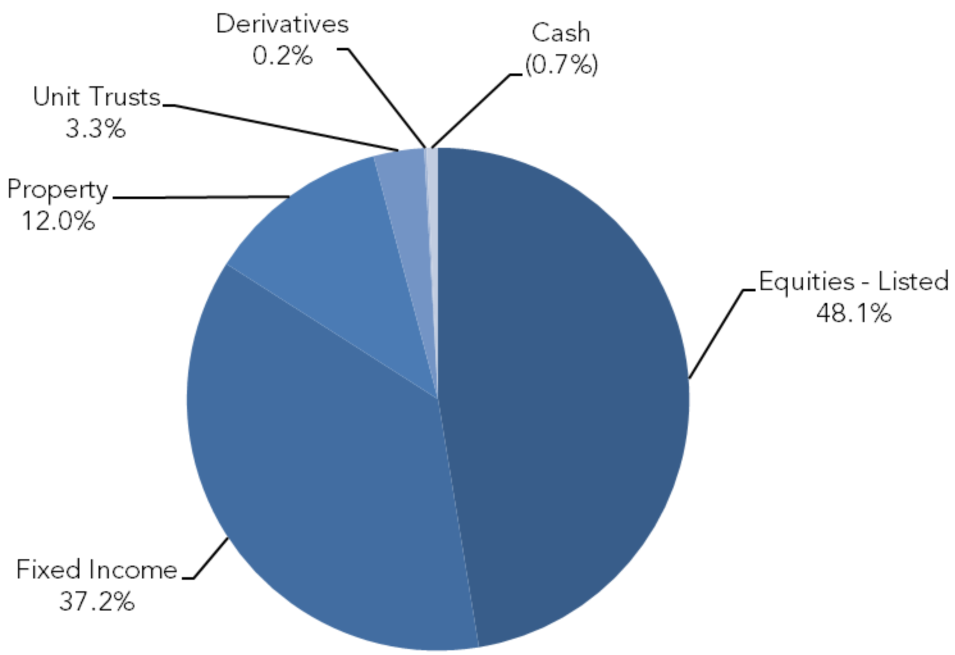

Technical Provisions by age
in respect of current pensioners
Millions
25
20
15
10
5
0
Under 60
60 to 64
65 to 69
70 to 74
75 to 79
80 to 84
85 to 89
90 and Over
Males
Females

Appendix B – Scheme Assets

The Scheme's audited accounts show that the Scheme held the following assets as at 31 March 2020:

Market value of Scheme assets	Amount £	Percentage of total Assets
Equities - Listed	106,759,634	48.1%
Fixed Income	82,527,693	37.2%
Property	26,609,798	12.0%
Unit Trusts	7,336,583	3.3%
Derivatives	337,927	0.2%
Cash	(1,639,850)	(0.7%)
Total	221,931,785	100.0%

The chart below shows the breakdown of the assets by asset class.



Appendix C – Summary of Benefits and Member Contributions

1. Effective Date	31 March 2020
2. Eligibility	Each College has its own eligibility conditions.
3. Pensionable Age (PA)	65th birthday for males and females
4. Offset Removal Date (ORD)	The date a College removed the single person's Basic State Pension (BSP) entitlement from the definition of Contribution Pay. The table at the end of this Section sets out those Colleges which have removed the BSP Offset and those which have not.
5. Contribution Pay	**For Pensionable Service prior to ORD** Gross taxable earnings for the week or month minus: (a) if paid weekly, the current weekly rate of the single person's flat rate state retirement pension, or (b) if paid monthly, $4^1/_3$ x the current weekly single person's flat rate state retirement pension in force on the last day of the month. For those Colleges where the offset has been retained, the offset is based on the Single Tier Pension (STP) instead of the BSP for Pensionable Service after 1 April 2016. **For Pensionable Service on or after ORD** Gross taxable earnings for the week or month.
6. Insured Salary	Current rate of annual salary or the gross taxable earnings for the previous tax year, whichever is larger.
7. Final Pensionable Salary	The best average of 3 consecutive years Contribution Pay in the last 13 years before the date of exit, increased in line with the RPI to the date of exit.
8. Pensionable Service	Service from date of joining the Scheme in years and completed months **plus** Service granted on transfer in **plus** Service secured by AVCs
9. Member's contributions	See table at end of this Section. Members may pay AVCs to secure added years of service.
10. Normal Retirement Pension	1/60th of Final Pensionable Salary times Pensionable Service

11. Early Retirement Pension in Normal Health	Members may retire between age 55 and 60 with the consent of their College, and on or after age 60 as of right. <u>Members retiring at or after age 60:</u> 1/60th of Final Pensionable Salary times Pensionable Service <u>Members retiring between age 55 and 60:</u> 1/60th of Final Pensionable Salary times Pensionable Service The pension in this case is reduced by an actuarial factor depending on the period to age 60. These provisions are modified in respect of Pensionable Service on or after 1 April 2004 for some Colleges, in respect of some of their members (as identified in the following table) so that the actuarial reduction referred to above is based on the period to age 65 and College consent is required for any retirement before age 65.
12. Additional Retirement Cash	<u>For Pensionable Service prior to ORD</u> In addition to the pension payable a tax free lump sum is payable equal to the first year's pension. <u>For Pensionable Service on or after ORD</u> Nil
13. Early Retirement Pension in Ill-Health or on grounds of Incapacity	Generally, there is no early retirement pension from the Scheme in these circumstances. An insured Group Income Protection (GIP) benefit will be paid outside the Scheme.
14. Exchange of pension for cash	Part of the retirement pension may be commuted for a tax free cash lump sum, in addition to the Retirement Cash in 12, subject to HMRC limits.
15. Benefits on death after retirement	(a) The balance, if any, of the first 5 years' payments of the member's pension, is paid as a lump sum to dependants plus (b) a spouse's pension of one half of the member's pension before any exchange for cash.
16. Benefits on death in service	(a) A lump sum of 2 times Insured Salary at the date of death plus (b) a spouse's pension of 25% of Insured Salary plus (c) a child's pension of 12.5% of Insured Salary for each child (maximum of 2) while below age 18 or, if later, receiving full time education.

17. Increases to pensions in payment	
• GMP earned before 6 April 1988	Nil
• GMP earned between 6 April 1988 and 5 April 1997	3% p.a. compound (or the increase in the CPI if lower)
• Pension in excess of GMP (other than spouse's or children's pensions on death in service)	The increase in the RPI in the year ending each September, applied at 1 November for service to 31 March 2016. This is modified for some Colleges in respect of Pensionable Service after 1 April 2004 for some of their members (as identified in the following table) so that the maximum increase each year is 5%. CPI up to a maximum of 2.5% for service on or after 1 April 2016.
• Spouse's or children's pensions on death in service	5% p.a. compound (or the increase in the RPI if lower)
18. Benefits on Termination of Service	(a) If the member has completed less than 3 months of Pensionable Service a refund of the member's contributions is paid to the member less tax. (b) If the member has completed between 3 months and 2 years of Pensionable Service then they have the option to take a cash transfer sum to an alternative pension arrangement. If this is not taken, then a refund is paid as described in (a). (c) If the member has completed 2 or more years Pensionable Service, the pension at termination is 1/60th of Final Pensionable Salary for each year (and proportionately for months) of Pensionable Service The pension in excess of the GMP will be revalued between termination and retirement at 5% p.a. compound (2½% p.a. for Pensionable Service after 5 April 2009) or the increase in CPI if lower. The GMP will be revalued in line with statutory increases. The member also has the option to take a transfer value to an alternative pension arrangement.
19. State Second Pension (S2P)	The following table sets out those Colleges which were contracted-out of S2P, and those which were not, prior to 31 March 2016. Those members who were not contracted-out of S2P receive lower benefits than shown in this summary. From 1 April 2016 all Colleges are contracted in.

		Service on or after 1 April 2004		Death in service benefits		Employee Contribution Rate
College	BSP Offset Removed	Members at 31 March 2004	Members joining on or after 1 April 2004	Members at 31 March 2004	Members joining on or after 1 April 2004	As at 31 March 2020
Contracted-out Colleges with BSP Offset Removed						
Christ's	1 June 2001	2	3 to 31 December 2009; 4 thereafter	Unchanged	6	10.00%
Churchill	1 June 2001	3 up to 31 March 2007, nil thereafter	3 up to 31 March 2007, nil thereafter	N/A	N/A	N/A
Corpus Christi	1 June 2001	2	4	Unchanged	N/A	15.00%
Downing	1 June 2001	1 up to 31 March 2005, 2 thereafter	4	Unchanged	N/A	15.00%
Emmanuel	1 June 2001	1	2	Unchanged	Unchanged	8.00%
Girton	1 June 2001	1	3	Unchanged	Unchanged	8.50%
Gonville & Caius	1 April 2002	2	2 to 31 March 2007; 4 thereafter	Unchanged	Unchanged	8.00%
Magdalene	1 June 2001	2	2 to 31 December 2006; 4 thereafter	Unchanged	Unchanged	15.00%
Murray Edwards	1 June 2001	3	4	5	N/A	15.00%
Newnham	1 June 2001	1	4	Unchanged	N/A	8.00%
Pembroke	1 June 2001	1	3 to 31 January 2006; 4 thereafter	Unchanged	5	9.00%
Peterhouse	1 June 2001	1	3 to 31 March 2008; 4 thereafter	Unchanged	5	8.00%
Queens'	1 June 2001	2	2	Unchanged	Unchanged	9.35%
Selwyn	1 June 2001	1	3	Unchanged	Unchanged	7.50%
St Catharine's	1 April 2002	3	3 to 31 October 2010; 4 thereafter	Unchanged	Unchanged	12.60%
St John's	1 April 2002	1	3 to 31 December 2016; 4 thereafter	Unchanged	6	8.50%
Trinity Hall	1 June 2001	2	2 to 3 October 2009; 4 thereafter	Unchanged	Unchanged	12.00%

College	BSP Offset Removed	Service on or after 1 April 2004 Members at 31 March 2004	 Members joining on or after 1 April 2004	Death in service Benefits Members at 31 March 2004	 Members joining on or after 1 April 2004	Employee Contribution Rate As at 31 March 2020
Contracted-out Colleges with BSP Offset Retained						
King's	No	1	4	N/A	N/A	N/A
Robinson	No	3	3 to 30 June 2009; 4 thereafter	Unchanged	Unchanged	12.75%
Contracted-in Colleges with BSP Offset Removed						
Clare Hall	1 June 2001	2	2	Unchanged	Unchanged	8.00%
Darwin	1 June 2001	1	3	Unchanged	Unchanged	6.50%
Lucy Cavendish	1 June 2001	3	4 up until last active member left service, nil thereafter	N/A	N/A	N/A
St Edmund's	1 June 2001	2	3 up to 1 March 2010, 4 thereafter	Unchanged	Unchanged	8.00%
Wolfson	1 June 2001	1	3 up to 1 March 2008, 4 thereafter	Unchanged	Unchanged	8.00%
Contracted-in Colleges with BSP Offset Retained						
Hughes Hall	No	1	4	N/A	N/A	N/A

Key	1) Original Benefits; 2) Cap maximum service at 40 years and pay unreduced pensions from 65; 3) As 2) above, but increase pensions in payment in line with LPI (RPI max 5% pa); 4) Alternative arrangements for future service; 5) No lump sum and 50% of prospective pension; 6) No lump sum and 50% of accrued pension; 7) Many of the above Colleges offer a salary sacrifice arrangement whereby the Member sacrifices part of their salary in lieu of the above contribution which is then paid by the College; and 8) Contracting out ceased for all Colleges on 31 March 2016 when they all became contracted in. 9) For all Colleges increases to pensions in payment related to Pensionable Service after 1 April 2016 are in line with CPI capped at 2½% 10) For Colleges where the BSP Offset has been retained this offset is superseded by a STP Offset for Pensionable Service after 1 April 2016.

Appendix D – Statement of Funding Principles

STATEMENT OF FUNDING PRINCIPLES

CAMBRIDGE COLLEGES' FEDERATED PENSION SCHEME

Status

This Statement has been prepared by the Management Committee for the purposes of the actuarial valuation as at 31 March 2020 after obtaining the advice of Robert Sweet, the Scheme Actuary and after consulting the Colleges.

Statutory Funding Objective

This statement sets out the Management Committee'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.

Technical provisions – method

The actuarial method used in the calculation of the technical provisions depends on whether or not the Section is open or closed to new entrants.

If a Section is open to new entrants, the Projected Unit Method is to be used.

If the Section is closed to new entrants then the Attained Age Method or the Projected Unit Method may be used, as agreed with the College concerned.

For those Colleges closed to new entrants, but who have retained the Projected Unit Method for funding purposes, the Colleges and Management Committee understand that normal contribution rates will increase over time.

For those Colleges closed for all accrual the Defined Accrued Benefit Method is used.

Technical provisions – assumptions

The assumptions will be based upon the following marker yields:

Fixed Interest Gilt Yield

Annualised yield on the 18 year Bank of England spot gilt yield, rounded down to the nearest 0.05% per annum.   As at 31 March 2020 this yield was 0.81% rounded to 0.8% per annum.

Implied Inflation

Annualised yield on the 18 year Bank of England Implied Inflation spot curve, rounded to the nearest 0.05% per annum. As at 31 March 2020 this yield was 3.04% per annum, rounded to 3.05% per annum.

Discount Interest Rate

Technical provisions are determined using a single rate of interest for all pre and post-retirement benefits.

On retirement, Members' pensions are paid from the fund. Assets providing a risk free rate of return, such as Government bonds (gilts) provide a good match for pensions in payment.

The Management Committee invests in a wide range of assets including equities and property, which are expected to give long term returns in excess of those available on gilts. The Management Committee wishes to take credit for some of this out-performance and to that end will use an interest rate based on the Bank of England's published nominal gilt yield curve at 18 years plus a margin to allow for this expected out-performance. The Management Committee has determined that for the purposes of the calculations as at 31 March 2020 the margin to be adopted is 1.9% per annum.

Retail Price Inflation (RPI)

RPI will be determined at the valuation date and is based on the above Implied Inflation rate.

As RPI may be over- or under-stated using this method due to varying demand for index linked gilts, the Management Committee can adjust the calculated yield by up to 0.25% per annum. For the calculation at 31 March 2020 they applied a reduction of 0.15% per annum.

Consumer Price Inflation (CPI)

CPI will be determined by making an adjustment to the assumption adopted for RPI. The Management Committee have agreed to determine the assumption for CPI by making a 0.8% per annum deduction from the assumption for RPI.

Pension Increases in payment

Pension increases in payment, depending on the College Section and where benefits were accrued, are defined in the Rules as either:

- Increasing in line with RPI;
- Increasing in line with RPI to a maximum of 5% per annum compound;
- Increasing in line with CPI to a maximum of 3% per annum compound (post April 1988 GMP);
- Increasing in line with CPI to a maximum of 2.5% per annum compound (post March 2016 pensions);
- Level in payment (pre April 1988 GMP only).

To derive these increases the Management Committee will adopt the Black-Scholes analytic pricing model resulting in the following:

Pension Increase	Assumption
RPI (min 0%; no max)	2.90% p.a.
RPI (min 0%; max 5%)	2.85% p.a.
CPI (min 0%; max 3%)	1.90% p.a.
CPI (min 0%; max 2½%)	1.75% p.a.

Pension Increases in Deferment

The Management Committee's assumption is the same as the expected future increase in the CPI up to a maximum of 5% per annum (2.5% per annum for Pensionable Service after 5 April 2009).

Pay Increases

After discussion with the Colleges, the Management Committee believe that, due to Colleges' salary banding structure and limits to comparable salaries in the Public Sector, it is appropriate to assume that from 2021 future salary increases will be limited to CPI plus 0.5% per annum. For 2020, no salary increase has been allowed for.

Mortality

It is the intention of the Management Committee to use both pre- and post-retirement mortality tables that reflect, as much as possible, actual Scheme experience with a suitable allowance for likely mortality improvements over the medium to long term.

The Management Committee have agreed to adopt the S3PxA mortality base tables produced by the Continuous Mortality Investigation Bureau (CMIB).

In addition, the Management Committee wish to make provision for future longevity improvements by adopting the CMI_2019 projection model produced by the CMIB, with a long term improvement rate of 1.25% per annum for males and 1.0% per annum for females. An additional improvement rate of 0.25% per annum with the standard smoothing factor 7.0 have also been adopted.

These tables and adjustments are subject to regular review and will be updated in future valuations as more up-to-date data becomes available.

New Entrants

The Management Committee does not allow explicitly for new entrants. However, by adopting the Projected Unit Method for Colleges open to new entrants, to give a stable normal contribution rate, they are implicitly assuming that the active membership average age remains relatively constant – i.e. that new entrants will continue to join the Scheme.

Commutation

The Management Committee believe that the vast majority of members take the maximum tax free cash option at retirement.

The Committee therefore wish to make allowance for this as follows:

- 100% of members take maximum tax free cash at retirement;
- Commutation (cash) factors are those in force at the valuation date.

This feature will be monitored at each future valuation.

Withdrawals from Active Service

The Scheme is relatively large; as it is prudent to assume that no-one leaves early, the Management Committee therefore makes no allowance for early leavers. Any members leaving early are likely to release a surplus to the Scheme; this will be used to reduce future contribution rates when appropriate.

Retirement

The Scheme's Pensionable Age is 65 although many members have the right to take at least part of their pension benefits without actuarial reduction at age 60. The Management Committee wishes to fund member benefits to the following assumed average expected ages of retirement:

Assumed Retirement Age for Service accrued to 31 March 2016	Active Members	Deferred Members
Male – Option 1	63	62
Male Options 2&3	65	63
Female – Option 1	63	62
Female Options 2&3	64	62

For service accrued on or after 1 April 2016 all members are assumed to retire at age 65.

These retirement ages will continue to be reviewed by the Actuary

Age Difference of Dependants

Husbands are assumed to be 3 years' older than their wives.

Percentage with Dependant's Benefits at Death

80% of members are assumed to be married at death.

Expenses

Expenses of administering the Scheme are borne by the Scheme.

The Management Committee's policy is for the Actuary to review the allowance for expenses at each valuation.

The Actuary has reviewed the expense provisions in the light of recent experience and recommended that a per member and per College Section charge be made to each College Section. These are as follows:

- College Section Charge = £3,000.00 per annum
- Active Member Charge = £230.38 per annum
- Deferred Member Charge = £87.96 per annum
- Pensioner Member Charge = £171.75 per annum

These charges will be reviewed at each future valuation.

In addition, each College will pay the directly attributable PPF levies plus any directly attributable actuarial or legal fees.

Policy on discretionary increases and funding strategy

No allowance has been made for any discretionary increases in benefits in the calculation of the technical provisions.

Period within which and manner in which a failure to meet the Statutory Funding Objective is to be rectified

Any funding shortfalls identified at an actuarial valuation are to be eliminated by the payment of additional contributions. In determining the length of the recovery period at any particular valuation the Management Committee's principles are to take into account the following factors:

- the size of the funding shortfall;
- the maturity of the Section concerned;
- the Management Committee's assessment of the financial covenant of the Colleges; and
- any contingent security offered by the Colleges.

The assumptions to be used in the calculations to determine the additional contributions required will be those set out above for calculating the Technical Provisions, except that the expected rate of return (the return on existing assets and on new contributions paid during the recovery period) will be the gross redemption yield on Bank of England's published gilt yield at duration 18 years plus a margin of up to 4% per annum, the exact level of the margin will be such as the Management Committee determine to be appropriate in any particular case.

The assumption adopted for the valuation at 31 March 2020 is 3.6% per annum, i.e. a margin of 2.8% over gilt yields.

Arrangement by a person other than the Colleges or a Scheme member to contribute to the Scheme

There are no arrangements for a person other than the Colleges or a Scheme member to contribute to the Scheme.

Policy on reduction of cash equivalent transfer values (CETVs)

The Management Committee asks the Scheme Actuary to advise them at each valuation of the extent to which assets are sufficient to provide CETVs for all non pensioners without adversely affecting the security of the benefits of other members and beneficiaries.

If at any time, after obtaining advice from the Scheme Actuary, the Management Committee are of the opinion that the payment of CETVs at a previously agreed level may adversely affect the security of the benefits of other members and beneficiaries, the Management Committee will commission a report from the Scheme Actuary to decide whether, and to what extent, CETVs should be reduced.

Payments to the Colleges

If the Scheme is not being wound up and the assets of the Scheme exceed the estimate by the Scheme Actuary of the cost of buying out the benefits of all beneficiaries from an insurance company, including the expenses of doing so, the Colleges may receive a payment of the excess. If the Scheme Actuary certifies that the requirements of the Pensions Act 2004 have been met and certifies the maximum amount that may be paid, the Management Committee will consider whether a payment would be in the interest of the members, and if so, the Management Committee will give notice to the members of the proposal.

Frequency of Valuations and circumstances for extra Valuations

The Scheme's most recent actuarial valuation under Part 3 of the Pensions Act 2004 was carried out as at the effective date of 31 March 2020 and subsequent valuations will in normal circumstances be carried out every three years thereafter. An actuarial report on developments affecting the Scheme's funding level will be obtained as at each intermediate anniversary of that date for College Sections whose membership exceeds 100.

The Management Committee may call for a full actuarial valuation instead of an actuarial report when, after considering the Scheme 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. However, the Management Committee will consult with the Colleges before doing so.

Signed on behalf of the Management Committee

Signature:

Name: Robin Ellison

Position: Chair

Date: 21 May 2021

APPENDIX

Financial Assumptions as at 31 March 2020

Economic	Assumptions for valuation as at 31 March 2020 (% per annum compound)
Rate of interest:	
• before retirement	2.70
• after retirement	2.70
Asset return for Recovery Plan:	3.60
Rate of salary increases:	Year 1 – Nil Thereafter - 2.60
Rate of increase in pensions in payment:	
• Guaranteed Minimum Pension (GMP) earned for service before 6 April 1988	0.0
• GMP earned for service between 6 April 1988 and 5 April 1997	1.90
• Pension in excess of GMP earned to 31 March 2004	2.90
• Pension earned between 1 April 2004 and 31 March 2016	2.90/2.85
• Pension earned after 31 March 2016	1.75
Rate of increases in pensions in deferment:	
• Excess pension accrued prior to 6 April 2009	2.10
• Excess pension accrued from 6 April 2009	2.10
• GMP	Statutory

Appendix E – Assumptions

The 2020 Funding Basis is based on the Statutory Funding Objective and the current Statement of Funding Principles adopted by the Trustee. These assumptions have been adjusted by the Trustee in line with actuarial advice, as required by legislation.

Set out below are the assumptions adopted for the valuation as at 31 March 2020. Also included are the previous valuation assumptions for comparison purposes.

Under the Code of Practice, when choosing the assumptions the Trustee is required to consider the factors particular to the Colleges, or the Colleges' industry, affecting matters such as pay increases, rate of withdrawal from membership and recruitment. The Trustee is satisfied that the chosen assumptions set out below are appropriate bearing in mind the above factors.

Economic*	**Assumptions for valuation as at 31 March 2020 (% per annum compound)**	**Assumptions used in valuation as at 31 March 2017 (% per annum compound)**
Rate of interest:		
• before retirement	2.70	3.65
• after retirement	2.70	3.65
Asset return for Recovery Plans	3.60	3.90
Rate of salary increases:	Year 1 – Nil; Thereafter - 2.60	2.85
Rate of increase in pensions in payment:		
• Guaranteed Minimum Pension (GMP) earned for service before 6 April 1988	0.0	0.0
• GMP earned for service between 6 April 1988 and 5 April 1997	1.90	2.05
• Pension in excess of GMP earned to 31 March 2004	2.90	3.35
• Pension earned between 1 April 2004 and 31 March 2016	2.90/2.85	3.35/3.25
• Pension earned after 31 March 2016	1.75	1.85

	Assumptions for valuation as at 31 March 2020	Assumptions used in valuation as at 31 March 2017
Rate of increases to pensions in deferment: • Excess pension accrued prior to 6 April 2009 • Excess pension accrued from 6 April 2009 • GMP	 2.10 2.10 Statutory	 2.35 2.35 Statutory
Other		
Valuation of assets:	Surrender value of the assets	Surrender value of the assets
Expenses:	College Section Charge = £3,000 p.a.	College Section Charge = £3,000 p.a.
	Active Member Charge = £230.38 p.a.	Active Member Charge = £181.36 p.a.
	Deferred Member Charge = £87.96 p.a.	Deferred Member Charge = £69.25 p.a.
	Pensioner Member Charge = £ 171.75 p.a.	Pensioner Member Charge = £135.20 p.a.
Death in Service Premiums:	As paid by the individual College	As paid by the individual College
Pension Protection Fund levy and other directly attributable expenses:	Paid for in addition to the above expenses	Paid for in addition to the above expenses
Demographic		
Mortality Base tables	S3PxA	S2PxA
Projection tables	CMI_2019	CMI_2016
Long term improvement rate	1.25% p.a. for males 1.0% p.a. for females	1.25% p.a.
Additional Improvement rate	0.25% p.a.	n/a
Assumed Retirement Age (ARD) Males: • Active Members	Age 63 for Benefit Option 1 benefits to 31 March 2016 and Age 65 for Benefit Option 2&3 benefits and service on or after 1 April 2016	Age 65
• Deferred Members:	Age 62 for Benefit Option 1 benefits to 31 March 2016 and Age 63 for Benefit Option 2&3 benefits and Age 65 for service on or after 1 April 2016	Age 62 for Benefit Option 1 benefits to 31 March 2016 and Age 62 for Benefit Option 2&3 benefits And Age 65 for service on or after 1 April 2016

Demographic	Assumptions for valuation as at 31 March 2020	Assumptions used in valuation as at 31 March 2017
Females: • Active Members	Age 63 for Benefit Option 1 benefits to 31 March 2016 and Age 64 for Benefit Option 2&3 benefits and Age 65 for service on or after 1 April 2016	Age 63 for Benefit Option 1 benefits to 31 March 2016 and Age 65 for Benefit Option 2&3 benefits and Age 65 for service on or after 1 April 2016
• Deferred Members	Age 62 for Benefit Option 1 benefits to 31 March 2016 Age 62 for Benefit Option 2&3 benefits to 31 March 2016 and Age 65 for service on or after 1 April 2016	Age 60 for Benefit Option 1 benefits to 31 March 2016 Age 62 for Benefit Option 2&3 benefits to 31 March 2016 and Age 65 for service on or after 1 April 2016
Proportion Married:	Males and Females 80%	Males and Females 80%
Age Difference:	Wives 3 years younger than their husbands	Wives 3 years younger than their husbands
Commutation of pension for cash:	All Members will take their maximum tax free cash allowance on the basis that current commutation factors are maintained.	All Members will take their maximum tax free cash allowance on the basis that current commutation factors are maintained.
Withdrawal rates:	No allowance	No allowance
Other Member Options:	No allowance	No allowance

Appendix F – College Contribution Levels

College	From 1 April 2020 to 30 June 2021			From 1 July 2021				
	Employee Contribution Rate (%)	*Employer Contributio n Rate (%)*	*Recovery Plan Amounts (15 months)*	*Employee Contribution Rate (%)*	*Employer Contribution Rate (%)*	*Recovery Plan Amounts (£ p.a.)*	*Recovery Plan Cessation Date*	
Former contracted-out Colleges with BSP Offset Removed								
Christ's	10.00%	22.15%	223,570	10.00%	26.23%	217,452	31 March 2030	*
Churchill	0.00%	0.00%	0	0.00%	0.00%	0	n/a	**
Corpus Christi	15.00%	15.18%	0	15.00%	20.22%	0	n/a	*
Downing	15.00%	22.26%	48,881	15.00%	24.45%	39,105	31 August 2025	*
Emmanuel	8.00%	23.44%	88,449	8.00%	29.12%	70,759	30 November 2033	
Girton	8.50%	24.71%	211,961	8.50%	28.80%	226,570	31 March 2030	*
Gonville & Caius	8.00%	25.92%	175,706	8.00%	29.81%	140,565	28 February 2030	*
Magdalene	15.00%	16.99%	61,218	0.00%	0.00%	0	31 March 2027	*
Murray Edwards	15.00%	20.20%	77,621	15.00%	25.81%	62,097	31 January 2028	*
Newnham	8.00%	25.91%	30,469	8.00%	28.80%	9,244	31 March 2027	*
Pembroke	9.00%	24.96%	150,275	10.51%	27.98%	120,220	31 January 2028	*
Peterhouse	8.00%	24.49%	55,955	8.00%	28.83%	91,513	31 March 2030	*
Queens'	9.35%	21.08%	342,809	9.35%	27.63%	274,247	31 March 2029	
Selwyn	7.50%	23.70%	124,096	7.50%	29.47%	99,277	31 May 2033	
St Catharine's	12.60%	19.49%	145,653	9.60%	27.31%	124,600	31 March 2030	*
St John's	8.50%	22.06%	502,374	8.50%	27.44%	605,600	31 March 2030	*
Trinity Hall	12.00%	18.51%	213,109	12.00%	25.61%	267,630	31 March 2030	*
Former contracted-out Colleges with BSP Offset Retained								
King's	0.00%	0.00%	170,971	0.00%	0.00%	0	31 March 2025	**
Robinson	12.75%	26.01%	226,455	13.50%	27.28%	253,860	31 March 2030	*
Former contracted-in Colleges with BSP Offset Removed								
Clare Hall	8.00%	23.26%	13,014	8.00%	28.98%	10,411	31 July 2027	*
Darwin	6.50%	24.99%	44,566	8.00%	28.93%	64,837	31 March 2030	*
Lucy Cavendish	0.00%	0.00%	4,238	0.00%	0.00%	3,390	31 July 2027	**
St Edmund's	8.00%	24.58%	9,684	8.00%	28.44%	12,297	31 March 2030	*
Wolfson	8.00%	23.64%	43,836	8.00%	29.19%	35,069	30 November 2029	*
Former contracted-in College with BSP Offset Retained								
Hughes Hall	0.00%	0.00%	7,639	0.00%	0.00%	6,111	31 August 2029	**

* *Closed to New Entrants*
** *Closed to Future Accrual*
Also please see notes overleaf

General	*Notes*
Scheme Expenses	Additional contributions are payable to fund Scheme expenses at the rate per College Section of £3,000 p.a. plus £181.36 p.a. per active member, £69.25 p.a. per deferred member, and £135.20 p.a. per pensioner at 31 March 2020. From 1 July 2021 the per member charges increase to £230.38 p.a., £87.96 p.a. and £171.75 p.a. respectively.
Insurance Premiums	The contribution rates shown are inclusive of the insurance premiums payable for death-in-service and group income protection benefits (where applicable).
Frequency of Contributions	Contributions are payable monthly unless otherwise indicated on the College's individual Schedule of Contributions. Monthly contributions are to be paid on or before the 4th working day of the calendar month following that to which the payment relates.
PPF Levies	Are excluded from the above contributions and should be paid in addition by the Colleges.
College	**Notes**
Darwin College	Member contributions increased by 1.5% to 8.0% from 1 October 2020 and College contributions reduce by 1.5% at the same date.
Pembroke	Member contributions increase by 1.51% to 10.51% from 1 July 2021.
Robinson	Member contributions increase by 0.75% to 13.5% from 1 July 2021.
Magdalene	There was one active Member as at 31 March 2020. Since then, this member has retired and there are no future ongoing contributions.

Appendix G – College Funding Levels

College	Funding Objective Basis				Solvency Funding Basis				PPF Basis			
	Technical Provisions (£)	Asset Values (£)	Surplus/ (Deficiency) (£)	Funding Level (%)	Technical Provisions (£)	Asset Values (£)	Surplus/ (Deficiency) (£)	Funding Level (%)	Technical Provisions (£)	Asset Values (£)	Surplus/ (Deficiency) (£)	Funding Level (%)
Former contracted-out Colleges with BSP Offset Removed												
Christ's	15,381,294	11,324,899	(4,056,395)	74%	26,646,245	11,324,899	(15,321,346)	43%	23,250,470	11,324,899	(11,925,571)	49%
Churchill	8,148,455	7,798,249	(350,206)	96%	12,523,921	7,798,249	(4,725,672)	62%	10,553,010	7,798,249	(2,754,761)	74%
Corpus Christi	7,389,740	7,758,319	368,579	105%	11,455,986	7,758,319	(3,697,667)	68%	9,480,795	7,758,319	(1,722,476)	82%
Downing	5,931,703	4,905,825	(1,025,878)	83%	9,513,846	4,905,825	(4,608,021)	52%	8,021,594	4,905,825	(3,115,769)	61%
Emmanuel	15,259,708	11,884,408	(3,375,300)	78%	27,682,903	11,884,408	(15,798,495)	43%	24,251,890	11,884,408	(12,367,482)	49%
Girton	17,620,679	13,250,189	(4,370,490)	75%	31,116,831	13,250,189	(17,866,642)	43%	26,993,109	13,250,189	(13,742,920)	49%
Gonville & Caius	16,529,150	12,808,392	(3,720,758)	77%	27,100,393	12,808,392	(14,292,001)	47%	23,388,595	12,808,392	(10,580,203)	55%
Magdalene	6,808,631	5,730,991	(1,077,640)	84%	10,989,725	5,730,991	(5,258,734)	52%	9,320,057	5,730,991	(3,589,066)	61%
Murray Edwards	5,461,062	4,233,002	(1,228,060)	78%	8,576,790	4,233,002	(4,343,788)	49%	7,282,279	4,233,002	(3,049,277)	58%
Newnham	5,685,345	4,780,200	(905,145)	84%	8,857,489	4,780,200	(4,077,289)	54%	7,683,385	4,780,200	(2,903,185)	62%
Pembroke	10,979,472	8,510,382	(2,469,090)	78%	18,012,393	8,510,382	(9,502,011)	47%	15,355,145	8,510,382	(6,844,763)	55%
Peterhouse	13,470,223	10,674,289	(2,795,934)	79%	23,692,092	10,674,289	(13,017,803)	45%	20,458,550	10,674,289	(9,784,261)	52%
Queens'	22,421,017	17,417,172	(5,003,845)	78%	40,690,406	17,417,172	(23,273,234)	43%	35,927,874	17,417,172	(18,510,702)	48%
Selwyn	14,883,958	11,655,943	(3,228,015)	78%	26,969,456	11,655,943	(15,313,513)	43%	23,737,215	11,655,943	(12,081,272)	49%
St Catharine's	11,555,885	8,725,374	(2,830,511)	76%	19,864,190	8,725,374	(11,138,816)	44%	17,060,794	8,725,374	(8,335,420)	51%
St John's	45,182,025	33,811,247	(11,370,778)	75%	84,797,669	33,811,247	(50,986,422)	40%	73,920,554	33,811,247	(40,109,307)	46%
Trinity Hall	15,480,822	11,205,477	(4,275,345)	72%	27,667,332	11,205,477	(16,461,855)	41%	24,040,998	11,205,477	(12,835,521)	47%
Former contracted-out Colleges with BSP Offset Retained												
King's	14,508,690	12,223,711	(2,284,979)	84%	21,886,662	12,223,711	(9,662,951)	56%	18,095,594	12,223,711	(5,871,883)	68%
Robinson	15,154,441	10,892,729	(4,261,712)	72%	24,634,058	10,892,729	(13,741,329)	44%	20,734,880	10,892,729	(9,842,151)	53%
Former contracted-in Colleges with BSP Offset Removed												
Clare Hall	2,447,604	2,039,850	(407,754)	83%	4,060,586	2,039,850	(2,020,736)	50%	3,700,986	2,039,850	(1,661,136)	55%
Darwin	5,043,132	3,777,255	(1,265,877)	75%	8,774,873	3,777,255	(4,997,618)	43%	7,892,129	3,777,255	(4,114,874)	48%
Lucy Cavendish	373,318	291,775	(81,543)	78%	594,740	291,775	(302,965)	49%	516,830	291,775	(225,055)	56%
St Edmund's	966,849	736,851	(229,998)	76%	1,879,456	736,851	(1,142,605)	39%	1,643,097	736,851	(906,246)	45%
Wolfson	6,133,362	4,927,065	(1,206,297)	80%	10,729,657	4,927,065	(5,802,592)	46%	9,058,205	4,927,065	(4,131,140)	54%
Former contracted-in College with BSP Offset Retained												
Hughes Hall	736,156	568,191	(167,965)	77%	971,595	568,191	(403,404)	58%	830,383	568,191	(262,192)	68%

Appendix H – Actuary's Certification of the Calculation of Technical Provisions

Name of Scheme: Cambridge Colleges' Federated Pension Scheme

Calculation of Technical Provisions

I certify that, in my opinion, the calculation of the Scheme's technical provisions as at 31 March 2020 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 21 May 2021

Signed:		Date:	21 May 2021
Name:	Robert Sweet	Qualification	Fellow of the Institute and Faculty of Actuaries
Address:	Mill Pool House Mill Lane Godalming Surrey GU7 1EY	Employer:	Cartwright Group Limited

Appendix I – Glossary

Actuarial Report

Introduced by the Pensions Act 2004, this is a written report, prepared and signed by the Scheme Actuary, on developments affecting the Scheme's Technical Provisions since the last actuarial valuation. It must also include an assessment of changes in the value of the Scheme's assets.

Actuarial Valuation

Defined by the Pensions Act 2004 as a written report, prepared and signed by the Scheme Actuary, valuing the Scheme's assets and calculating its Technical Provisions.

Code of Practice 3 – Funding Defined Benefit Schemes

This is a written document dated July 2014 setting out the Pension Regulator's guidance and standards of conduct for Trustee with regard to funding their defined benefit pension scheme.

Recovery Plan

Where a scheme has a deficit on the Statutory Funding Objective a Recovery Plan is needed to remove the deficit. The Plan should detail the period and means by which the deficit will be eliminated.

Schedule of Contributions

This is a written document detailing the contributions payable to the Scheme from the date of the Schedule for a period of 5 years or such longer period as the Recovery Plan applies. The contributions on the Schedule must be sufficient to ensure the Scheme's assets cover the Technical Provisions by the end of the period it covers.

Statement of Funding Principles

This is a document produced by the Trustee which sets out details of the method and assumptions to use to meet the Statutory Funding Objective as well as any other objectives the Trustee has.

Statutory Funding Objective

Introduced by the Pensions Act 2004, this is the funding target the Scheme must meet. The assumptions chosen to calculate the target must be chosen in a prudent manner and reflect market conditions.

Technical Provisions

This is the name given to the Scheme's liabilities calculated using the method and assumptions set out in the Statement of Funding Principles. The Trustee and Colleges should aim to fund 100% of the Scheme's Technical Provisions.