Government Actuary's Department

NHS Pension Scheme

2024 Actuarial Valuation

Approach

3 July 2026

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Navigating risk | Cutting through complexity

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Contents

Introduction

This Approach report sets out our approach to carrying out and deriving the results of the actuarial valuation of the NHS Pension Scheme (NHSPS) (the Scheme) as at 31 March 2024. It describes the elements that make up those results and the methodologies used in GAD's calculations. This report was prepared by Fiona Dunsire, Government Actuary, FIA C.Act and Garry Swann FIA C.Act, and published on 3 July 2026.

Important

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

Valuation outcomes

Overview

The two main outcomes of a typical public service pension scheme valuation are:

A calculation of the employer contribution rate

A test of the cost control mechanism

The employer contribution rate is the percentage of scheme members' pensionable salaries which employers are required to pay to the scheme in respect of members' future benefit, adjusted for any deficits / surpluses, after allowing for members' contributions.

The cost control mechanism was introduced following the recommendations of the Independent Public Service Pensions Commission in 2011. Its aims are to:

- Ensure a fair balance of risk between members of public service pension schemes and taxpayers with regard to the costs of these schemes.
- Maintain the value of such schemes to their members.
- Provide stability and certainty of member benefit and contribution levels, with changes only being triggered by 'extraordinary, unpredictable' events.

If there is a breach of the cost control mechanism, the Secretary of State for Health and Social Care needs to consult on changes to the Scheme to rectify this.

If there is no breach, then no consultation is required and no changes would be required as a result of the mechanism.

> ⓘ **Note**
>
> This section provides details of the general approach we use to assess valuation outcomes. Details of the actual results of the Scheme's 31 March 2024 valuation are set out in the Results report.

Employer contribution rate

The employer contribution rate assessed as part of the valuation, and subject to the cost control mechanism, is calculated as follows:

Employer contribution rate =

\+ The cost of future benefits which will be built up from 2027 to 2031

+/− An addition (or deduction) for deficit (surplus) as at 31 March 2024

+/− An addition (or deduction) for any deficit (surplus) arising between 2024 and 2027

− A deduction for expected member contribution rates

The rest of this section describes in detail the terms used in the calculation above.

Cost of future benefits

To assess the cost of future benefits, we:

- Estimate the benefits that are accrued by each scheme member (and their dependants where applicable) over the implementation period.
- Express these as a stream of future projected cashflows.
- Calculate the capital sum needed at the effective date to meet this stream of future cashflows. This is done by discounting the cashflows using the discount rate.
- Divide this capital sum by the 'present value' of total pensionable pay over the implementation period.

This methodology is known as the Projected Unit Method and is specified in the Directions.

The Directions also specify that benefits should be attributed to periods of service in accordance with the requirements of International Accounting Standard 19: Employee Benefits.

Adjustment for deficit (or surplus) at 31 March 2024

To determine the Scheme's deficit (or surplus), the value of the Scheme's past service liabilities is compared with the value of its notional assets.

The value of the past service liabilities is the capital sum needed at the effective date to meet the stream of future cashflows in respect of benefits earned. To determine this, we:

- Estimate the benefits accrued by each scheme member (and their dependants, where applicable) in respect of service accrued prior to the effective date (past service).

- Express these as a stream of future projected cashflows.
- Calculate the capital sum by discounting the cashflows using the discount rate.

As the Scheme is unfunded (i.e. the benefits paid to scheme members are financed by contributions from employers and current members which fall into general government revenues), notional assets are required to determine the Scheme's deficit (or surplus). The value of the Scheme's notional assets is calculated by projecting forward the value of the notional assets at the last valuation in line with predetermined notional investment returns and adjusting for income and outgo over the period.

The Scheme's surplus or deficit is then calculated as the difference between the value of the notional assets and the value of the past service liabilities. Where this difference is positive (negative) i.e. the notional assets are greater (less) than the past service liabilities, then there is a surplus (deficit).

To incorporate the cost of repaying the deficit (or offsetting the surplus) into the employer contribution rate, the deficit (or surplus) is spread over a period of 15 years from 1 April 2027 by dividing it by the present value of total pensionable pay expected over the same period.

Adjustment due to deficit (or surplus) arising between 2024 and 2027

The effective date of the 2024 valuation is 31 March 2024. As the employer contribution rate calculated as part of this valuation does not come into effect until 1 April 2027, the contribution rate paid over the 2024 to 2027 period will be different to the cost of benefits accrued. As such a deficit or surplus will arise.

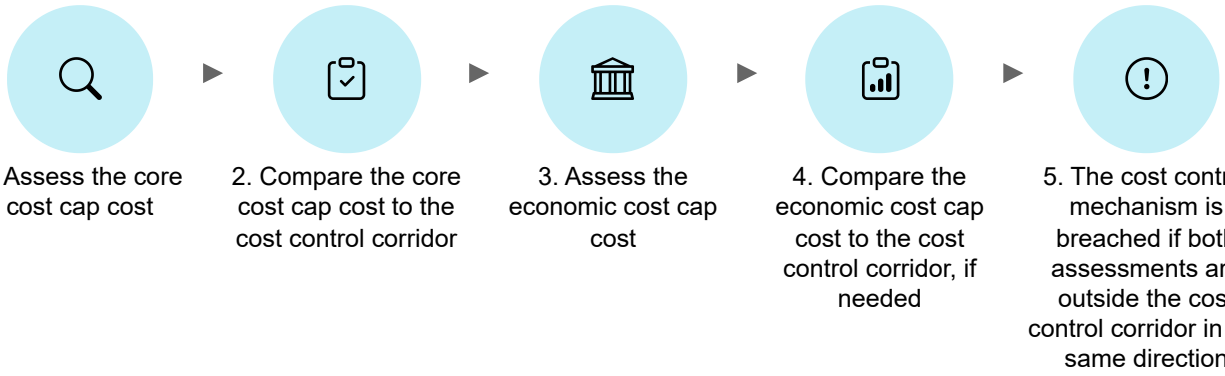
To incorporate this deficit or surplus into the employer contribution rate, the additional deficit or surplus is spread over a period of 15 years from 1 April 2027.

Member contribution rate

The amount that members are expected to pay towards their accruing benefits over the implementation period.

Cost control mechanism

The diagram below summarises the process for testing the cost control mechanism.



In the first instance, a measure of the cost of providing reformed scheme benefits, known as the core cost cap cost of the scheme, is assessed. This excludes the impact of changes in long-term economic assumptions. If this cost changes by more than 3% of pensionable pay compared to its original level (known as the employer cost cap), a breach of the cost control corridor has occurred. If there is no breach of the cost control corridor, no further action is required.

If there is a breach of the cost control corridor an economic check is performed using the economic cost cap cost of the scheme. This assesses whether a breach would also have occurred if the impact of long-term economic assumptions had been considered. The economic cost cap cost is compared to the employer cost cap in the economic check. If the economic cost cap cost is more than 3% different to the employer cost cap in the same direction as the core cost cap cost, then a cost control mechanism breach is deemed to have occurred. In that case the Secretary of State for Health and Social Care is required to consult on changes to the Scheme to bring the cost of the Scheme back to the employer cost cap. Any such changes might impact the employer contribution rate.

Tip

Full details of the cost control mechanism and examples of the interaction between the core and economic cost cap costs can be found in HM Treasury's document: Public Service Pensions: cost control mechanism consultation.

Core cost cap cost

The core cost cap cost is a measure of the cost of providing reformed scheme benefits. It excludes the impact of changes in long-term economic assumptions.

The core cost cap cost is calculated as follows:

Core cost cap cost =

Cost cap future service cost

\+ Core cost cap past service cost

− Cost cap contribution yield

− Cumulative future service technical immunity adjustment

The rest of this section describes in detail the terms used in the calculation above.

Cost cap future service cost

To assess the cost cap future service cost we:

- Estimate the benefits that would be accrued by each scheme member (and their dependants where applicable) over the cost cap implementation period.
- Express these as a stream of future projected cashflows.
- Calculate the capital sum needed at the effective date to meet this stream of future cashflows. This is done by discounting the cashflows using the discount rate and summing.
- Divide this capital sum by the ‘present value’ of total pensionable pay over the cost cap implementation period.

Core cost cap past service cost

To determine the core cost cap past service cost we first calculate the difference between the cost cap liabilities and core cost cap fund as at the effective date. We then convert this to a percentage of pensionable pay by dividing it by the present value of total pensionable pay expected over the 15 year period starting at the effective date. The resulting core cost past service cost can be positive or negative.

The value of the cost cap liabilities is the capital sum needed at the effective date to meet the stream of future cashflows in respect of benefits earned in the reformed scheme. To determine this, we:

- Estimate the benefits accrued by each scheme member (and their dependants, where applicable) in respect of service accrued prior to the effective date (past service).
- Express these as a stream of future projected cashflows.
- Discount the cashflows using the discount rate and sum.

This is similar to the calculation of past service liabilities when assessing the employer contribution rate, but differs in that only reformed scheme service is included.

The core cost cap fund is a notional amount of money, building up from 1 April 2015 when the reformed scheme was introduced. To determine this, we:

- **Start with the core cost cap fund at 31 March 2020**
- **Add core cost cap income** – This is income received by the Scheme, including member and employer contributions. The employer contributions are those that would have been paid if the core cost cap fund contribution rate had been in effect. The core cost cap fund contribution rate is the contribution rate required from the employer to cover the cost of benefits accruing to members in the reformed scheme over the period 1 April 2020 to 31 March 2024, with an adjustment to reflect any surplus or deficit at 31 March 2020.
- **Deduct cost cap benefits paid** – These are the benefits paid from the reformed scheme over the period 1 April 2020 to 31 March 2024. For example, pensions paid.
- **Add core cost cap notional investment returns** – This is a notional amount of growth of the core cost cap fund over the period 1 April 2020 to 31 March 2024, derived in line with the Directions.
- **Adjust for the past service technical immunity adjustment** – This is an adjustment made to the core cost cap fund to exclude the impact of changes in long-term economic assumptions. It can be negative or positive.

Cost cap contribution yield

The amount that members are expected to pay towards their accruing benefits over the cost cap implementation period. This is assumed to be in line with the Scheme's target member contribution yield.

Cumulative future service technical immunity adjustment

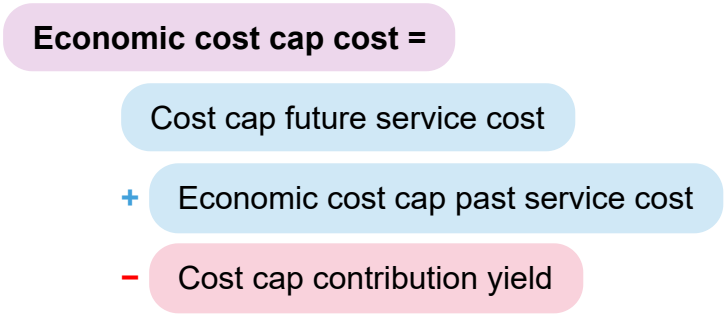
This adjustment ensures that the impact of changes in long-term economic assumptions are excluded from the core cost cap cost.

It is the future service technical immunity adjustment at this valuation plus the cumulative future service technical immunity adjustment relating to the previous cost cap valuation. The future service technical immunity adjustment is the adjustment required when calculating the core cost cap cost of a scheme in order to exclude the impact of a change in the long-term economic assumptions arising since the previous valuation from the future service cost.

Economic cost cap cost

The economic cost cap cost of the Scheme is another measure of the cost of benefits provided from the reformed scheme. It is similar to the core cost cap cost but allows for the impact of a change in long-term economic assumptions. The difference between the core cost cap cost and economic cost cap cost is known as the total cumulative technical immunity adjustment.

The economic cost cap cost is calculated as follows:



When compared with the core cost cap cost, the differences and similarities are:

- the cost cap future service cost is the same for both measures
- the economic cost cap past service cost differs slightly from the core cost cap past service cost (differences are described in more detail below)
- the cost cap contribution yield is the same for both measures
- there is no technical immunity adjustment in the economic cost cap cost.

Economic cost cap past service cost

To determine the economic cost cap past service cost we first calculate the difference between the cost cap liabilities and economic cost cap fund as at the effective date. We then convert this to a percentage of pensionable pay by dividing it by the present value of total pensionable pay expected over the 15 year period starting at the effective date. The resulting cost cap past service cost can be positive or negative.

The value of the cost cap liabilities is the same value used in the calculation of the core cost cap past service cost.

The economic cost cap fund is a notional amount of money, building up from 1 April 2015 when the reformed scheme was introduced. To determine this, we:

- **Start with the economic cost cap fund as at 31 March 2020**
- **Add economic cost cap income** – This is income received by the Scheme, including member and employer contributions. The employer contributions are those that would

have been paid if the economic cost cap fund contribution rate had been in effect. The economic cost cap fund contribution rate is the contribution rate required from the employer to cover the cost of benefits accruing to members in the reformed scheme over the period 1 April 2020 to 31 March 2024, with an adjustment to reflect any surplus or deficit at 31 March 2020. This differs from the calculation of the core cost cap fund in that employer contributions are assumed to be paid at the economic cost cap fund contribution rate, rather than the core cost cap fund contribution rate.

- **Deduct cost cap benefits paid** – These are the benefits paid from the reformed scheme over the period 1 April 2020 to 31 March 2024. This is the same value used in the calculation of the core cost cap fund.
- **Add economic cost cap notional investment returns** – This is a notional amount of growth of the economic cost cap fund over the period 1 April 2020 to 31 March 2024. This differs from the core cost cap notional investment returns used to calculate the core cost cap fund because the notional investment returns are applied to the starting point of the economic cost cap fund, rather than the core cost cap fund. The rate of notional investment returns used is the same for both measures.

Cost control corridor

The cost control corridor is a range of 3% above and below the scheme's employer cost cap.

The core cost cap cost and (if necessary) economic cost cap cost are assessed against this corridor. If both measures are outside the corridor in the same direction a cost control mechanism breach has occurred.

Valuation data

Overview

Data is essential for carrying out the actuarial valuation of the Scheme.

We collect the following data from the scheme administrator in order to carry out the valuation:

Membership data

Information on all members of the Scheme as at the effective date of the valuation

Movements data

Information on how the membership data has changed since the previous valuation

Movements data is used to review existing assumptions about the Scheme membership and propose new assumptions, where appropriate. Agreed assumptions are then used, together with the membership data, to carry out the actuarial valuation.

The accuracy of the valuation is critically dependent on the quality of the data used. Poor data could lead to employers making different decisions due to paying too high or too low a contribution rate, or to benefit changes being made unnecessarily.

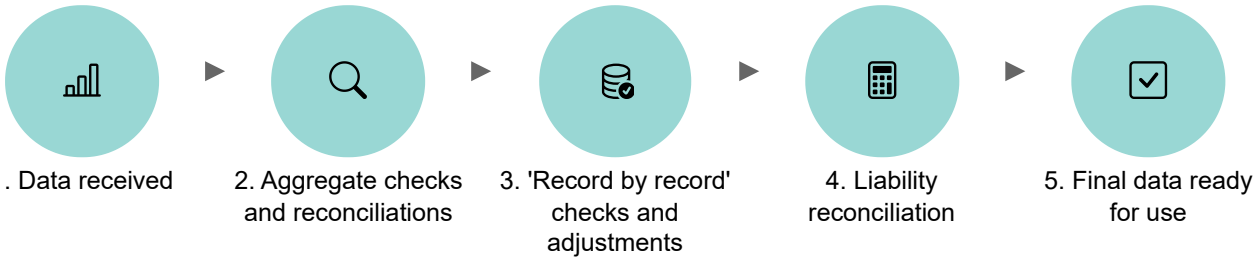
Note

This section provides general background on the data we use and how it is checked and processed. Details of the actual data used for the Scheme's 31 March 2024 valuation are set out in the Data report.

Checks, adjustments and reconciliations

We carry out a range of checks to ensure the data is fit for purpose for the valuation. These checks also allow us to identify and describe any limitations in the valuation results arising from poor quality data.

The diagram below summarises the key steps in our checks, adjustments and reconciliations process.



Each step of the process is set out in more detail below:

1. **Data received.** Our work starts when schemes provide data. We collate and process this to remove any unnecessary personal information.
2. **Aggregate checks and reconciliations.** We carry out initial checks on the data at an overall level, as opposed to an individual record basis. Any unexpected changes compared to previous datasets are identified. We then reconcile the data provided against data from a separate source (such as scheme accounts or local financial returns) to check for potential issues.
3. **'Record by record' checks and adjustments.** If the data passes our initial checks, we undertake a series of automated, record-by-record checks to remove records that are deemed unreliable. For example, duplicate records, or those with missing key data. When we exclude individual records, remaining records with similar characteristics are typically rated up to compensate if appropriate. This process assumes that the membership profile of excluded records is consistent with the profile of the similar reliable records. To the extent that this is not the case, there is a degree of uncertainty in the valuation results. However, we believe this is a reasonable approach to take given the scarcity of alternative information.
4. **Liability reconciliation.** At the final checking stage, we use the adjusted data to calculate actuarial liabilities as at the effective date of the valuation. We then reconcile these against the liabilities from the last valuation, adjusted for cashflow information and known pension increases and salary awards. Significant differences could imply missing or incorrect data.
5. **Final data, ready for use.** After completion of checks and adjustments, the dataset is ready for calculating valuation results. We then decide whether, in our opinion, it is fit for the purpose of the valuation.

If we notice significant issues at any stage of our checking process, we request new or additional data from the scheme administrator in order to correct or allow for them. We sometimes make adjustments to the data provided to correct known data issues. We only do this when requested by the responsible authority or administrators, and when it is more efficient for us to make simple changes than to request new data from administrators.

Use of McCloud data

Where complete and reliable McCloud remedy data is available for members, it is used in the valuation. In cases where such data is incomplete or unavailable, adjustments are applied so the results reflect the expected impact of the McCloud remedy.

Tolerance levels and uncertainty

Any differences between actual and expected outcomes which are identified within our reconciliation processes, are assessed against defined tolerance levels. If they fall outside these tolerance levels we investigate further.

The accuracy of our checks is often dependent on the completeness of the cashflow information we use to carry out those checks. If this information is materially inaccurate the results of our checks will be affected. We consider this to be a low risk as the cashflow information used has typically been audited before we use it.

Our checking process is designed to ensure the data is fit for purpose for valuation calculations. However, our checks do not amount to a full data audit, and some residual data uncertainty remains. This is normal in large, complex datasets. Residual data uncertainty can potentially have an impact on valuation results, including on the cost control mechanism and potential resulting impacts on member benefits.

> **Note**
>
> More information on the Scheme's residual data uncertainty is set out in the Data report. This confirms we believe that the data is suitable and fit for the purposes of the valuation.

Valuation assumptions

Overview

Assumptions are estimates of uncertain variables which are needed to carry out an actuarial valuation. They are used to determine how much needs to be paid now, in order to meet future expected payments.

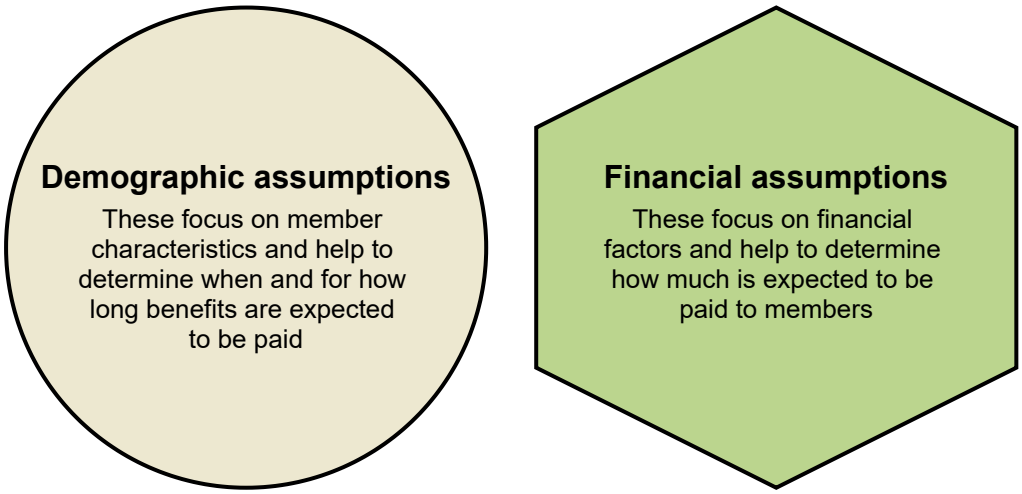
The results of a valuation are critically dependent on the assumptions used. If what actually happens in the future turns out to be significantly different to these assumptions, employers could end up having over- or under-paid contributions, or benefit changes could be made when they otherwise wouldn't be.

Note

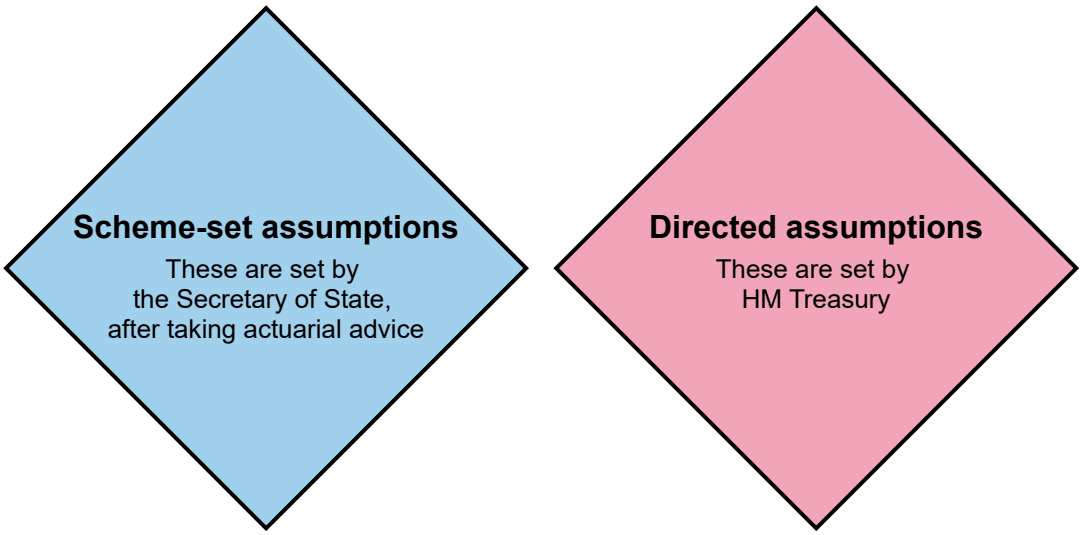
This section provides general background on the assumptions we use and how we make recommendations. Details of the actual assumptions used for the Scheme's 31 March 2024 valuation are set out in the Assumptions report.

Types of assumptions

Assumptions can be categorised by their type and by the responsibility for setting them. There are two types of assumptions:



There are two parties responsible for setting them:



The following table groups the assumptions that we use to carry out a valuation into the categories described above. Further explanation of the terms is provided later in the report.

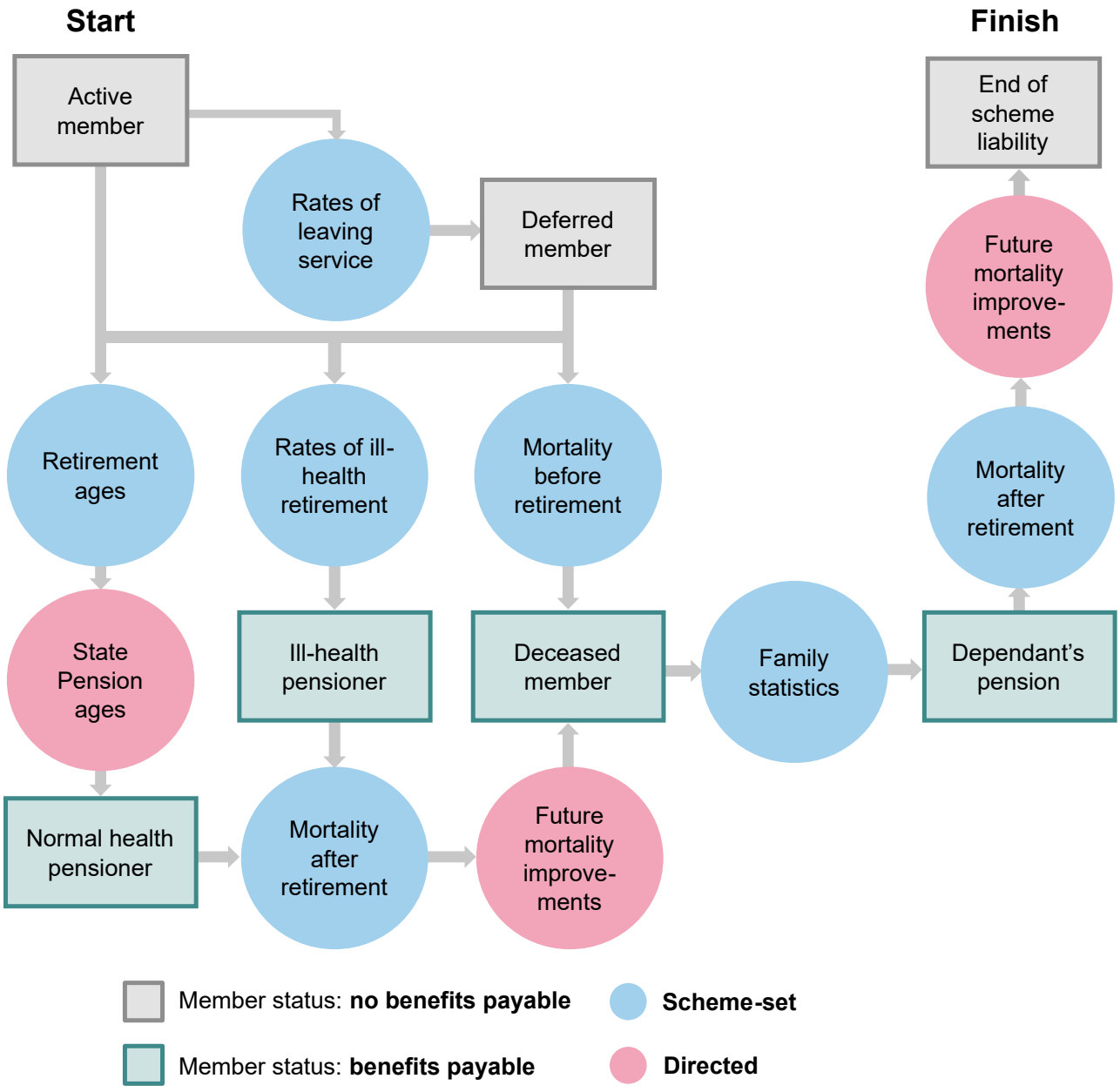
	Demographic	Financial
Scheme-set	Family statistics Mortality after retirement Mortality before retirement Rates of ill-health retirement Rates of leaving service Retirement ages	Promotional pay increases Proportion of pension commuted
Directed	Future mortality improvements State Pension ages	Deficit spreading periods Discount rate Rates of CARE revaluation Rates of pension increases Rates of salary increases

Note

In this report and in the Assumptions report we focus on scheme-set assumptions, but directed assumptions are included for context.

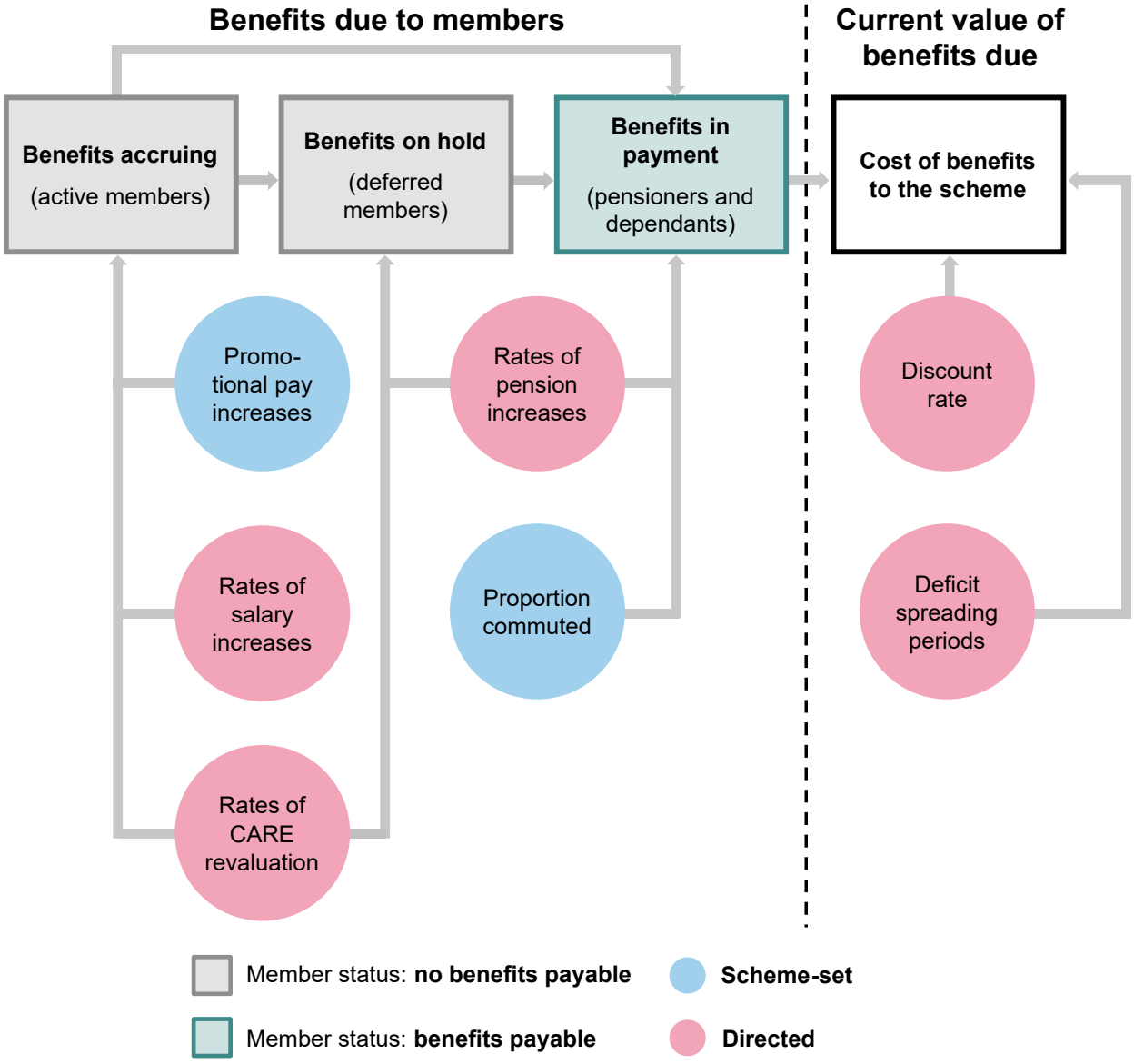
Demographic assumptions in detail

Demographic assumptions are used to predict what will happen to the status of members in the future. The chart shows a simplified set of paths that an active member could follow. Demographic assumptions (shown in circles) are used to determine the likelihood that the member follows any given path.



Financial assumptions in detail

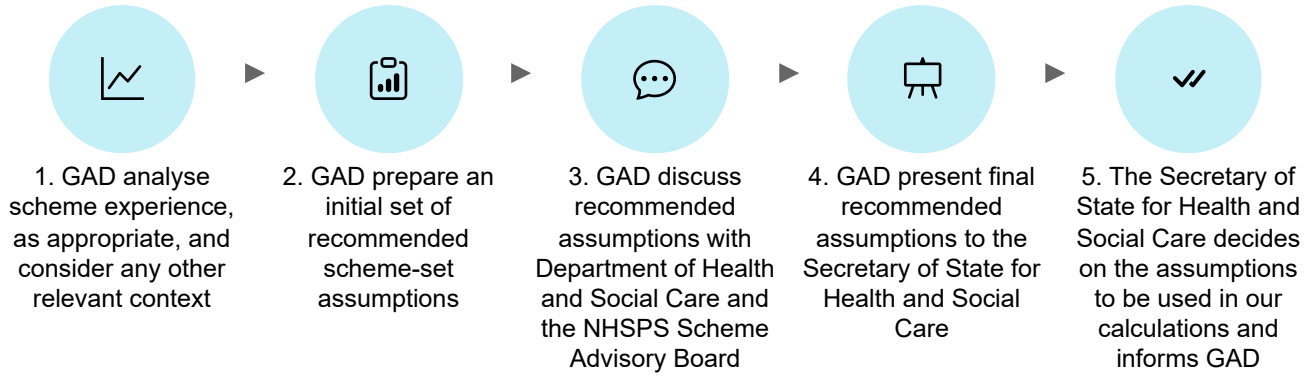
Financial assumptions are used to predict the size of future benefits due to members and the current cost of those benefits to the Scheme. The chart shows a simplified summary of how these assumptions are applied.



Another directed financial assumption, the rate of notional investment, is used in the calculation of notional assets.

Assumption setting process

The diagram below summarises the assumption setting process.



The Directions specify that ‘scheme-set’ assumptions must be the Secretary of State for Health and Social Care’s best estimates of future experience. This means they cannot include any margins for prudence or optimism. The Directions also require that assumptions must consider:

- previous valuation assumptions;
- an analysis of demographic experience, where appropriate and where there is enough data to perform such an analysis;
- any other relevant data, including anything that only became available after the date of the valuation and
- any emerging evidence about historic or expected future long-term trends.

When considering appropriate assumptions, scheme experience usually provides the most reliable evidence.

However, robust analysis of scheme experience will only be possible where there is both sufficient quality, and quantity, of data. Further, the extent to which experience is relevant is also considered (for example, due to changes in rules over time). The level of reliance that can be placed on assumptions derived from the analysis will also vary depending on these factors.

Setting initial recommendations

Our general approach to setting recommended assumptions is:

- For each assumption, we compare recent scheme experience against the previous valuation assumptions.
- This experience may differ between groups of members within a scheme - for example between sections or health status at retirement. As a result these different groups may

have different assumptions.

- Where there is not enough scheme experience, we look at assumptions from other groups of members or other schemes which might have similar experience, adjusted to allow for any available information.
- We will recommend an update to the assumption if evidence points to a change which has a material impact on the valuation results. In these cases, our recommendation is usually to either:
    - Fully align the assumption to recent experience, if it seems likely that recent experience represents a step change in underlying behaviour with little in-year volatility, or;
    - Set an assumption half way between recent experience and existing assumptions, if there does not appear to have been a step change in underlying behaviour. This will smooth out the impact of volatility in experience between valuations.

Scheme-set assumptions in detail

Mortality after retirement

This represents the likelihood of a member dying at any given age after retirement. Different assumptions usually apply to different groups e.g. for males and females, or normal or ill-health retirees.

Mortality assumptions are derived by combining ‘baseline mortality rates’ with ‘future mortality improvements’.

- **Baseline mortality rates** are a scheme-set assumption. Baseline mortality rates are set by adjusting the ‘S4’ standard mortality tables issued in February 2024 by the Continuous Mortality Investigation (CMI). These tables are based on a more recent dataset than the S3 tables adopted for the 2020 valuation which requires less rolling forward, and we consider them to be appropriate for use in the 2024 valuation.
- **Future mortality improvements** are a directed assumption, and act to reduce baseline mortality rates in future years. These are directed to be in line with the improvements underlying the 2022-based population projections published by ONS, which reflect updated longevity views and are described further below.

Mortality assumptions can be used to estimate the life expectancy of individual members. Higher life expectancies mean a higher cost of providing benefits, as benefits must be paid for longer periods of time.

Allowance for COVID-19

Where data has been available, our recommendations have been based on scheme mortality experience from April 2020 to March 2024. This includes a period, mainly in the years 2020 and 2021, where excess deaths were recorded in the UK due to the impact of the COVID-19 pandemic.

The impact of COVID-19 has been allowed for within the analysis through the population experience between the base mortality table date and the date of the future mortality improvements adopted (2017 and 2022). That is, the impact of COVID-19 is reflected in the wider population experience the scheme experience is being compared against. Mortality improvements after 2022 are directed to be in line with the improvements underlying the ONS 2022-based population projections.

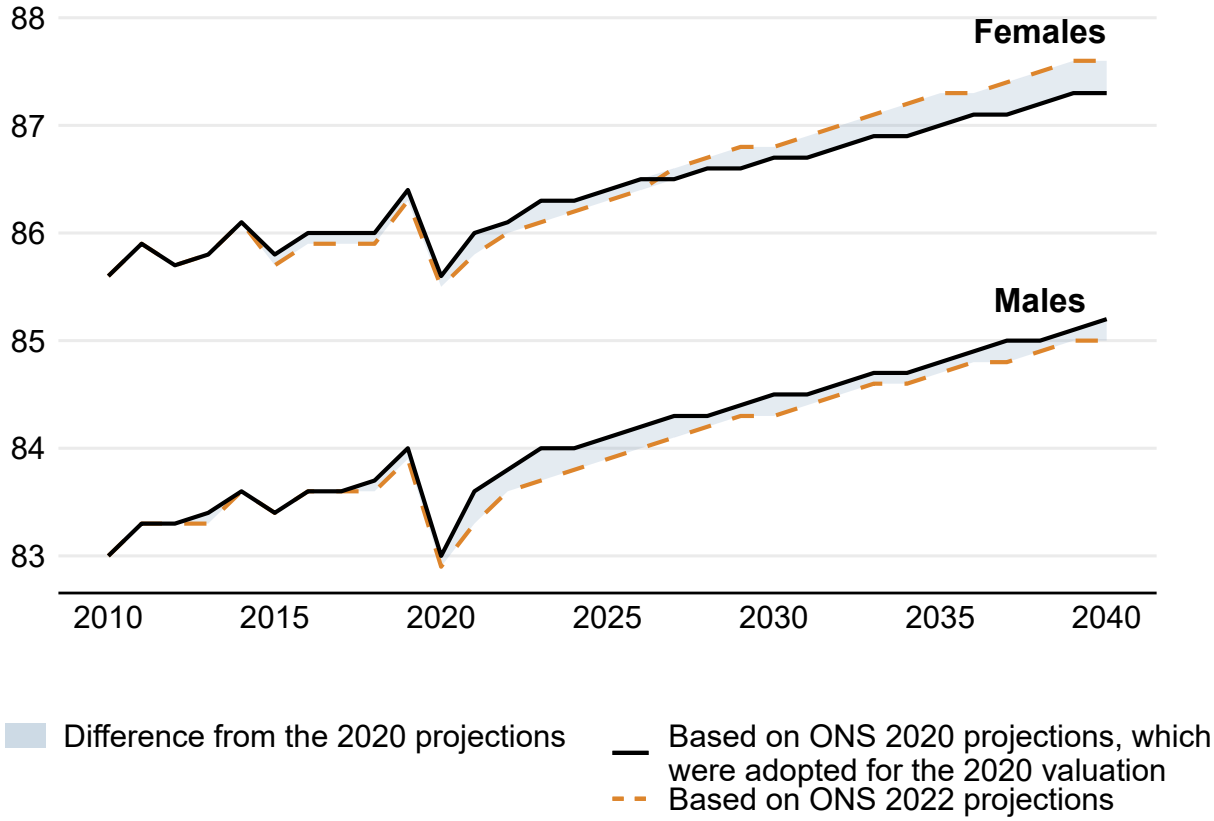
When deriving the assumptions underlying the ONS 2022-based projections, a panel of mortality experts gave their views on the impact of the COVID-19 pandemic on improvements in mortality rates. Based on this, a small shock recovery adjustment was applied so that the model recognises that the heavier mortality experience in 2020 and 2021 is not projected forwards. ONS note that this adjustment only has a small impact on projected life expectancies, and the adjustment has no impact on mortality rates beyond 2027.

We have considered whether the scheme's mortality experience appears to be materially different from the general population over the period of the COVID-19 pandemic, with a view to possibly making an adjustment to the base table to reflect this. However, given the volatility in year-on-year mortality experience and the scale of COVID-19 mortality experience relative to other deaths over the period, we see no compelling evidence to amend the adjustment calculated from Scheme experience.

The charts below show the impact of the ONS 2022-based projections on period life expectancies for a typical UK male and UK female, aged 65. It can be seen that projected life expectancy has generally dropped relative to the 2020-based projections, but female life expectancy is longer in some future years under the 2022-based projections. Part of the reason for the lower projected life expectancies is that experience between 2020 and 2022 being less favourable than projected by the 2020-based projections.

Different life expectancies between the models before 2020 are primarily due to census-based re-basing of historic population estimates across the UK.

Life expectancies for UK males and females, aged 65



Proportion commuted

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

The proportion commuted assumption is important because the value of the lump sum received is often less than the value of the pension given up. Higher proportions commuted therefore tend to lead to lower scheme costs.

The lump sum is typically calculated using a commutation rate of £12 lump sum for every £1 of annual pension given up.

Commutation can alter the timing and amount of benefit payments for individual members. Members choose whether to commute based on their own individual circumstances. For example, their:

- Assessment of their future life expectancy;
- Tax circumstances; or
- Preferences for higher future income vs an immediate lump sum.

We make no explicit allowance for HMRC limits or for the McCloud judgment, as this is unlikely to have a significant impact on members' commutation choices.

> **Note**
>
> Our analysis considers the total pension that comes into payment and the total pension that is commuted, and it is carried out separately for groups that might behave differently. This approach places more weight on members with larger pensions, reflecting the bigger impact they can have on scheme costs.

Retirement ages

Retirement age assumptions represent the likelihood of a member retiring and claiming their pension at any given age.

Different assumptions usually apply for groups who are expected to behave differently e.g. for members with different normal pension ages.

Retirement age affects:

- The benefits members receive e.g. earlier retirement ages for active members means lower benefits, as members will have built up those benefits over a shorter period of time.
- The length of time benefits will be paid for – although in most schemes this impact is offset by early retirement reductions and late retirement uplifts.

McCloud judgment

No change is made to age retirement rates for affected members following the McCloud judgment.

There are many other factors to consider that might impact member behaviour, such as rises in the State Pension age (SPa).

Normal Minimum Pension Age

The normal minimum pension age (NMPA) is the earliest age that most people can access their pension without incurring a tax charge. This will increase from age 55 to 57 with effect from 6 April 2028, subject to certain transitional provisions. Where relevant, more detail is set out in the Assumptions report.

Rates of leaving service

Rates of leaving service assumptions (sometimes referred to as withdrawal rates) represent the likelihood of a member voluntarily leaving service (without retiring) at any given age.

Different assumptions are usually adopted for groups who are expected to behave differently, e.g. for males and females, or members with pensions in different sections of the scheme.

> ⓘ **Note**
>
> The following assumptions are categorised as least importance relative to other scheme-set assumptions. They are unlikely to have a material impact on the employer contribution rate and a proportionate approach has been taken to the reporting of these in the Assumptions report.

Rates of ill-health retirement

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

There are typically different levels or tiers of ill-health benefits, depending on the severity of illness.

We do not expect the McCloud judgment to directly impact on the number of ill-health retirements or have a material impact on contribution rates, noting eligibility for ill-health benefits may differ between legacy and reformed schemes.

Where scheme experience over the valuation period is not significantly out of line with the existing assumption, we may recommend no change in the assumption.

Promotional pay increases

Promotional pay assumptions are pay increases that members are assumed to receive in addition to normal annual salary increases. The assumptions are usually tied to a member's age or length of service.

Promotional pay increases are a scheme-set assumption. Salary increases are a directed assumption.

Promotional pay increase assumptions help determine the value of 'final salary' benefits which make up a proportion of scheme costs. The final salary proportion will reduce over time as more CARE benefits are built up in the reformed scheme, which are less dependent on promotional pay increases.

Mortality before retirement

Mortality before retirement assumptions represent the likelihood of a member dying at any given age before retirement age. Different assumptions usually apply to males and females. Contribution rates tend to be insensitive to this assumption.

COVID-19 might have increased the number of deaths before retirement and hence this will be captured in experience analysis. No further explicit allowance is made in respect of COVID-19.

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.

The assumptions are used to estimate the likelihood of a dependant's pension coming into payment when a member dies, and how long that pension will be paid.

No allowance has been made for short term dependants' pensions or childrens' pensions (other than those already in payment), on grounds of materiality.

Further, all dependants are assumed to be the opposite sex of the member and no allowance is made for remarriage, again on grounds of materiality.

New entrant profile

The new entrant profile assumption covers the characteristics that impact on pension costs (such as age and sex) of individuals expected to join the Scheme in the future.

This is implicitly set within the overall future membership profile and total projected pensionable payroll assumptions. Further information is available in the Assumptions report.

Importance for employer contribution rates

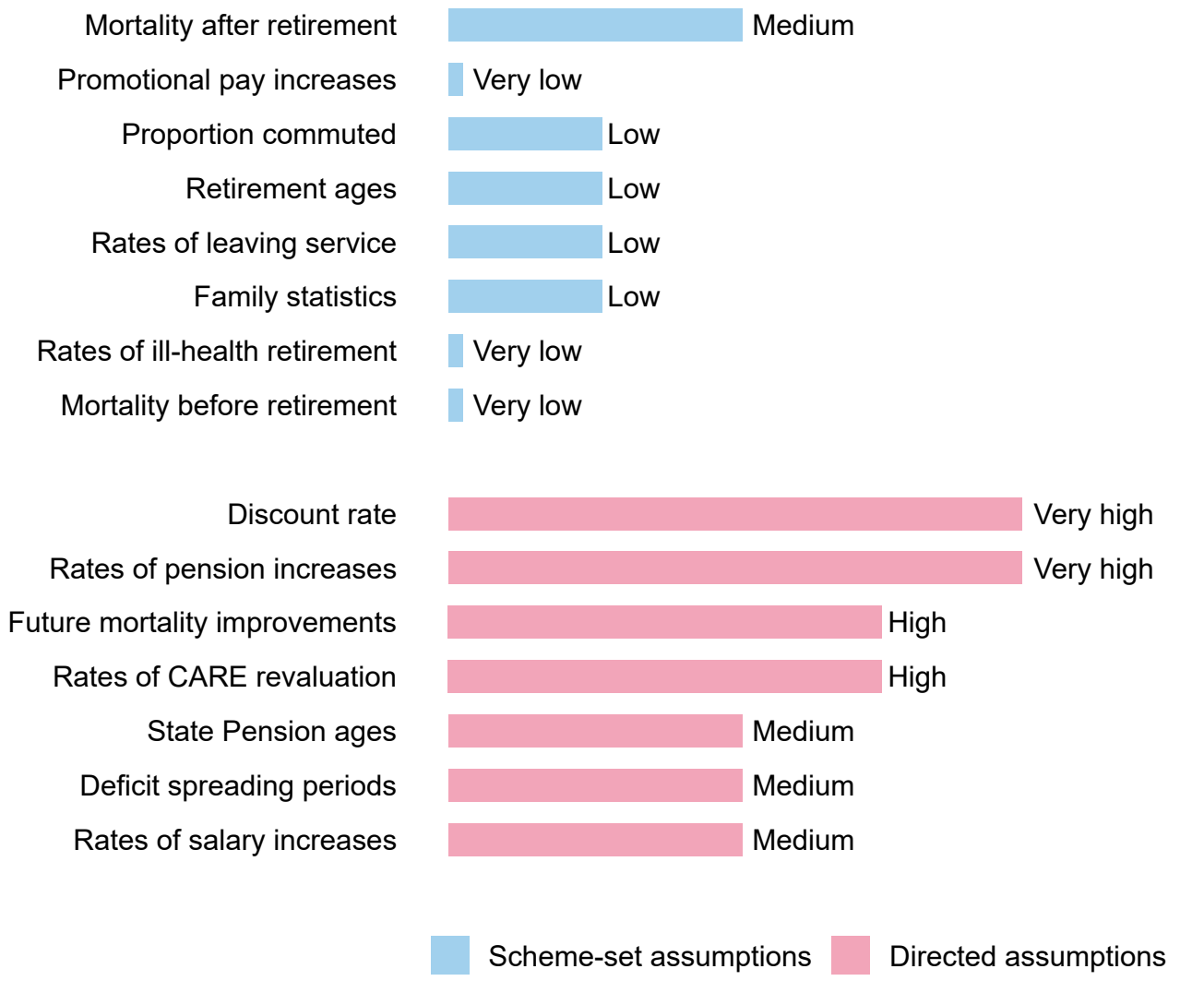
The chart below shows the importance of each assumption on the employer contribution rate and relative to the importance of other assumptions. This shows that:

- there is a large degree of variation in the importance of each assumption
- the more important assumptions tend to be directed.

For example, the discount rate is shown as very significant compared to mortality before retirement. This means that even if the discount rate changes by a small amount, the impact on the employer contribution rate could be much larger than the impact of a substantive change in mortality before retirement.

The rankings shown are for a typical scheme and are based on the approximate, relative significance of each assumption only. They are intended as an illustration and are not a prediction of potential future changes.

This comparison considers all assumptions and therefore differs to other charts, for example, the overview of scheme-set assumptions recommendations in the Assumptions report.



Importance for the core cost cap cost

The importance of each assumption on core cost cap cost can be very different to the significance of the same assumption on employer contribution rates. This is because the cost control mechanism was designed to exclude certain costs.

The chart below shows the approximate importance of each assumption on the core cost cap cost.

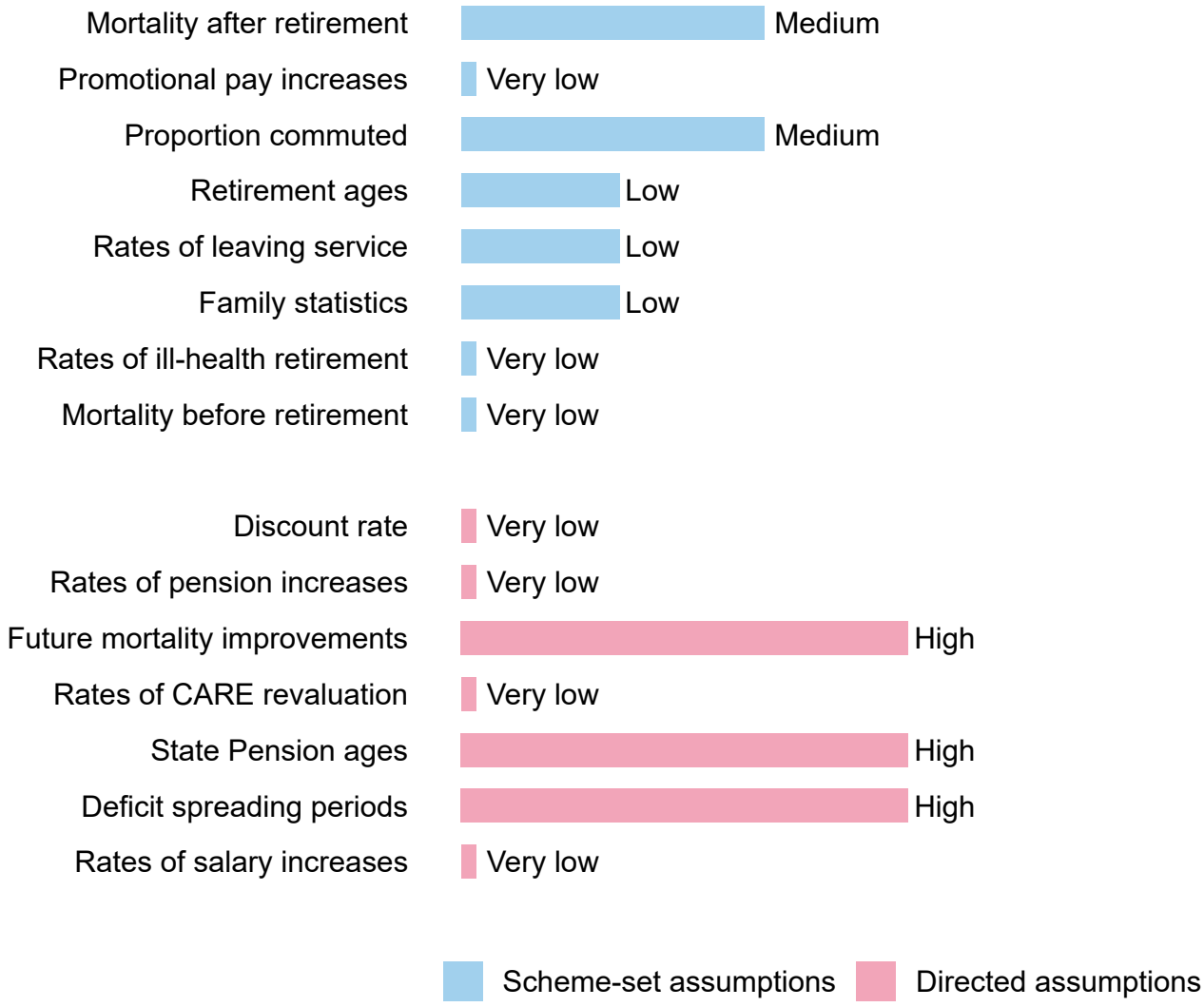
It is important to be aware that even a small change in an assumption with low importance could result in cost control thresholds being breached and member benefits being adjusted, if there have been a number of other assumption changes.

The main differences when compared to the importance of assumptions on the employer contribution rate are:

- Most financial assumptions, such as the discount rate, are not very important to the core cost cap cost
- The importance of directed assumptions (relative to scheme-set assumptions) can be lower for the core cost cap cost than for the employer contribution rate.

As before, the rankings shown are approximate and are intended as an illustration, not a prediction of potential future changes.

Importance relative to all assumptions



Factors affecting future valuations

In the Results report and Climate risk report we consider the sensitivity of the 2024 valuation results to the key assumptions. There are a range of factors that will impact future valuation results as summarised below.

- **Deficit repayment**: The employer contribution rate might include an amount to reduce the size of the deficit. All else being equal the deficit contribution rate will be lower at the next valuation as a portion of the existing deficit will have been paid off.
- **Mortality improvements**: Recent data shows that mortality rates in the UK appear to be returning to levels similar to those observed prior to the COVID-19 pandemic, although the rebound is slightly smaller than expected and there is a slightly more pessimistic view of improvements in mortality rates in the longer term. The ONS 2022-based national population projections project lower future life expectancies for males, and slightly higher life expectancies for females at age 65 compared to the ONS 2020-based projections used in the previous valuation.
  There remains uncertainty about the future trend of improvements in mortality rates and therefore the impact of this on future valuations.
  A reduction in future improvements to mortality rates would generally reduce pension costs (and vice versa).
- **Scheme demographic experience**: Actual demographic experience will differ from assumptions and this could have a large impact on results, both directly and in the way it influences scheme-set assumptions at future valuations. The most significant such assumptions are base mortality, withdrawals from service and commutation.
- **Directed assumptions**: These have the potential to have the largest impact on the contribution rate but the direction and magnitude of any such change is unknown.
- **Age or sex profile**: Any change in the age profile of the membership, for example a recruitment freeze meaning that fewer younger members join, will impact the results at future valuations, with a higher average age generally leading to an increase in the contribution rate.
- **Legal cases**: Any further cases that extend scheme benefits could have a large upward impact on costs.
- **Legislative and policy changes**: Any legislative or policy changes could impact on the benefits provided under the Scheme, with the impact dependent on the change that is implemented, for example, future changes to SPa.
- **Membership data**: The valuation results are heavily dependent on the accuracy of the membership data. If the data is later shown to be materially incorrect or inconsistent with future datasets then a cost or saving might emerge.

- **Membership profile**: As time goes on fewer members will have legacy scheme accrual and this might lead to differences in behaviour around retirement patterns or other demographic experience.

Compliance and limitations

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