

# Scheme funding statistics

Valuations and recovery plans of UK defined benefit and hybrid pension schemes

June 2017

The Pensions  
Regulator

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## Overview

This is the 2017 update to The Pensions Regulator's (TPR's) annual funding statistics for UK defined benefit (DB) and hybrid schemes. The tables in the annex are prepared in accordance with the UK code of practice for official statistics. The underlying data are sourced from valuations and recovery plans (RPs) submitted to TPR by schemes with deficit positions, and from annual scheme returns for schemes with surplus positions.

The update is based on Tranche 10 schemes (with effective valuation dates falling from 22 September 2014 to 21 September 2015 inclusive). These valuations (with due dates for receipt falling within the period December 2015 to December 2016) are the first in the fourth triennial cycle of the scheme funding regime.

The report shows funding trends in the context of market conditions, assumptions and scheme characteristics that impact on valuations. It also describes existing arrangements for recovery plans, employer contributions and contingent security.

Data summaries (tables) contained in the annex provide more detail on the high level trends presented in this document.

## Tranche 10 summary

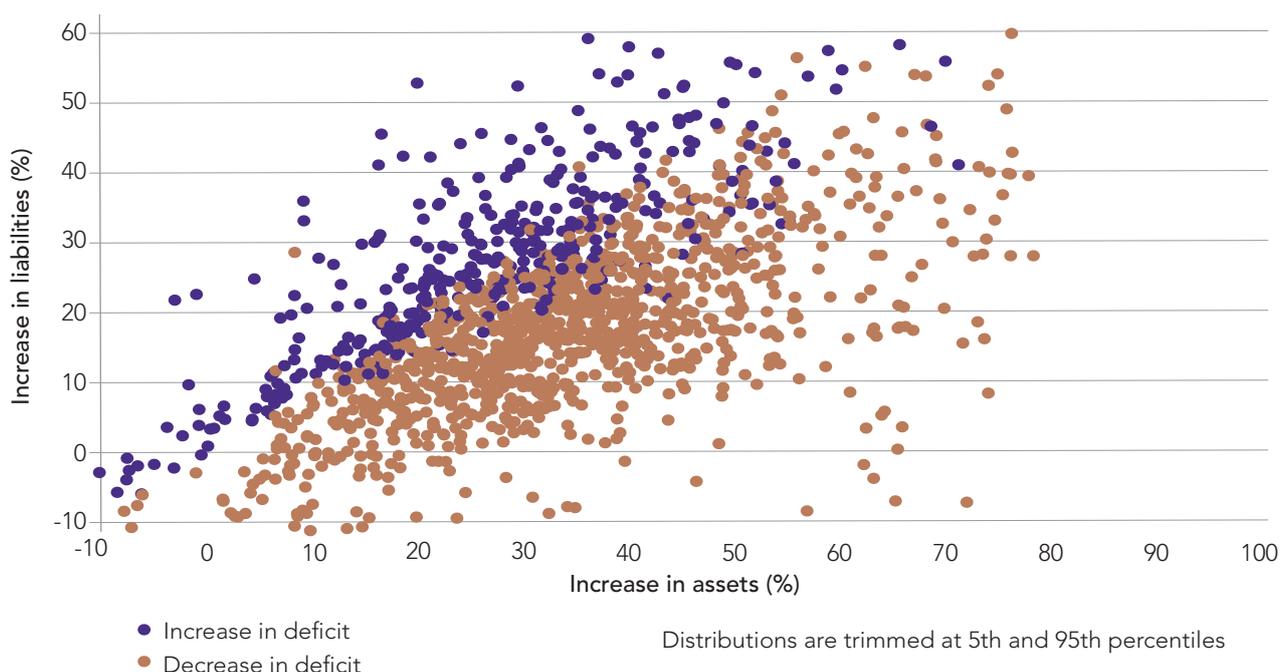
By end-January 2017, TPR had received around 1,700 valuations with an effective valuation date for Tranche 10. Of schemes submitting these valuations, over 80% had previously submitted valuations in respect of Tranches 7, 4, and 1. Over one fifth of Tranche 10 schemes analysed reported a surplus of assets over technical provisions (TPs).

The growth in assets outpaced the growth in liabilities between Tranche 7 and 10 valuation dates, leading to an increase in the average<sup>1</sup> funding ratio on a TPs basis. Deficit reduction contributions (DRCs) are relatively unchanged at the median in nominal terms with a similar range of percentage increases and decreases; while the average extension to the RP is just over one year.

Figure 1 illustrates the distribution of changes in deficits measured on a TPs basis for Tranche 10 schemes that previously submitted Tranche 7 valuations. Assets grew by 32% at the median compared to a corresponding increase in TPs of 19%. Two thirds of schemes in surplus for the Tranche 10 valuation were in deficit for their Tranche 7 valuations. Of schemes in surplus for Tranches 7 and 10, two thirds saw their surpluses increase over the inter-valuation period.

<sup>1</sup>  
Averages are unweighted unless stated otherwise.

**Figure 1: Distribution of the change in valuations from Tranche 7 to Tranche 10**



Source: TPR

### Key figures

- ▶ 88.7%: average ratio of assets to TPs for schemes in deficit and surplus.
- ▶ 108.7%: average ratio of assets to TPs for schemes in surplus.
- ▶ 83.0%: average ratio of assets to TPs for schemes in deficit.
- ▶ 3.47%: average nominal single effective discount rate (SEDR) for schemes in deficit and surplus; with 50% of assumptions falling on or between 3.10% and 3.84%.
- ▶ 0.33%: average real SEDR for schemes in deficit and surplus; with 50% of assumptions falling on or between -0.05% and 0.69%.
- ▶ 89.8 (92.0) years: median life expectancy of a future male (female) pensioner currently aged 45 for schemes in deficit and surplus.
- ▶ 7.5 years: average RP length for schemes in deficit.

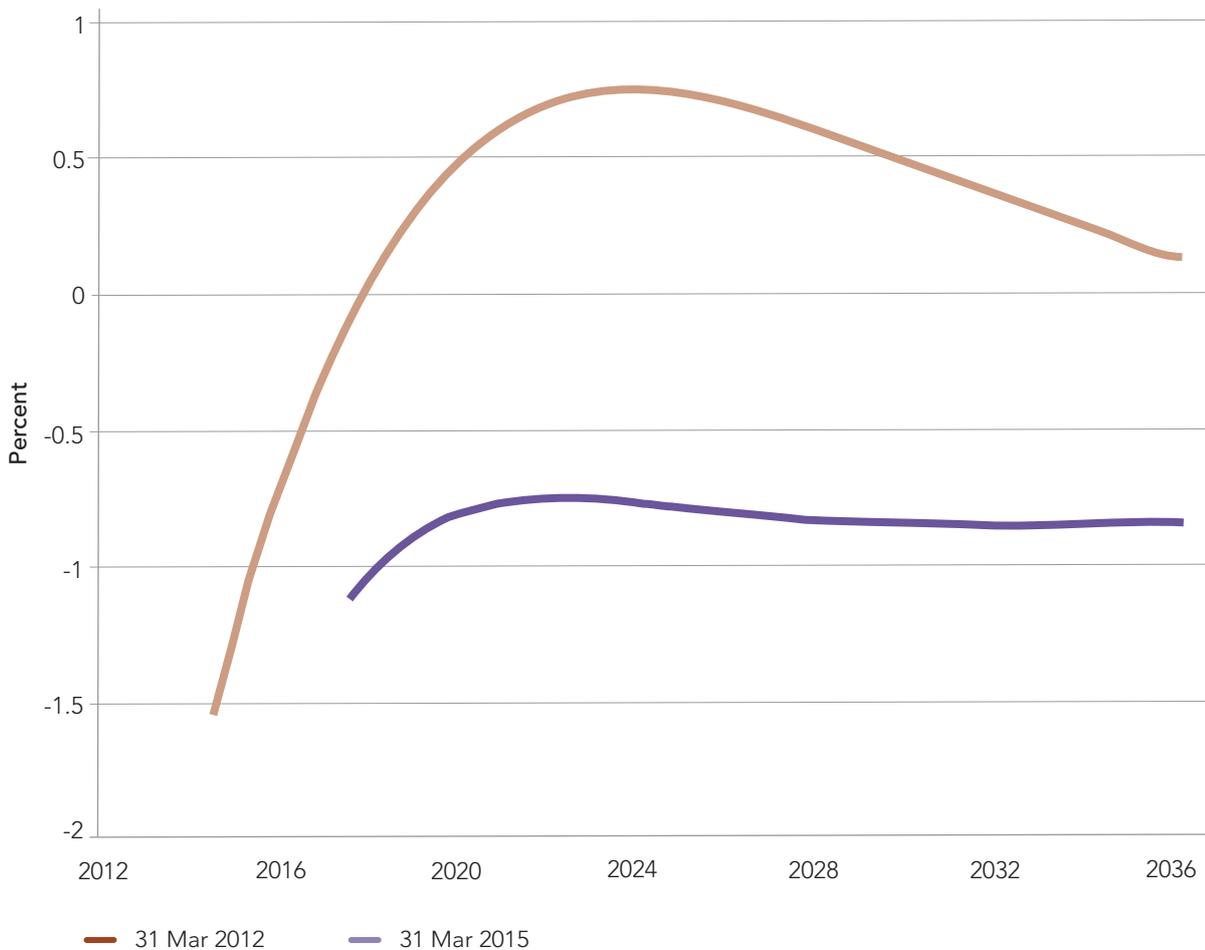
## Market conditions

Over the three years to 31 March 2015 (the effective date of many Tranche 10 valuations), UK GDP growth improved overall. Equity markets generally performed well over the same period. The FTSE All-Share Index realised a three year total return of around 35% (source: FTSE Russell factsheet, 31 March 2015) while the value of the index was 20% above its level three years earlier.

During this period, yields on corporate and government bonds continued to decline, with market expectations for future interest rates being revised downward. The real 20 year spot rate of interest, having entered the region of negative yields during the previous valuation period, saw deepening negative yields consistently over the Tranche 10 period.

Figure 2 shows market expectations for real interest rates as estimated by the Bank of England in the inter-valuation period. Compared to March 2012, forward interest rates at the end of March 2015 show an expectation for lower suppressed yields.

**Figure 2: UK instantaneous real forward curve (gilts)**



Source: Bank of England

## Deficits

Tranche 10 schemes have seen improved asset positions – which may have been due to the combined impact of:

- ▶ sponsor contributions (regular and remedial)
- ▶ increases in some asset values
- ▶ positive gains overall on investments in the three years to valuation

Liabilities have also grown due in part to lower investment return assumptions relative to that assumed in the previous valuation – which in turn may have been driven by revised (lower) expectations for long-dated bond yields relative to Tranche 7 assumptions. In general, schemes with hedged positions may have fared better overall.

For schemes submitting valuations in respect of both Tranche 7 and Tranche 10, the median increase in assets and TPs between valuations is 32% and 19% respectively.

The average ratio of assets to TPs for Tranche 10 is 88.7% (90.4% weighted<sup>2</sup>), which improved from Tranche 7 due to stronger growth in assets relative to liabilities. This ratio is generally higher for schemes:

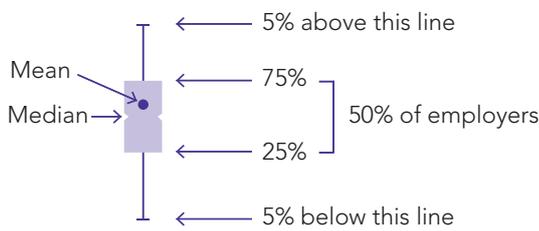
- ▶ that report liabilities in respect of active memberships
- ▶ with stronger covenants (deficit schemes only)
- ▶ without a contingent asset
- ▶ with shorter RPs
- ▶ with lower investment risk (Tables 2.1, 2.3(b), Annex)

For schemes in surplus only, the average ratio of assets to TPs is 108.7%.

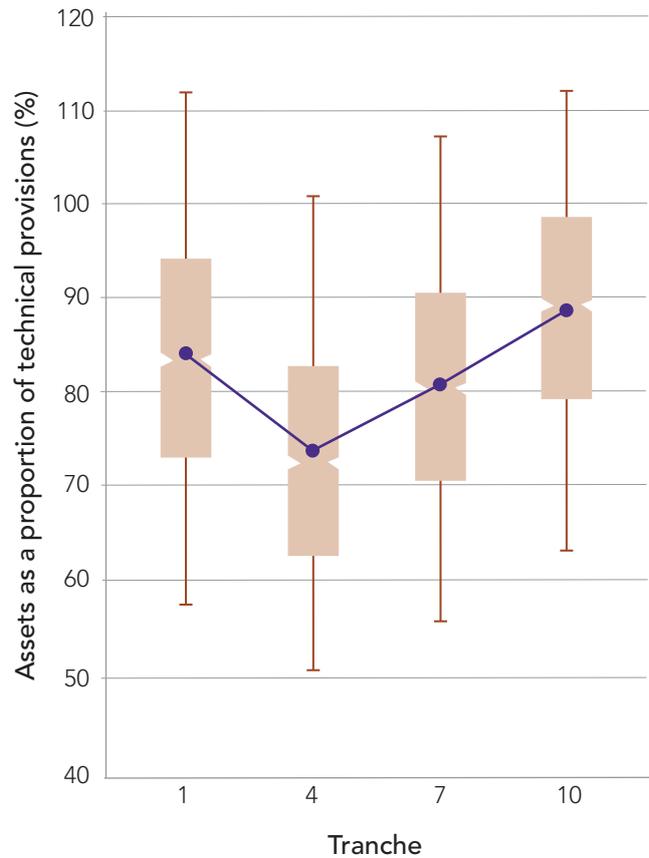
<sup>2</sup>  
Weighted by TPs.

Figure 3 shows the distribution of the ratio of assets to liabilities on a TP basis for Tranches 1, 4, 7, and 10 (Table 2.1, Annex). The distribution of funding levels is highest for Tranche 10 valuations.

Source: TPR



**Figure 3: Ratio of assets to TPs for Tranches 1, 4, 7 and 10**



## Funding strategies

### Recovery plans

For many schemes a smaller deficit has led to a shortened recovery period relative to that agreed under the Tranche 7 valuation.

Figure 4 shows the distribution of changes to RP end dates for Tranche 10 schemes that had previously submitted Tranche 7 RPs. Nearly 60% of schemes (including those which remain in surplus) have brought forward their RP plan end dates or have left them unchanged, while a fifth have extended their RP end dates by more than three years.

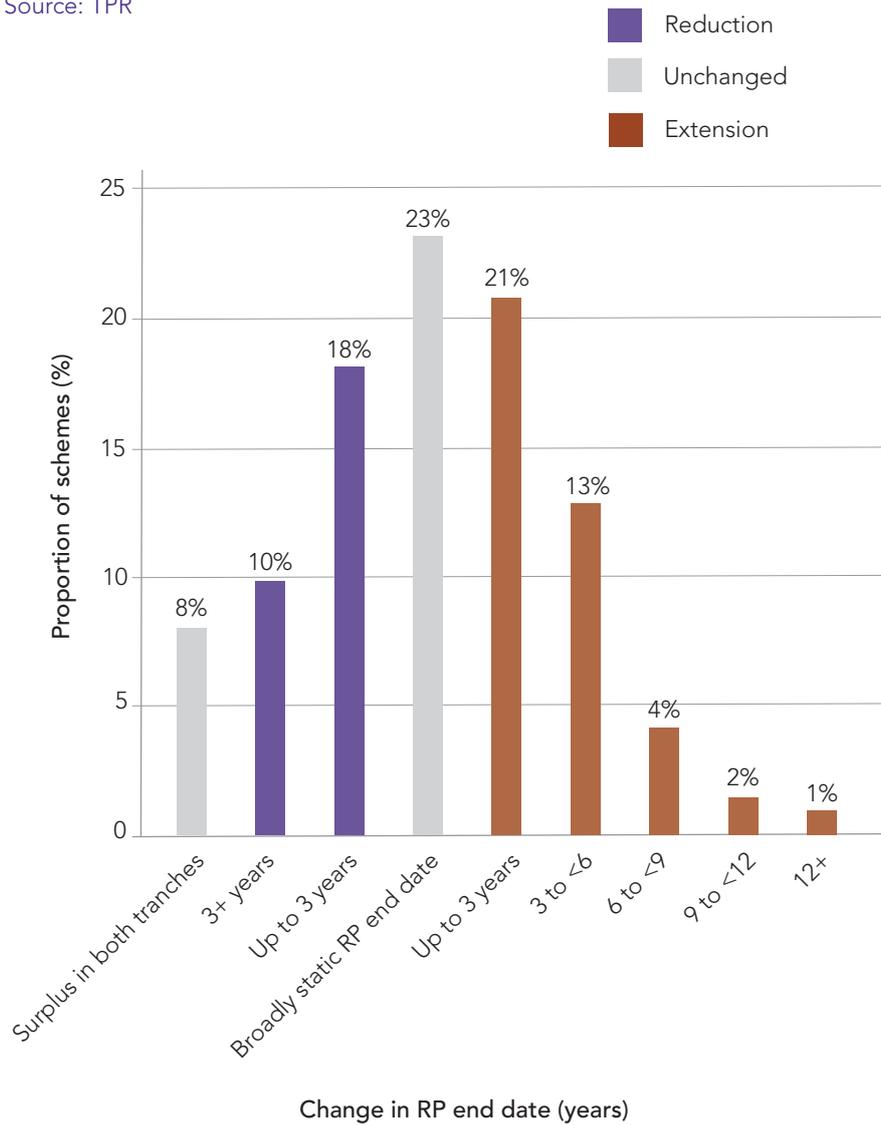
The mean and median RP lengths for Tranche 10 are 7.5 and 6.5 years respectively. Tranche 10 RP end dates exceed those of Tranche 7 by less than half a year at the median.

Longer plans tend to be associated with schemes:

- ▶ with weaker covenant<sup>3</sup> support
- ▶ with lower TPs funding levels
- ▶ with a higher stake in return-seeking assets (Tables 3.1, 3.3, Annex)

**Figure 4: Distribution of changes to RP end dates**

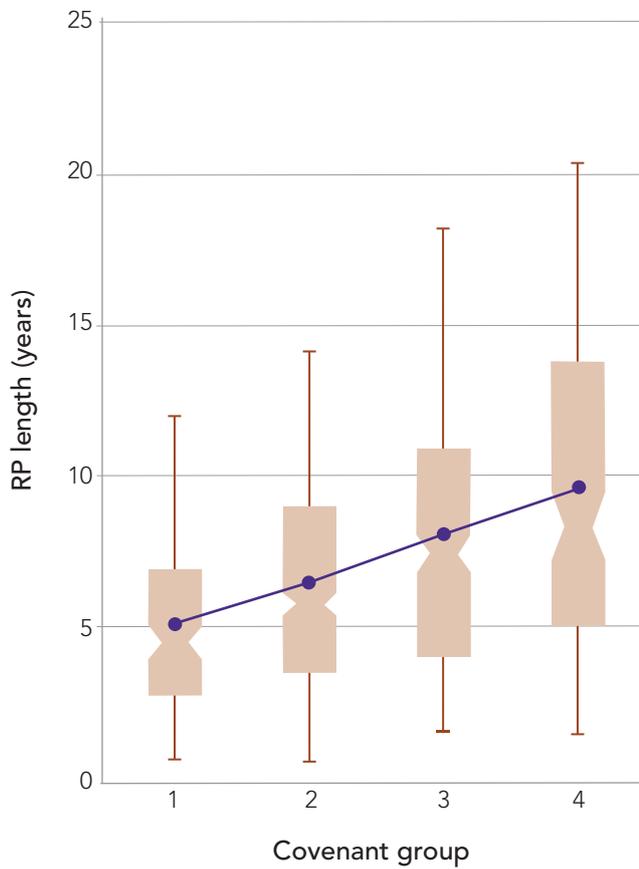
Source: TPR



<sup>3</sup> Based on covenant group.

Figure 5 shows distributions of RP lengths for schemes by covenant group<sup>4</sup>. Three quarters of schemes in Covenant group 1 have RPs of at most seven years, while the same proportion in Covenant group 4 have RPs of up to 13 years.

**Figure 5: Distribution of RP lengths by covenant**



Source: TPR

4  
Defined as: 1 (strong), 2 (tending to strong), 3 (tending to weak), and 4 (weak).

## Contributions

For schemes in deficit with valuations in respect of both Tranches 7 and 10, average annual DRCs remained unchanged (in nominal terms) at the median. Increases in contributions for the 'middle half' (inter-quartile range) ranged between -2.8% and 2.1%.

As a proportion of liabilities calculated on a broadly consistent ('reference') basis, average annual DRCs for Tranche 10 schemes is 1.9% compared to 2.4% for Tranche 7 schemes. (This change is influenced by increases in liabilities calculated on a reference basis as well as any changes in nominal DRCs. The median in increase in reference liabilities is around 19%.)

A higher level of DRCs as a percentage of liabilities on a reference basis is associated with:

- ▶ shorter RPs
- ▶ smaller schemes
- ▶ schemes not reporting liabilities in respect of active members
- ▶ schemes with lower TPs funding levels (Table 3.4, Annex)

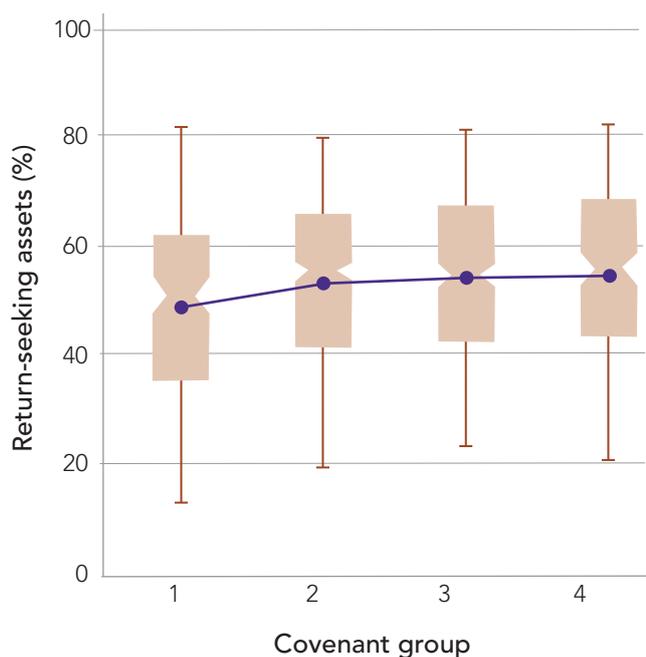
Additionally, schemes with less than a fifth of assets held in return-seeking<sup>5</sup> asset classes have a higher average ratio than schemes with four fifths or more held in return-seeking asset classes.

## Investments

The majority of Tranche 10 schemes have less than 60% of assets invested in return-seeking asset classes. A relatively lower proportion of return-seeking assets is associated with assets more robust to downside investment risk (as measured by the Pension Protection Fund (PPF) stressed assets ratio) although the presence of hedging may mitigate this effect for some schemes. Among Tranche 10 schemes in Covenant groups 2, 3 and 4 there is limited evidence of a higher prevalence of riskier investments relative to schemes in Covenant group 1.

Figure 6 shows the distribution of return-seeking assets by covenant group. The mean allocation to return-seeking assets is 49% for Covenant group 1 compared to 55% for Covenant group 4.

<sup>5</sup> 'Return-seeking assets' in this report include equities, 75% of property, commodities, 60% of insurance policies, 80% of hedge funds, 25% of corporate bonds, assets held in the 'other' category.

**Figure 6: Distribution of the percentage of return-seeking assets by covenant group**

Source: TPR

## Contingent security

Like the previous two tranches, nearly one fifth of Tranche 10 schemes have additional security in the form of one or more contingent assets – which typically, but not always, takes the form of guarantees from a sponsor’s parent or associated entity.

Around 11% of schemes have contingent assets that are formally recognised by the PPF in the calculation of the PPF risk-based levy and around 9% have contingent assets that are not recognised by the PPF but are reported as additional security in support of funding.

The presence of contingent assets is associated with:

- ▶ larger schemes
- ▶ weaker covenant support
- ▶ schemes that report liabilities in respect of active members (Tables 2.6 and 2.7, Annex)

## Valuation assumptions

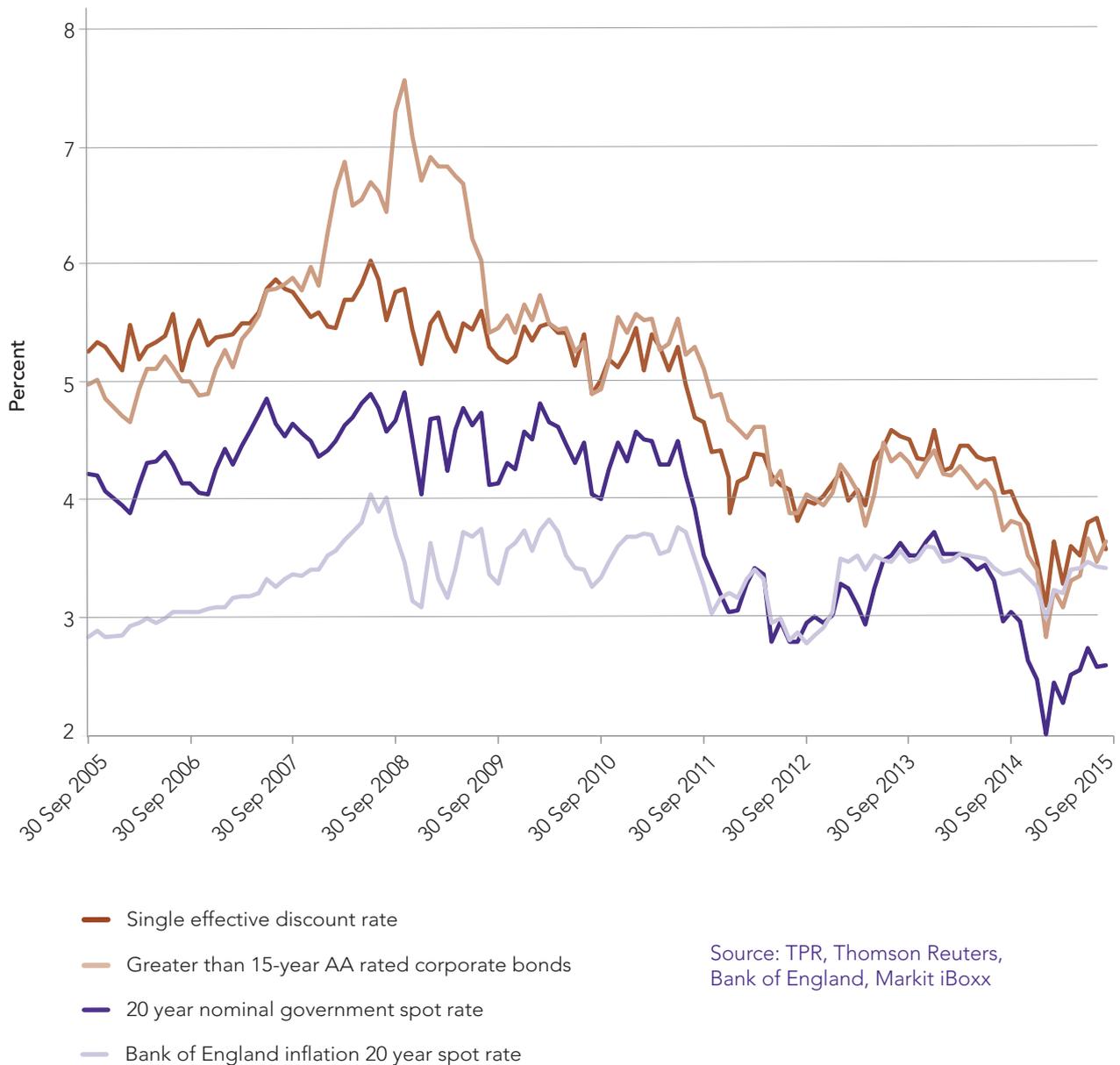
### Discount rates

The impact of changing market expectations between Tranche 7 and Tranche 10 valuations will be evident in the TPs discount rate to the extent that it reflects the expected return on schemes' assets. Previous reports observed an association between the TPs discount rate and the scheme's investment strategy. The investment strategy of a scheme is approximated here by a scheme's allocation to return-seeking assets and may itself take some account of the ability of the employer to underwrite downside risk.

Despite a period of relative improvement over the inter-valuation period, the 20 year nominal spot rate on gilts reached a 10-year low during the Tranche 10 valuation period. The gap between implied inflation and the nominal gilt widened with real yields deepening into negative territory. For 31 December 2014 and 31 March 2015 (the two most common Tranche 10 valuation dates), the 20 year spot rate is 2.48% and 2.29% respectively, while the corresponding median single effective discount rate (SEDR) for valuations is 3.49% and 3.30% respectively. At these two dates, the SEDR closely approximated the 20 year spot yield on inflation.

Figure 7 overleaf shows the median SEDR relative to 20 year UK gilts, 20 year spot inflation, and greater than 15 year AA-rated corporate bonds (for schemes in deficit in Tranches 1 to 7 and for all schemes in Tranches 8 to 10).

**Figure 7: Median (nominal) SEDR, 20-year nominal and real UK government spot rates, greater than 15-year AA rated corporate bonds, and 20-year inflation spot rate**



The average real SEDR is 0.33% for Tranche 10, compared to 1.12% for Tranche 7 (Table 4.2, Annex). Schemes with a higher proportion of return-seeking assets tend, on average, to assume a higher discount rate. The implied level of outperformance over gilts in the discount rate appears to have an even stronger relationship to the proportion of return-seeking assets held by schemes – although there is a wide range of assumptions in discount rate outperformance among schemes with a similar allocation to return-seeking assets.

The average assumed return over gilts is marginally higher for Tranche 10, compared to Tranche 7. The average outperformance of the real SEDR over the 20 year real government spot rate is 1.16% for Tranche 10, compared to 1.14% for Tranche 7 (Table 4.2, Annex).

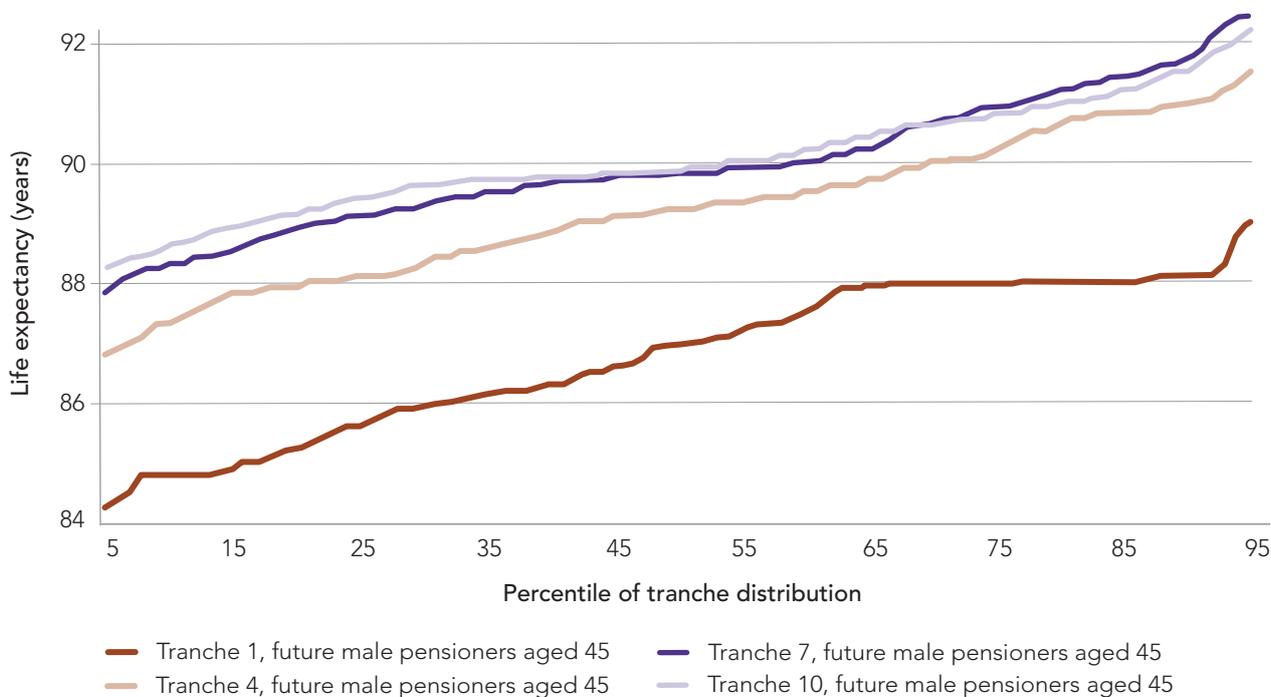
## Life expectancies

While there were notable increases in average assumed life expectancies over the first three funding cycles, reflecting stronger mortality assumptions over that period, average life expectancy assumptions appear relatively unchanged for Tranche 10 schemes relative to Tranche 7 for both future and current pensioners. This reflects the general trend observed in the wider population over the last few years. The average assumed life expectancy for a current male pensioner aged 65 is 87.9 years (compared to 87.8 years in Tranche 7). In respect of the underlying mortality assumptions:

- ▶ 92% of Tranche 10 schemes use the SAPS tables
- ▶ 57% apply a scaling factor or rating to base tables to adjust for scheme experience
- ▶ 95% use the continuous mortality investigation (CMI) projection model (first published in 2009) to allow for future improvements
- ▶ while over four fifths of schemes assume a long term rate of improvement/underpin of 1.5% or higher; with 6% assuming a rate of 2% or higher

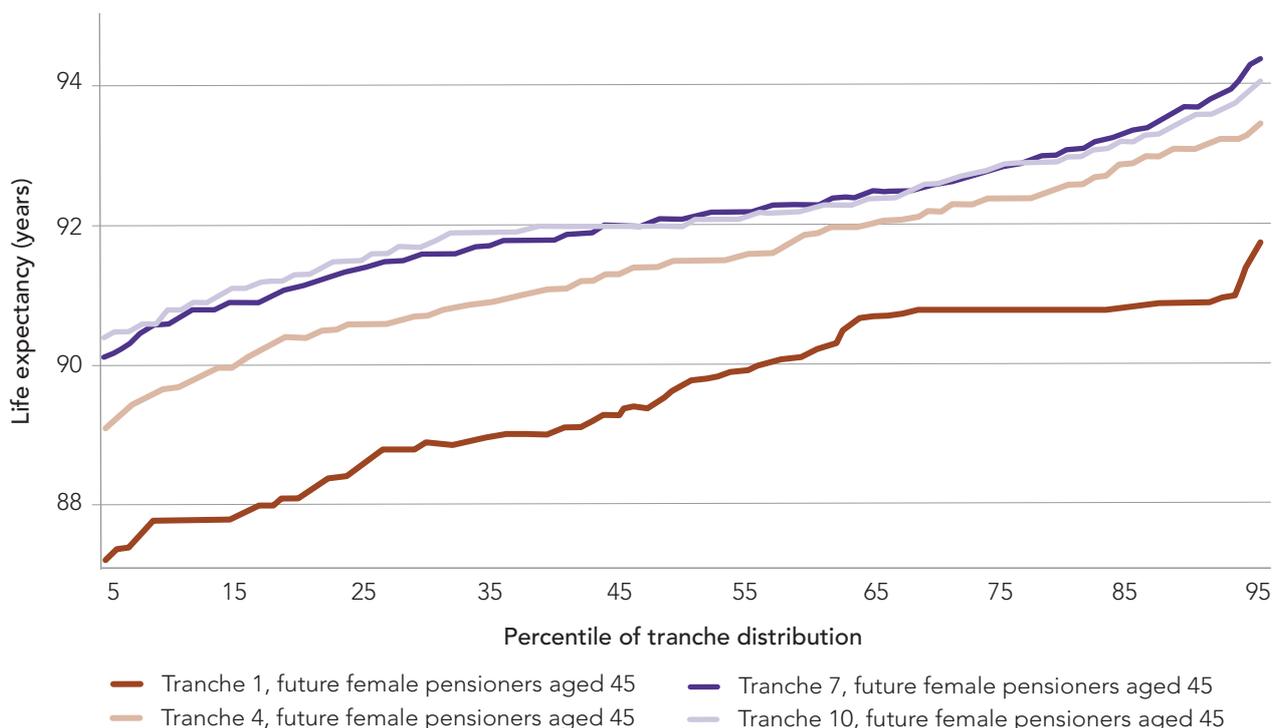
Figures 8a and 8b show the distribution of assumed life expectancies for future pensioners aged 45 (male and female) respectively, for Tranches 1, 4, 7 and 10. At the median, the assumed life expectancy of a future male pensioner currently aged 45 for Tranches 7 and 10 is 89.8 years. Similarly, the median life expectancy of a future female pensioner currently aged 45 for Tranches 7 and 10 is 92.1 and 92.0 years respectively. The median life expectancy assumption for future pensioner males and females in Tranche 10 is higher than the corresponding assumption for Tranche 1 by over two years.

**Figure 8a: Distribution of life expectancy assumptions for future male pensioners currently aged 45 (Tranches 1, 4, 7, 10)**



Source: TPR

**Figure 8b: Distribution of life expectancy assumptions for future female pensioners currently aged 45 (Tranches 1, 4, 7, 10)**



Source: TPR

## Indexation

From one valuation to the next, scheme liabilities may be influenced by market expectations for future retail price index (RPI)/consumer price index (CPI) at the time of valuations, to the extent that benefits are linked to inflation.

Table 1 shows the broad types of indexation used by Tranche 10 scheme in respect of post-1997 pensioner and deferred benefits. The majority of schemes link increases in pensioner/deferred benefits to RPI/CPI respectively.

**Table 1: Post-1997 Indexation for Tranche 10 Schemes**

Indexation	Post 1997 indexation percentage of schemes	Post 1997 revaluation percentage of schemes
Not available	3	1
Fixed interest value	4	3
Reference to CPI	19	71
Reference to RPI	74	25

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