Pension scheme funding - an analysis of completed valuations

In Depth

September 2023

Contents

Overview

This year's analysis shows that the average funding position and proportion of schemes in surplus are at their highest levels since the start of the current funding regime.

Since the dates of these completed valuations, while average funding levels have remained relatively stable, there has been a particularly wide variation in the changes to the funding positions of schemes. The funding positions of some schemes have improved significantly.

Against this background, the new funding regime is currently expected to be implemented in April 2024, with its focus on a journey plan towards a long-term funding target, aiming to reduce reliance on the employer covenant and achieve 'low dependency' as a scheme matures. Ahead of this becoming a legislative requirement, the majority of schemes have already set such a target – and many have also produced a journey plan setting out how to get there - in line with regulatory guidance.

In addition, the Chancellor announced several initiatives in his Mansion House speech in July, including a call for evidence on how DB schemes could use their assets more flexibly. The 'Mansion House reforms' may support a wider range of endgame options for pension schemes.

Our full data-driven analysis aims to support our clients' better decisions.

Key findings

This In Depth sets out the approaches to and results of UK pension schemes' funding valuations completed up to July 2023.

This is the seventeenth year in which we have produced a detailed analysis, and our key findings this year are:

- A long-term funding target was used in addition to a technical provisions target by 68% of schemes, and 60% of those schemes had a journey plan to achieve the target by the time the scheme is significantly mature;
- 76% of schemes took an integrated approach to risk management that included consideration of downside scenarios and contingency planning;
- 81% of schemes used a third party/specialist assessment of the employer covenant;
- 91% of schemes hedged at least 70% of their interest rate risk and 88% hedged at least 70% of their inflation risk, compared to 81% for both types of hedging three years ago;
- Average discount rates in excess of gilt yields were lower than those for each of the previous three years;
- The average difference between RPI and CPI assumptions was 0.9% p.a. for the period before 2030 and 0.1% p.a. post-2030, reflecting the announced change to the calculation of RPI from 2030;
- 54% of schemes carried out an analysis of experience in respect of demographic assumptions other than mortality;
- The average technical provisions funding level – 97% – and the proportion of schemes in surplus – 47% – were both higher than for any previous year since the start of the current funding regime in 2005;
- For schemes in deficit, the average recovery period, of 4.3 years, was 1.2 years shorter than three years ago, when many schemes' previous valuations were undertaken; the percentage of schemes requiring a recovery plan fell from 68% to 53%;
- 63% of under-funded schemes had put in place additional security – the highest percentage to date;
- An element of additional return in excess of the discount rate was allowed for in 65% of recovery plans;
- Since the dates of these valuations, average funding levels have remained relatively stable but there is a wide variation between schemes; those schemes most exposed to gilt yield changes are likely to have improved their funding positions significantly; and
- The Chancellor's 'Mansion House reforms' may lead to an expansion in the endgame options available to schemes and further support alternative endgames to insurer buy-out.

We comment on possible explanations for our findings, and look ahead to 2023 valuations and beyond.

1

The funding landscape

The long-term funding target and use of integrated risk management

1.1 A comprehensive picture

Our analysis covers 129 completed valuations carried out by Aon consultants for our clients, under the scheme specific funding regime, covering effective dates from September 2021 to July 2022. The data also include valuations carried out by Aon consultants with earlier effective dates.

We consider:

- **The funding landscape** – the long-term funding target and use of integrated risk management;
- **The technical provisions** – the discount rate, inflation, mortality, other demographic assumptions and the funding level;
- **The recovery plan** – the recovery period, contingent security and the assumptions; and
- **Looking ahead** – to 2023 valuations, and beyond.

We divide valuations into categories based on their effective dates, to allow us to illustrate how features have changed. For this purpose, we have adopted the approach used by the Pensions Regulator, under which valuations are grouped into 'tranches', with the most recent as follows:

Tranche	Effective dates of valuations
17	22 September 2021 to 31 July 2022
16	22 September 2020 to 21 September 2021
15	22 September 2019 to 21 September 2020
14	22 September 2018 to 21 September 2019

1.2 The long-term funding target

The Pension Schemes Act 2021 will require schemes to set a strategy for ensuring that benefits can be provided over the long term; we await the outcome of the DWP's July 2022 consultation on supporting regulations. A key principle is that schemes must be in a state of low dependency on the sponsoring employer by the time they are 'significantly mature' - the **long-term objective** (LTO). They must have adopted a low dependency investment allocation and be fully funded on a low dependency funding basis - the **long-term funding target** (LTFT). A **journey plan** must set out how the scheme will progress towards its LTO.

The legislation will be supported by a revised Code of Practice, which will provide further details, including defining the duration of liabilities at which schemes will be considered significantly mature. We also await the outcome of the Regulator's December 2022 consultation on its draft Code, which proposed a duration of 12 years, although alternative approaches are considered. (Duration is the mean term of the liabilities weighted by the value of the scheme's future cashflows; in less technical terms, it might be considered the number of years until the 'average' payment date of the scheme's benefit outgo.)

The rationale for introducing the LTO principle now is the maturing of the typical DB pension scheme. The Regulator expects the Code – and therefore the new framework - to be operational from April 2024, although an update is expected in the autumn.

In its 2023 Annual Funding Statement, the Regulator encourages trustees to re-think their strategy and consider whether their long-term funding target remains appropriate, or put such a target in place as a priority if they do not have one.

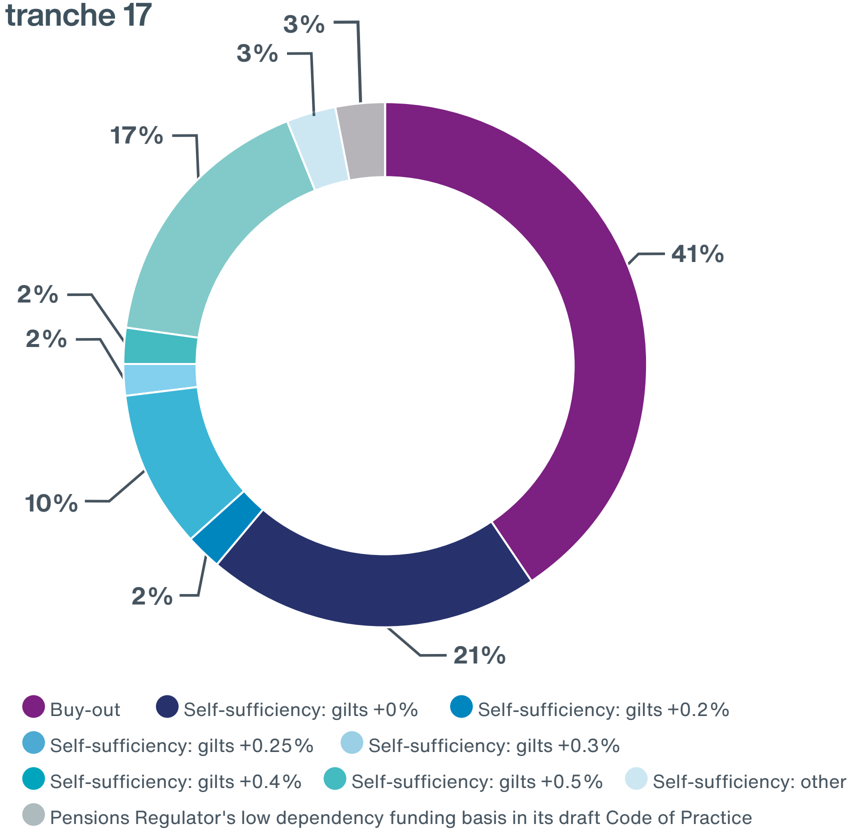
A long-term funding target, in addition to that used for technical provisions, was used by 68% of schemes with tranche 17 valuations (and also 68% for tranche 16). Of these, 58% were on a measure of self-sufficiency, 38% were on a buy-out basis, and 3% were based on the Regulator's low dependency funding basis in its draft Code. Chart 1.2.1 provides further information on the bases used for LTFTs. For tranche 16, 54% were on a measure of self-sufficiency, and 37% were on a buy-out basis.

For tranche 17, the LTFT drove funding/contribution decisions for 61% of schemes: for 79% this was indirectly (for example, it was a factor considered when the funding strategy was agreed at the valuation), and for the other 21% directly (for example, contributions were contingent on the funding level measured on the LTFT basis). For 89% of schemes for which the LTFT had not been achieved, the LTFT drove investment/de-risking decisions: for most (61%) this was again indirectly (for example, it was a factor considered when the investment strategy was agreed), and for the others (39%) directly (for example, de-risking triggers were driven by the funding level on the LTFT basis).

In addition, technical provisions were determined on a self-sufficiency basis for 5% of tranche 17 valuations. Though a revised Code is not yet in force, these statistics indicate that trustees and employers understand the importance of setting an LTO, and that they are anticipating the likely changes to the funding regime.

> **A long-term funding target was used in addition to a technical provisions target by 68% of schemes, and 60% of those schemes had a journey plan to achieve the target by the time the scheme is significantly mature**

Chart 1.2.1 Basis of long-term funding target – tranche 17



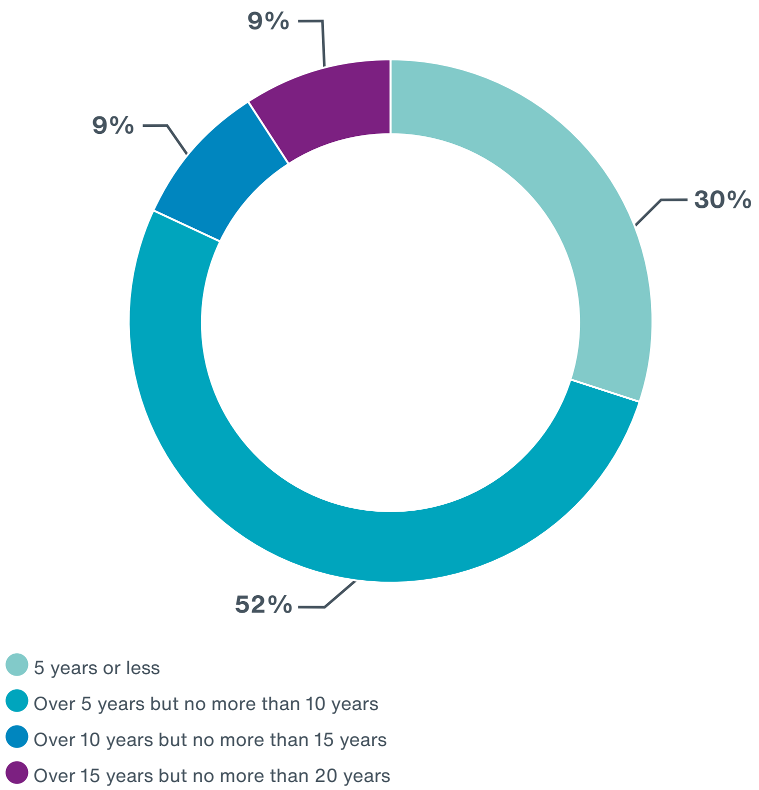
In addition to using a 'prudent' discount rate and mortality assumptions, 55% of LTFTs included an element of prudence in other assumptions; the other LTFTs used best estimate for other assumptions. 48% included an explicit allowance for expenses; the most common approach was to include an estimate of wind-up expenses.

Of those schemes with an LTO, 60% had a journey plan that aims to achieve the target by the time the scheme is significantly mature.

The DWP's scheme funding consultation noted that, in the longer term, schemes might 'run on' with low dependency, secure buy-out with an insurer or target moving to a consolidator. In June 2020, the Regulator published new guidance on the standards it expects from 'superfunds', effectively establishing an interim regime for such consolidators. In November 2021, the Regulator named Clara Pensions as the first superfund to meet its standards. In July 2023, the Government set out a proposed framework for a permanent regime; it intends to bring forward legislation "as soon as parliamentary time allows". We might expect some schemes to set an LTO based on consolidation vehicle pricing in the future.

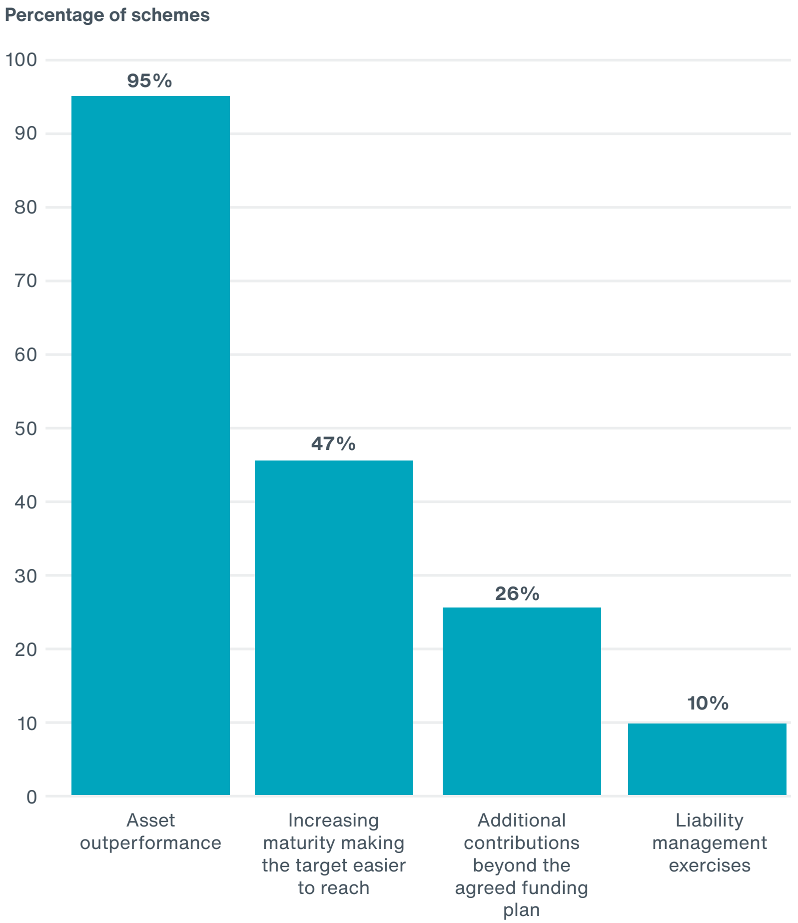
In terms of timescale, Chart 1.2.2 shows that most schemes with long-term funding targets (82%) were expecting to reach their target in under 10 years.

Chart 1.2.2 Expected timescale for reaching long-term funding target – tranche 17



For tranche 17, 36% of schemes had already reached their long-term funding target, compared with 20% for tranche 16. Chart 1.2.3 shows that a large majority (95%) of the schemes yet to reach their target were intending to use asset outperformance to do so, at least in part.

Chart 1.2.3 Intended means to reach long-term funding target – tranche 17



For schemes with tranche 17 valuations, where the trustees had set a long-term funding target, once they had reached that target, 50% intended to pursue a buy-out, 18% intended to run on the scheme and 32% had not decided.

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1.3 An integrated approach

The Pensions Regulator's current Code of Practice on the funding of defined benefits offers practical guidance for trustees and employers on how to comply with the funding requirements under legislation. A key aspect of the Code is the importance of an integrated approach to risk management – trustees should understand the risks across funding, investment and the employer covenant.

The Regulator continues to reiterate this expectation in its annual funding statements. Its 2023 statement again sets out the key risks trustees should focus on and actions to take, in a series of tables, considering different covenant strengths, funding levels and maturities.

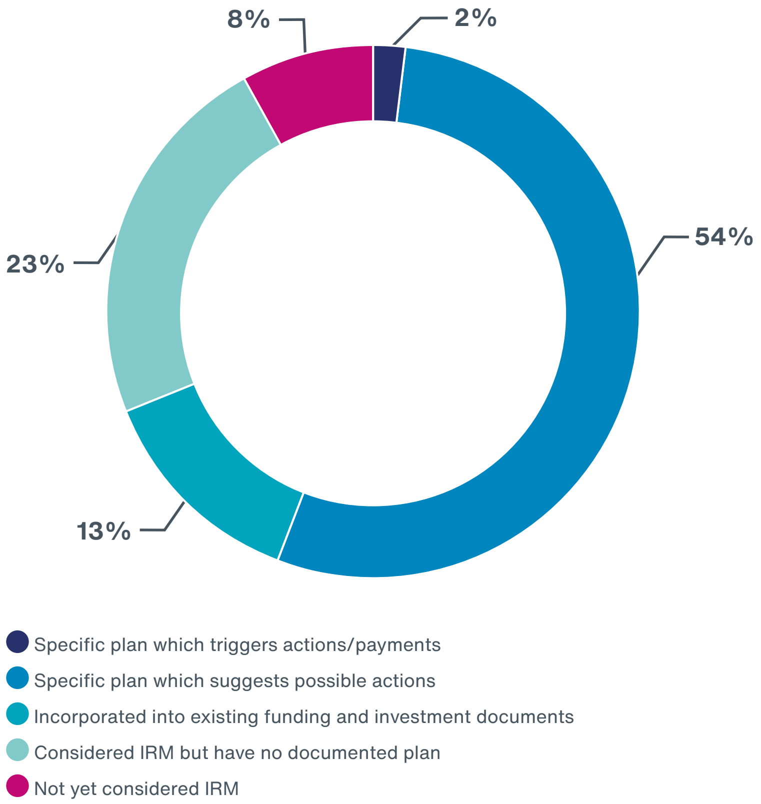
Maturity is significant because, as benefits paid out increase as a proportion of scheme assets, this can put a different complexion on the risks that need to be managed, especially investment volatility. In tranche 17, 80% of schemes were cashflow negative (not allowing for asset income). However, the average duration of liabilities was 18 years on the technical provisions basis, indicating the average scheme is some way from being considered 'significantly mature'.

> **76% of schemes took an integrated approach to risk management that included consideration of downside scenarios and contingency planning**

For tranche 17 valuations, the trustees of 76% of the schemes took an integrated approach to risk management, in respect of funding, investment and employer covenant, that included consideration of downside scenarios and contingency planning. The percentage of trustees taking an integrated approach has increased marginally since tranche 14 (72%). Many of our clients have used our ViewPoints framework to help them consider integrated risk management.

Varying approaches to integrated risk management (IRM) were taken for tranche 17, with only 8% of schemes having not yet considered IRM.

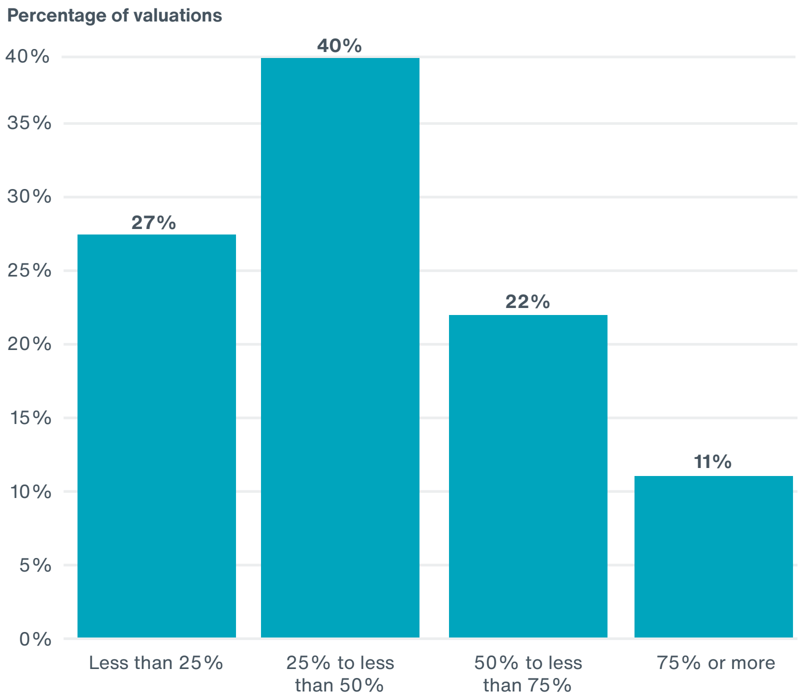
Chart 1.3.1 Approach to integrated risk management - tranche 17



Funding and investment: the discount rate relative to expected investment returns

Discount rates are a key assumption for calculating technical provisions for scheme funding (see section 2.1). We compared discount rates to expected returns for schemes' investments, which were based on best estimate investment return assumptions. We allowed for the asset distribution of each scheme at the effective date of the valuation, including diversification of investment. The investment return assumptions do not necessarily reflect the views of the trustees, and do not allow for any future changes in a scheme's asset distribution or any additional return that might be gained from active management strategies. However, the analysis provides some rudimentary insight into trustees' allowance for investment outperformance in excess of a gilt return in the discount rate.

Chart 1.3.2 Proportion of investment return in excess of gilts allowed for in discount rate - tranche 17



Investment strategy was reviewed at the same time as the valuation for 29% of schemes in tranche 17, which is similar to previous tranches.

Employer covenant and investment: assets and employer covenant

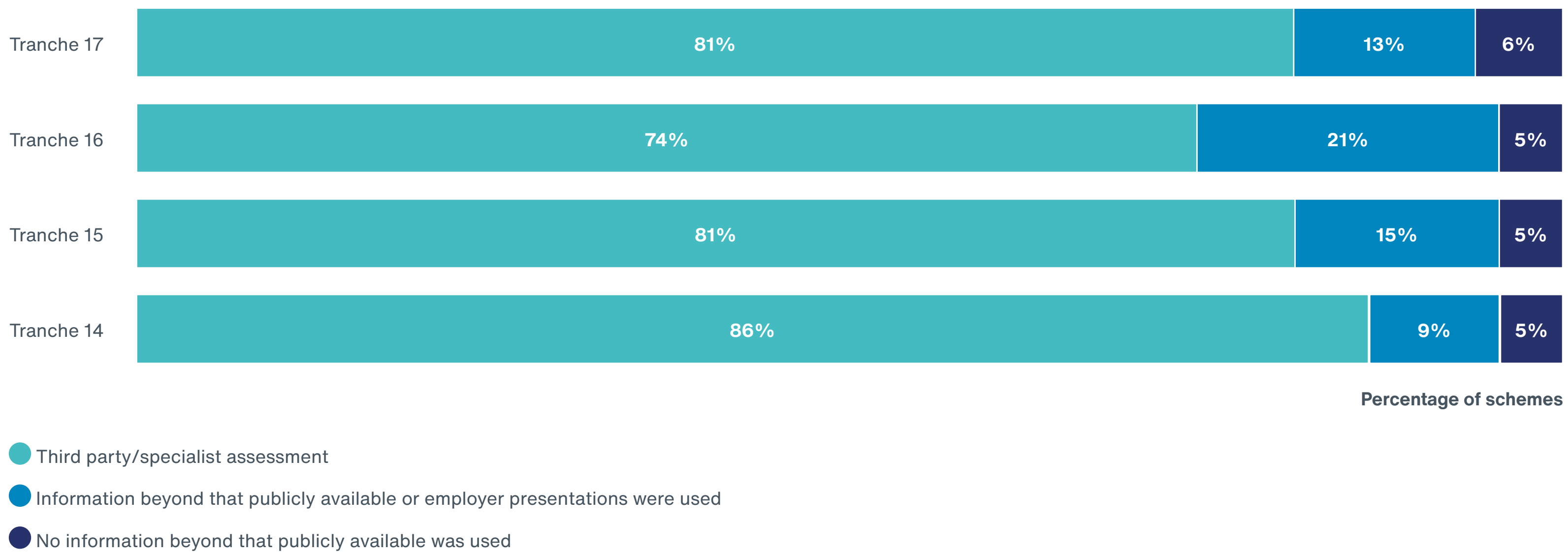
The current Code of Practice states that trustees should understand the strength of the employer covenant, which involves forming a view of the covenant now and how it could develop in the future. Advice should enhance the trustees' understanding and can be focused on areas where trustees are not already confident of the position or able to readily understand it for themselves.

Chart 1.3.3 shows that 81% of schemes in tranche 17 used a third party/specialist assessment of the employer covenant, in line with the Regulator's call for an integrated approach.

> 81% of schemes used a third party/specialist assessment of the employer covenant

> 91% of schemes hedged at least 70% of their interest rate risk and 88% hedged at least 70% of their inflation risk, compared to 81% for both types of hedging three years ago

Chart 1.3.3 Covenant assessment - tranches 14 to 17



Charts 1.3.4 and 1.3.5 compare how schemes with weaker and stronger employer covenants have hedged interest rate risk and inflation risk. The large majority of schemes have fully or mostly hedged, irrespective of covenant strength.

91% of schemes with tranche 17 valuations hedged at least 70% of their interest rate risk; 88% hedged at least 70% of their inflation risk. For tranche 16, this applied for 84% and 85% of schemes, respectively. For tranche 14, when many tranche 17 schemes' previous valuations were undertaken, this applied for 81% of schemes for both types of hedging.

The Regulator's consultation on a revised Code included a proposal for an investment stress test, with prescribed rules for schemes adopting a 'Fast Track' approach (see section 4).

Chart 1.3.4 Interest rate hedging, by employer covenant - tranche 17

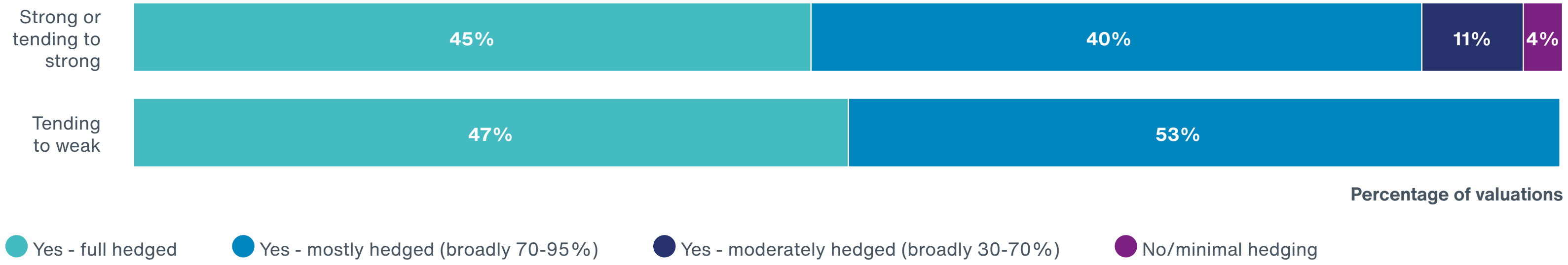
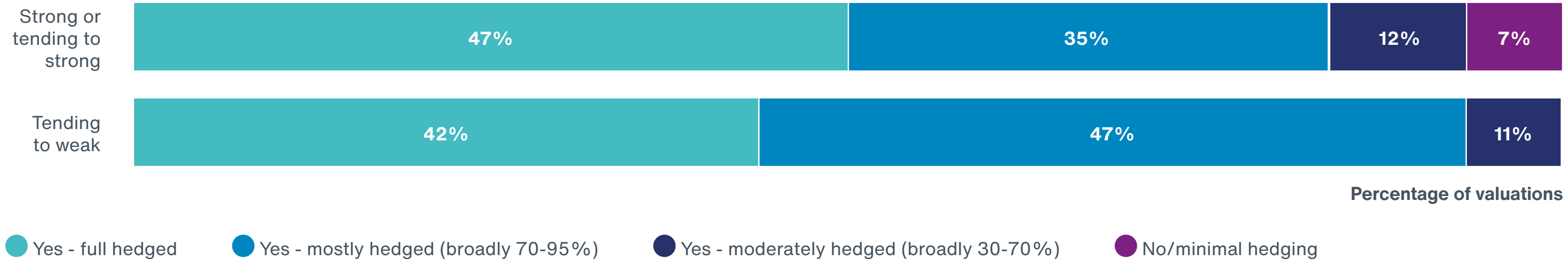


Chart 1.3.5 Inflation risk hedging, by employer covenant - tranche 17

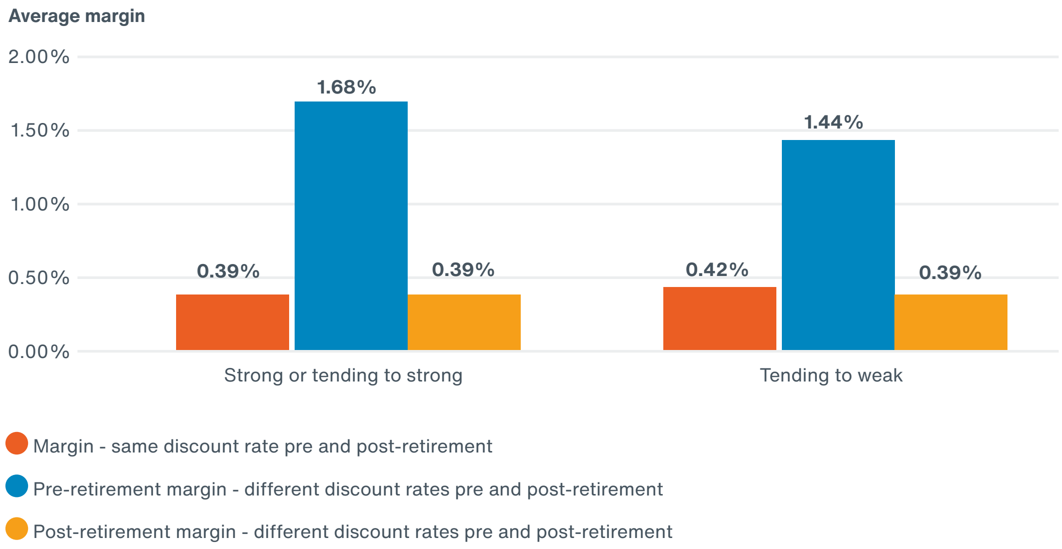


Funding and employer covenant: discount rate and employer covenant

A key area of focus for schemes is the link between the strength of the covenant and the prudence in the discount rate.

Chart 1.3.6 shows, for tranche 17 valuations, the average margin over gilts allowed for in the discount rate split by the trustees' assessment of the employer covenant – separately for those using the same discount rate for pre and post-retirement and for those using different discount rates for pre and post-retirement. The chart does not provide clear evidence that schemes with weaker covenants used lower margins, particularly as most schemes adopt the same discount rate pre and post retirement (see Section 2.1); for such schemes, there is very little difference in the average margin over gilts. Under an integrated approach to funding, schemes with weaker employer covenants might be expected to allow for greater prudence in the discount rate.

Chart 1.3.6 Average margin over gilts, by employer covenant - tranche 17



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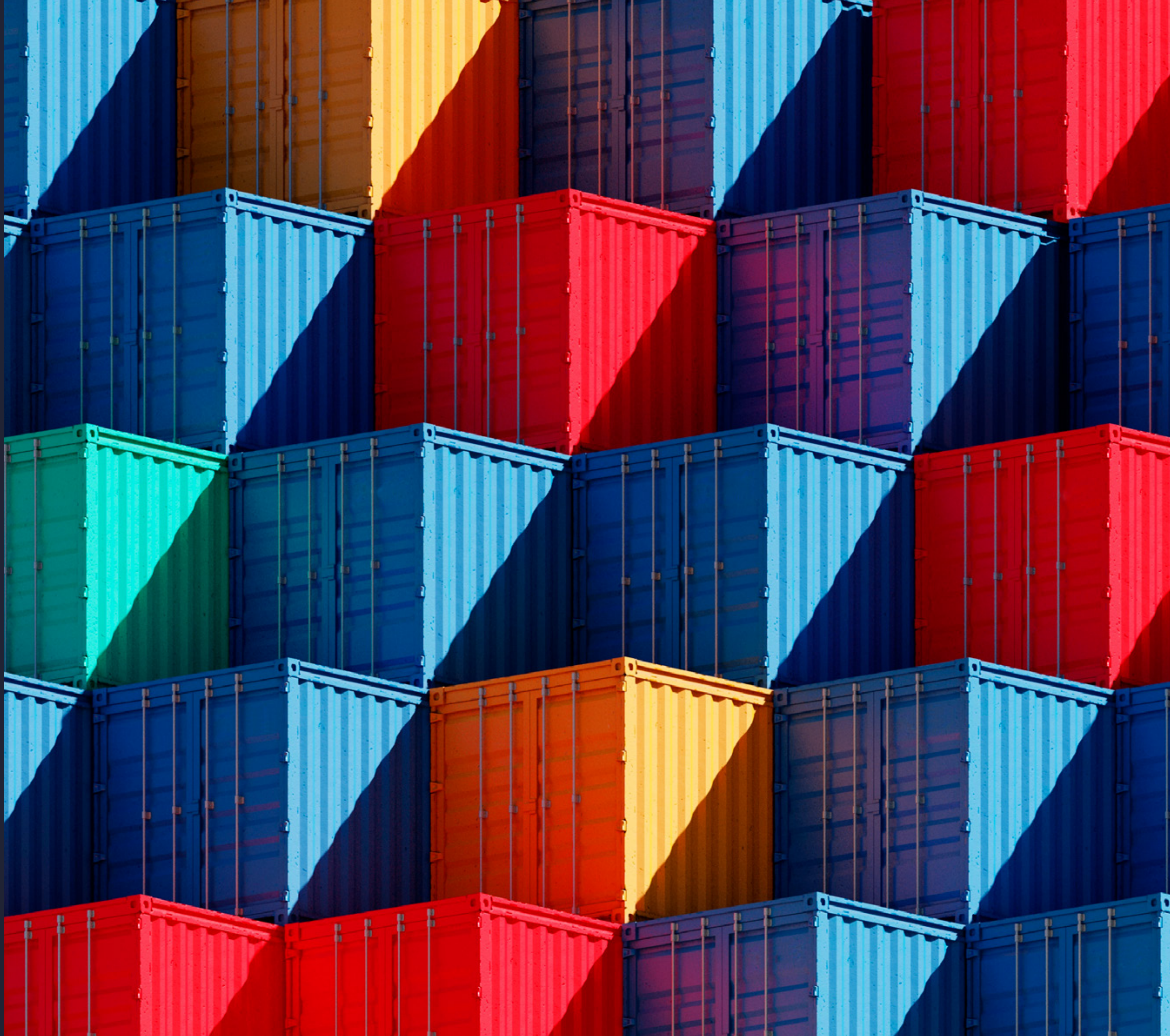
2

The technical provisions

The discount rate, inflation, mortality, other demographic assumptions and the funding level



2.1 The discount rate

Valuation methods

There are currently four main approaches:

- **'Gilts plus'** – the discount rate is derived by adding a margin to the yield available on gilts (this is the 'plus' although the adjustment could be zero or even negative). Alternatively, a similar approach may be to set the discount rate relative to swap or corporate bond yields.
- **'Best estimate minus'** – the discount rate is derived by deducting a margin (the 'minus') from the best estimate returns expected on the scheme's assets.
- **Stochastic** – stochastic modelling is used to determine whether the assets and contributions are likely to be sufficient to pay the benefits.
- **Cashflow-driven** – the discount rate is derived from the returns expected on a portfolio of assets selected to generate the scheme's cashflows, adjusted for the risk of defaults.

There is overlap between the methods – for example, the 'gilts plus' approach where the 'plus' varies depending on expected investment returns is similar to 'best estimate minus'.

The 'gilts plus' approach is the most common. There are two main ways in which the 'gilts plus' method might be used, which reflect the objectives of the scheme:

- It may be set as a prudent estimate of the return expected to be earned from the scheme's assets, in which case the 'plus' may be expected to be variable and the outcome to be more in line with the 'best estimate minus' approach.
- It may be set to reflect a long-term target such as self-sufficiency (or to approximate buy-out), in which case the 'plus' is likely to remain relatively stable over time. Increases in gilt yields will feed directly through to lower liability values in the same way that the cost of buying annuities would be expected to reduce.

For schemes with tranche 17 valuations, 55% of schemes derived the margin above a reference yield (gilts for all such valuations in this tranche) at each valuation; this is consistent with the 'best estimate minus' approach above, or a 'gilts plus' approach where the addition is reviewed regularly. For 38% any margin above (or below) the reference yield was broadly fixed, for 5% a self-sufficiency basis was used and 2% used a proxy buy-out basis – for all of these approaches we would expect any 'plus' to be relatively stable over time.

Regardless of the approach adopted to set the discount rate, it is possible to compare discount rates to gilt yields - allowing for a comprehensive and consistent analysis across all valuations. This is in line with the Pensions Regulator's analysis, and the data that schemes are obliged to submit to the Regulator, and is how we set out our results below.

> **Average discount rates in excess of gilt yields were lower than those for each of the three previous years**

Analysis

For all tranche 17 valuations, a 'yield curve' approach was adopted, whereby the discount rates varied with the term of the cashflows. The large majority (94%) of tranche 17 yield curve valuations were based on gilt yield curves.

Some schemes are using term-dependent margins for discount rates; for tranche 17, 12% of valuations adopted this approach. This may reflect a focus on reaching their long-term funding targets within a specific timeframe.

Most valuations used the same discount rate margins for pre and post-retirement. For tranche 17 and tranche 16, 70% of valuations allowed for the same margin; this compares to 65% for tranche 14, when many tranche 17 schemes' previous valuations were undertaken. For schemes using a single margin, the averages are set out in table 2.1.1.

Table 2.1.1 Average margin over gilt yields (single margin pre and post-retirement)

	Tranche 14	Tranche 15	Tranche 16	Tranche 17
Margin	0.66%	0.52%	0.54%	0.50%

For schemes using a single margin, the average margin over gilts of 0.50% p.a. for tranche 17 was marginally lower than that for tranches 15 and 16, and more significantly lower than that for tranche 14.

For schemes using term-dependent margins, 75% adopted a long-term margin of 0.5%. There was a wide variation in initial margin and in the period over which this reduced to the long-term margin.

For tranche 17, 30% of schemes used different discount rate margins for pre and post-retirement. Table 2.1.2 shows the average margins, over tranches 14 to 17, for valuations that used different discount rates for pre and post-retirement. The average margins over gilts in tranche 17 were lower than those for tranches 14 to 16, particularly pre-retirement.

Table 2.1.2 Average margin over gilt yields (margin differs pre and post-retirement)

	Tranche 14	Tranche 15	Tranche 16	Tranche 17
Pre-retirement	1.90%	1.91%	1.89%	1.67%
Post-retirement	0.42%	0.47%	0.46%	0.41%

One can approximate outperformance over gilts using a single effective discount rate, allowing for approaches that do not specify fixed margins over gilts (including bases with term-dependent margins) to be brought into the analysis. Table 2.1.3 sets out the average outperformance of single effective discount rates in excess of the spot gilt yield at 20 years duration. The average for tranche 17 is lower than those for tranches 14 and 16.

Table 2.1.3 Average over gilts of single effective discount rate (all valuations)

	Tranche 14	Tranche 15	Tranche 16	Tranche 17
Margin	0.68%	0.64%	0.60%	0.46%

On 17 August 2023, the Pensions Regulator issued its latest analysis, which covers valuations up to tranche 16. Table 2.1.4 shows how the Regulator's average single nominal rates compare to the average single nominal rates calculated for the valuations of our clients. The Regulator's analysis for tranche 17 will be published in 2024.

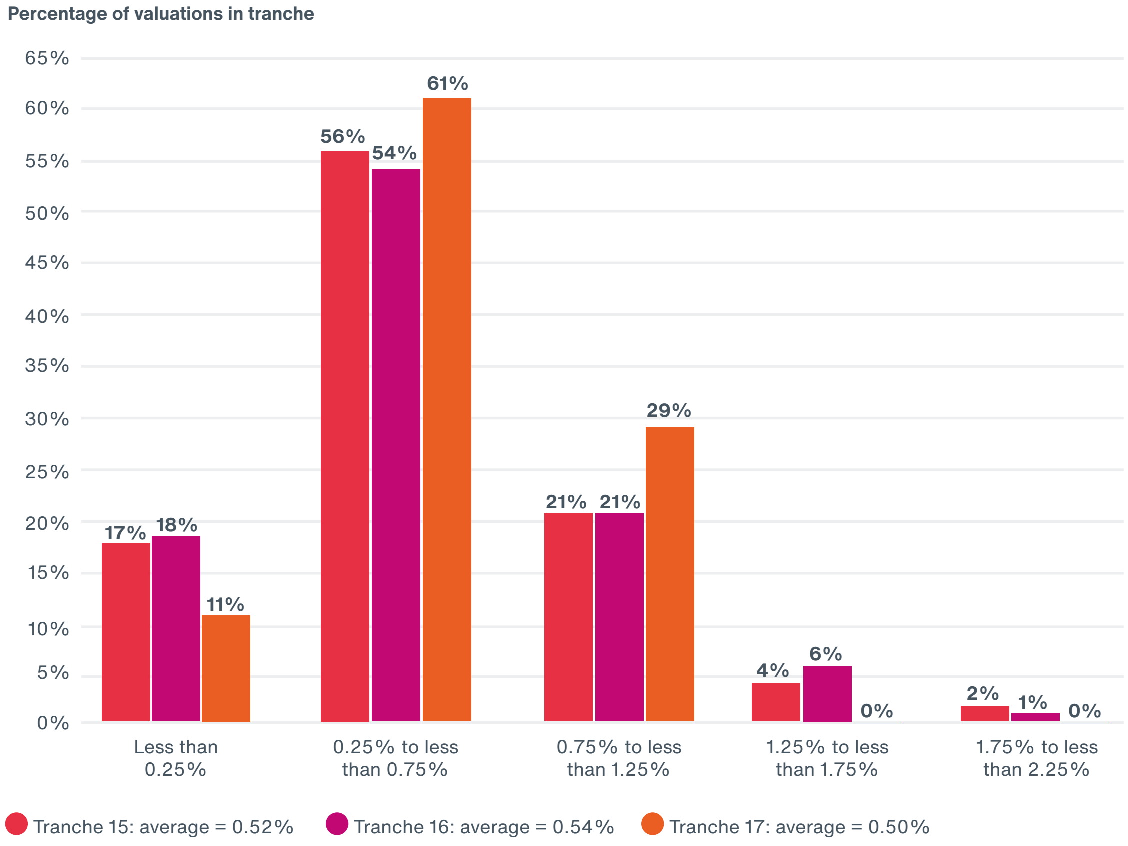
Table 2.1.4 Average single effective discount rate (all valuations)

	Tranche 14	Tranche 15	Tranche 16	Tranche 17
In Depth valuations	2.41%	1.58%	1.75%	2.10%
All valuations in Pensions Regulator's 2023 analysis	2.43%	1.91%	1.86%	Not yet available

The selection of a discount rate that is appropriate for a particular scheme's circumstances is key. While average rates may be informative, they do not tell the whole story. Under the scheme funding regime, schemes use a wide range of assumptions and charts 2.1.1 and 2.1.2 illustrate this range for tranches 15 to 17, under the two approaches set out above.

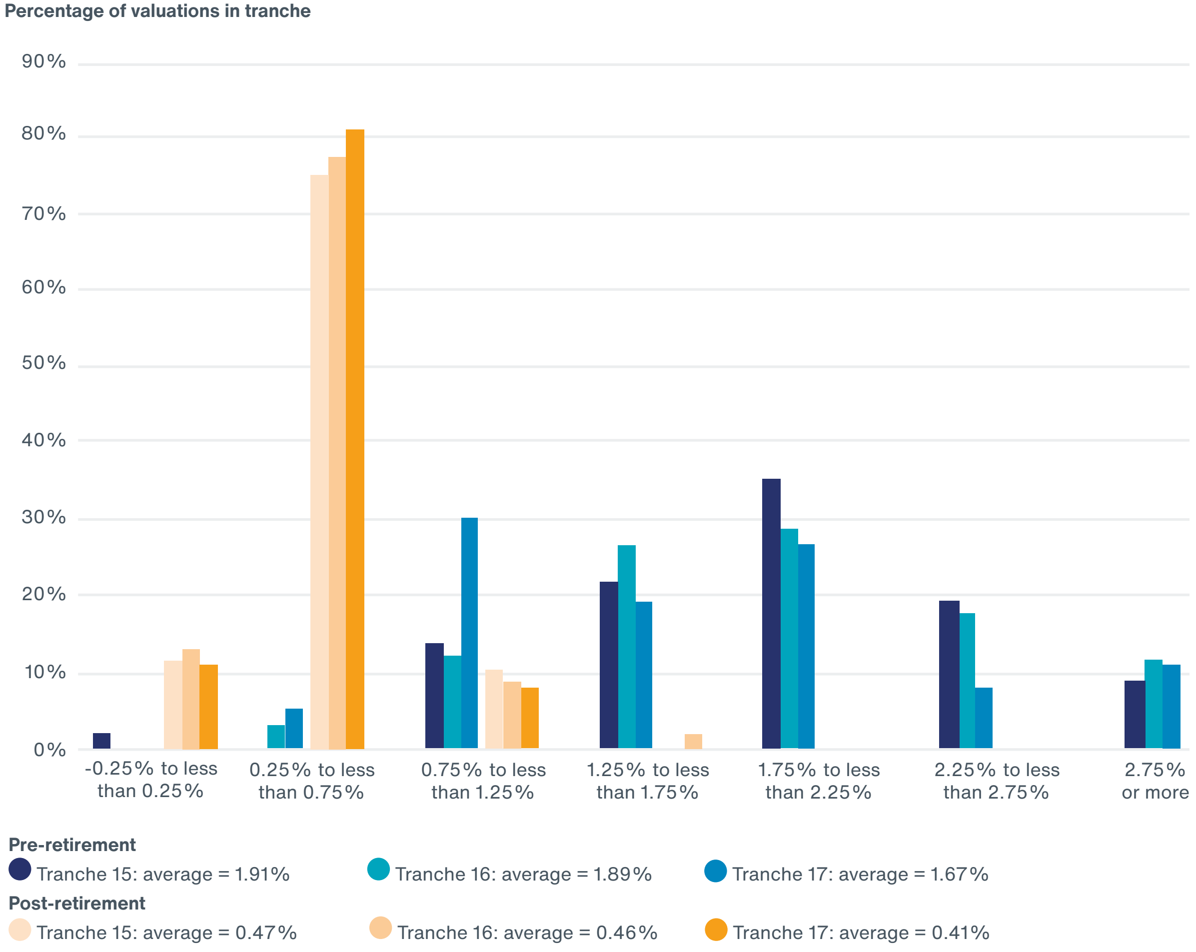
In charts 2.1.1 and 2.1.2, a convergence of the discount rate (post-retirement in 2.1.2), to around 'gilts + 0.5%', is evident over the past few years. This is consistent with the parameters for a "low dependency" LTO suggested by the Regulator in its consultation on a revised Code of Practice.

Chart 2.1.1 Margin over gilts (where single margin pre and post-retirement) – tranches 15 to 17



The allowance for outperformance in the discount rate is an important aspect of a valuation. An allowance that increases the annual discount rate by 0.5% p.a. would typically decrease the liabilities by around 10%.

Chart 2.1.2 Margin over gilts: pre and post-retirement (where different discount rates used) – tranches 15 to 17



2.2 Inflation

Typically, the Retail Prices Index (RPI) inflation assumption is set by reference to the difference between the yields on fixed interest and index-linked gilts. It is sometimes considered appropriate to make an adjustment, normally a deduction, to allow for supply and demand effects in the gilt market – the 'inflation risk premium'. 5% of schemes allowed for an inflation risk premium in tranche 17. This is lower than for tranche 16 (12%), and for tranche 14 (26%) when many tranche 17 schemes' previous valuations were undertaken. On average, where an adjustment was applied, it was 0.15% p.a. for tranche 17, compared to 0.13% p.a. for tranche 14.

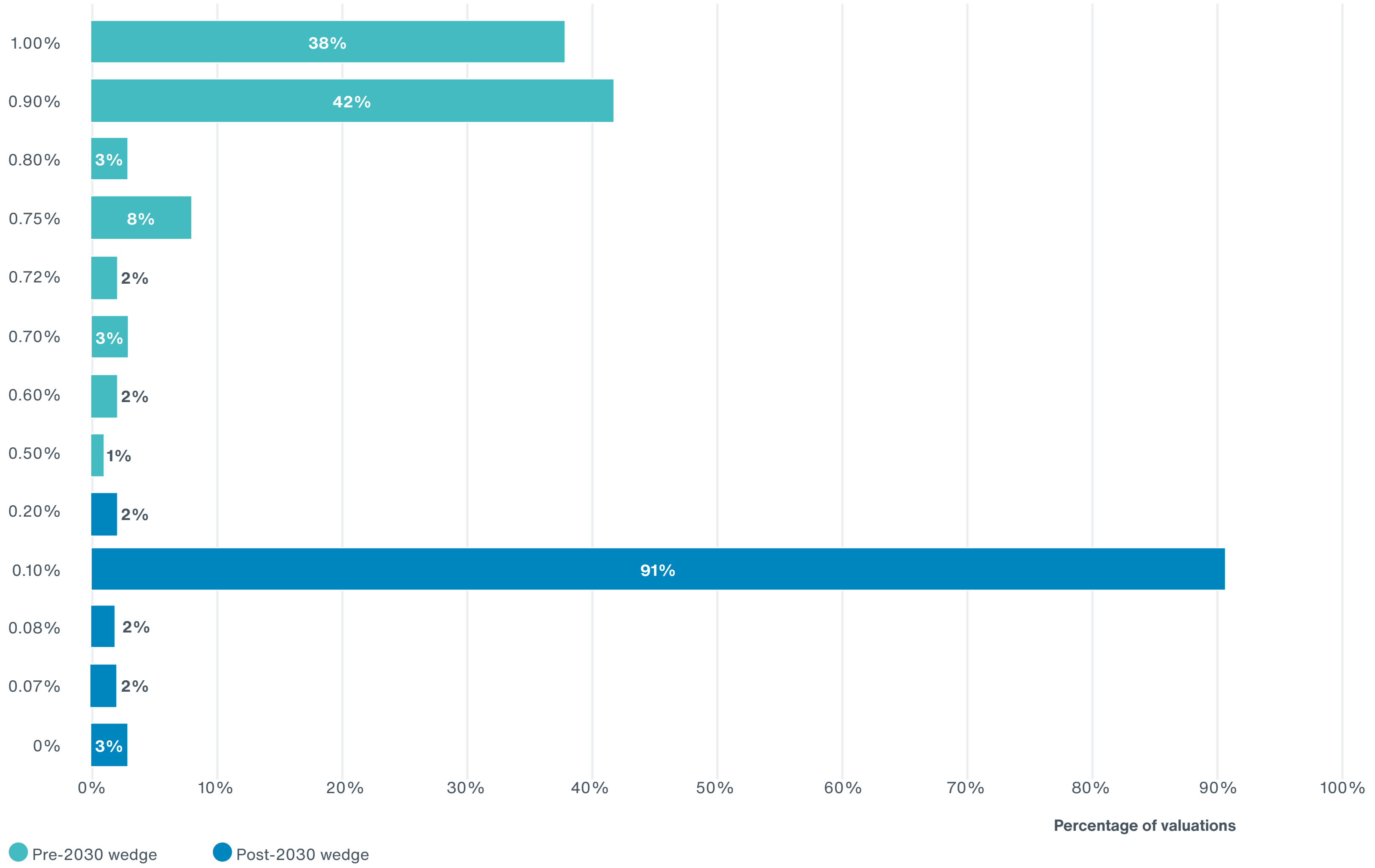
As schemes increasingly hedge inflation risk, and so can no longer justify an assumption that does not reflect a 'break-even' market rate, this may be reflected in a longer-term decline in the use of such an adjustment.

> **"The average difference between RPI and CPI assumptions was 0.9% p.a. for the period before 2030 and 0.1% p.a. post-2030, reflecting the announced change to the calculation of RPI from 2030.**

The Consumer Prices Index (CPI) is now the measure for statutory revaluation and indexation of pension benefits. Depending on scheme rules, assumptions may be required for both RPI and CPI. CPI increases are generally expected to be lower than RPI increases. However, the calculation of RPI is expected to change from February 2030 to be in line with the Consumer Prices Index including owner occupiers' housing costs (CPIH), which is expected to be much closer to CPI.

For tranche 17 valuations, the difference between the RPI and CPI assumptions (the 'wedge') averaged 0.90% p.a. for the period before 2030 and 0.10% p.a. post-2030. The assumption ranged between 0.5% p.a. and 1.0% p.a. pre-2030 and between 0% p.a. and 0.2% p.a. post-2030.

Chart 2.2.1 Difference between RPI and CPI assumptions, pre and post-2030 - tranche 17



Both RPI and CPI assumptions are important for most schemes, so allowing for an inflation risk premium or not, and the derivation of the CPI assumption, can impact upon the technical provisions significantly. Typically, a 0.2% p.a. change to inflation might alter the liabilities by around 3%.

2.3 Mortality

The CMI (Continuous Mortality Investigation) published the 'S3' mortality tables in 2018. The tables are based on the mortality of pensioners of self-administered pension schemes. They were used for all tranche 17 valuations.

Where the S3 mortality tables were used, standard tables were used for 59% of valuations, 19% used 'mid', 16% used 'light', 6% used 'heavy' and 1% used 'very light'.

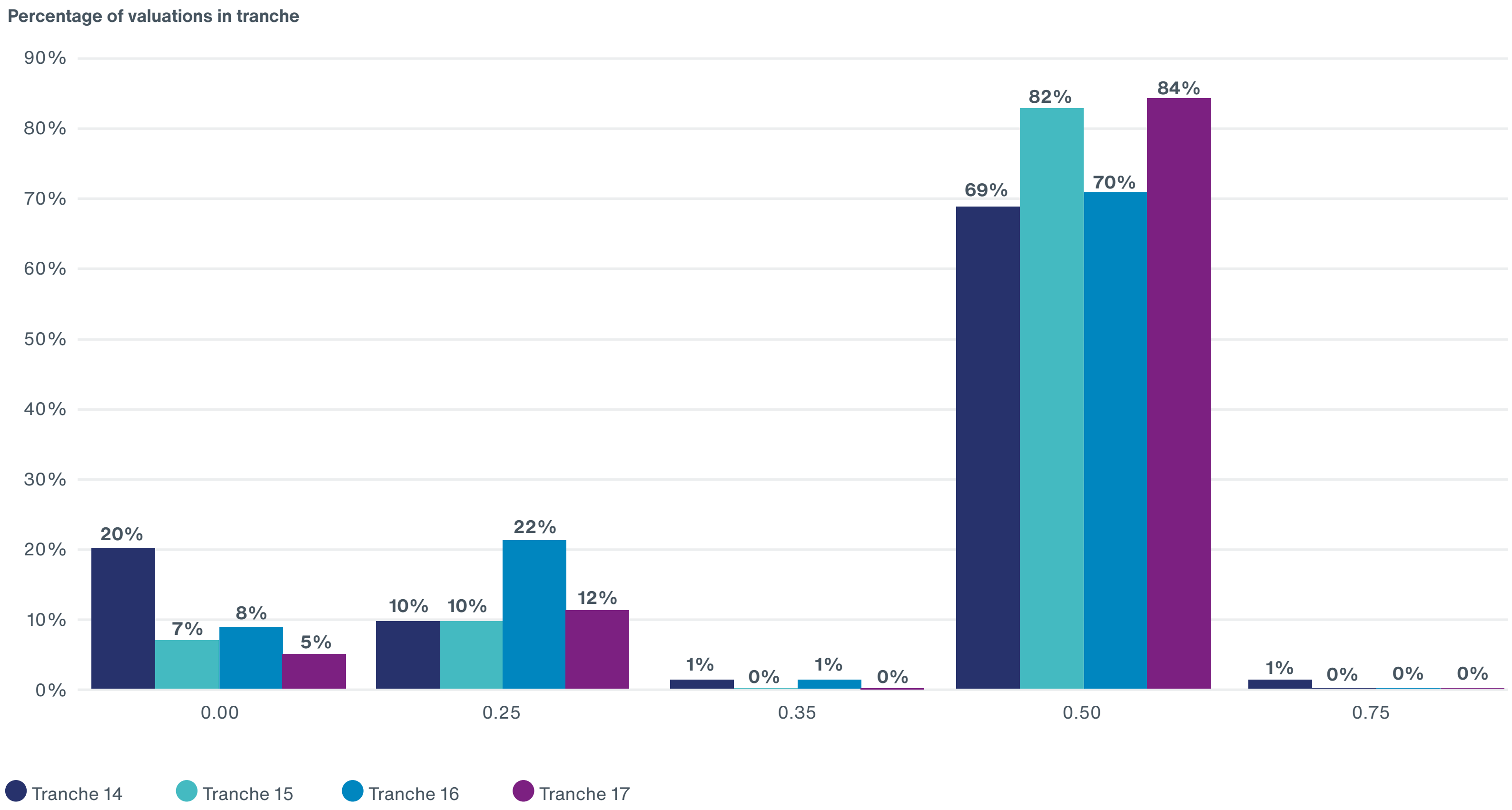
Aon's Demographic Horizons™ longevity model was used for 60% of tranche 17 valuations, to accurately assess the current mortality rates in the scheme, based on a postcode analysis of scheme members and actual scheme experience where there was sufficient data.

A mortality scaling factor adjustment (e.g. to reflect a change in mortality outlook allowing for the impact of Covid-19) was included in 65% of valuations in tranche 17.

It is normal to make an explicit allowance for further improvements in the future. The 'CMI Core Projections' model is updated annually by the actuarial profession to predict improvements. The CMI Core Projections were used for all tranche 17 valuations. The CMI_2021 version was used for 68% of valuations; CMI_2020 was used for the other 32%.

Since CMI_2018, CMI models have allowed users to increase or decrease the initial rate of improvement by a fixed amount, using parameter 'A'. Chart 2.3.1 shows that 84% of the tranche 17 valuations used 0.50% for this parameter.

Chart 2.3.1 Parameter 'A' applied to CMI models – tranches 14 to 17



CMI models also allow for the input of a smoothing parameter (S_K). In tranche 17, all valuations used 7.0 for S_K (the default).

The CMI Core Projections require trustees to set an assumed long-term level of year-on-year improvements in mortality rates. Chart 2.3.2 shows the improvement factors that were applied in tranches 14 to 17. (We excluded a small number of valuations – one in each tranche - that used improvement factors that differed for males and females.)

The average long-term improvement for tranche 17 was 1.52% p.a., the same as that for tranche 14, when many tranche 17 schemes' previous valuations were completed.

Chart 2.3.2 Long-term improvements applied to mortality table - tranches 14 to 17

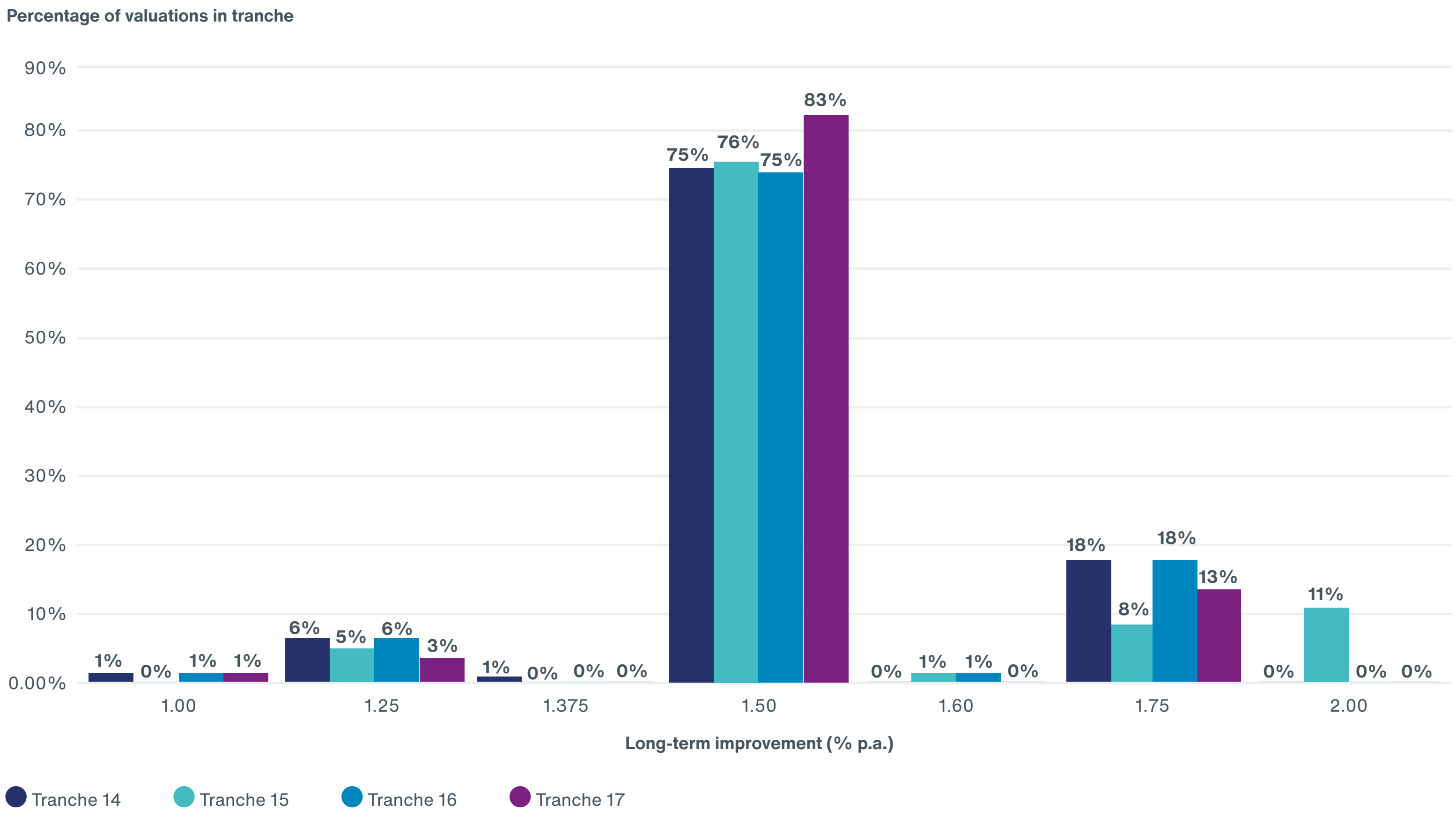
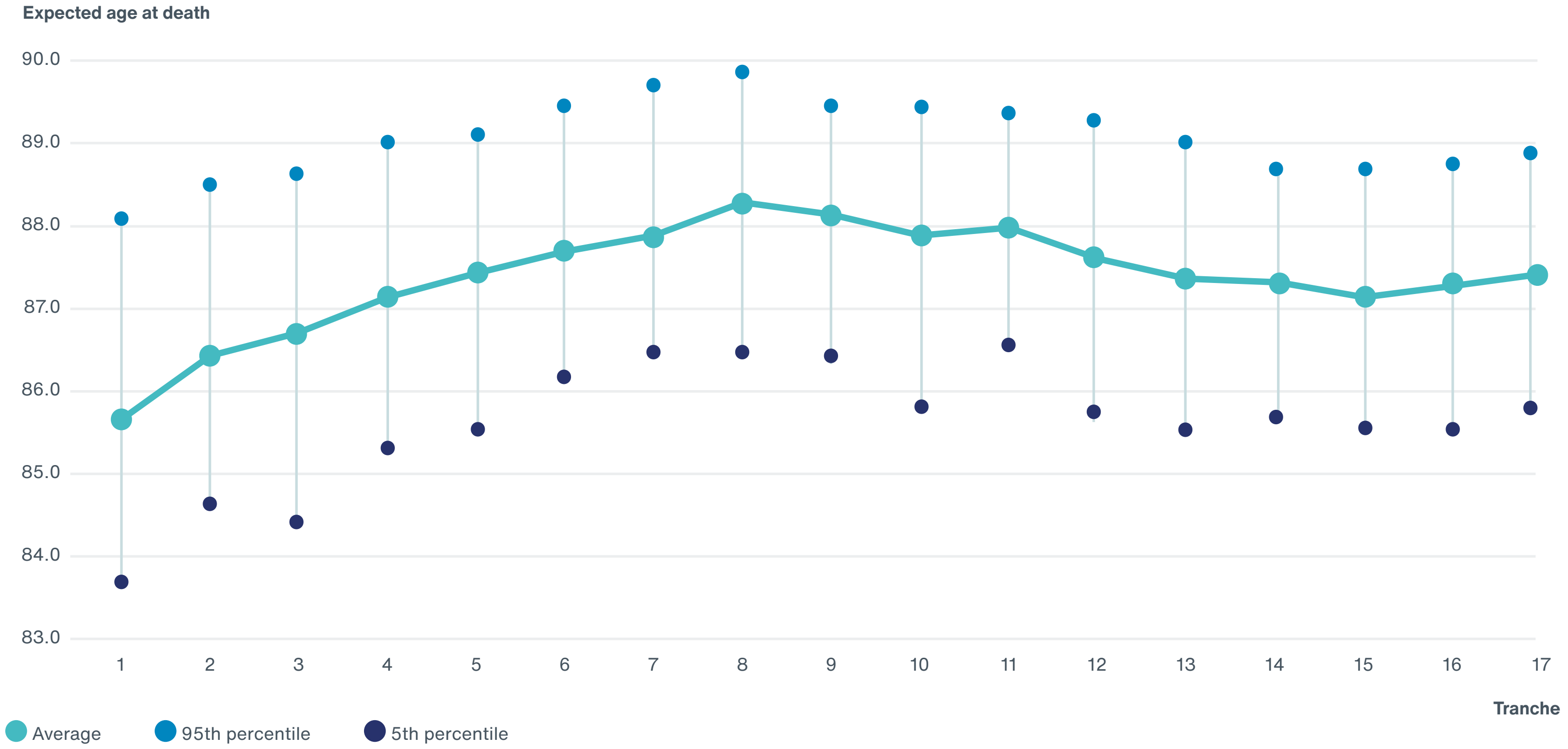


Chart 2.3.3 illustrates how expectations of longevity have been reflected in the assumptions adopted by trustees since the current funding regime was introduced. For tranche 17 valuations, the average assumed life expectancy of a male aged 65 was 1.75 years higher than for tranche 1. However, between tranches 8 to 17 (which covers three triennial valuation cycles), the average assumed life expectancy of a male aged 65 has often reduced slightly on the previous year's expectation, and is now 0.9 years lower.

Mortality assumptions typically allow for an increase of between 0.2 and 0.3 years over a period of three years. However, between tranche 14, when many tranche 17 schemes' previous valuations were completed, and tranche 17, the average assumed life expectancy increased by only 0.1 years.

For a typical scheme, an increase in life expectancy of one year, over and above the improvements already allowed for, would typically increase liabilities by around 4%.

Chart 2.3.3 Average life expectancies for male pensioners aged 65 at date of valuation, by tranche



2.4 Other demographic assumptions

Schemes commonly carry out analysis, either alongside or in advance of the valuation, to determine how the demographic assumptions used at the previous valuation compare to the actual experience of members. For example, they may consider how many members are retiring early and at what ages, the proportion of members who leave an eligible dependant when they die, and the age differences between members and their partners. This analysis results in a better understanding of the appropriate assumptions to use.

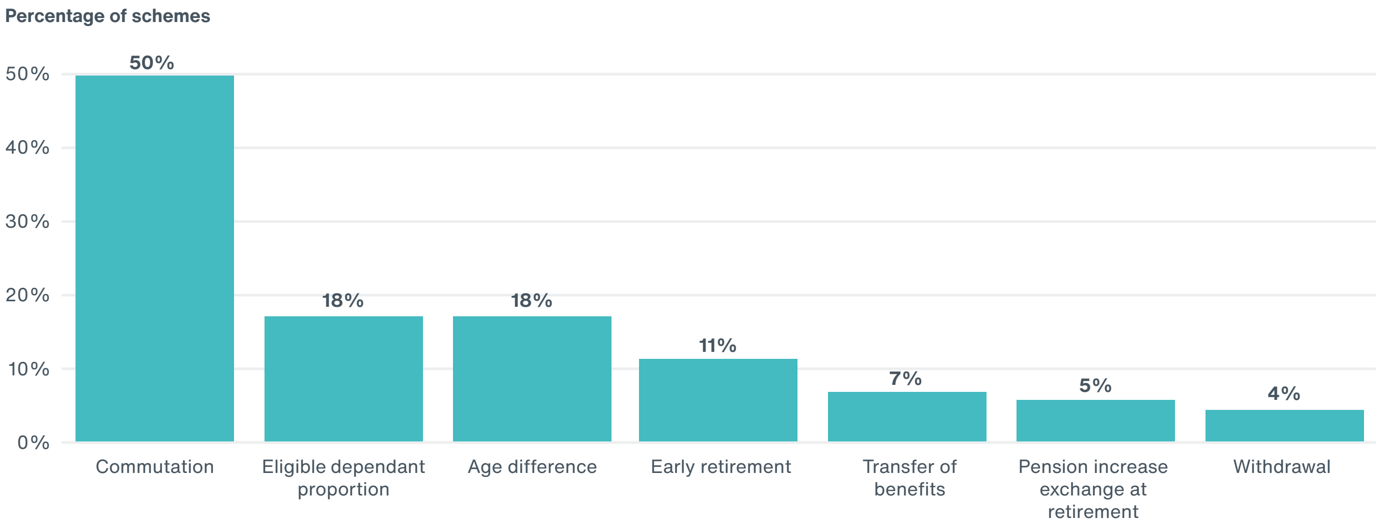
For 54% of tranche 17 schemes, an analysis of experience was carried out in respect of one or more demographic assumptions other than mortality; such analysis was carried for 52% of tranche 16 schemes. Chart 2.4.1 sets out the percentage of schemes that undertook an analysis of experience in respect of relevant factors. It indicates that such analysis was most commonly undertaken in respect of commutation.

Analyses of transfers and pension increase exchange are being undertaken as schemes make additional options available to members, and as money purchase flexibilities continue to impact upon the behaviour of members in the run-up to retirement. Some schemes have adopted software such as the Aon Retirement Options Model (AROM) to help members make decisions when faced with the increased options available at retirement.

In tranche 17, 5% of valuations allowed for transfers out, or for pension increases to be exchanged, in the technical provisions. A liability management exercise was anticipated by 8% of schemes with tranche 17 valuations but it was not allowed for in the technical provisions assumptions in any of those valuations.

> “
> **54% of schemes carried out an analysis of experience in respect of demographic assumptions other than mortality**

Chart 2.4.1 Analysis of experience - tranche 17



Helping members explore their retirement options

Aon Retirement Options Model

With Defined Benefit (DB) pension schemes now being able to offer greater flexibility for their members, you can support members in making informed choices so they have the best possible retirement.

Members can compare the options available to them with the **Aon Retirement Options Model (AROM)**.

The easy-to-use, educational, online tool is designed to make complex retirement options simple. AROM is a simple side-by-side comparison of members' options inside and outside of the scheme using pre-loaded member specific data. Members can then interactively explore the flexibilities of each option to understand which one may best suit their own personal circumstances.

Why do our clients use AROM?

- Customisable so members can tailor the model exactly to their personal circumstances
- Can be integrated seamlessly into your ongoing retirement process or used for a bulk one-off exercise
- Appreciated by members as seen by the most common feedback rating of 5 stars
- Increased member engagement and education, by guiding members through the retirement options to support them in making informed decisions
- Management Information available to understand how members are using the tool and to further increase engagement

New features for 2023

We continue to innovate and further develop AROM in line with feedback from our clients and members loaded on to the tool. The new features for this year include:

- Integrated IFA call back functionality and links to IFA online portals; and
- 5 educational videos embedded within the tool to further support members' knowledge of their options.

There are further enhancements planned for 2023 including an optional AROM member journey with greater focus on the in-scheme options.

Also available...

Scheme Options Tool: a standalone tool that focuses solely on the options that can be accessed within a scheme.

DC AROM: A Defined Contribution version of AROM to help support DC pension scheme members to understand their options and plan their retirement.

Launched in 2016, AROM is the market leading interactive educational tool improving outcomes for 46,000 members across a wide range of UK pension schemes.
To understand how AROM could help your members and receive a demo of the tool, please call your usual Aon consultant or email us at **memberoptions@aon.com**

Here is what members think:

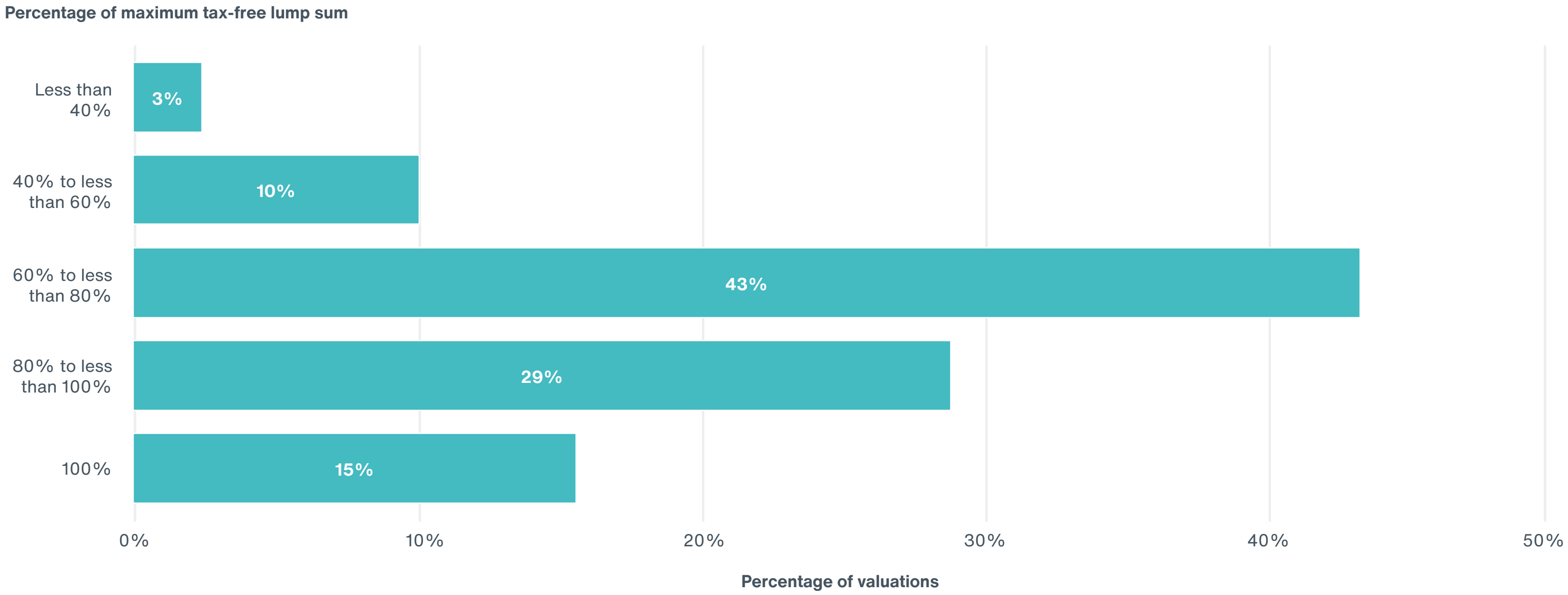
| "A real help in making my decision." | "An excellent tool that gives insight into the potential risks and opportunities of each of the choices." | "Easy to use and interactive, with the good feature that it checks my understanding at each stage." | "Very impressed with the help and direction it gives!" | "Good illustrations, visuals and road-mapping. Wish I'd had it sooner!"

Commutation

An assumption that allows for relatively straightforward analysis of past experience is the allowance for commutation. Legislation permits around 25% of the value of a member's benefits to be paid as a tax-free lump sum; any allowance, or change in the allowance, for commutation can be significant in the valuation of a scheme's liabilities because commutation factors are generally not cost-neutral relative to prudent funding assumptions. Allowance was made for commutation in 89% of tranche 17 valuations, and in 84% of tranche 16 valuations.

Where allowance was made for commutation under tranche 17 valuations, the average allowance, across all members of a scheme, was 71% of the maximum tax-free lump sum. Chart 2.4.2 shows the distribution.

Chart 2.4.2 Allowance made for commutation - tranche 17



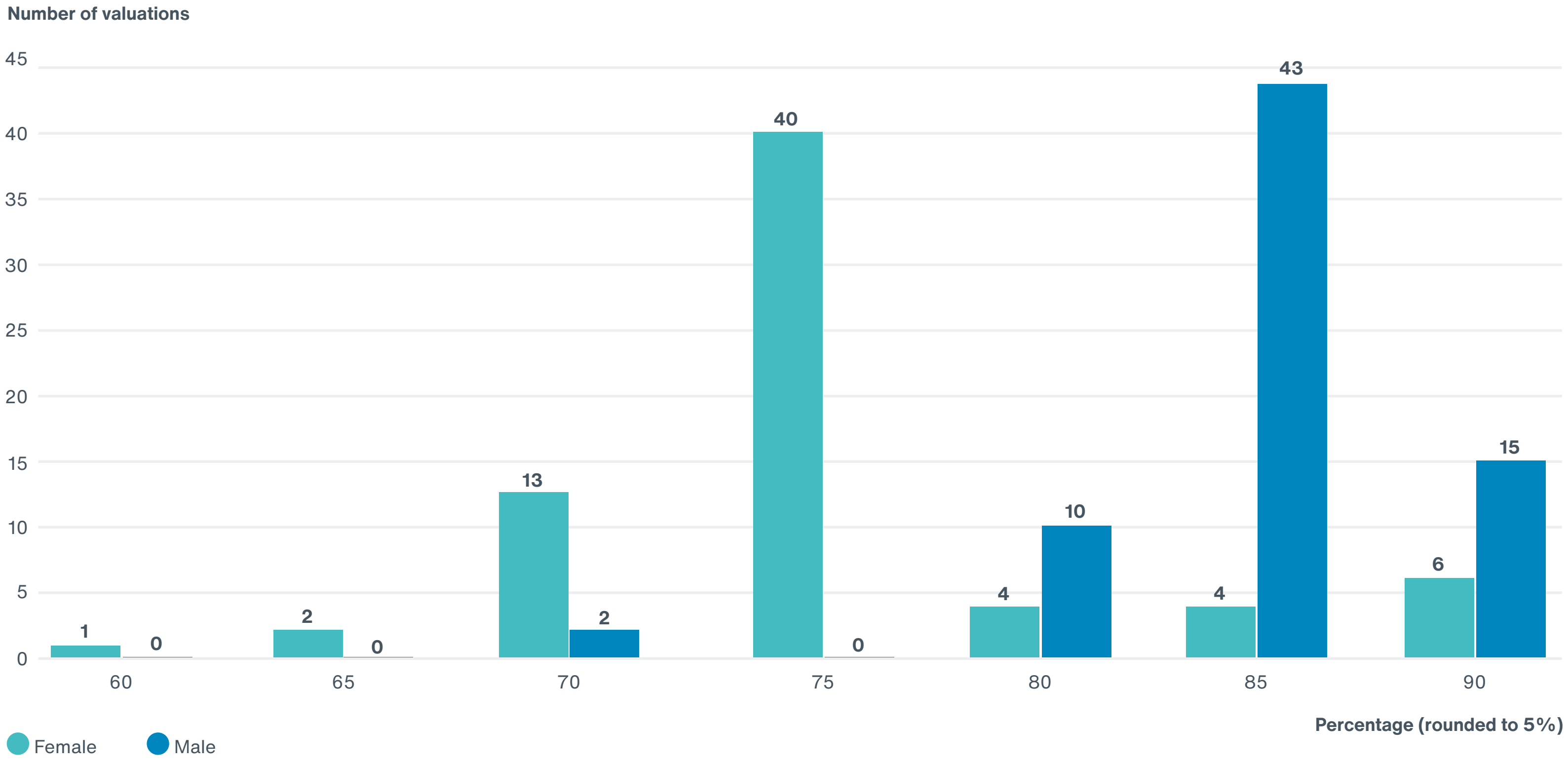
Family details

Where benefits are paid to a spouse or other eligible dependant on the death of a member, the trustees will need to adopt assumptions to reflect the likelihood that such benefits will be payable. Scheme rules will determine the class of potential beneficiaries.

Chart 2.4.3 sets out the assumptions used in tranche 17 valuations for male and female members (rounded to the nearest 5%). The average percentage was 85% for males and 76% for females.

Where such contingent benefits are payable, an assumption is made with regard to the difference in age between a member and their partner. For tranche 17, male pensioners were assumed to be three years older than female partners for 90% of valuations (with two years older for 6% and four years older for 4%). Female pensioners were assumed to be one year younger than male partners for 73% of valuations (with three years younger for 23% and two years younger for 4%).

Chart 2.4.3 Percentage of members assumed to have an eligible dependant at retirement - tranche 17



Analysis by Aon's Demographic Horizons™ team shows considerable variation between schemes for both the proportion of members with an eligible dependant and age difference, depending on four key factors: wealth, gender, age and time. Allowing for these factors can change liabilities by up to 5% compared to the approaches traditionally used to set these assumptions.

Our research has allowed us to develop a sophisticated model that can predict whether members are married, or have a partner, allowing for all of these factors. It can do this based on just basic member details usually held by schemes (such as age, gender and postcode), or can combine all available survey, tracing and death data on a scheme with our predictions based on basic member details to come up with an overall prediction.

Data cleaning

Our clients often clean their scheme member data in advance of a valuation. This may involve exercises such as those set out below. 34% of tranche 17 schemes carried out a data cleaning exercise in the last three years. Where an exercise had not been undertaken, one was planned for 18% of schemes.

These measures allow for more accurate calculations of technical provisions. They also allow for the provision of the more accurate and complete data required for future transactions such as pensioner buy-ins, and for liability management exercises such as pension increase exchange exercises.

Data cleaning exercises, and wider data collection exercises, are also likely to be required in preparation for Pensions Dashboards and GMP equalisation projects.

Type of data cleaning

Deferred members	Pensioners
Existence exercise	
Tracing exercise	Address tracing e.g. missing postcodes
GMP reconciliation	
Pensions Regulator data audit	
Updating administration system to hold spouses' data	
Spot check of benefit calculations	

2.5 The funding level

The average funding level for valuations in tranche 17 was 97% and 47% found the scheme to be fully funded on the technical provisions basis. Both of these measures were higher than for any previous tranche.

The change over the typical valuation cycle, from tranche 14 to tranche 17, indicated an improvement in the average funding level, from 92% to 97%, and an increase in the percentage of schemes for which the technical provisions were fully funded, from 32% to 47%.

> "
> **The average technical provisions funding level – 97% – and the proportion of schemes in surplus – 47% – were both higher than for any previous year since the start of the current funding regime in 2005**

Table 2.5.1 Funding positions

Tranche	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Average funding level	86%	92%	88%	75%	86%	88%	84%	84%	92%	92%	89%	91%	91%	92%	92%	92%	97%
Percentage of schemes fully funded	16%	23%	21%	4%	17%	16%	9%	11%	27%	31%	20%	23%	32%	32%	34%	42%	47%

Chart 2.5.1 Risk Analyzer - funding level divergence by quartile - tranche 17

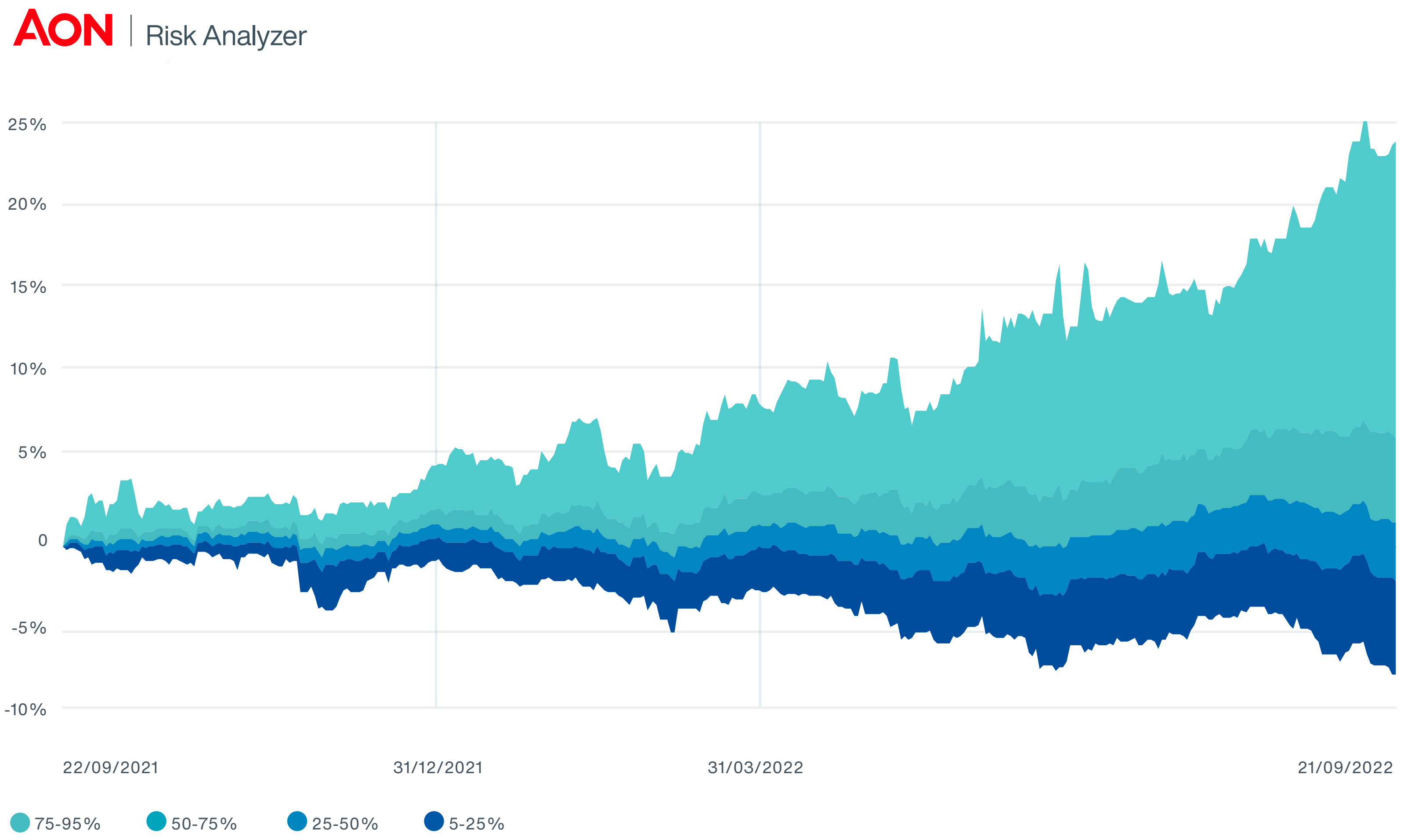


Chart 2.5.1 shows the change in funding level of a range of clients using our Risk Analyzer software over the tranche 17 period. The average (median) scheme saw little change in its funding level but there was significant variation between schemes. Schemes most exposed to gilt yield changes are likely to have experienced improvements in their funding positions, particularly towards the end of the period and after the most common valuation dates between December 2021 and April 2022, as gilt yields increased and the value of liabilities linked to those yields reduced.

As funding levels increase, employers are increasingly considering alternative approaches to guard against the risk of a trapped surplus. For example, the use of contingent security (see section 3.2) may be an attractive alternative to making cash contributions to the scheme that ultimately may not be required to pay benefits.

Monitoring risk

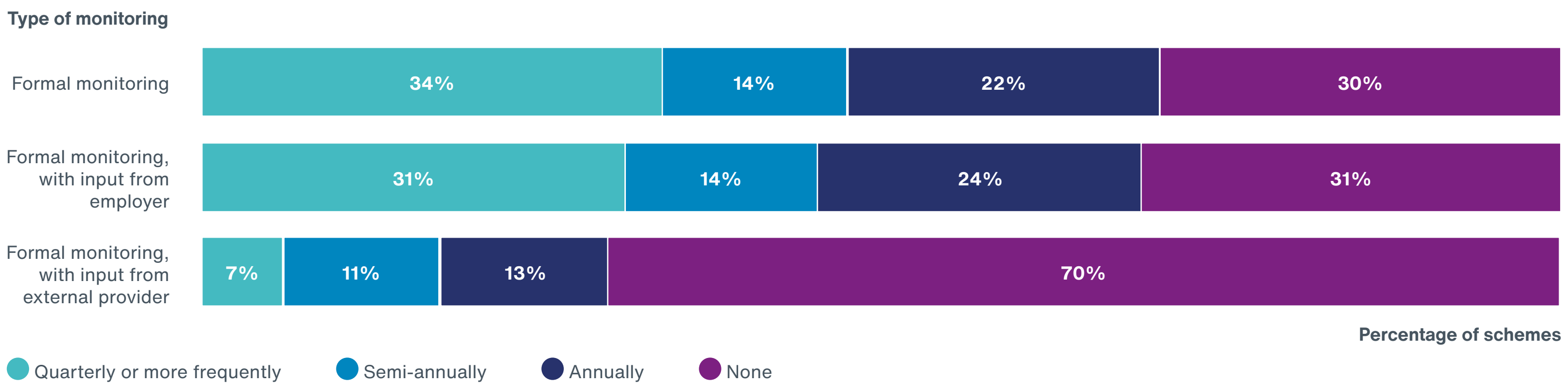
The Regulator's Code of Practice and guidance on Integrated Risk Management recognise that risk management should be an ongoing process, as material changes can occur between valuations. It encourages trustees to have a monitoring framework in place to identify quickly any changes in the scheme environment and the balance of risks. The Regulator has suggested that contingency plans should be agreed with the employer and, where possible, include legally enforceable rights of recourse.

Most schemes choose to receive regular updates on their funding position, over and above the statutory annual minimum. Funding updates are increasingly provided to trustees and employers automatically via the web. Our Risk Analyzer monitoring tool (from which Chart 2.5.1 above has been taken) allows the funding position of the scheme to be assessed at any time. It offers information to measure the risks being run in the scheme as well as the option to consider 'what if' scenarios, interactively change valuation assumptions and model recovery plans.

The Regulator has suggested that schemes should consider undertaking regular and focused monitoring of investment, funding and covenant risks.

Chart 2.5.2 shows that the majority of schemes (70%) with tranche 17 valuations formally monitor employer covenant between valuations at least annually. 69% of all schemes do so with the input of the employer and 30% with the input of an external provider.

Chart 2.5.2 Frequency of formal monitoring of covenant between valuations - tranche 17

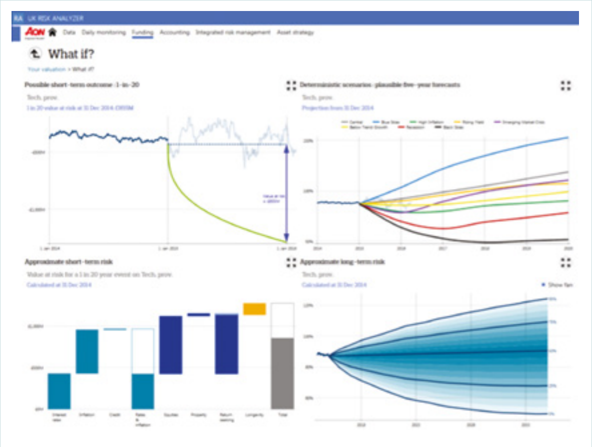


Risk Analyzer

Valuations, updates and analysis consistent with scheme actuarial and investment advice. Risk Analyzer is the system we use to advise you, delivered to you!

Key features:

- Available via a user-friendly secure website or mobile app
- Daily tracking of asset, liability and funding level on multiple measures (e.g. funding, accounting, buy-out) across multiple schemes
- Negotiate and agree your valuation basis, deficit contributions and interactively model your recovery plan quickly and efficiently
- Model “what if?” projections to see the impact of potential market environments and risks
- ViewPoints framework supports trustees in meeting Integrated Risk Management requirements – joined up analysis of covenant, investment and funding issues
- Build your scheme’s long-term strategy and model the impact of member option and settlement exercises
- Analyse your DC scheme – define scheme objectives considering the views of different stakeholders



Supporting over 900 schemes with £1 trillion of assets around the world.

Embedded in everything we do, Risk Analyzer is the software foundation of how Aon consults with all our clients. Whether it’s the in-house calculations done by our consultants or funding updates delivered to you over the web, you can be assured of absolute consistency of advice.

For more information or a demo of Risk Analyzer please call your usual Aon consultant or email us at **risk.analyzer@aon.com**.

Watch the Risk Analyzer video and see what the tool can do for you at **https://riskanalyzer.aon.com**.

3

The recovery plan

The recovery period, contingent security and the assumptions

3 3.1 The recovery period

Where a scheme is under-funded, the trustees must prepare a recovery plan, setting out the steps to be taken to make up the shortfall – and over what period. A recovery plan was required for 53% of tranche 17 valuations.

The recovery period is an important element of most valuations where the scheme is found to be in deficit, and is often the subject of detailed consideration by, and negotiation between, trustees and employers.

The average recovery period for tranche 17 valuations in deficit was 4.3 years, which is lower than that for tranche 16 valuations (5.8 years).

The average tranche 17 recovery period was 1.2 years shorter than that for tranche 14, when many tranche 17 schemes' previous valuations were undertaken. The percentage of schemes requiring a recovery plan fell from 68% to 53%.

Chart 3.1.1 shows how the average recovery periods have changed since the introduction of the current funding regime and how those of our clients compare with the average recovery periods in the Pensions Regulator's analysis.

Average recovery periods have generally reduced since the 'financial crisis' of 2008.

> **For schemes in deficit, the average recovery period, of 4.3 years, was 1.2 years shorter than three years ago, when many schemes' previous valuations were undertaken; the percentage of schemes requiring a recovery plan fell from 68% to 53%**

Chart 3.1.1 Average length of recovery period, by tranche

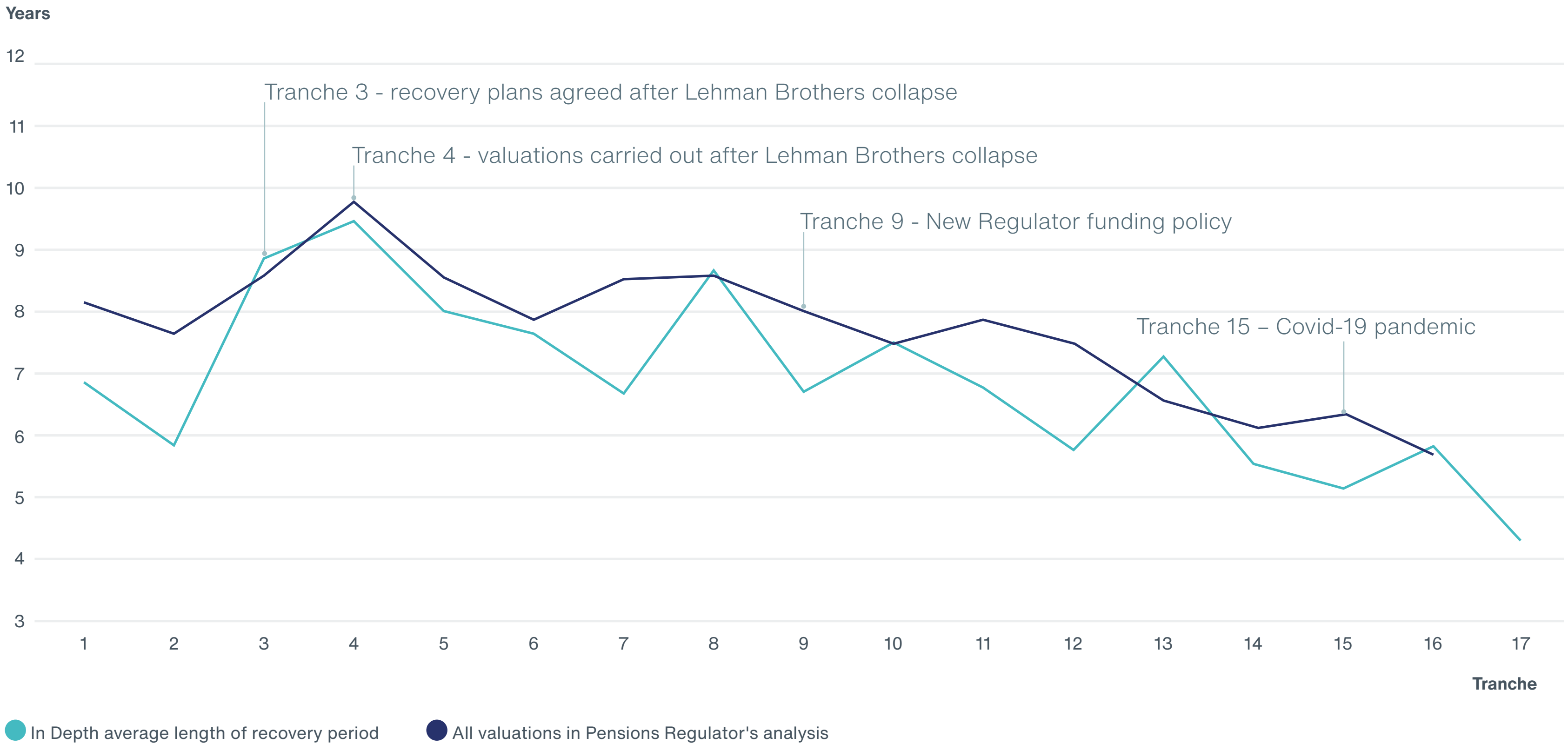


Chart 3.1.2 illustrates the distribution of the lengths of recovery periods for tranches 15 to 17.

Chart 3.1.2 Length of recovery period - tranches 15 to 17

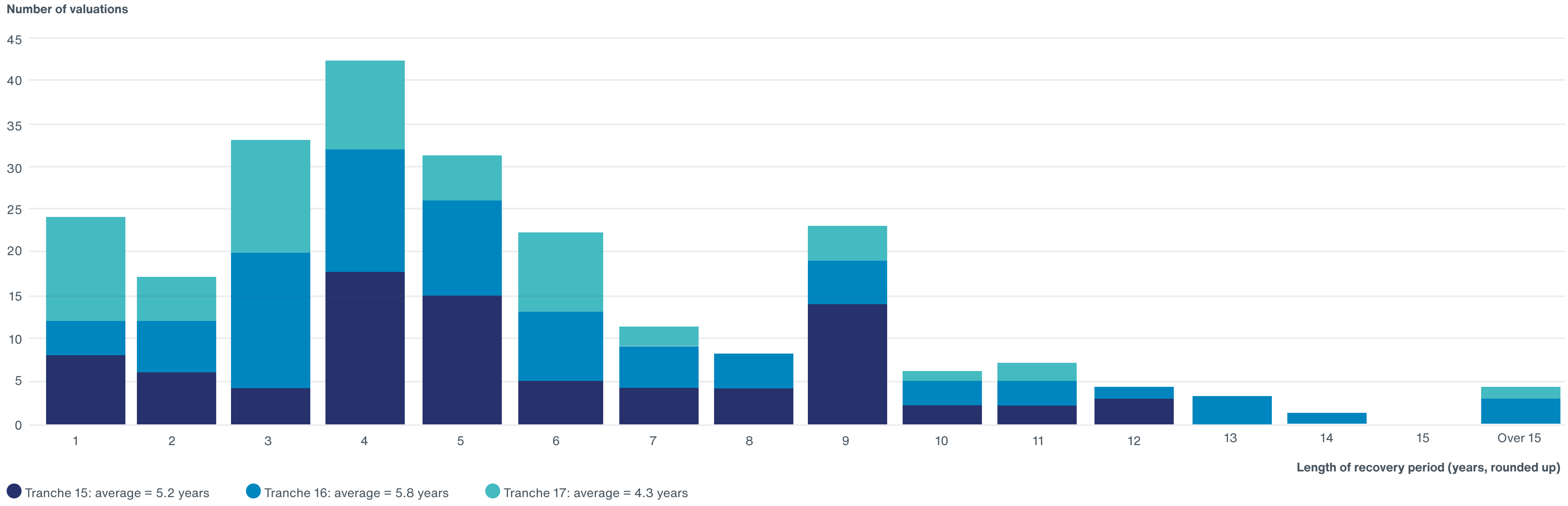
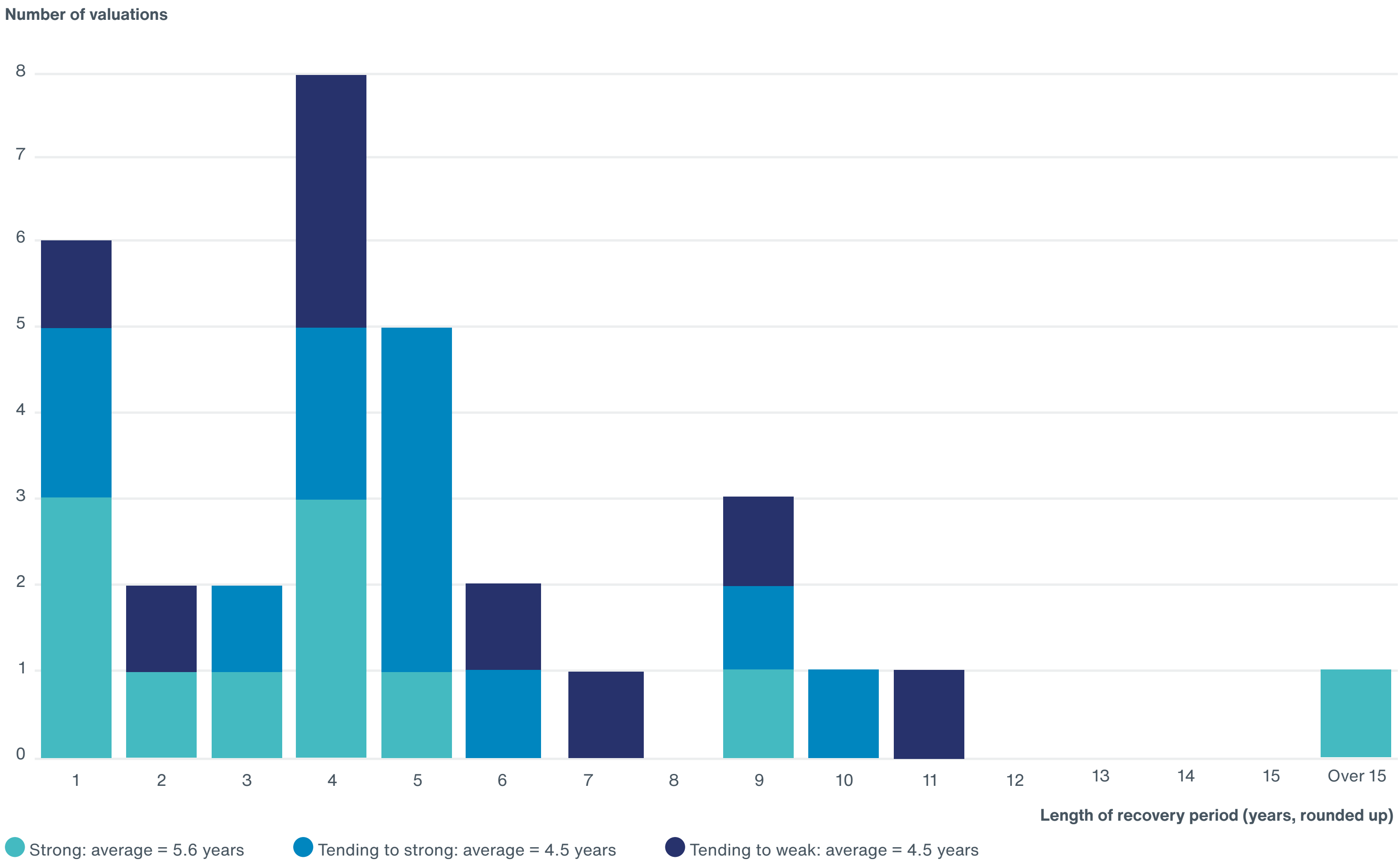


Chart 3.1.3 Length of recovery period, by employer covenant - tranche 17



The recovery periods for tranche 17 valuations only are set out in Chart 3.1.3, which also shows how the recovery period varied by the trustees' assessment of the employer covenant.

For tranche 17 valuations, where the trustees believed that the employer covenant was 'tending to weak' and where they believed it was 'tending to strong', the average recovery period was 4.5 years; where it was 'strong', the average was 5.6 years.

Affordability was considered a constraint on deficit reduction contributions (DRCs) for 56% of schemes in deficit in tranche 17; for tranche 16, it was 55%. In addition, for 5% of tranche 17 valuations, the scheme contributions agreed with the employer were lower than they would otherwise have been in order to allow for the employer's plans for sustainable growth; for tranche 16, it was 8%.

3.2 Contingent security

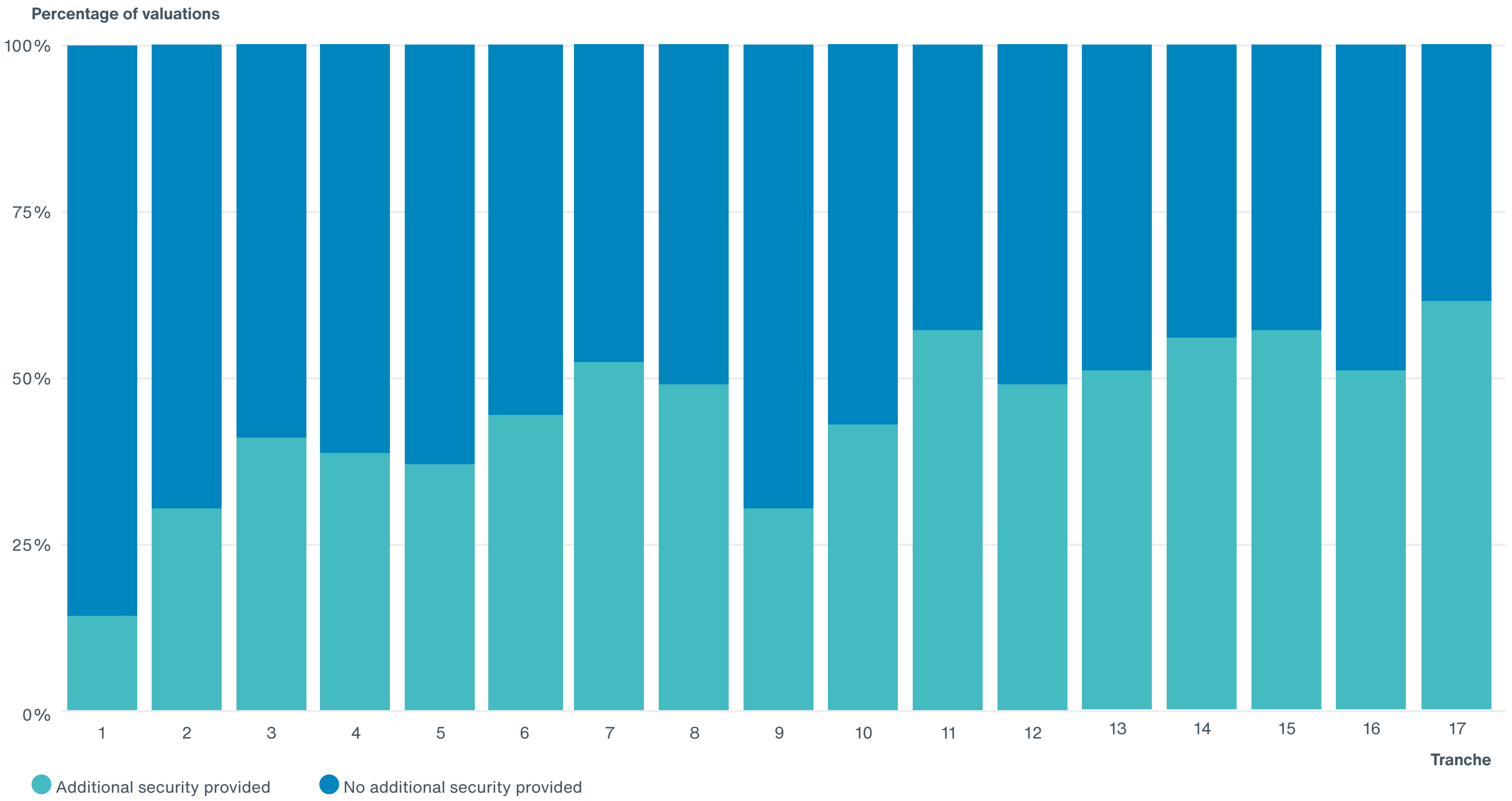
The Regulator's Code of Practice recognises that trustees may seek alternative forms of security from the employer to protect the scheme in the event of the employer becoming insolvent before the deficit is fully paid off. It states that the trustees should consider the value, terms and enforceability of any contingent security when formulating a recovery plan. The Regulator has also highlighted the use of alternative financing to manage the risk of 'trapped surplus' or otherwise provide security as part of the long-term funding target strategy.

Contingent security options include complex arrangements such as special purpose vehicles (SPVs) and charges over assets, through to simpler arrangements such as surety bonds, parent company guarantees and escrow-style structures.

For tranche 17, 63% of under-funded schemes had put in place additional security. Chart 3.2.1 shows that the use of such arrangements is a long-standing feature of the funding regime, and that the use of additional security for tranche 17 is the highest percentage to date.

> “
> **63% of under-funded schemes had put in place additional security – the highest percentage to date**

Chart 3.2.1 Additional security provided to schemes with recovery plans - by tranche

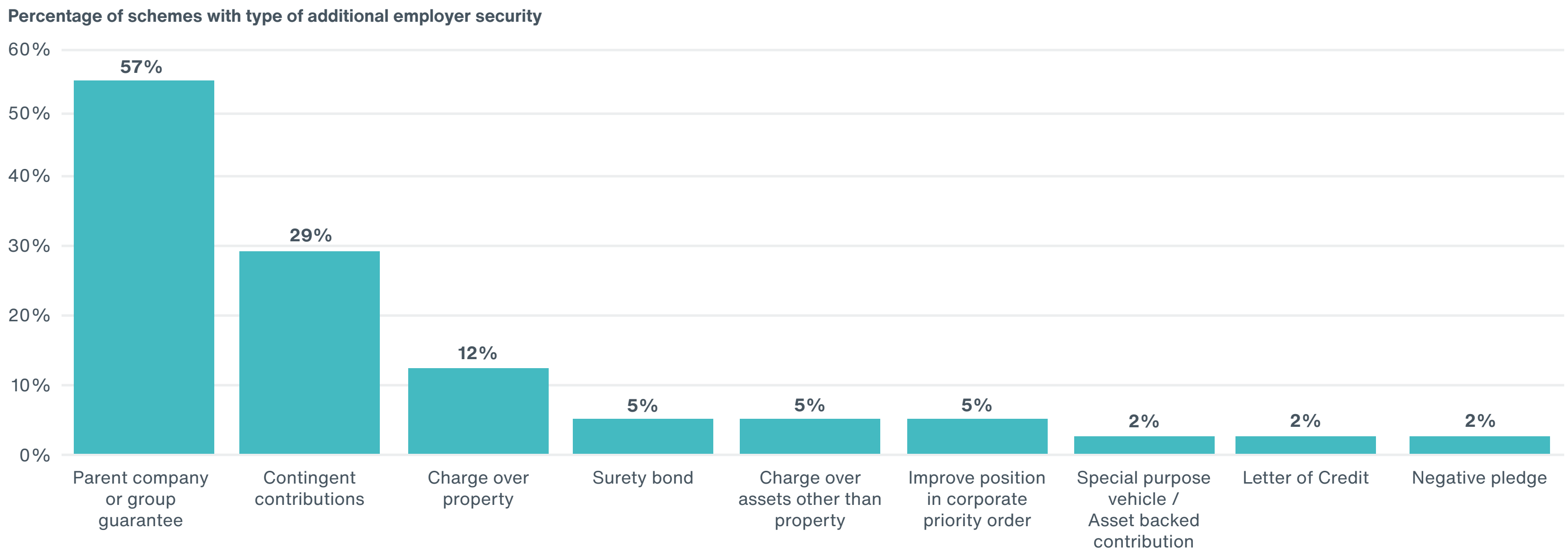


Contingent security was also used by 36% of schemes in surplus, for tranche 17. As more schemes have moved into surplus, for some, the focus has turned to the potential for trapped surplus; non-cash security may mitigate the risk of over-funding as schemes get better funded and progress towards their long-term funding target. Contingent security can also help support continuing to run on when a scheme is fully funded on a solvency basis.

The use of these arrangements is more prevalent among the largest schemes although a substantial proportion of smaller schemes in tranche 17 also obtained additional security. 55% of schemes with technical provisions of over £100m and 32% of schemes with technical provisions of under £100m had additional security in place.

Chart 3.2.2 shows that, where additional employer security was provided, for most schemes this was a parent company or group guarantee.

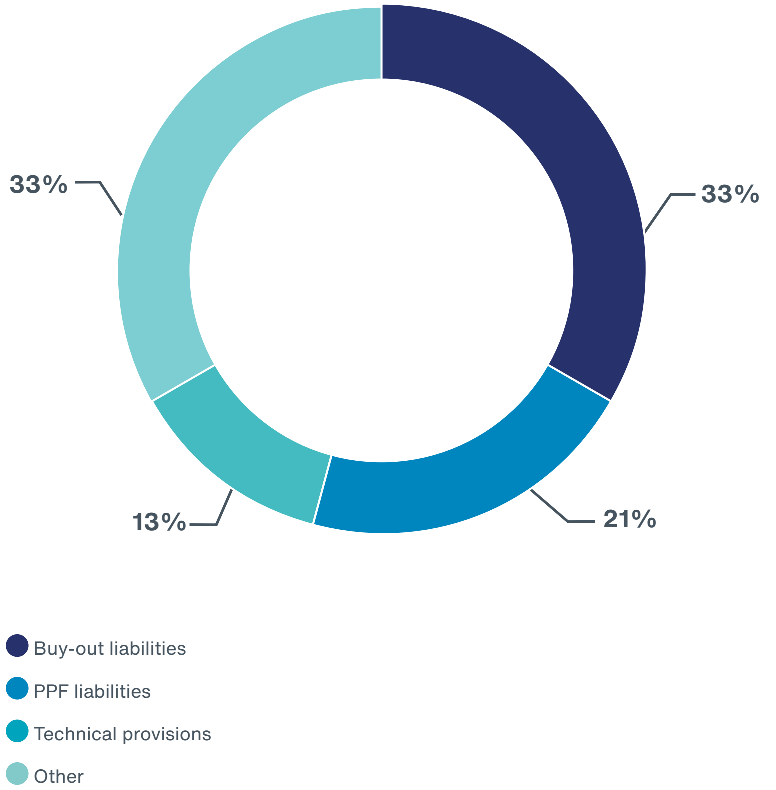
Chart 3.2.2 Types of additional employer security provided to schemes - tranche 17



Contingent contributions included payments dependent on dividends, disposal of businesses, the funding level and level of salary increases in relation to assumptions.

A parent or group guarantee can vary with regard to the measure of liabilities that is guaranteed. Chart 3.2.3 indicates that the most common type related to buy-out liabilities.

Chart 3.2.3 Types of parent company or group guarantee - tranche 17



Putting in place specified contingent assets can reduce a scheme's PPF levy, if they are certified annually. These include a Type A contingent asset – a guarantee from another group company. In tranche 17, 12% of schemes had such a PPF-compliant Type A contingent asset.

For tranche 17, the primary reasons for the provision of additional security were to add security in relation to the covenant (74% of schemes) and to address the risk of trapped surplus (11%).

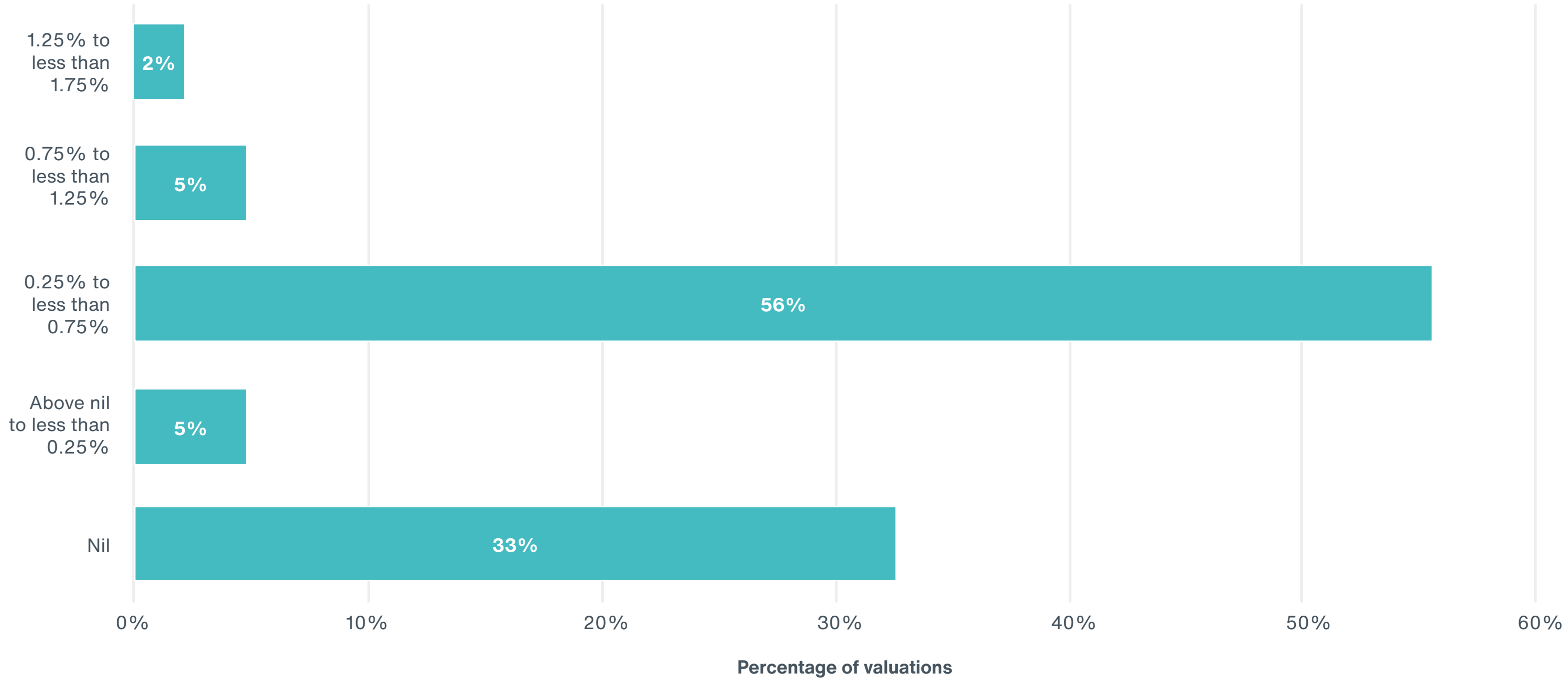
3.3 The assumptions

When formulating a recovery plan, trustees are permitted to adopt an expected return on assets that differs from the discount rate (or rates) used for technical provisions, which the legislation requires to be 'chosen prudently'. The trustees may determine that it is appropriate to allow for most or all of the investment outperformance over gilts expected during the recovery period.

An element of additional return in excess of the discount rate was allowed for in the recovery plans of 65% of tranche 17 valuations, and the average expected return in excess of the discount rate for schemes that did make such an allowance was 0.5% p.a.. In tranche 16, 65% of recovery plans allowed for an element of additional return, which was 0.7% p.a. on average.

> "
> **An element of additional return in excess of the discount rate was allowed for in 65% of recovery plans**

Chart 3.3.1 Allowance over discount rate for investment returns in recovery plan - tranche 17



4

Looking ahead

Looking ahead to 2023 valuations, and beyond

4 Looking ahead

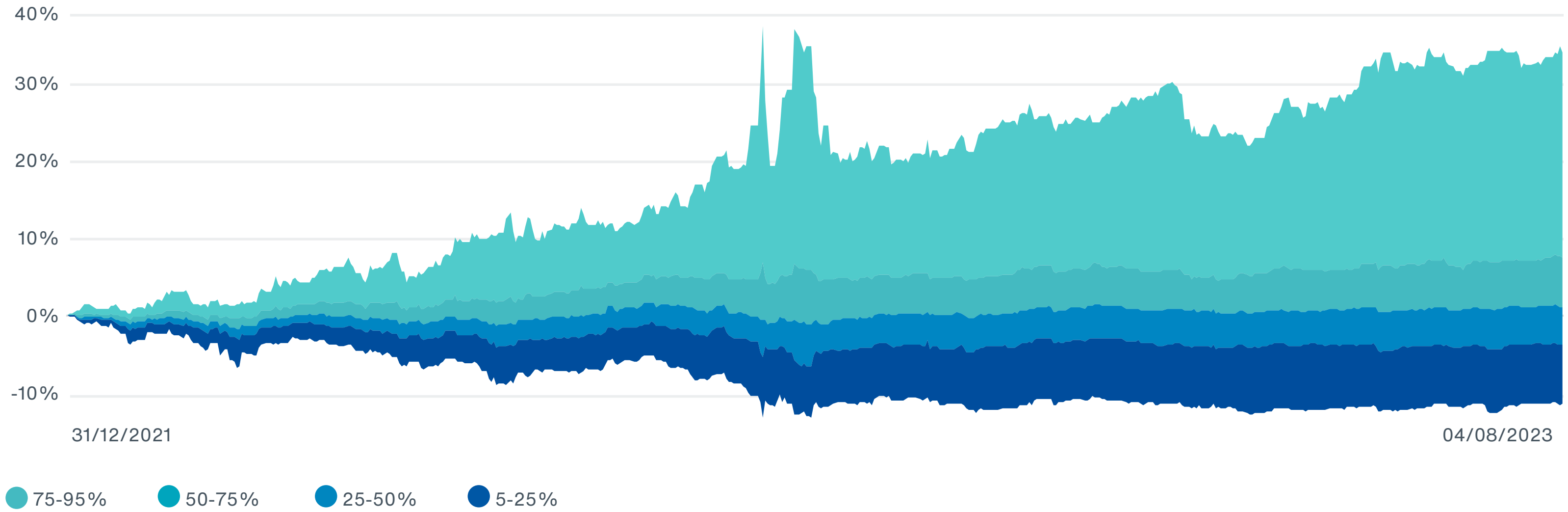
For valuations in tranche 18, average (median) funding positions are similar to those of the tranche 17 valuations analysed above. However, there is a wide variation around this average, reflecting the differing impacts of the rise in gilt yields over the period on individual schemes. Those schemes most exposed to gilt yield changes are likely to have improved their funding positions significantly over the period, as gilt yields increased and the value of liabilities linked to these yields reduced.

Chart 4.1 shows the changes to funding levels over the year to a tranche 18 valuation date, based on a range of clients using our Risk Analyzer software, after allowing for deficit contributions. The chart shows particularly wide ranges for schemes at the 95th and 5th percentile.

> **Since the dates of these valuations, average funding levels have remained relatively stable but there is a wide variation between schemes; those schemes most exposed to gilt yield changes are likely to have improved their funding positions significantly;**
>
> **The Chancellor's 'Mansion House reforms' may lead to an expansion in the endgame options available to schemes and further support alternative endgames to insurer buy-out**

Chart 4.1 Risk Analyzer - funding level divergence by quartile, 31 December 2021 to 4 August 2023

AON | Risk Analyzer



The Pension Schemes Act 2021 will require schemes to set a strategy for ensuring that benefits can be provided over the long term; the DWP consulted on supporting draft regulations in 2022. A key principle is that schemes must be in a state of low dependency on the sponsoring employer by the time they are 'significantly mature'. Schemes that are no longer open to future accrual will be advancing towards this threshold.

In December 2022, the Pensions Regulator published two consultations – firstly on its proposed revised Code of Practice on scheme funding, reflecting the DWP's draft regulations, and secondly on 'Fast Track' - a mechanism it intends to use for filtering submitted valuations.

The Regulator has indicated that the new funding regime is expected to be implemented for valuations with effective dates from April 2024, although an update is expected in the autumn.

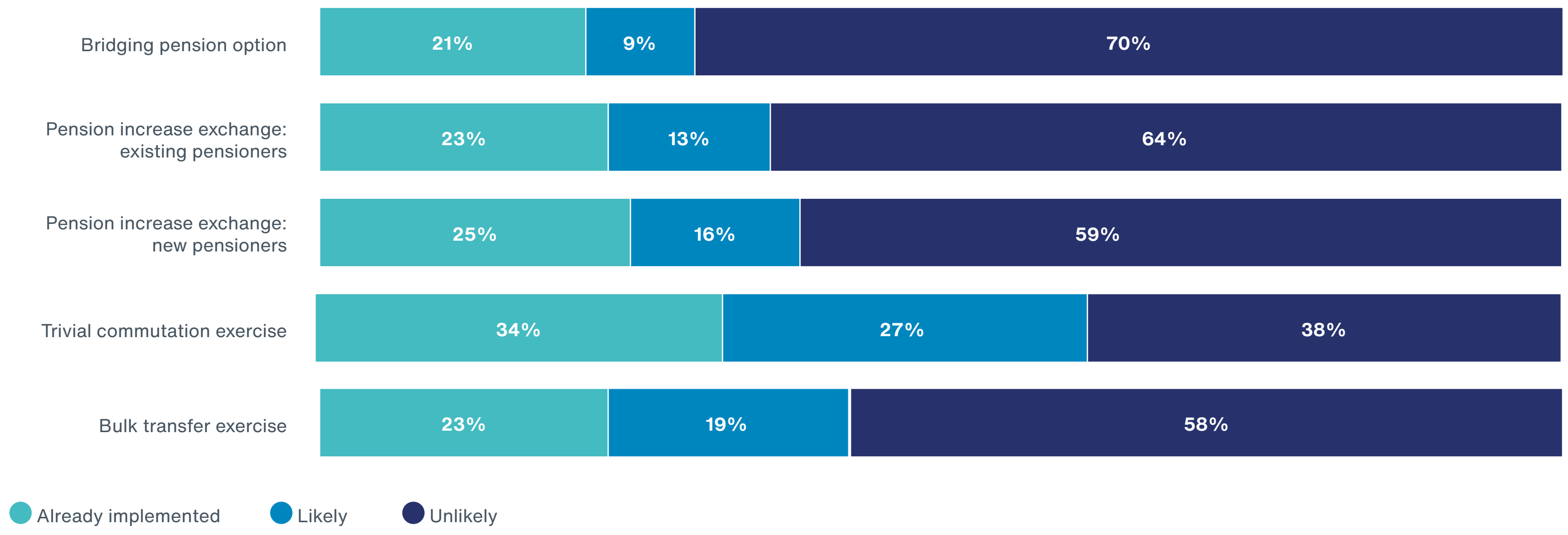
Of the tranche 17 schemes analysed for this In Depth, 19% remained open to future accrual. Future service costs have reduced significantly, over recent months, reflecting the increase in gilt yields. Chart 4.2 shows the average future service cost over a range of clients using Risk Analyzer.

Where benefit review exercises are undertaken, perhaps triggered by consideration of future service costs, the Pension Schemes Act 2021 introduces a new option from 1 August 2022 – a Collective Defined Contribution (CDC) scheme design.

Chart 4.2 Risk Analyzer - future service cost, 31 December 2021 to 4 August 2023

Aon's Global Pension Risk Survey shows some of the actions that schemes and sponsors have taken, or are considering, to support members (Chart 4.3). Member options exercises, such as bulk transfer value and pension increase exchange exercises, may also offer an immediate funding gain due to the conversion terms, reduce the overall risk, or simply reduce the overall size of the scheme because members transfer out.

Chart 4.3 Global Pension Risk Survey 2023/24 – member support



AON

Helping members make more informed decisions

Aon PIE Modeller

An increasing number of Defined Benefit (DB) pension schemes are carrying out bulk Pension Increase Exchange ("PIE") exercises. Members value the choice these exercises provide around how they can receive their benefits.

For schemes and sponsors, PIE exercises typically speed up the journey to long-term targets and can also be run in combination with GMP conversion to provide member choice and support as part of GMP equalisation. We also see a continuing trend of schemes choosing to provide additional support for members in the form of online modellers.

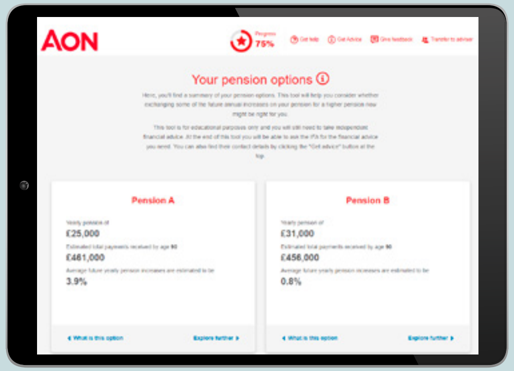
In 2022 we launched the **Aon PIE Modeller** to help pensioner members receiving PIE options understand their choices. This market-leading, web-based tool is designed to ensure members make informed decisions. It provides a simple side-by-side comparison of pension options using pre-loaded, member-specific data.

Members can explore an interactive graph of their projected pension income, with the ability to change the key assumptions to better understand how their income might change in the future. After using the tool, members are presented with clear next steps and the option to request a call back from the scheme's preferred IFA.

Key features

- Consumer-grade member experience, consistent with evolving member expectations
- Personalised, interactive chart of projected income
- Ability to change inflation and life expectancy assumptions
- Integrated IFA call back function and option to share access with IFA
- Flexible wording with options to add client branding and educational videos
- Captures member feedback

To understand how the Aon PIE modeller could help your members and receive a demo of the tool, please call your usual Aon consultant or email us at **memberoptions@aon.com**.



On 27 April 2023, the Regulator published its Annual Funding Statement, aimed primarily at schemes with tranche 18 valuations – i.e. with valuation dates between 22 September 2022 and 21 September 2023. The statement was significantly revised from previous years, reflecting generally improved funding levels, and with an increased focus on long-term targets and endgame options. In particular, the Regulator stated that trustees should examine other endgame options, in addition to buy-out. The Regulator also highlighted covenant risks due to higher interest rates, high rates of inflation and geopolitical instability.

For many schemes, the long-term target is still buy-out. Buy-out affordability typically improved over 2019 to 2022, partly reflecting available annuity market capacity and increased competition for onwards longevity reinsurance for annuity providers. The general rise in market yields in 2022 to 2023 has reduced pension liability values in absolute terms, and effectively means annuity providers need to write business for more members relative to 2020 and 2021 to produce the same business volume. Funding positions on a solvency basis have also improved; Chart 4.4 shows the average solvency funding position based on a range of clients using our Risk Analyzer software.

Chart 4.4 Risk Analyzer – solvency level, 31 December 2021 to 4 August 2023

4

If current economic conditions persist, we expect continuing strong demand for buy-outs over 2023 and 2024, including a substantial number of £1billion+ transactions to occur in 2023. The heavy demand from schemes for buy-out quotations is making insurer staffing capacity a likely limiting factor on market volume.

Changes to the UK insurance solvency regime over 2023 to 2024 should slightly ease reserving, increase the range of eligible assets for annuity funds and make insurers less dependent on longevity reinsurance for managing their capital. We do not expect this to dramatically impact the insurance terms that schemes can obtain, but it will help to offset some of the pressures to increase pricing from sustained strong demand from pension schemes.

The market for consolidation vehicles ('superfunds') remains in its infancy; no transactions have been undertaken at present. The first such vehicle to meet the Pension Regulator's standards of governance and administration, Clara Pensions, was named by the Regulator in November 2021.

In his Mansion House speech in July 2023, the Chancellor announced several initiatives. One was a suggested easing of the regime for superfunds, which may be necessary for them to establish a market for schemes that cannot afford buy out. Another was a call for evidence on how DB schemes could use their assets more flexibly. Areas of interest include incentives to include productive assets in investment strategies, current rules around investing to build up a surplus and the potential for consolidation options.

Trustees and employers are considering the full spectrum of endgames in order to assess which will deliver the best outcomes for pension scheme members and sponsors. Aside from buy-out, this includes options such as running a scheme on beyond buy-out funding, using DB surplus to fund ongoing DC contributions, capital-backed solutions, and insurance company buy-ins or buy-outs reinsured back to the sponsor's own captive insurance company. The Mansion House reforms may further expand the endgame options available to schemes.

Pensions Endgame: Better Decisions

Pension risk settlement is continually evolving, making it a challenge to identify an optimal settlement journey.

Aon has the largest team of risk settlement specialists in the UK and has been lead advisor on over 35 percent of all risk settlement deals since 2018.

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AON

Contact Us

Lynsey Harri

+44 (0) 1372 733166

lynsey.harri@aon.com

Aon
Parkside House
Ashley Road
Epsom
Surrey
KT18 5BS

About

Aon plc (NYSE: AON) exists to shape decisions for the better—to protect and enrich the lives of people around the world. Our colleagues provide our clients in over 120 countries with advice and solutions that give them the clarity and confidence to make better decisions to protect and grow their business.

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