Government Actuary's Department

Civil Service Pension Scheme (Great Britain)

2024 Actuarial Valuation

Assumptions

23 June 2026

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Navigating risk | Cutting through complexity

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Contents

Introduction

This Assumptions report sets out the assumptions to be adopted for the actuarial valuation of the Civil Service Pension Scheme (CSPS) (the Scheme) as at 31 March 2024. It was prepared by Fiona Dunsire FIA C.Act, Government Actuary and Samantha Watts FIA C.Act, and published on 23 June 2026.

The Minister for the Civil Service is responsible for setting 'scheme-set' assumptions. The contents of this report were used to help the Minister for the Civil Service:

- understand the key assumptions about the future that need to be made in order to carry out the valuation
- understand the impact those assumptions can have on the valuation results
- decide on the 'scheme-set' assumptions to be adopted, following consideration of our advice

It was also made available to the Scheme Advisory Board as part of the consultation on assumptions required by the Directions.

The remainder of this report contains the final advice we gave to the Minister for the Civil Service. The Minister for the Civil Service has decided to adopt all the recommended assumptions set out in this report.

Our recommended assumptions are long term and are not suitable for predicting short term future experience.

Additional background on the assumptions can be found in the Approach report.

Important

This report is a subset of the valuation reporting provided for the Scheme. The other reports are Overview, Approach, Data, Results and Climate risk. The full set of valuation reporting information can be found in the Summary report.

Overview

The table below provides an overview of ‘scheme-set’ assumptions, our recommendations, and the direction of impact on the valuation results of adopting our recommendations. It is intended to highlight areas of potential focus and support the process of deciding on the scheme-set assumptions to be adopted. Further information regarding interpretation is set out after the table.

> **Note**
>
> The assessments shown in the table below are indicative and not precise. More information on the assessments shown and how they have been chosen can be found in the valuation assumptions section of the Approach report.

Scheme-set assumptions	Assumption information		Our recommendations	
	Importance relative to scheme-set assumptions	Volatility of experience and unreliability of data	Expected size of impact on scheme costs	Expected direction of impact on scheme costs
Mortality after retirement	Most	Low	Medium	↑ Higher costs
Proportion commuted	Average	Medium	None	— No / negligible impact
Retirement ages	Least	Medium	Small	— No / negligible impact
Rates of leaving service	Least	Medium	Small	— No / negligible impact
Promotional pay increases	Least	Medium	None	— No / negligible impact
Rates of ill-health retirement	Least	Medium	None	— No / negligible impact
Mortality before retirement	Least	Low	None	— No / negligible impact
Family statistics	Least	Medium	Medium	↑ Higher costs

Important

Several of the most important valuation assumptions do not appear in this section as they are directed by HM Treasury. The impact of these 'directed' assumptions could be greater than that of the scheme-set assumptions.

An indication of the relative importance of directed and scheme-set assumptions can be found in the valuation assumptions section of the Approach report.

Directed assumptions are listed in the Directed assumptions section of this report.

There is also a scheme-set assumption in relation to new entrant profiles. This is implicitly set within the ongoing assumption that the overall active membership profile remains broadly stable (see Active membership projections in the Minor assumptions section of this report)

and the total projected pensionable payroll projection in the Directed assumptions section of this report.

There are no further aspects of demographic experience that we consider to be appropriate and relevant to analyse for this valuation.

Interpretation of recommendations summary

	Assumption information		Our recommendations	
	Importance relative to scheme-set assumptions	**Volatility of experience and unreliability of data**	**Expected size of impact on scheme costs**	**Expected direction of impact on scheme costs**
What does it show?	The importance of this assumption on employer contribution rates (ECR) and the core cost cap cost (CCCC) of the scheme, relative to other scheme-set assumptions, based on equal proportional changes in each assumption.	The variability of experience and unreliability of data observed in the past. This can impact the weight we place on current experience.	The size of the impact on employer contribution rates (ECR) and the core cost cap cost of the scheme (CCCC) of adopting the recommended assumption instead of the assumption adopted at the 2020 valuation.	The likelihood of our recommendations leading to higher or lower employer contribution rates (ECR) and core cost cap cost (CCCC) of the scheme.
What is it based on?	Our actuarial judgement and the sensitivity analysis carried out at the last valuation.	Public service pension scheme experience at previous valuations.	Our actuarial judgement and sensitivity analysis carried out at the last valuation.	Our actuarial judgement and sensitivity analysis carried out at the last valuation.
Possible rating	🔴 **Most:** Assumption has greater impact on the ECR and CCCC.	🔴 **High:** A current or previous lack of credible data, or large changes in member behaviour.	🔴 **Large:** Assumption change might impact the results by more than 1% p.a.	↑ **Higher:** ECR and CCCC likely to be higher.
	🟠 **Average:** An assumption with an impact between most and least.	🟠 **Medium:** Volatility of experience or unreliability of data classified in between high and low.	🟠 **Medium:** Assumption change might impact the results by between 0.25% and 1% p.a.	↓ **Lower:** ECR and CCCC likely to be lower.
	🟢 **Least:** Assumption has a lower impact on the ECR and CCCC.	🟢 **Low:** A large pool of credible data that doesn't tend to change much.	🟢 **Small or None:** Assumption change might impact the results by less than 0.25% p.a.	↔ **Mixed:** Likely impact on ECR and CCCC is still uncertain. For example, if assumptions for different categories move in different directions.
				— **No / negligible impact:** ECR and CCCC likely to be unaffected.

Recommendations

This section covers the scheme-set assumptions. For each assumption we set out:

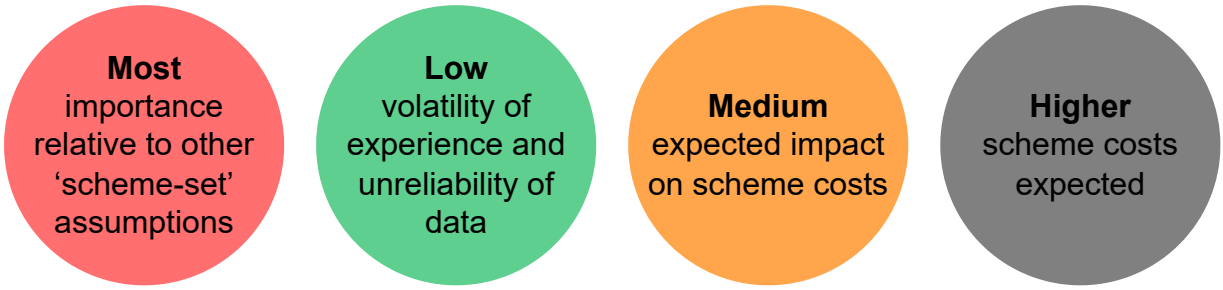
- our recommendations
- the practical implications of our recommendations
- a summary of our analysis of scheme experience
- any other factors that we consider relevant when deciding on the assumptions to adopt

Note

The standard methodology we use to analyse scheme experience and recommend assumptions is set out in full in the valuation assumptions section of the Approach report. Any material deviations from our standard approach for this valuation are set out in this report.

Mortality after retirement

The mortality after retirement assumption is a series of probabilities which represent the likelihood of a member dying at any given age after retirement. This section covers baseline mortality rates, which are a scheme-set assumption. Future mortality improvements also impact overall mortality after retirement rates, but are a directed assumption, and are therefore covered in the Directed assumptions section of this report.



Recommendation

We recommend updating the baseline mortality rates for combined normal and ill-health pensioners and dependants, using an equal allowance for recent experience and the 2020 assumptions to help smooth out volatility. This is consistent with the approach used for the 2020 valuation.

In 2020, the male dependant assumption was set by adjusting the 2016 assumption to produce the same change in life expectancy as for female dependants, due to the low number of members in this category. Our recommendation for 2024 reflects recent experience blended with the 2020 assumption.

The table below summarises our recommendations. It also shows the assumptions adopted for the 2020 valuation.

	2020 Assumptions			2024 Recommendations		
	Standard table	Adjustment	Based on	Standard table	Adjustment	Based on
Combined health pensioners						
Male	S3NMA_M	100%	Scheme experience	S4NMA_M	100%	Scheme experience
Female	S3NFA_H	96%	Scheme experience	S4NFA_H	101%	Scheme experience
Dependants						
Male	S3DMA	81%	Scheme experience	S4DMA	83%	Scheme experience
Female	S3DFA	93%	Scheme experience	S4DFA_VL	102%	Scheme experience

Combined health pensioner mortality applies to all current and future pensioners, including those who retire in ill health.

Practical implications

The table below shows the impact of our recommended assumptions on the life expectancy of normal health pensioners. Higher life expectancies mean a higher cost of providing benefits, as benefits must be paid for longer periods of time (and vice versa).

Cohort life expectancies

	2020 assumptions, as at 2020	2020 assumptions, updated to 2024	2024 recommendations
Male			
Current pensioners, age 65	86.6	86.8	86.9
Future pensioners, age 45	88.3	88.3	88.3
Female			
Current pensioners, age 65	88.0	88.5	88.7
Future pensioners, age 45	89.6	90.0	90.2

Cohort life expectancies include assumed future improvements in mortality. For each category shown in the table above:

- The first column is the impact of the assumption adopted for the 2020 valuation.
- The middle column is the impact of the 2020 assumption but updated to use a valuation date of 2024 and ONS-2022 improvements.
- The last column is the impact of the assumption we recommend for the 2024 valuation.

The changes between the first and middle columns show the impact of directed changes to future mortality improvements and the normal passage of time. The changes between the middle and last columns show the impact of our recommended changes to baseline mortality assumptions.

Scheme experience

The tables and charts in this section summarise the outcomes of our analysis of scheme experience. Note that analysis can give volatile outcomes for groups with small amounts of available data.

Due to data limitations our experience analysis has been carried out on combined normal health and ill-health mortality experience. The same approach was taken for the 2020

valuation.

There were 20,000 suspended records (with pension of £128m ceasing) which we used to supplement the mortality experience data provided. These are members who have died, but a death certificate is outstanding so their status and any dependants' pension payable are pending. These additional deaths are not included in the following charts and tables, which suppresses the values in the experience column. However, we have adjusted the output from our experience analysis to incorporate these additional deaths when forming our 2024 assumption recommendations.

		2020		2024	
	Experience[1]	2020 assumptions[2]	Experience ÷ assumptions	2024 recommen-dations[3]	Experience ÷ recommen-dations
Combined health pensioners					
Male	£478.4m	£529.9m	90%	£526.3m	91%
Female	£164.1m	£192.8m	85%	£189.0m	87%
Dependants					
Male	£4.0m	£5.4m	73%	£5.4m	73%
Female	£115.3m	£140.3m	82%	£137.1m	84%

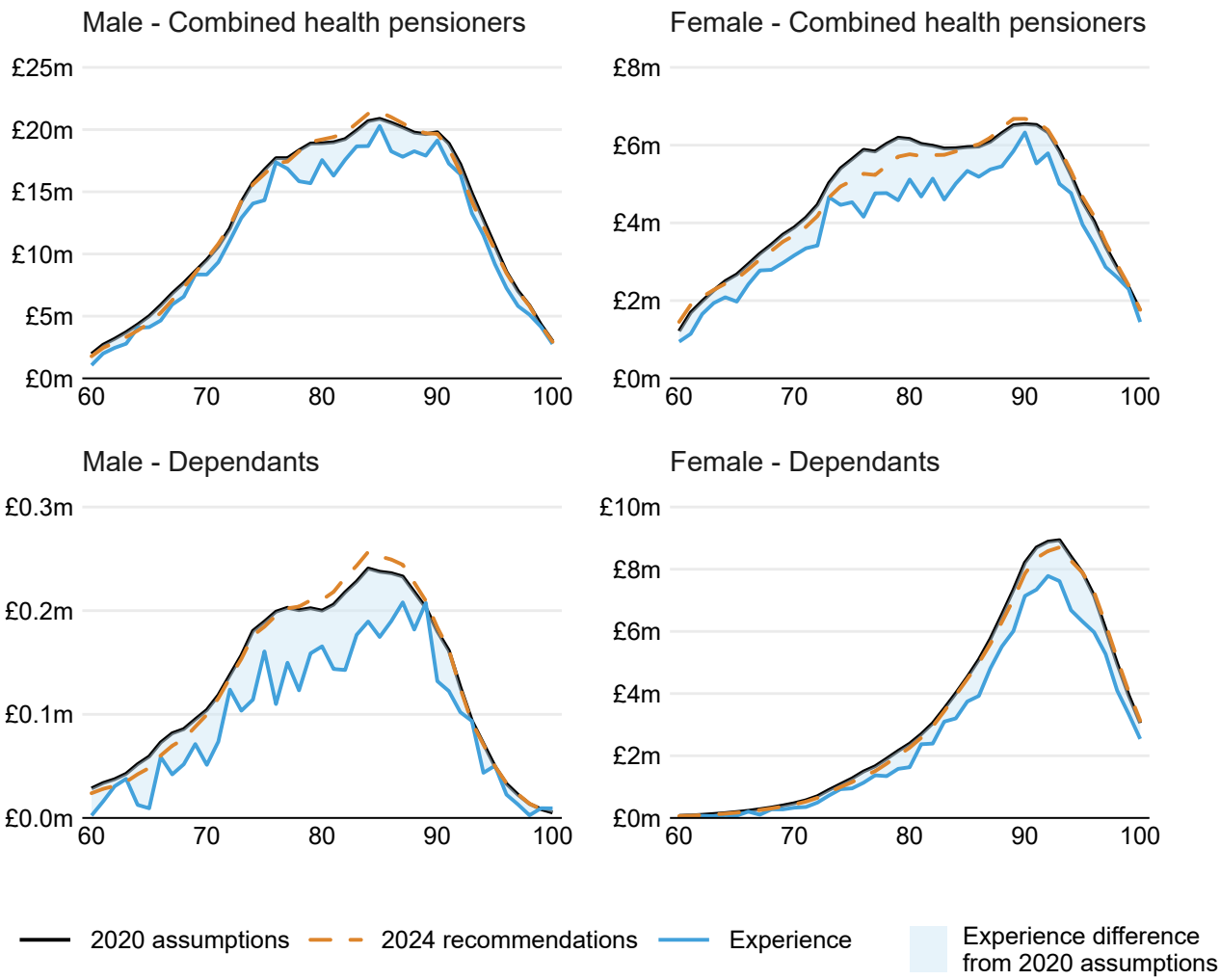
[1] Actual pension ceasing due to death over 2020-2024

[2] Pension expected to cease under 2020 assumptions

[3] Pension expected to cease under 2024 recommendations

The table above compares the pension that ceased (excluding suspended members) to the amount that we would expect to cease based on the 2020 and 2024 assumptions. This comparison shows a modest reduction in the pension expected to cease when updating to the recommended 2024 assumptions.

Pension ceasing as a result of death by age, split by category



The charts above show that experience (excluding suspended members) was lower than expected at most ages across all categories. When allowance is made for the pension that ceased for suspended members, the total amount of pension ceasing aligns more closely with the 2020 and 2024 assumptions shown. The charts show that the pattern of pension ceasing aligns well with our assumption.

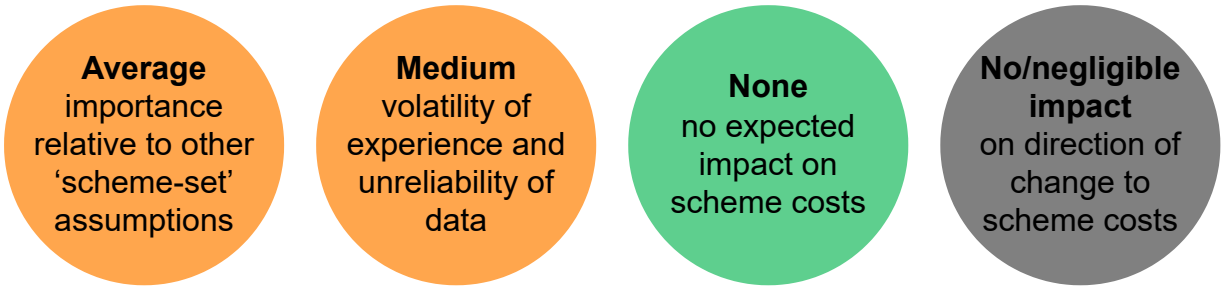
The 2024 recommended assumption (allowing for suspended members) is very similar to the 2020 assumption at most ages. Overall the new assumption leads to a small increase in life expectancy and a corresponding increase in the ECR.

Wider considerations

Since the last valuation the UK has been impacted by the global COVID-19 pandemic. This led to more deaths than otherwise expected, particularly in the years 2020 and 2021. The valuation assumptions section of the Approach report sets out how the impact of the COVID-19 pandemic has been included in our recommended assumptions.

Proportion commuted

The proportion commuted assumption represents the fraction of pension that members are assumed to give up at retirement, in return for a single tax-free lump sum payment (subject to HM Revenue & Customs tax limits).



Recommendation

We recommend that the assumptions adopted for the 2020 valuation are retained. These assumptions are set out below.

	Classic	Non-Classic	alpha
Male and female	9.0%	20.0%	20.0%

Classic scheme assumption applies to pre 1 October 2002 benefits for Classic Plus members.

There is an automatic lump sum, of three times pension, for members of the Classic scheme, which leads to a lower level of commutation.

The Non-Classic category includes Premium and Nuvos members and post 1 October 2002 benefits for Classic Plus members.

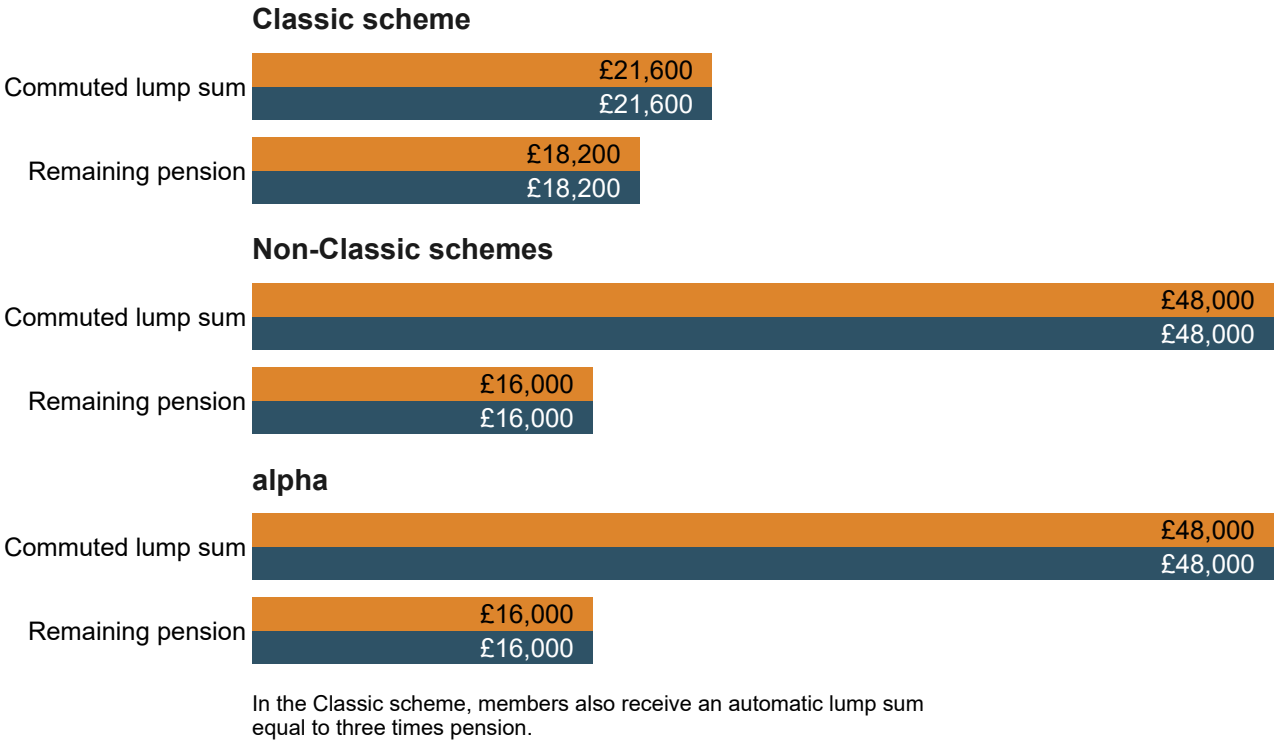
There is no automatic lump sum for Non-Classic or alpha scheme members.

Practical implications

The chart below shows the impact on assumed benefits of our recommended assumptions. For each category shown:

- The top line shows the impact of the assumptions we recommend for the 2024 valuation.
- The bottom line shows the impact of the assumptions adopted for the 2020 valuation.

Lump sum for a member starting with a £20,000 pension



In the Classic scheme, members also receive an automatic lump sum equal to three times pension.

Scheme experience

Experience versus expectations show how accurate the assumptions have been in the past and can help inform setting future assumptions.

The table below sets out how experience in the Classic (including Classic Plus), Non-Classic (Premium and Nuvos) and alpha schemes compares with the assumption adopted for the 2020 valuation. It also shows the combined experience in final salary sections of a group of the large public pension schemes.

	Total pension before commutation[1]	Total pension commuted[1]	Experience[2]	2020 expectations[3]	2024 expectations[4]
Classic scheme	£184.8m	£15.2m	8.2%	9.0%	9.0%
Non-Classic schemes	£92.8m	£15.3m	16.5%	20.0%	20.0%
alpha	£437.4m	£53.0m	12.1%	20.0%	20.0%
Other large public pension schemes[5]	£131.8m	£27.7m	21.0%	20.0%	20.0%

[1] Pension over 2020-2024

[2] Proportion of pension commuted over 2020-2024 (weighted by pension amount)

[3] Proportion of pension expected to be commuted under the 2020 assumptions

[4] Proportion of pension expected to be commuted under the 2024 assumptions

[5] Other large pension schemes includes data from National Health Service Pension Scheme (England and Wales) - 2008 section, Teachers' Pension Scheme (England and Wales) - NPA 65 section and Local Government Pension Scheme (England and Wales) - Post 2008 section as well as CSPS - Non-Classic

Classic experience is close to the 2020 assumption. The Classic analysis was carried out on active retirements only as a reasonable simplification to exclude historic deferred members who have no commutation rights within the Scheme.

Non-Classic experience is slightly lower than the 2020 assumption, however the amount of experience is limited and the impact of changing this assumption would not be material. Therefore, we recommend retaining the 2020 assumption for this category.

Alpha experience shown in the table is lower than the 2020 assumption. However, we do not recommend updating this assumption as we believe that data issues have led to Classic members being classified as alpha members for analysis purposes. This will be reducing the proportion commuted due to Classic members being eligible for an automatic lump sum.

The particular data issue impacting this analysis is that scheme at retirement was missing for approximately 50% of records. We have allocated members in the movement data to a scheme using the 2020 and 2024 valuation data (where previous section data has been estimated for a large proportion of the population). Where this was not possible, records were excluded (2% of pensioner movements).

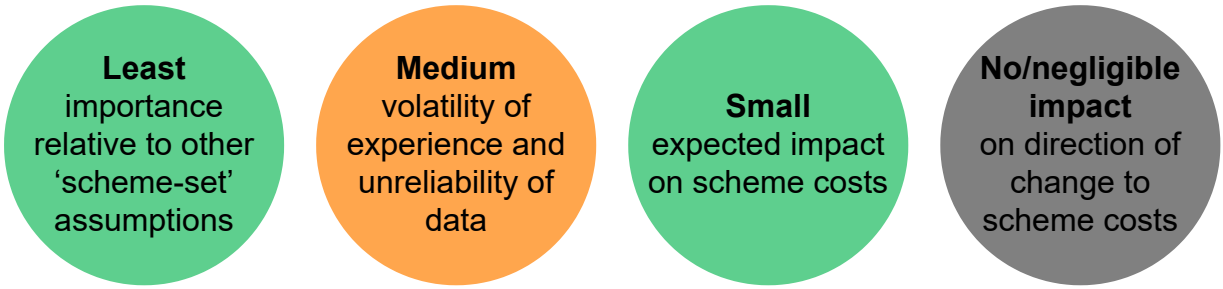
The alpha scheme is a relatively new scheme and if the data issues did not exist, we would expect to see that there is insufficient retirement experience data to reliably set the

assumption separately from the other Non-Classic legacy sections (i.e. sections that do not have an automatic retirement lump sum).

Given the limited experience data in the Non-Classic schemes and the data issues with the alpha analysis, we have looked at the experience of other large public sector pension schemes. The experience analysis supports retention of the 2020 assumption.

Retirement ages

Retirement age assumptions are a series of probabilities which represent the likelihood of a member retiring and claiming their pension at any given age. Our recommendations and supporting information are set out below.



Note

Please refer to Valuation assumptions section in the Approach report for more information on our approach.

Recommendation

Since 2022, all active members have been accruing benefits in the alpha scheme. They may also have benefits in one of the legacy final salary schemes (Classic, Classic Plus or Premium) or in Nuvos. Normal Pension Age, which varies between schemes, drives member behaviour when deciding when to retire. Normal Pension Age in alpha is linked to SPA. As a result, we set different assumptions depending on SPA and which scheme(s) members have benefits in.

At the 2020 valuation we used different assumptions for retirement age depending on which salary band members were in. However, as there is now only one employer contribution rate, we recommend simplifying this assumption for the 2024 valuation by removing salary banding. We do not recommend any changes, other than amalgamating the existing tables for those with final salary service (which are split by salary band) into one table that applies regardless of salary. Amalgamating the tables is not expected to have an impact on the 2024 valuation results.

Members with benefits in legacy final salary and alpha schemes								
	SPA65		SPA66		SPA67		SPA68	
Age	Male	Female	Male	Female	Male	Female	Male	Female
57	0.05	0.05	0.05	0.05	0.05	0.05	-	-
58	0.06	0.06	0.06	0.06	0.06	0.06	0.03	0.03
59	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.05
60	0.30	0.30	0.30	0.30	0.30	0.30	0.16	0.16
61	0.16	0.19	0.16	0.19	0.16	0.19	0.10	0.12
62	0.15	0.20	0.15	0.20	0.12	0.15	0.08	0.10
63	0.15	0.19	0.15	0.19	0.12	0.15	0.07	0.10
64	0.27	0.26	0.06	0.07	0.05	0.07	0.04	0.05
65	1.00	1.00	0.16	0.24	0.06	0.07	0.05	0.07
66	1.00	1.00	1.00	1.00	0.16	0.24	0.06	0.07
67	1.00	1.00	1.00	1.00	1.00	1.00	0.16	0.24
68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

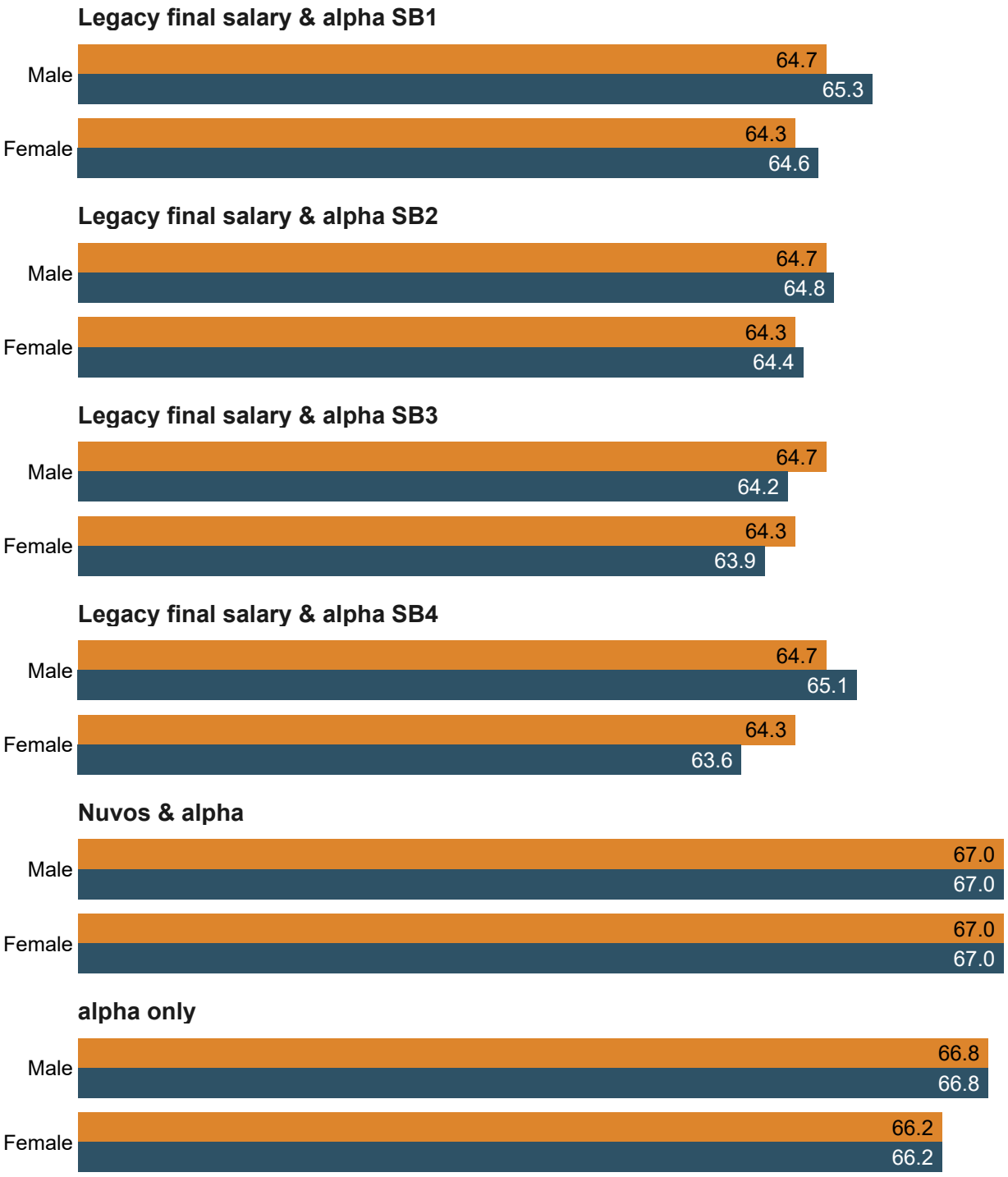
Members with benefits in Nuvos and alpha schemes								
	SPA65		SPA66		SPA67		SPA68	
Age	Male	Female	Male	Female	Male	Female	Male	Female
65	1.00	1.00	0.67	0.67	0.50	0.50	0.25	0.25
66	1.00	1.00	1.00	1.00	0.25	0.25	0.06	0.07
67	1.00	1.00	1.00	1.00	1.00	1.00	0.16	0.24
68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Members with alpha only benefits								
	SPA65		SPA66		SPA67		SPA68	
Age	Male	Female	Male	Female	Male	Female	Male	Female
60	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.05
61	0.04	0.05	0.03	0.05	0.03	0.05	0.03	0.05
62	0.05	0.07	0.04	0.05	0.03	0.05	0.03	0.05
63	0.06	0.07	0.05	0.07	0.04	0.05	0.03	0.05
64	0.16	0.24	0.06	0.07	0.05	0.07	0.04	0.05
65	1.00	1.00	0.16	0.24	0.06	0.07	0.05	0.07
66	1.00	1.00	1.00	1.00	0.16	0.24	0.06	0.07
67	1.00	1.00	1.00	1.00	1.00	1.00	0.16	0.24
68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Practical implications

- The top line shows the impact of the assumptions we recommend for the 2024 valuation.
- The bottom line shows the impact of the assumptions adopted for the 2020 valuation.

Expected retirement age for members now aged 45



The chart above shows expected retirement age for those with SPA 68 only. Expected retirement age for those with lower SPA's will differ from what is shown.

The numbers shown in this chart assume that members retire from active service. No allowance is made for the possibility of ill-health retirement, leaving service before retirement, or death in service. These assumptions are covered in other sections.

The 2024 amalgamated table for members with final salary legacy benefits is a weighted average of the rates that applied in the 2020 valuation. The charts above show that age at retirement has reduced for some membership groups and increased for others.

As seen above, members with legacy final salary benefits with associated normal pension ages of 60 and 65 are expected to retire when they are younger than members with Nuvos and/or alpha benefits.

Scheme experience

Experience versus expectations show how accurate the assumptions have been in the past and can help inform setting future assumptions.

This analysis is based on active members of the Scheme. Deferred members are not analysed and are assumed to retire at their Normal Pension Age.

The movement data provided for the period 2020 to 2024 did not contain salary band, so analysis has been split by gender and scheme. We recommend simplifying the assumption, as detailed above, so salary band was not required for our analysis.

	Experience		2020 expectations		2024 expectations	
	Number[1]	Age[2]	Number[3]	Age[4]	Number[5]	Age[6]
Legacy final salary and alpha						
Male	20,774	61.9	31,066	64.2	31,066	64.2
Female	23,471	61.6	36,275	63.6	36,275	63.6
Nuvos and alpha						
Male	2,194	64.4	4,348	67.2	4,348	67.2
Female	1,531	63.8	2,551	66.9	2,551	66.9
alpha only						
Male	4,790	62.0	5,361	66.7	5,361	66.7
Female	5,004	60.9	3,667	65.8	3,667	65.8

[1] Number of retirements over 2020-2024

[2] Average age at retirement of retirements over 2020-2024

[3] Expected number of retirements under the 2020 assumptions

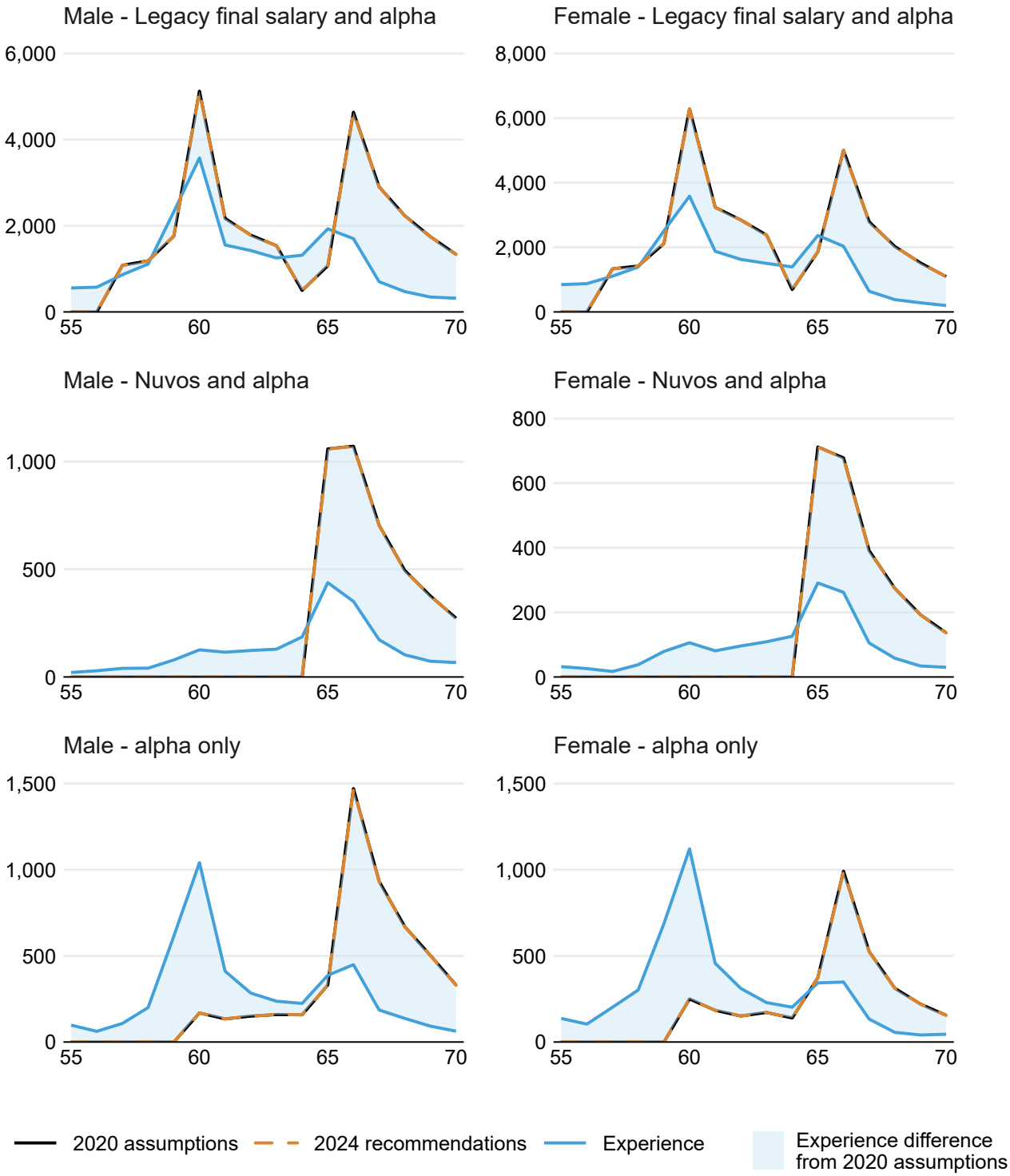
[4] Expected average age at retirement under the 2020 assumptions

[5] Expected number of retirements under the 2024 assumptions

[6] Expected average age at retirement under the 2024 assumptions

The data shows that, on average, members are retiring earlier than expected across all schemes. However, updating these assumptions would not have a material impact on the valuation results as the early retirement factors are broadly cost neutral, so the impact is limited to the timing of commutation.

Number of retirements by age, split by category and gender



Due to data issues, we suspect that there are a number of legacy scheme members being classified as alpha for analysis purposes, which explains why we are seeing a large number of retirements at age 60 in the alpha only category.

In particular, we were not provided with previous section, which enables us to analyse experience by section, for approximately 90% of members. Where possible, we have added this using the 2020 and 2024 valuation data. For the remainder (approximately 20%), we have assumed that they are alpha only as these members would legitimately have no entry for previous section.

The alpha scheme is a relatively new scheme and, if the data issues did not exist, we would expect to see that there is insufficient retirement experience data to reliably support an alternative assumption recommendation.

It should be noted that experience can be a very volatile measure for groups with small amounts of data, which then impacts the reliance we place on it.

Wider considerations

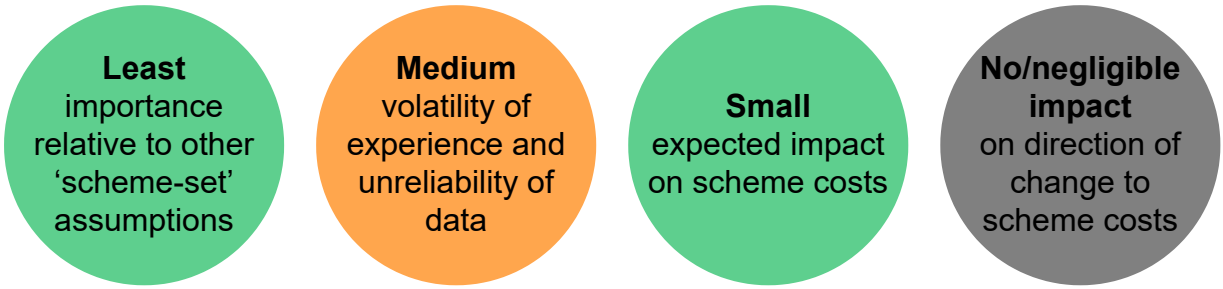
The analysis includes those that have taken benefits in full as well as those that have partially retired.

As part of the 2020 valuation, separate retirement tables were set for members who had a ‘protected’ transitional protection status. Following the implementation of the McCloud judgment, this status no longer applies and there are very few active members in the 2024 data who previously had this status. We recommend removing these protected member retirement tables as part of the 2024 valuation, with affected members being assumed to retire in line with members who would previously have had an ‘unprotected’ transitional protection status. We do not expect this to have a material impact on the valuation results.

Changes to the Normal Minimum Pension Age will have no impact on members of the legacy schemes. Members with alpha only benefits who are not protected by the transitional provisions will be affected by this change. However, we make no allowance for such members to retire before age 60 in our assumptions. Further details are set out in the Approach report.

Rates of leaving service

Rates of leaving service assumptions are a series of probabilities which represent the likelihood of a member voluntarily leaving service (without retiring) at any given age. Our recommendations and supporting information are set out below.



Note

Please refer to Valuation assumptions section in the Approach report for more information on our approach.

Recommendation

At the 2020 valuation we used different assumptions for rates of leaving service based on which salary band members were in. However, as there is now only one employer contribution rate, we recommend simplifying this assumption for the 2024 valuation by removing salary banding. We do not recommend any changes, other than amalgamating the existing tables (which are split by salary band) into one table that applies regardless of salary. Amalgamating the tables is not expected to have an impact on the 2024 valuation results.

Age	Male	Female
20	0.062	0.069
25	0.043	0.058
30	0.033	0.038
35	0.026	0.028
40	0.022	0.023
45	0.019	0.021
50	0.018	0.019
55	0.018	0.019
60	0.025	0.029
65	0.019	0.020

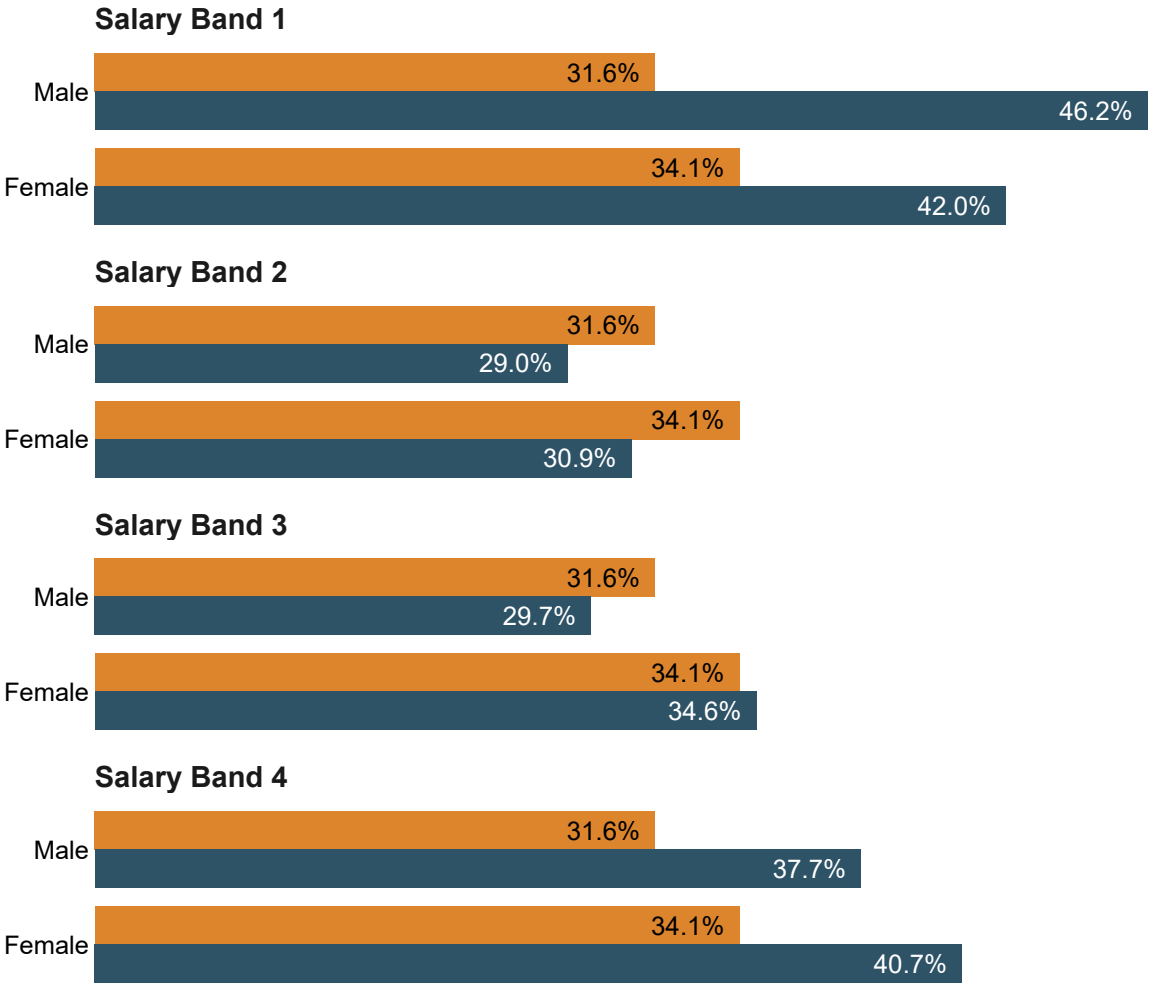
Rates are zero if above SPA

Practical implications

The chart below shows the impact on assumed benefits of our recommended assumptions. For each category shown:

- The top line shows the impact of the assumptions we recommend for the 2024 valuation.
- The bottom line shows the impact of the assumptions adopted for the 2020 valuation.

Likelihood of leaving service before age 65 for a member now aged 45



The 2024 amalgamated table is a weighted average of the rates that applied in the 2020 valuation. The charts above show that rates of leaving service have reduced for some membership groups and increased for others.

Scheme experience

Experience versus expectations show how accurate the assumptions have been in the past and can help inform setting future assumptions.

The information below compares the actual number of leavers over the period 2020 to 2024 with the expected number of leavers based on the assumption from the 2020 valuation and the updated 2024 valuation assumption.

	Experience		2020 expectations		2024 expectations	
	Number[1]	Age[2]	Number[3]	Age[4]	Number[5]	Age[6]
Male	54,878	38.1	24,701	40.3	24,701	40.3
Female	59,630	37.5	32,478	39.5	32,478	39.5

[1] Number of leavers over 2020-2024

[2] Average age of withdrawals over 2020-2024

[3] Expected number of withdrawals under the 2020 assumptions

[4] Expected average age at withdrawal under the 2020 assumptions

[5] Expected number of withdrawals under the 2024 assumptions

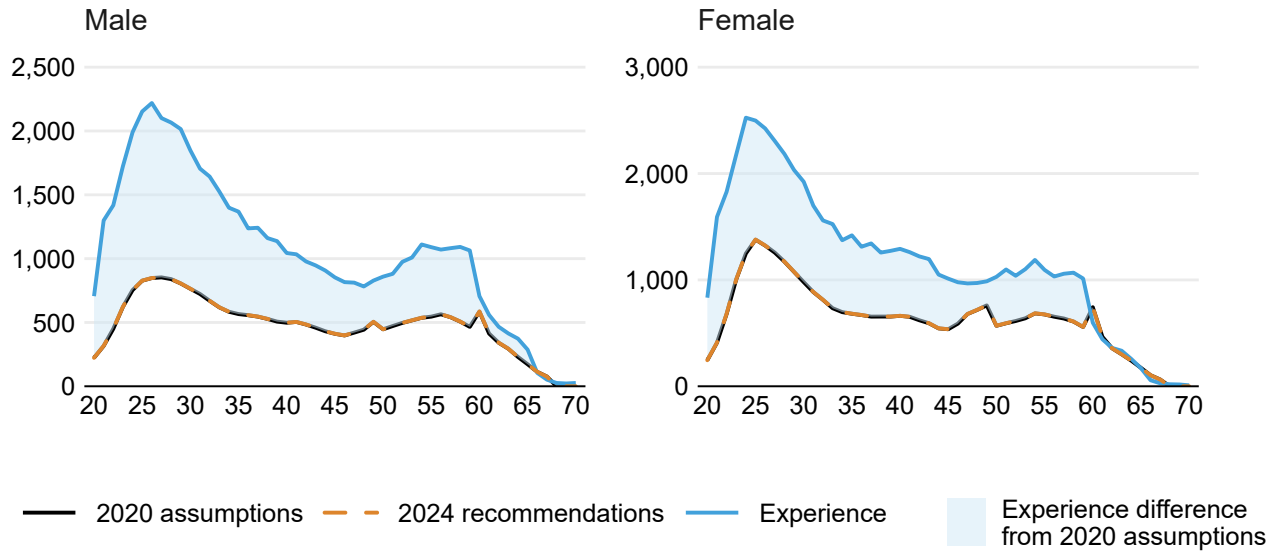
[6] Expected average age at retirement under the 2024 assumptions

The movement data provided for the period 2020 to 2024 did not contain salary band, so analysis has been split by gender only. We recommend simplifying the assumption, as detailed above, so salary band was not required for our analysis.

We have excluded all leavers who rejoined again within the analysis period because on rejoining within 5 years of leaving service members resume final salary linkage on legacy benefits accrued before they left.

Re-entry of members to pensionable service has been modelled by a 'net' withdrawal assumption for active members. This explicitly allows for a proportion of those leaving active service to return and is based on analysis undertaken on relevant member behaviour. No further explicit allowance has therefore been made in the valuation for a proportion of those deferred at the effective date to subsequently rejoin.

Number of leavers by age, split by gender

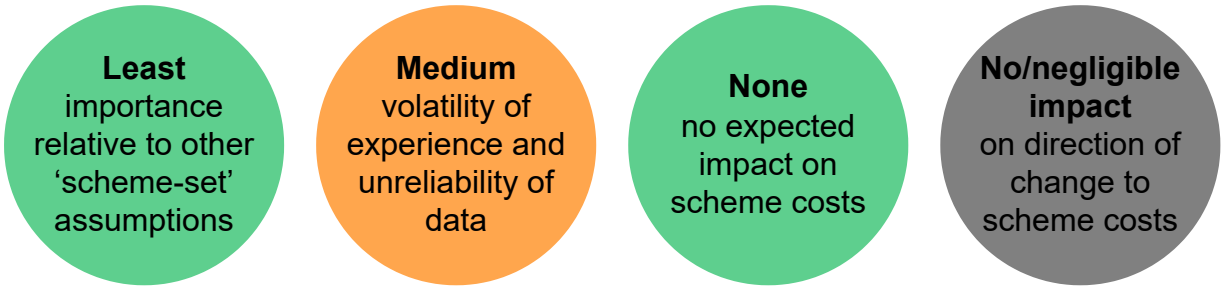


We have seen a higher level of withdrawal than expected below age 60. At older ages, withdrawal is in line with expectations. Although the number of withdrawals is roughly double

the expected rate, changing the assumption would not have a material impact on the valuation because in-service revaluations and deferred increases in the alpha scheme are both linked to the same inflation index (CPI).

Promotional pay increases

Promotional pay assumptions are a series of pay increases that members are assumed to receive in addition to normal annual salary increases. Our recommendations and supporting information for this assumption are set out below.



Note

Promotional pay increases are a scheme-set assumption. Salary increases are a directed assumption and are not covered in this section.

Recommendation

We recommend that the promotional pay increases assumptions adopted for the 2020 valuation are retained for the 2024 valuation.

Age	Salary Band 1 [1]		Salary Band 2 [1]		Salary Band 3 [2]		Salary Band 4 [2]	
	Male	Female	Male	Female	Male	Female	Male	Female
20	115.2	115.2	115.2	115.2				
25	139.0	139.0	139.0	139.0				
30	163.7	163.7	163.7	163.7	107.5	107.5	107.5	107.5
35	182.5	182.5	182.5	182.5	122.4	122.4	122.4	122.4
40	194.7	194.7	194.7	194.7	135.6	135.6	135.6	135.6
45	201.8	201.8	201.8	201.8	147.3	147.3	147.3	147.3
50	206.5	206.5	206.5	206.5	158.6	158.6	158.6	158.6
55	210.0	210.0	210.0	210.0	168.9	168.9	168.9	168.9
60	211.9	211.9	211.9	211.9	174.3	174.3	174.3	174.3
65	213.3	213.3	213.3	213.3	176.6	176.6	176.6	176.6

[1] Index starts at base of 100 at age 17

[2] Index starts at base of 100 at age 28

Scheme experience

Experience versus expectations show how accurate the assumptions have been in the past and can help inform setting future assumptions.

	2024 payroll[1]	Experience[2]	2020 expectations[3]	2024 expectations[4]
Male				
Salary band 1	£0.7bn	2.9%	0.3%	0.3%
Salary band 2	£4.0bn	1.0%	0.3%	0.3%
Salary band 3	£2.0bn	0.1%	0.9%	0.9%
Salary band 4	£0.3bn	−0.4%	0.9%	0.9%
Female				
Salary band 1	£1.2bn	2.6%	0.3%	0.3%
Salary band 2	£4.4bn	1.2%	0.3%	0.3%
Salary band 3	£1.8bn	0.4%	0.9%	0.9%
Salary band 4	£0.2bn	−0.3%	0.9%	0.9%

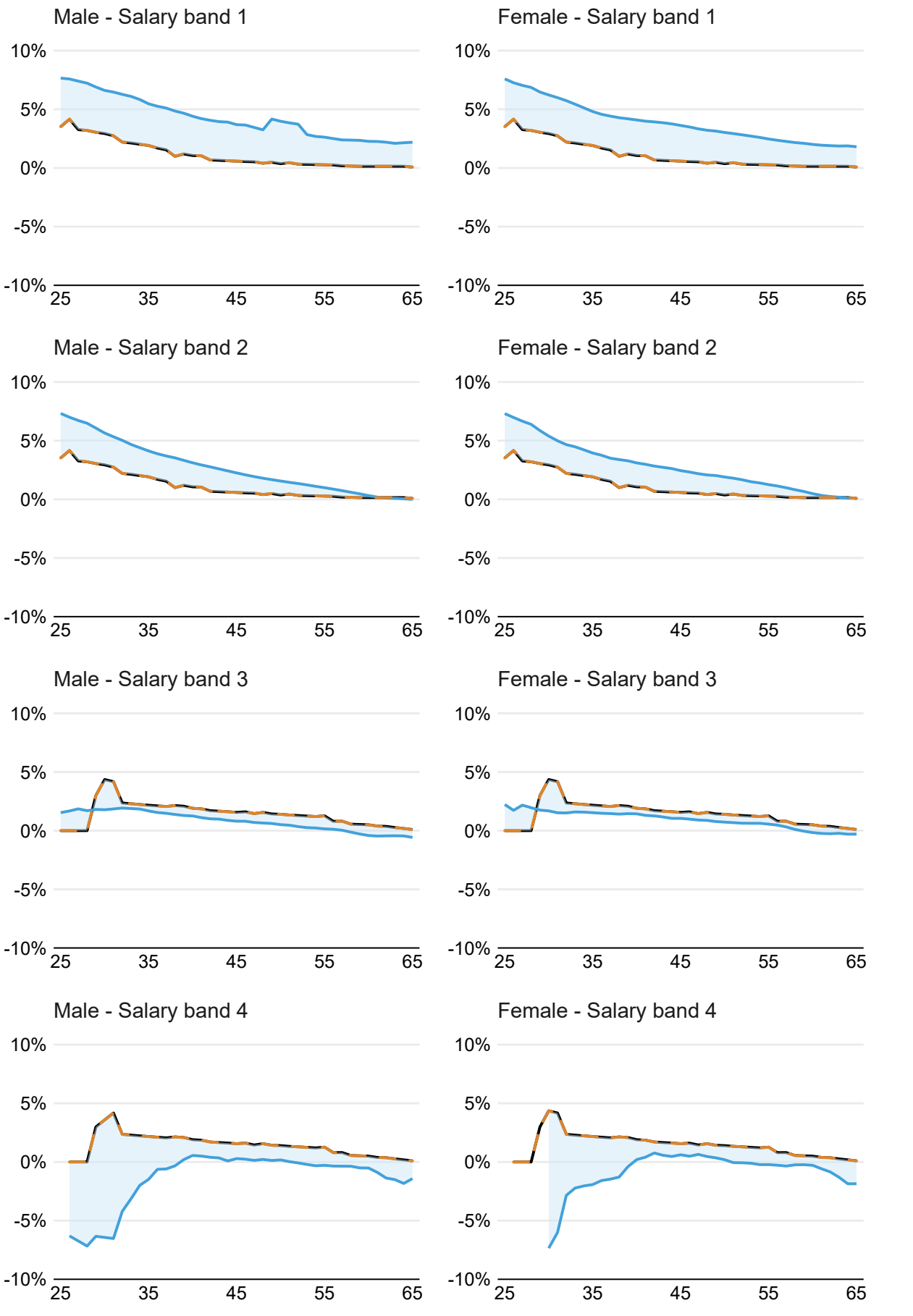
[1] Payroll of analysed members

[2] Implied annual promotional pay increase, after removal of general salary increases

[3] Expected annual promotional pay increase under the 2020 assumptions

[4] Expected annual promotional pay increase under the 2024 assumptions

Annual promotional pay increases by age, split by salary bands and gender



Experience shows that lower paid members received promotional pay increases that were higher than the 2020 assumption. Conversely, higher paid members received promotional pay increases that were lower than the 2020 assumption.

In our analysis, we assumed that all members receive inflationary increases in line with the average when calculating the promotional pay element of the salary change. In reality, inflationary increases are often targeted towards those who are lower paid. The analysis is therefore overstating the promotional pay increases for lower paid members and understating them for those on higher pay as shown in the charts above.

Changing this assumption would not have a material impact on the 2024 valuation result as all accrual is now in alpha, a CARE scheme which does not have a final salary link. We have therefore not attempted to refine our analysis further.

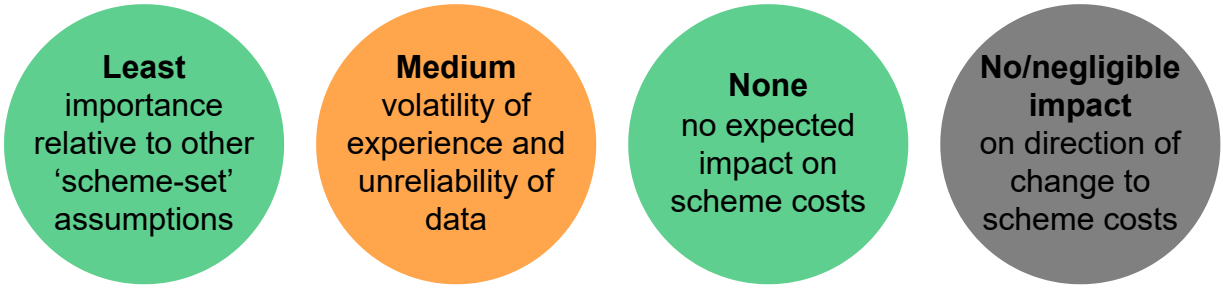
Wider considerations

Salary Band	Lower bound (£)	Upper bound (£)
Salary Band 1	0	23,000
Salary Band 2	23,001	45,500
Salary Band 3	45,501	77,000
Salary Band 4	77,001	

The table above sets out the salary bands that are used when applying this assumption.

Rates of ill-health retirement

Rates of ill-health retirement are a series of probabilities which represent the likelihood of a member retiring in ill-health at any given age.



Members are eligible for either upper tier or lower tier ill-health benefits, depending on the severity of their illness. However, the data held by the administrator does not allow us to reliably split ill-health retirements between upper and lower tier and so we have analysed the total number of ill-health retirements only.

Recommendation

We recommend that the rates of ill-health retirement assumptions adopted for the 2020 valuation are retained (as shown in the table below).

We also recommend that the 50:50 split between upper and lower tier ill-health retirements adopted for the 2020 valuation is retained.

Age	Male	Female
20	0.0001	0.0001
25	0.0001	0.0001
30	0.0002	0.0001
35	0.0005	0.0004
40	0.0008	0.0006
45	0.0013	0.0009
50	0.0020	0.0019
55	0.0036	0.0032
60	0.0058	0.0058
65	0.0079	0.0081

Rates are zero if above the NPA of the relevant section

Scheme experience

In the table below we have compared the number of members retiring in ill health to the level expected based on the 2020 valuation assumption and the updated 2024 valuation assumption.

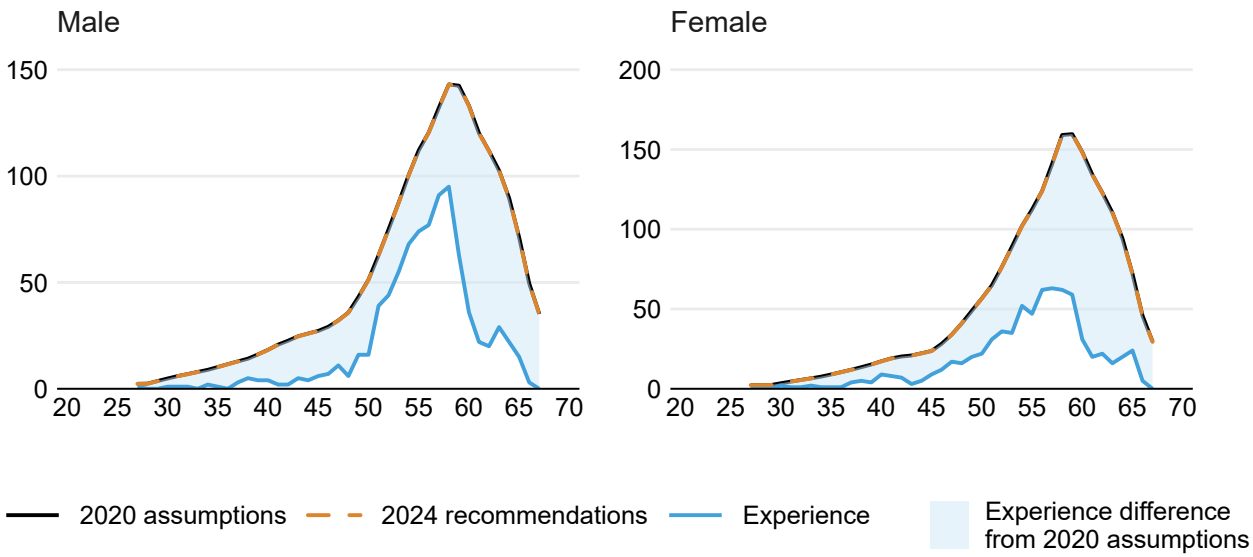
	Experience (number)[1]	2020 expectations[2]	2024 expectations[3]
Male	851	2,136	2,136
Female	736	2,221	2,221

[1] Number of ill-health retirements over 2020–2024

[2] Expected number of ill-health retirements under the 2020 assumptions

[3] Expected number of ill-health retirements under the 2024 assumptions

Number of ill-health retirements by age, split by gender



The analysis shows that there were fewer ill-health retirements than expected, although the patterns of the ages of those retirements were aligned with our 2020 assumptions.

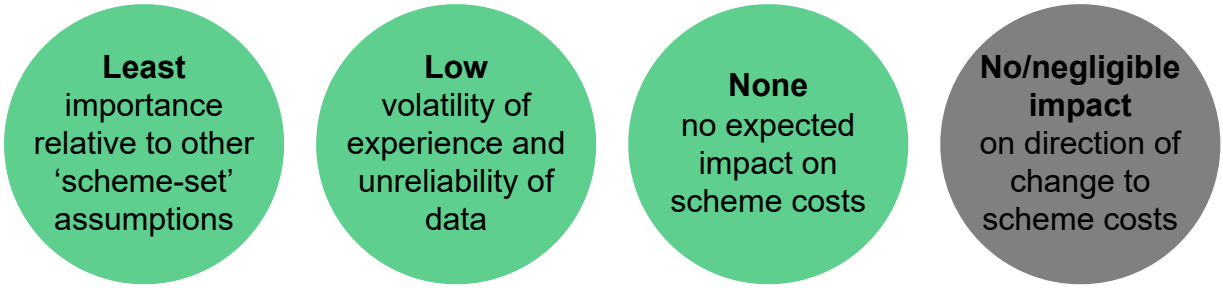
The analysis is based on a small volume of data and therefore it will naturally be volatile year on year. For example, the 2012 to 2016 analysis showed rates of ill-health retirements which were higher than the assumption. It is therefore difficult to analyse whether the experience we are seeing is a long-term trend, or natural volatility.

Given that this assumption does not have a material impact on the valuation (because rates are very low) and is naturally volatile, we do not recommend any changes.

The period analysed includes the COVID-19 pandemic. This could have had an impact on the number of ill-health retirements, but since they were lower than expected there is no evidence of any material impact on this analysis.

Mortality before retirement

Mortality before retirement assumptions are a series of probabilities which represent the likelihood of a member dying at any given age before retirement age.



We have analysed the number of active members who died over the 2020 to 2024 period, split by age and gender.

Recommendation

We recommend that the mortality before retirement assumptions adopted for the 2020 valuation are retained for the 2024 valuation.

Age	Male	Female
20	0.0002	0.0001
25	0.0002	0.0001
30	0.0003	0.0002
35	0.0004	0.0002
40	0.0006	0.0004
45	0.0009	0.0006
50	0.0013	0.0010
55	0.0020	0.0014
60	0.0031	0.0023
65	0.0049	0.0035

Scheme experience

In the table below we have compared the number of member deaths to the level expected based on the 2020 valuation assumption and the updated 2024 valuation assumption.

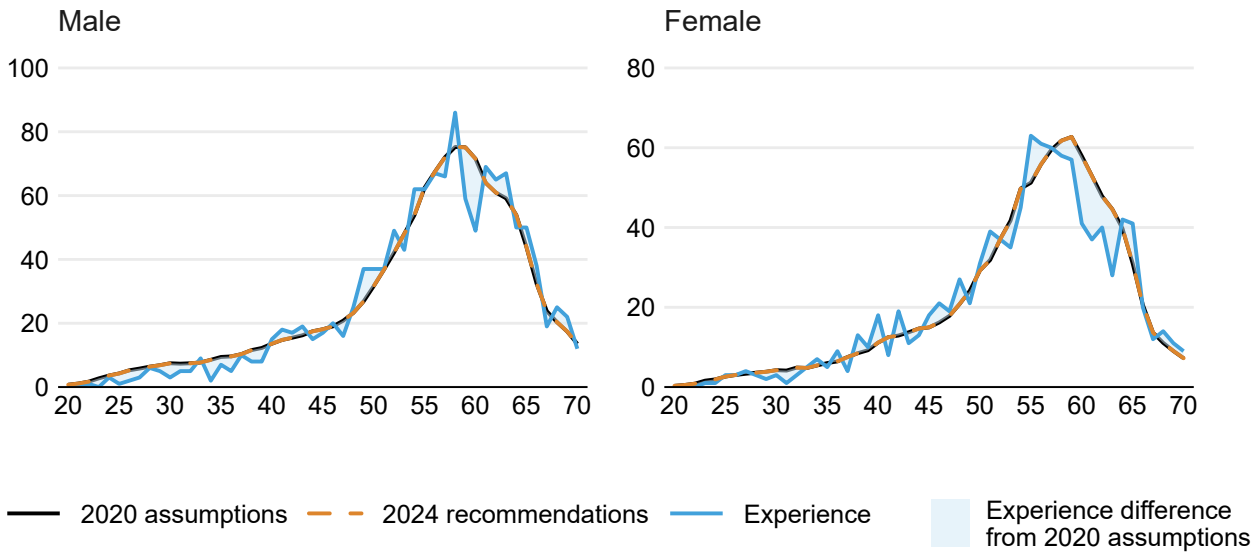
	Experience[1]	2020 expectations[2]	2024 expectations[3]
Male	1,358	1,365	1,365
Female	1,057	1,071	1,071

[1] Number of deaths in service over 2020-2024

[2] Expected number of deaths in service under the 2020 assumptions

[3] Expected number of deaths in service under the 2024 assumptions

Deaths before retirement by age, split by gender



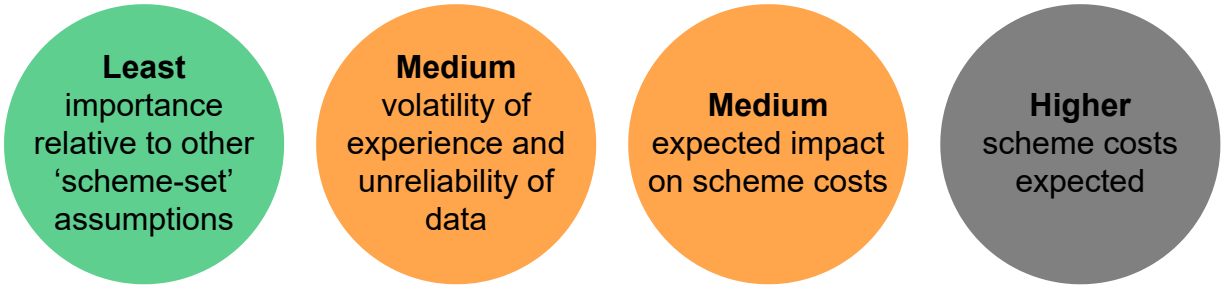
The number of deaths over the period 2020 to 2024 were very close to the 2020 assumption, in volume and pattern. Some volatility is expected due to the low number of deaths before retirement.

The period analysed includes the COVID-19 pandemic. This could have increased the number of deaths before retirement but as experience was broadly in line with our assumption, there is no evidence of any material impact on this analysis.

Family statistics

The term ‘family statistics’ covers several assumptions, including:

- the probability that an eligible partner exists
- the average age of that partner, compared to the member.



Note

For existing pensioners, we consider the likelihood of members having an eligible partner on 31 March 2024. For future pensioners, we consider the likelihood of members having an eligible partner at retirement, or earlier death.

Recommendation

Since 1 April 2022, all active members have been accruing benefits in the alpha scheme. At future valuations, alpha scheme liabilities will become increasingly large as a proportion of the overall liability. We recommend that all public service pension schemes adopt a ‘proportion married or partnered’ assumption only, foregoing an additional assumption for ‘proportion married’ in isolation which only applies within older legacy schemes. This approach will simplify the assumptions and calculations, providing consistency across schemes and streamlining future valuations.

We recommend that the assumption for the probability that an eligible partner exists is updated to be in line with analysis carried out on active data and the latest ONS statistics. These changes will increase the probability that an eligible partner exists overall and will increase the employer contribution rate.

We have not proposed a 50:50 blend with the 2020 assumption, due to the change in approach to use active data, and the removal of the ‘proportion married’ table.

We recommend retaining the 2020 assumptions for all other family statistics.

Proportion married or entitled to a partner's/dependant's pension at death		
Age	**Male**	**Female**
< 70	72%	57%
70-74	72%	56%
75-79	69%	45%
80-84	64%	36%
85+	55%	14%

Assumptions are applied at valuation date for current pensioners and at retirement for future pensioners

Male members are assumed to be three years older than their partners and female members are assumed to be two years younger than their partners.

Scheme experience

Probability that an eligible partner exists

For the 2016 and 2020 valuations, analysis was carried out on pensioner data only. For the 2024 valuation, we have carried out two sets of analysis for those under age 70; one based on active data and the second based on pensioner data. In our active data analysis, we considered marital status in the data as at 31 March 2024. In our pensioner data analysis, we considered the number of deaths in the movements data which showed that benefits were payable to an eligible spouse or partner.

	Experience (actives)[1]	**Experience (pensioners)**[2]	**2020 expectations (married)**[3]	**2020 expectations (partnered)**[4]	**2024 proposed**[5]
Male	72%	62%	70%	74%	72%
Female	57%	47%	50%	53%	57%

[1] Proportion of active members of retirement age (60-69) who are married or partnered

[2] Number of dependant pensions coming into payment, as a percentage of how many could have come into payment if every member who died had an eligible dependant, across retirement age range (60-69)

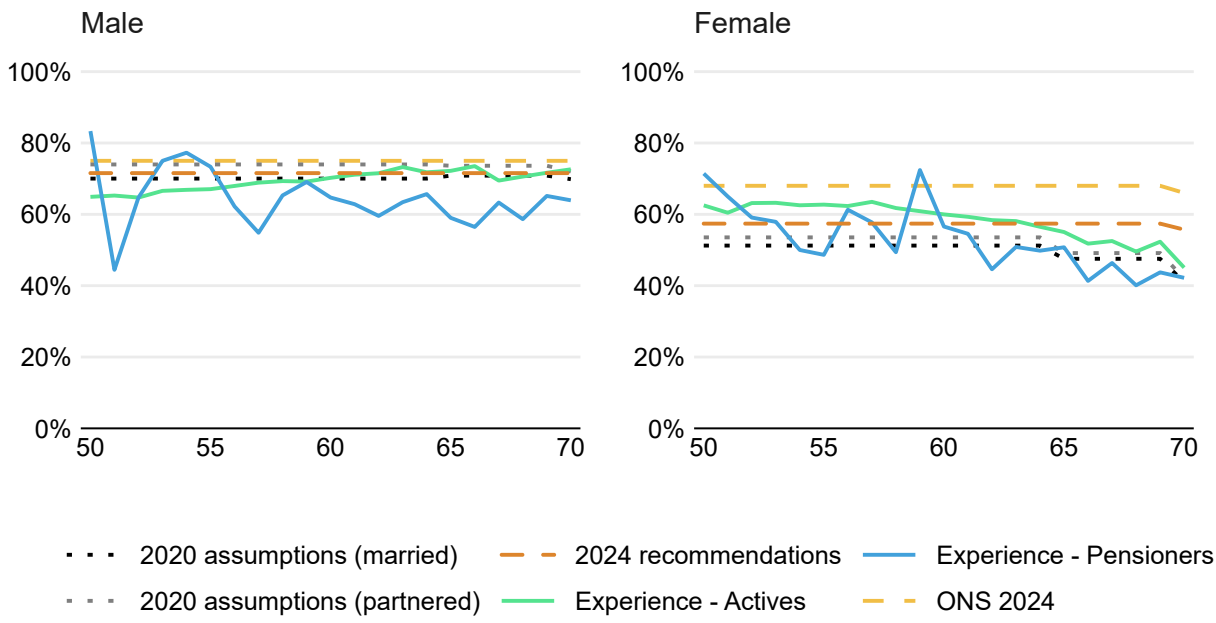
[3] Expected proportion married at valuation date under the 2020 recommendations

[4] Expected proportion partnered at valuation date under the 2020 recommendations

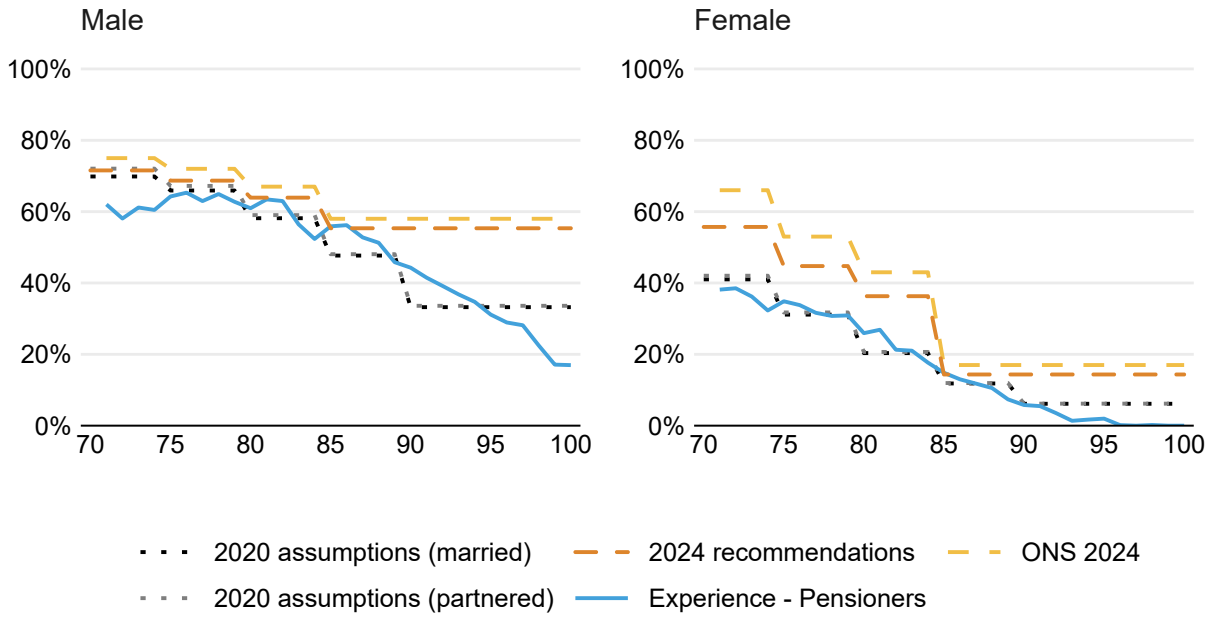
[5] Expected proportion married or partnered at retirement under the 2024 recommendations

The volume of data that we have for active members is much higher (59,000 records for members of relevant ages after exclusions, versus 6,000 pensioners).

Proportion married or partnered by age - Under age 70



Proportion married or partnered by age - Over age 70



For members up to age 70, the probability that an eligible spouse or partner exists at the valuation date is derived from scheme experience.

The charts on the first row above show experience based on both active and pensioner data, the 2020 assumptions, 2024 recommendations and ONS data for the population as a whole. We would expect the population of CSPS to reflect the wider UK population as a whole, due to the nature of its membership. The active member data aligns more closely with the proportion married/partnered in the wider UK population, in particular for females. As a result of the higher volume of data and better alignment with UK population experience, our recommended assumption is based on the active member data analysis, which we believe to be more reliable.

For members above age 70, our standard recommended approach for setting this assumption is to use the latest available ONS proportion married/partnered data released in October 2025, with the starting level adjusted to align with the recommended assumption at age 70 (see above).

The charts on the second row above show experience based on pensioner data, the 2020 assumptions, 2024 recommendations and ONS data for the population as a whole. The pensioner experience data shows a much lower proportion married/partnered than the ONS data. As above, we would expect the population of CSPS to reflect the wider UK population as a whole, due to the nature of its membership. We therefore consider it reasonable to reflect the UK population experience more closely than scheme experience in the period 2020-2024. Although the differences at older ages look significant, the impact on the valuation results is small because of the shorter expected period of payment at these older ages.

Age difference

We have analysed the difference in age between members and their eligible partners based on dates of birth provided in the pensioner death data.

	Experience[1]	Experience[2]	2020 expectations[3]	2024 expectations[4]
Male	19,369	3.8	3.0	3.0
Female	4,992	−0.8	−2.0	−2.0

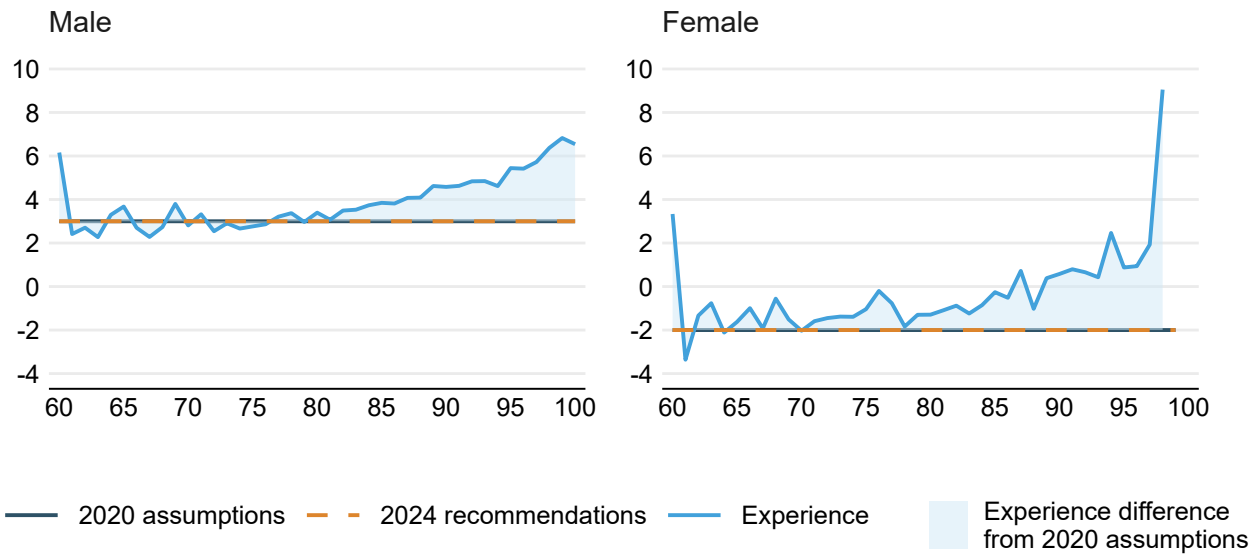
[1] Number of member deaths over 2020-24

[2] Average age difference between member and eligible spouse or partner at date of death

[3] Expected age difference between member and eligible spouse or partner under the 2020 assumptions

[4] Expected age difference between member and eligible spouse or partner under the 2024 assumptions

Age difference between member and spouse or partner by age



The table and charts above show that the age difference between male members and their partners is higher than expected, and for females is lower than expected. Updating this assumption (using our standard blending approach of halfway between recent experience and the existing assumption) would not have a material impact on the valuation results, therefore we propose no change.

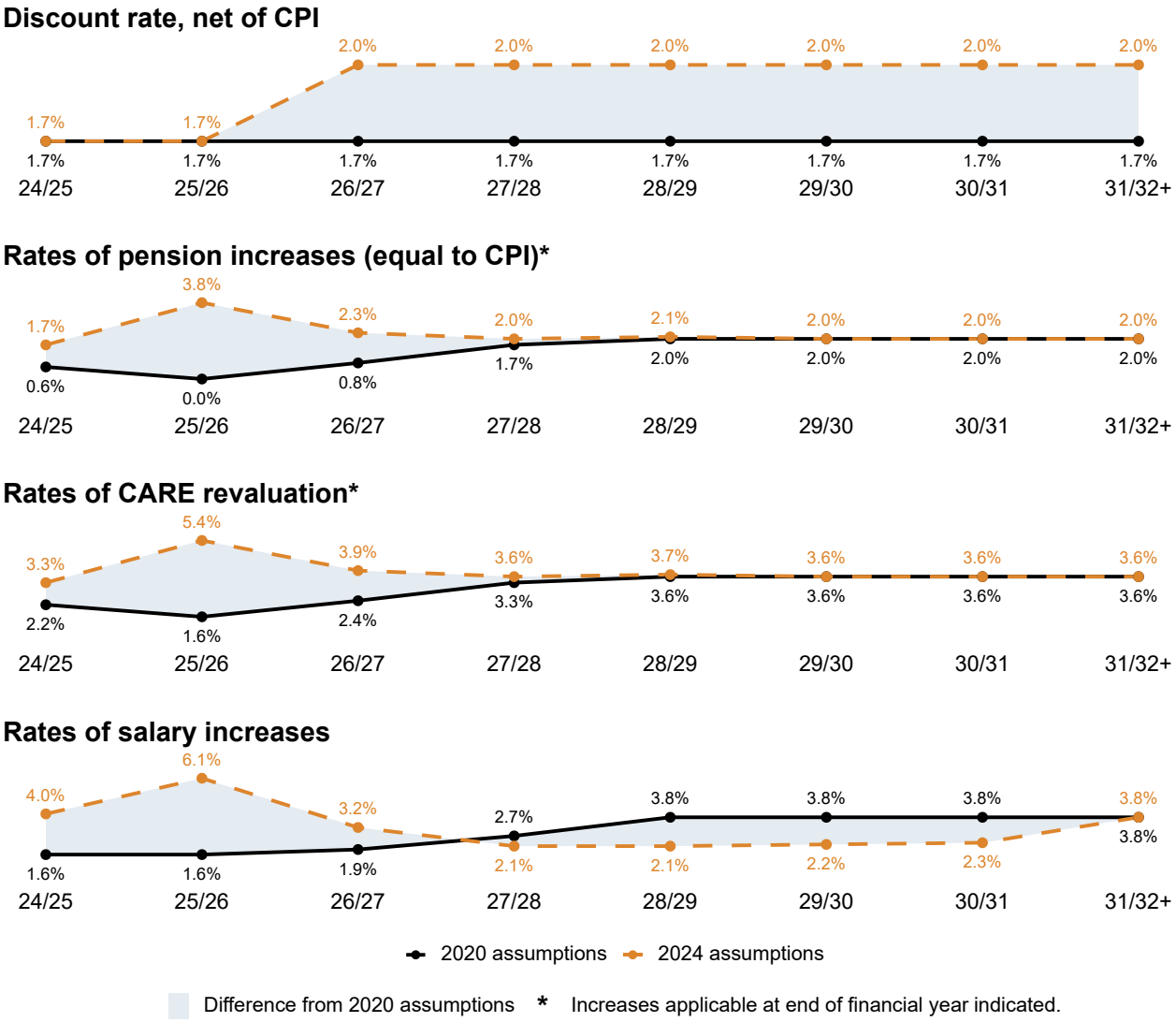
Wider considerations

The Goodwin legal challenge was brought against the Department for Education in respect of survivor benefits provided in the Teachers' Pension Scheme. The Goodwin challenge follows on from the Walker case which ruled in 2017 that to treat same-sex spouses/civil partners less favourably than their opposite-sex equivalents constituted unlawful discrimination. The Government announced in July 2020 that it had concluded that changes are required to the Teachers' Pension Scheme to address this discrimination. The Government also noted that this difference in treatment will also need to be remedied in other UK public service pension schemes with similar provisions.

The impact of Goodwin on CSPS is immaterial and can be ignored.

Directed assumptions

Financial assumptions



Demographic assumptions

Item	2020 assumption	2024 assumption
Deficit spreading periods	15 years	
Future mortality improvements	In line with 2020-based ONS projections	In line with 2022-based ONS projections
State Pension age	As legislated for in the Pensions Act 1995, Pensions Act 2007, Pensions Act 2011 and Pensions Act 2014	
Pensionable payroll growth	Not directed	In line with public service earnings growth

Minor assumptions

Active membership projections

Direction 12 requires the actuary to use the 'projected unit methodology' to calculate the valuation results. The valuation results require the calculation of the cost of benefit accrual over periods after the effective date. This implicitly requires the actuary to estimate the membership to future dates to determine the valuation results. Members of the legacy sections ceased to accrue benefits in these sections at 31 March 2022 and future accrual for all members is in the reformed section from 1 April 2022.

The expected cost of accruing benefits over periods after the effective date have been determined by assuming an overall stable population (age and pay profile) to the end of the implementation period.

The approach incorporates the following assumptions:

- Members with past service in the legacy sections are assumed to retire in line with recent experience. This provides for some legacy section members to remain in active service in the reformed scheme beyond 2022 due to late retirement.
- The overall active membership will be in receipt of pensionable pay for each relevant year equal to that assumed for forecasting purposes.
- In the projected populations, the State Pension age is assumed to be determined by reference to date of birth and so the State Pension age mix changes over time despite the assumed stable population. This allows for the membership accruing benefits to change over the implementation period.
- Mortality is assumed to be projected forward to the relevant year of use in all cases.

Grouping of individual active member records

Individual active members have been grouped together for the purposes of calculating liabilities. This grouping is necessary to accommodate the volume of data within our valuation system. The approach taken to grouping the data has been tested to ensure it does not result in any distortion of the valuation results. The groupings are made for each section/scheme (i.e. legacy final salary schemes, Nuvos or alpha), salary band and based on the following criteria.

- Age nearest
- Gender
- Service

McCloud calculation approach

The outcome of the remedy required to address the McCloud judgment was twofold. When benefits become payable, eligible members can select to receive them from either the alpha or legacy sections for the period 1 April 2015 to 31 March 2022. All active members still in the legacy scheme were transferred to alpha from 1 April 2022.

To allow for the McCloud remedy in our calculation methodology we have valued the ‘better’ benefits for members when comparing benefits in the alpha and legacy schemes.

Benefits are valued in each scheme for each possible outcome (e.g. retirement or death) at each future date and for each eligible individual. The same demographic assumptions (e.g. retirement ages) are used for both the alpha and legacy scheme calculations. This approach is consistent with the approach adopted for the 2020 valuation.

Summary tables

We have set out a summary of the scheme-set assumptions to be adopted for the actuarial valuation of the Civil Service Pension Scheme as at 31 March 2024, including sample rates and values. The assumptions adopted at the previous valuation as at 31 March 2020 are set out in our Advice on assumptions report for that valuation, located at the following location: 2020 Valuations Assumptions Report

Mortality after retirement

	Baseline mortality	Standard table	Adjustment
Male			
2024	Combined health pensioners	S4NMA_M	100%
2024	Dependants	S4DMA	83%
Female			
2024	Combined health pensioners	S4NFA_H	101%
2024	Dependants	S4DFA_VL	102%

Combined health pensioner mortality applies to all current and future pensioners, including those who retire in ill health.

Proportion commuted

	Classic	Non-Classic	alpha
Male and female	9.0%	20.0%	20.0%

Classic scheme assumption applies to pre 1 October 2002 benefits for Classic Plus members.

Retirement ages

Members with benefits in legacy final salary and alpha schemes								
	SPA65		SPA66		SPA67		SPA68	
Age	Male	Female	Male	Female	Male	Female	Male	Female
57	0.05	0.05	0.05	0.05	0.05	0.05	-	-
58	0.06	0.06	0.06	0.06	0.06	0.06	0.03	0.03
59	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.05
60	0.30	0.30	0.30	0.30	0.30	0.30	0.16	0.16
61	0.16	0.19	0.16	0.19	0.16	0.19	0.10	0.12
62	0.15	0.20	0.15	0.20	0.12	0.15	0.08	0.10
63	0.15	0.19	0.15	0.19	0.12	0.15	0.07	0.10
64	0.27	0.26	0.06	0.07	0.05	0.07	0.04	0.05
65	1.00	1.00	0.16	0.24	0.06	0.07	0.05	0.07
66	1.00	1.00	1.00	1.00	0.16	0.24	0.06	0.07
67	1.00	1.00	1.00	1.00	1.00	1.00	0.16	0.24
68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Members with benefits in Nuvos and alpha schemes								
	SPA65		SPA66		SPA67		SPA68	
Age	Male	Female	Male	Female	Male	Female	Male	Female
65	1.00	1.00	0.67	0.67	0.50	0.50	0.25	0.25
66	1.00	1.00	1.00	1.00	0.25	0.25	0.06	0.07
67	1.00	1.00	1.00	1.00	1.00	1.00	0.16	0.24
68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Members with alpha only benefits								
	SPA65		SPA66		SPA67		SPA68	
Age	Male	Female	Male	Female	Male	Female	Male	Female
60	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.05
61	0.04	0.05	0.03	0.05	0.03	0.05	0.03	0.05
62	0.05	0.07	0.04	0.05	0.03	0.05	0.03	0.05

Members with alpha only benefits								
	SPA65		SPA66		SPA67		SPA68	
Age	Male	Female	Male	Female	Male	Female	Male	Female
63	0.06	0.07	0.05	0.07	0.04	0.05	0.03	0.05
64	0.16	0.24	0.06	0.07	0.05	0.07	0.04	0.05
65	1.00	1.00	0.16	0.24	0.06	0.07	0.05	0.07
66	1.00	1.00	1.00	1.00	0.16	0.24	0.06	0.07
67	1.00	1.00	1.00	1.00	1.00	1.00	0.16	0.24
68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Rates of leaving service

Age	Male	Female
20	0.062	0.069
25	0.043	0.058
30	0.033	0.038
35	0.026	0.028
40	0.022	0.023
45	0.019	0.021
50	0.018	0.019
55	0.018	0.019
60	0.025	0.029
65	0.019	0.020

Rates are zero if above SPA

Promotional pay increase

Age	Salary Band 1 [1]		Salary Band 2 [1]		Salary Band 3 [2]		Salary Band 4 [2]	
	Male	Female	Male	Female	Male	Female	Male	Female
20	115.2	115.2	115.2	115.2				
25	139.0	139.0	139.0	139.0				
30	163.7	163.7	163.7	163.7	107.5	107.5	107.5	107.5
35	182.5	182.5	182.5	182.5	122.4	122.4	122.4	122.4
40	194.7	194.7	194.7	194.7	135.6	135.6	135.6	135.6
45	201.8	201.8	201.8	201.8	147.3	147.3	147.3	147.3
50	206.5	206.5	206.5	206.5	158.6	158.6	158.6	158.6
55	210.0	210.0	210.0	210.0	168.9	168.9	168.9	168.9
60	211.9	211.9	211.9	211.9	174.3	174.3	174.3	174.3
65	213.3	213.3	213.3	213.3	176.6	176.6	176.6	176.6

[1] Index starts at base of 100 at age 17

[2] Index starts at base of 100 at age 28

Rates of ill-health retirement

Age	Male	Female
20	0.0001	0.0001
25	0.0001	0.0001
30	0.0002	0.0001
35	0.0005	0.0004
40	0.0008	0.0006
45	0.0013	0.0009
50	0.0020	0.0019
55	0.0036	0.0032
60	0.0058	0.0058
65	0.0079	0.0081

Rates are zero if above the NPA of the relevant section

Mortality before retirement

Age	Male	Female
20	0.0002	0.0001
25	0.0002	0.0001
30	0.0003	0.0002
35	0.0004	0.0002
40	0.0006	0.0004
45	0.0009	0.0006
50	0.0013	0.0010
55	0.0020	0.0014
60	0.0031	0.0023
65	0.0049	0.0035

Family statistics

Proportion married or entitled to a partner's/dependant's pension at death		
Age	**Male**	**Female**
< 70	72%	57%
70-74	72%	56%
75-79	69%	45%
80-84	64%	36%
85+	55%	14%

Assumptions are applied at valuation date for current pensioners and at retirement for future pensioners

Male members are assumed to be three years older than their partners and female members are assumed to be two years younger than their partners.

Compliance and limitations

The Overview report should be referred to and contains compliance and limitations information covering this and other component parts of the valuation reports.

Directions

This report has been prepared with a view to meeting the following reporting requirements of the Directions:

Reporting Direction	Description	Relevant Directions (where applicable)
22(1),(3),(4)	Summary of demographic analysis	
22(2)	Statement where scheme membership data not sufficient to carry out analysis	
23(1)(h)	An analysis of the demographic experience	22
23(1)(i)	A statement of the assumptions used by the scheme actuary in preparing the report	