



Halcrow Pension Scheme (No.2)

**Scheme funding report on the Actuarial Valuation
as at 31 December 2022**

6 November 2023

Executive summary

104%

Funding level

£19.5m

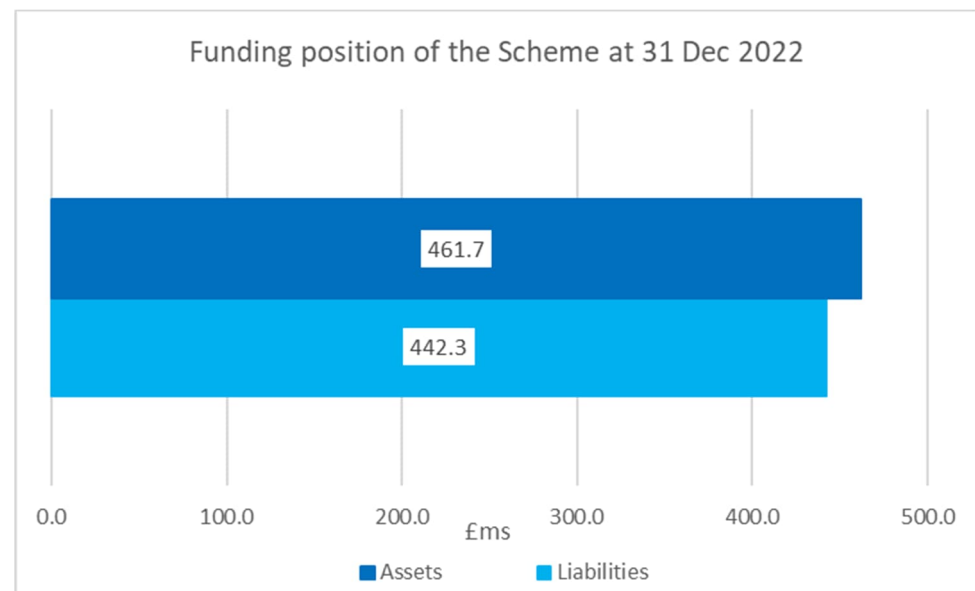
Estimated scheme funding surplus.

The Trustee have completed a valuation of the Scheme as at 31 December 2022. This report sets out the approach adopted by the Trustee, the results obtained, and the actions taken in the light of those results.

The key results are as follows.

Scheme funding assessment

In funding the Scheme, the Trustee's key objective is to ensure that there will be sufficient assets to meet all benefit payments as they fall due. With this in mind, the Trustee have set a target reserve for the Scheme based on a prudent estimate of the amount needed to meet all payments in respect of the benefits earned up to the valuation date.



Please note due to rounding, the items in the graph may not sum to the total shown.

Employer contributions

As the Scheme is in surplus at the valuation date, and is still expected to remain in surplus, there is no requirements for a Recovery Plan or any deficit reduction contributions. Further information on how expenses are met is provided on page 7 (Expense Reserves).

Executive summary

95%

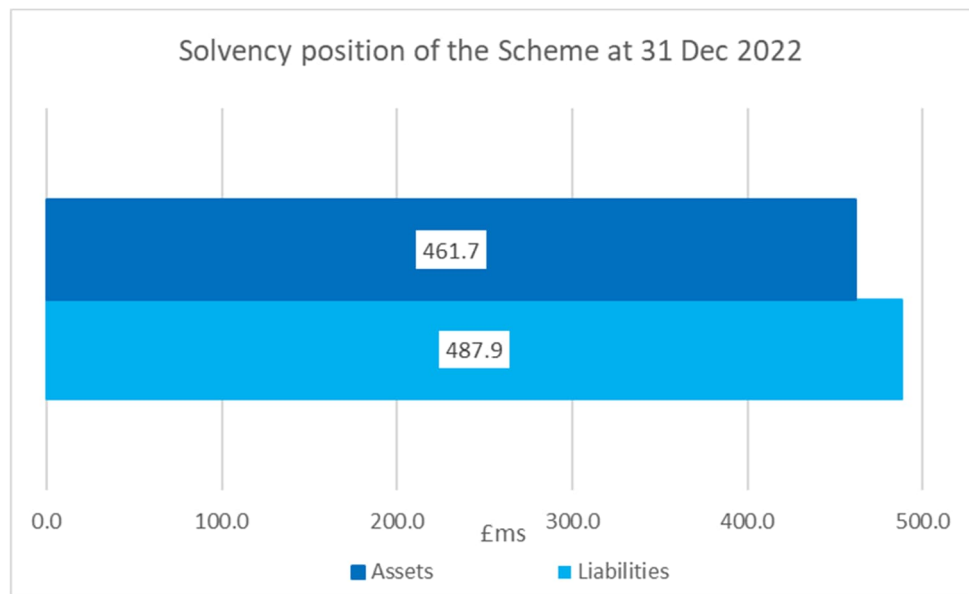
Solvency funding level

£26.2m

Estimated solvency deficit

Solvency assessment

I have also completed a solvency assessment of the Scheme. This estimates the extent to which the Scheme's assets would be sufficient to secure members' benefits by the purchase of insurance policies if the Scheme were to be wound up at the effective date of the valuation.



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Throughout the report:

‘Scheme’ refers to The Halcrow Pension Scheme (No. 2)

‘Trustee’ refers to the Trustee of The Halcrow Pension Scheme (No. 2)

‘Employer’ refers to Jacobs UK Limited

Disclaimers, confidentiality and non-disclosure

This report has been commissioned by and is addressed to the Trustee of The Halcrow Pension Scheme (No.2) (“Our Client”). The intended user of this report is Our Client. Its scope and purpose is to provide Our Client with the final results of the Scheme’s funding valuation as at 31 December 2022 and to satisfy the legislative requirements of reporting and certifying the results of the valuation. I am providing this report as an external adviser under the terms of our engagement and in my capacity as Scheme Actuary.

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01 Introduction

This report should be made available to the Employer within 7 days of receipt.

Background

The Trustee of the Scheme have undertaken a formal valuation of the Scheme as at 31 December 2022.

I have already provided the Trustee with all of my advice in relation to the valuation, including the results, in a number of previous reports, letters and presentations. The purpose of this report is to set out in one place the final results of the valuation and to satisfy the legislative requirement for reporting and certifying the results of the valuation, within 15 months of its effective date.

The report is addressed to the Trustee. Legislation requires the Trustee to make it available to the Employer within 7 days of receipt.

The following documents are relevant to the results in this report:

- > "Actuarial valuation as at 31 December 2022 - Preliminary advice on setting actuarial assumptions" dated 10 March 2023;
- > "XPS Analytics - DB demographic assumptions" dated March 2023; and
- > "Actuarial valuation as at 31 December 2022 - Preliminary results" – dated 15 May 2023 ("my preliminary results report").
- > "Final results of the actuarial valuation as at 31 December 2022" - dated 1 August 2023
- > "HPS2 - Treatment of Expenses" dated 2 August 2023

02 Funding objectives and assumptions

The methodology used in deriving the assumptions are described in detail in the statement of funding principles, dated 2 August 2023

Fairly Strong Employer Covenant

The funding objective

The Trustee's key funding objective is to ensure that there will be sufficient and appropriate assets to cover its technical provisions (value of the liabilities on the Scheme's funding assumptions).

Method and assumptions

In carrying out the valuation of the Scheme, several assumptions need to be made. For the scheme funding valuation, the method and assumptions are set out in the Trustee's statement of funding principles dated 2 August 2023, which has been agreed with the Employer. The statement of funding principles is included in Appendix E.

Employer covenant

The Scheme is supported by the covenant of the Employer. Covenant is the extent of a sponsor's obligation and financial ability to support its pension scheme now and in the future. The sponsor's covenant underwrites the risks to its pension scheme.

An assessment of the covenant of the Employer was carried out by Cardano on behalf of the Trustee in March 2023. This incorporated a review of the Employer's detailed financial projections as well as longer term projections and its wider activities. This rated the overall covenant supporting the Scheme as Fairly Strong (the third highest rating on Cardano's nine-point scale).

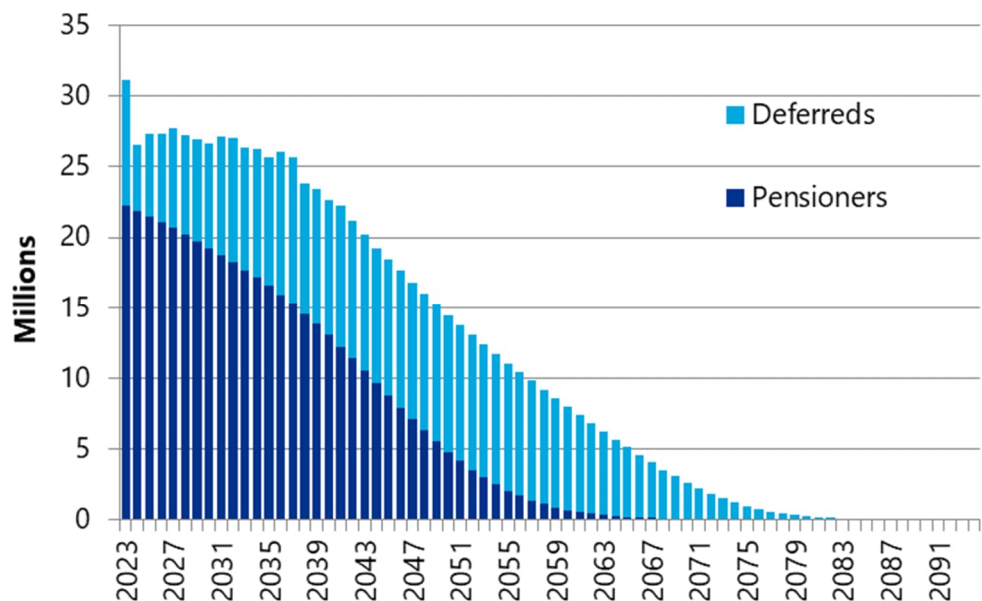
The Trustee concluded that the Employer's covenant has improved since the 31 December 2019 valuation (Cardano concluded a covenant rating of Slightly Strong in their previous report as at October 2020) and is considered to be Fairly Strong. As the covenant assessment is based on financial projections, the assessment is subjective, and the covenant strength may change in the future.

03 Scheme funding results

The Scheme is mature and benefit payments are expected to reduce over time.

Projected benefit payments

I have used the scheme funding assumptions to project the estimated benefits that will be paid to all members in respect of their entitlements at the valuation date. These projections are set out in the chart below and represent all cash payments expected to be made over the lifetime of the Scheme.



The Scheme is made up of those members who have already retired (pensioner members) and those who have not yet retired (deferred members). The last deferred member is expected to retire in 2054, at which point the benefits of all members will be in payment.

The projected cashflows are calculated on the scheme funding assumptions and are therefore dependent on these assumptions being realised.

The level of benefits paid will depend on:

the actual level of future inflation compared to that assumed (which affects increases to pensions in deferment and in payment).

The timing of the cashflows will be dependent on factors such as:

- > how long members and dependants live compared to assumed,
- > whether members take cash at retirement (it is assumed that members commute 22% of their pension at retirement), and
- > members transferring out their benefits from the Scheme (which is not allowed for in the assumptions).

Scheme funding results

The funding position

The technical provisions are compared to the present value of the assets to give the funding position at the valuation date below. The corresponding results of the last valuation are shown for comparison purposes.

£19.5m

Surplus at
31 December 2022

£58.4m

Increase in funding
position over the
valuation period

	As at 31 December 2019	As at 31 December 2022
	£m s	£m s
Past service liabilities		
Deferred pensioners	296.7	167.3
Current pensioners	371.3	271.8
GMP Equalisation Reserve**	0	1.4
Expense Reserve	0	1.8
Total past service liabilities (L) (‘Technical provisions’)	668.0	442.3
Assets		
Total assets (A)	629.1	461.7
Funding surplus / (deficit) (A minus L)	(38.9)	19.5
Funding level (A as a percentage of L)	94%	104%

The value of Additional Voluntary Contributions held within the Scheme has been excluded from both the assets and liabilities in the above results.

** GMP equalisation allowance for Deferred Pensioner and Pensioner liabilities on the Technical Provisions basis at 31 December 2019 has been included in the quoted liability figures

Please note due to rounding, the items in a column may not sum to the total shown

Expense reserve

The Trustee has agreed that the majority of Scheme expenses will be met from the Scheme’s assets (rather than being paid for by the Employer) over the three year period from 1 October 2023, as long as the Scheme remains in surplus. This arrangement will be reviewed at the next valuation.

Scheme funding results

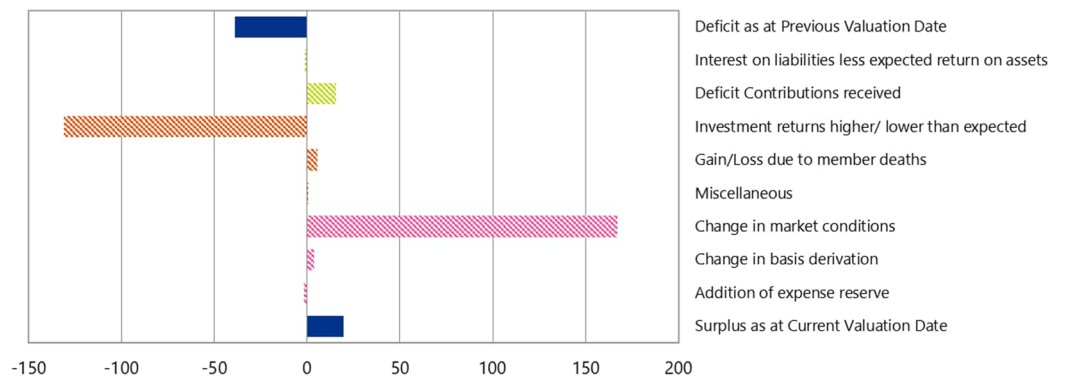
Reconciliation with the results of the previous valuation

Since the last valuation there have been several events which have had a substantial impact on the Scheme, and financial markets more widely. These include the Covid-19 pandemic, the Russian invasion of Ukraine and the 'gilts' crisis' of Q4 2022.

The funding position has improved since the last valuation. The most significant influences on the funding position have been as follows:

- > The changes in financial conditions underlying the actuarial assumptions used to value the liabilities have placed a significantly lower value on the liabilities.
- > The Company has paid £15.4m in contributions which helped improve the funding position.
- > There was a £5.4m improvement due to member experience, largely due to higher levels of mortality than expected over the 3-year inter-valuation period.
- > Returns on the Scheme's investments were less than expected, which partially offset the fall in liability values.

The full reconciliation of the changes in the Scheme's funding position since the valuation carried out as at 31 December 2019:



£130.9m

Asset loss over the valuation period due to investment return being lower than expected

£167.2m

Net decrease in Scheme liabilities over the valuation period due to changes in market conditions

Further information on the investment returns and the contributions paid in the period between the two valuations can be found in Appendix C.

Scheme funding results

Developments since the effective date

Since the effective date of the valuation to the date of this report, financial conditions have been volatile with significant movements in the equity and gilt markets. The impact of changes in market conditions since the valuation date is expected to have improved the funding position relative to the figures shown above, by around £6m, this has largely been due to gilt yields continuing to increase which has improved the funding position due to the hedging level being below 100%. In addition, the PPF has made two changes to actuarial factors since the valuation date, the first change in March 2023 was allowed for in the Technical Provisions, the more recent change in October 2023 will have had a small positive impact on the funding position.

Projected funding level to the next valuation

I have projected the funding position to 31 December 2025 when the next formal valuation of the Scheme is due, when the funding position is required to be reviewed again.

I have assumed that experience is in line with the assumptions as set out in the statement of funding principles and contributions will be in line with those paid since the valuation date and the newly agreed schedule of contributions.

The results of my estimated projection are shown in the table below.

	Valuation as at 31 December 2022	Projection to 31 December 2025
Ongoing funding level	104%	105%

My projection is for the funding position to be broadly unchanged.

In practice the Scheme is exposed to several risks as set out in the next section, which mean that the funding level at the next valuation date is uncertain.

Scheme funding results

Risk and prudence

Key Risks

There are several risks which might ultimately affect the Trustee's ability to pay benefits to members. Foremost among these are the risks relating to:

- > **Funding risks** – if experience turns out to be less favourable than was assumed for the funding assessment, for example members living longer than assumed, inflation higher than assumed or legislation introduces unanticipated liabilities, additional contributions are likely to be required from the Employer.
- > **Employer covenant** – the Employer may become less able to continue to make contributions or unwilling to support the Scheme, therefore leading to a loss of long-term security.
- > **Investment risks** – where future investment returns are below those assumed or there is an asset/liability mismatch where an increase in liabilities (e.g., from decrease in bond yields) is not matched by an increase in asset values.
- > **Expense risk** – as most expenses are to be met from Scheme assets, there is a risk that actual expenses incurred are higher than assumed which would lead to a reduction in the funding level.
- > **Climate risks** – climate change introduces physical, transition, regulatory and legal risks which for a pension scheme can increase uncertainty and manifest as funding, investment, and covenant risks.

Risk mitigation measures

The Trustee have taken several actions to mitigate the risks. These include:

- > **Funding** - the assumptions used in the funding assessment have been chosen prudently, making it less likely that experience will turn out to be worse than assumed.
- > **Monitoring** - regular updates are received by the Trustee to keep abreast of any changes in the Employer's covenant and the funding position.
- > **Investment** - As can be seen from Appendix C, the Trustee have invested a large proportion of the Scheme assets in lower risk, bond type investments to reduce risk and volatility. Movements in the value of these assets act to partially offset movements in the technical provisions when bond yields change.
- > **Expenses** - the total expenses expected to be paid over three years are materially lower than the current surplus, and are monitored by the Jacobs Pensions Team. Should the Scheme be in deficit when an Actuarial Report is produced, the Employer would recommence the payment of expenses.

Scheme funding results

Sensitivity to assumptions

To give an idea of the extent of some of the key risks, I set out below the sensitivity of the technical provisions to some of the key assumptions. These show the impact on the technical provisions of changing each assumption in isolation. Please note that these calculations are approximate and intended for illustration only.

Impact of change in assumptions on technical provisions

Assumption	Change	Impact on surplus (£m)
Discount rate	- 0.25% p.a.	-12.9
Inflation	+ 0.25% p.a.	-5.9
Post retirement mortality	w2020, w2021=0% (instead of 10%)	+4.7

Level of prudence in funding results

The assumptions used in calculating the technical provisions must be chosen prudently, usually including an appropriate margin for adverse deviation.

Prudence has been allowed for in the technical provisions by adding explicit margins to the following assumptions:

- Discount rate: the best estimate basis uses a discount rate of gilts plus 1.4% p.a. this is based on the weighted average expected returns on the actual assets held as at 31 December 2022 without any margin for prudence. No allowance is made for any future de-risking.
- Mortality: long term rates of improvement are assumed to be higher than best estimate and the rating factors applied to the mortality tables are lower.

If these margins are removed the technical provisions would decrease by approximately £40m.

04 Solvency assessment

Background

I am required to assess the winding-up or “solvency” position of the Scheme assuming that it ceases at the valuation date, where all benefits would be secured by the purchase of insurance policies. This differs from the scheme funding valuation, which assumes that the Scheme operates until its last member dies.

Methodology

The only accurate way to assess the true cost of winding up would be to obtain quotations from several insurance companies. I have not done this, but instead have estimated the cost using assumptions that have been derived with reference to general pricing information received from insurers.

Clearly, this approach will not be as accurate as obtaining actual quotations, but I am satisfied that it is sufficient for the present purpose. An actual wind-up, at a different date, could have a significantly different funding position and would depend on investment market conditions and the terms available from insurance companies at the date of securing benefits or obtaining a firm quotation.

While it is difficult to say if my estimate is prudent relative to buy-out terms which might have been available at the valuation date, I have added explicit margins for prudence. Full details of the assumptions used are set out in Appendix D.

The solvency valuation is also my statutory estimate of the Scheme as required under section 7 of the Occupational Pension Scheme (Scheme Funding) Regulations 2005 and I have set the assumptions for the estimate based on the principles set out above.

Solvency assessment

Results

A breakdown of the solvency assessment results at the 2022 and 2019 valuation dates (for comparison) is set out below.

£26.2m

Estimated Solvency deficit at 31 December 2022

	Solvency Assessment as at 31 December 2019	Solvency Assessment as at 31 December 2022
	£000s	£000s
Solvency liabilities		
Deferred pensioners*	-	193.8
Current pensioners*	-	282.7
Solvency and payment expenses*	-	11.4
Total Solvency liabilities (L)*	781.7	487.9
Assets		
Total assets (A)	629.1	461.7
Solvency surplus / (deficit) (A minus L)	(152.6)	(26.2)
Solvency funding level (A as a percentage of L)	80%	95%

*Breakdown of solvency liabilities for 2019 not available, results taken from Bob Scott's scheme funding report dated 21 July 2021.

Please note due to rounding, the items in a column may not sum to the total shown.

Comparison to scheme funding results

The funding level on the solvency basis is lower than the scheme funding basis set out in Section 3 of this report. This is due to the different assumptions used to reflect the difference between the anticipated cost of providing the benefits from the Scheme on an ongoing basis and the cost of securing those benefits through the purchase of insurance policies.

The cost of winding-up the Scheme is larger than the expected cost of running the Scheme on an ongoing basis, due principally, to the more conservative assumptions insurers are required to adopt and the profit margins expected to be targeted by the insurance market.

The Scheme is not fully funded on a buyout basis and so it would be unlikely that the Scheme would have sufficient assets to insure the Scheme's benefits in full with an insurance company if the Employer were to become insolvent.

This estimate is only intended to provide a broad indication of the likely costs of buying out a scheme. In practice each insurer will view each scheme in a different way and pricing could be significantly different from my estimate.

Solvency assessment

Projected Solvency funding level to the next valuation

I would expect that the estimated solvency funding level would have improved by the date of the next valuation if the assumptions as set out in the statement of funding principles are borne out in practice and insurance pricing remains unchanged. This is largely because investments are expected to achieve a return more than the discount rate used to value benefits on a solvency basis, and as the scheme matures the relative pricing improves.

Effect on member's benefits

If the Scheme had begun winding up as at the valuation date, and the Employer was unable to pay any of the Employer's wind-up debt due to insolvency (i.e. the difference between the assets and the liabilities on the solvency basis), then the Scheme would normally be eligible to enter the Pension Protection Fund ("PPF"). In this situation, members' benefits would be reduced to the compensation levels paid by the PPF.

If the Scheme is over 100% funded on the PPF's section 179 basis, the Scheme would, in theory, be required to purchase benefits with an insurance company. In this situation, members' benefits would be reduced and secured in line with the Scheme's rules. If there were insufficient assets to purchase benefits at least as great as the compensation levels paid by the PPF, the Scheme would, in theory, be eligible to enter the PPF. In this situation, members' benefits would be reduced to the compensation levels paid by the PPF.

The "compensation" paid by the PPF is based on the benefits accrued by each member within their own pension scheme, but with some adjustments. For example:

- > Members yet to reach their Normal Pension Age have their benefits reduced by 10% and restricted so that they are no greater than a cap set by the PPF.
- > No increases are applied to pension accrued before April 1997.
- > Increases to pension accrued after April 1997 are limited to a maximum of 2.5% each year (or the increase in the Consumer Prices Index if lower).

I will provide a section 179 valuation as at 31 December 2022 in due course, noting that the deadline is 31 March 2023.

05 Next steps

Next steps

The signing of this document, the statement of funding principles and the schedule of contributions concludes the valuation formalities. The next step is for me, on behalf of the Trustee to submit details of the valuation to TPR.

Between now and the next valuation

The next valuation is due on or before 31 December 2025. Between now and then I will provide the statutory annual reports to the Trustee, setting out how the funding position has evolved and the key reasons for any changes.

These reports, along with regular reviews of the Employer's covenant, will enable the Trustee to monitor the funding of the Scheme. If it appears to the Trustee that a recovery plan would be needed because the scheme is no longer meeting the funding objective, the Trustee should consider what remedial actions might be taken and instruct the Company to resume paying Scheme expenses..

Signature



Date

6 November 2023

Name

Wes Jones FIA
Scheme Actuary

Qualification

Fellow of the Institute
and Faculty of Actuaries

Address

Chancery Place
50 Brown Street
Manchester
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Employer

XPS Pensions Consulting Limited

Appendix A

Scheme benefits

The Scheme benefits are described in the Scheme's definitive trust deed and rules dated 11 March 2016 and subsequent amending deeds and announcements for the Scheme. A summary of the benefits is set out in the members' booklet.

The Scheme was closed to new members and to accrual of new benefits on and from 31 December 2007.

Equalisation

The Scheme appears to comply with the main equal treatment requirements of the European Court, as far as these are known, and the valuation has been prepared on this basis. I have assumed that these requirements have been validly incorporated in the trust deed and rules and the benefits supplied by the administrators reflect the rules.

Like many UK pension schemes, however, the Scheme's benefits still differ between men and women because of differences in Guaranteed Minimum Pension (GMP). As the GMP equalisation exercise has not been completed for the Scheme at the date of valuation, I have allowed for a GMP equalisation uplift in my valuation of 5% to the value of the Post 1990 GMP liabilities.

Discretionary practice

There has been no recent history of discretionary increases or discretionary benefits being awarded under the Scheme. In line with this past practice, I have therefore made no allowance in the valuation for discretionary increases or benefits being granted in future.

Scheme and legislative developments since the 2019 valuation

I'm not aware of any amending deeds implemented since the 2019 valuation. Any changes that are material to the valuation are covered above.

Several legislative developments have occurred or have been proposed since the 2019 valuation. These developments have been brought to the Trustee's attention where appropriate / are covered in my 'Regulatory background report' dated March 2023 and are covered in this report where they are relevant to the valuation.

Appendix B

Membership data

2,797

Total Scheme membership at current valuation date

I have been provided with membership data as at 31 December 2022 by the Jacobs U.K. Limited in-house administration team. I have performed a number of checks on the data and I am satisfied that it is sufficiently accurate for the purposes of this valuation. A summary of the data is set out below.

Deferred members	31 December 2019	31 December 2022
Number of members	1,395	1,242
Total deferred pension** (£000s)	9,276	7,661
Average age*	52	56.4

Pensioner members	31 December 2019	31 December 2022
Number	1,521	1,555***
Total pension in payment (£000s)	21,182	22,465
Average age*	73	72.9

* Average ages are weighted by liability at date of valuation for 2022 data. The 2019 figure is taken directly from Bob Scott's Scheme Funding Report dated 21 July 2021

** Deferred pension at Scheme transfer date of 5 October 2016 for HPS2 and at date of leaving for Fox.

*** Three pensioner members in the HPS2 scheme with annuity policies with Friends Life have been excluded from the valuation figures

2,916

Total Scheme membership at previous valuation date

Appendix C

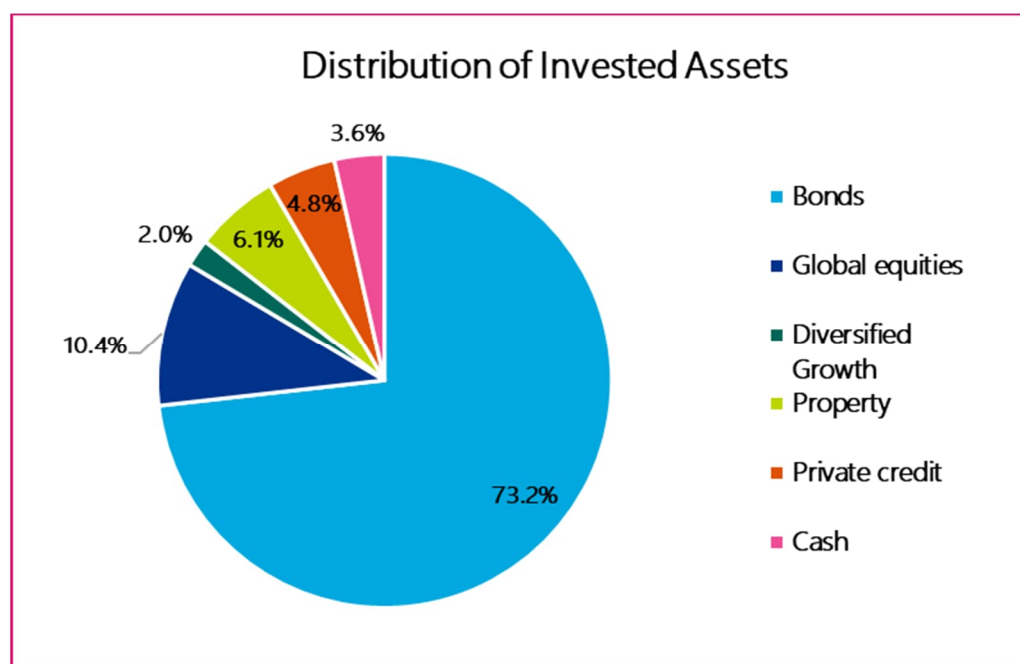
Assets and investment strategy

Assets held at the valuation date

I have taken the value of the Scheme's assets from the Trustee's audited Report and Accounts as at 31 December 2022. The accounts state that at that date the Scheme had invested assets of £461.7m (excluding AVCs). The following chart illustrates how those assets were invested.

20%

Benchmark allocation to return seeking assets



80%

Benchmark allocation to matching assets

In addition to the assets set out above, the accounts show that there were net current assets. This gives a total asset value (excluding AVCs) for use in my assessment, as follows.

	Assets as at 31 December 2019 £m	Assets as at 31 December 2022 £m
Invested assets (excluding AVCs)	626.0	445.4
Ex-CHW assets	0*	0.8
Net current asset / (liability)	3.1	15.5
Total available assets	629.1	461.7

*not quoted separately, but not clear whether included in the previous row

Assets and investment strategy

-6.40%

Actual average return on Scheme investments over the valuation period

5%

Expected average return on Scheme investments over the valuation period

£15.4m

Total contributions paid by the Employer over the valuation period

Investment strategy

The assets held at the effective date of the valuation broadly reflected the Trustee's investment strategy, as set out in the Trustee's statement of investment principles dated November 2021. This strategy consists of investing approximately 20% of the assets in return-seeking asset classes, such as equities, and approximately 80% of assets in matching assets such as bonds. The Trustee will keep the investment strategy under review.

Investment returns

The scheme funding assumptions adopted for the 31 December 2019 actuarial valuation anticipated returns on the fund assets averaging around 5% over the period to 31 December 2022. The returns on the Scheme's assets during the period were -6.4% per annum.

Contributions paid to the Scheme

The Employer paid £15.4m to the Scheme over the valuation period to help remove the Scheme's deficit.

Appendix D

Summary of key assumptions

Key financial assumptions – Scheme funding basis

	As at 31 December 2019	As at 31 December 2022
Discount rate before retirement	BoE yield curve plus allowance for 30% growth assets reducing to 0% by 31/12/2026	BoE yield curve plus 0.9% p.a. reducing to 0.5% p.a. by 31/12/2026
Future price inflation (RPI)	BoE Gilt RPI inflation curve	BoE Gilt RPI inflation curve
Future price inflation (CPI) pre 2030	RPI assumption less 1.0% p.a.	RPI assumption less 1.0% p.a.
Future price inflation (CPI) post 2030	RPI less 0.1% p.a.	RPI less 0.1% p.a.

Pension increase assumptions – Scheme funding basis

	As at 31 December 2019	As at 31 December 2022
Revaluation of deferred pensions before retirement:		
Deferred revaluation -		
Pre 09	CPI max 5.0% p.a.	CPI max 5.0% p.a.
Post 09	CPI max 2.5% p.a.	CPI max 2.5% p.a.
Pension increases in payment:		
Pre 97 (in excess of GMP)	Nil	Nil
97-05	CPI max 5.0% p.a.	CPI max 5.0% p.a.
Post 05	CPI max 2.5% p.a.	CPI max 2.5% p.a.
Inflation Volatility	1.50% p.a.	1.75% p.a.

Demographic assumptions – Scheme funding basis

	As at 31 December 2019	As at 31 December 2022
Base table	S3NA	S3PA
Adjustment to base table	90% (M), 100% (F)	92 (M), 98% (F)
Projection	CMI 2018 1.5%, smoothing parameter 7.0, Initial addition 1.5%	CMI 2021 1.75% (M), 1.5% (F), smoothing parameter 7.0, Initial addition 0.3%, w2020 and w2021 parameters of 10%

Summary of key assumptions

Commutation	non-pensioners choose to commute 22% of their pension on retirement	non-pensioners choose to commute 22% of their pension on retirement
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A description of all the assumptions including their derivation for the scheme funding assumptions is included in the statement of funding principles which is appended to this report.

Summary of key assumptions

Key financial assumptions – Solvency basis

	As at 31 December 2019	As at 31 December 2022
Discount rate for non-pensioners	1.10% p.a.	BoE fixed interest yield curve
Discount rate for pensioners	1.10% p.a.	BoE fixed interest yield curve plus 0.5% p.a.
Future price inflation (RPI)	3.20% p.a.	Moody's Analytics swap inflation yield curve
Future price inflation (CPI) pre 2030	RPI assumption less 0.75% p.a.	RPI assumption less 0.60% p.a.
Future price inflation (CPI) post 2030	RPI assumption less 0.75% p.a.	RPI assumption

Pension increase assumptions – Solvency basis

	As at 31 December 2019	As at 31 December 2022
Revaluation of deferred pensions before retirement:		
Deferred revaluation - CPI max 5%	As below	Statutory
Pension increases in payment:		
Pre 97	Set consistently with market-based pricing for the relevant minima and maxima	Nil
Pre 09		CPI max 5.0% p.a.
Post 09		CPI max 2.5% p.a.
Inflation volatility		1.00% p.a.

Demographic assumptions – Solvency basis

	As at 31 December 2019	As at 31 December 2022
Base table	S3NA	S3PA
Adjustment to base table	90% (M), 100% (F)	92% (M), 98% (F)
Projection	CMI 2017 1.5%	CMI 2021 1.5% (M), 1.25%(F)
Commutation	No allowance	No allowance

Summary of key assumptions

Expenses – Solvency basis

	As at 31 December 2019 (£m s)	As at 31 December 2022
Allowance for wind-up expenses	17.2	2% of liabilities + £500k
Allowance to cover GMP equalisation uplift to Post 1990 GMP liability*	Not known	5% of Post 1990 GMP liability

For the HPS2 scheme only - not included on the Fox section

Appendix E

Documents and certificates

Actuary's certificate of the calculation of technical provisions

Name of Scheme: Halcrow Pension Scheme (No.2)

Calculation of technical provisions

I certify that, in my opinion, the calculation of the Scheme's technical provisions as at 31 December 2022 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 2 August 2023.



6 November 2023

Wes Jones FIA
Scheme Actuary

Chancery Place
50 Brown Street
Manchester
M2 2JG

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