Tranche 9 Analysis

Deficit management strategies for schemes with valuations for the period 22 September 2013 to 21 September 2014 (‘Tranche 9’)

February 2017
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Background and context

We published a revised code of practice\(^1\) in June 2014 to assist trustees and sponsoring employers of DB schemes in the management of funding risks. Prior to this release and in April 2014, we published our third annual funding statement.\(^2\) The statement was aimed at trustees and employers of defined benefit (DB) pension schemes who were undertaking scheme valuations with effective dates in the period 22 September 2013 to 21 September 2014 (Tranche 9).

The statement set out our expectations in the context of the then-prevailing economic environment, outlining principles later expounded on in the code, that trustees should take account of.

Alongside the funding statement, we also published analysis\(^3\) which informed key messages. Based on an estimated increase in deficits in the aggregate, assumptions around adjustments schemes might make, and general indicators of employer affordability, the analysis suggested that the majority of schemes would be able to manage deficits without impacting adversely on the employer’s plans for sustainable growth.

This report examines outcomes and funding strategies for a subset of Tranche 9 valuations. It also reports on adjustments schemes have made against our expectations, relative to other schemes, and in the context of employer affordability. As practice varies according to scheme-specific circumstances, the trends observed in aggregate can mask a high degree of variability.

This analysis serves a wider review in advance of the next funding statement, to ensure upcoming guidance reflects the challenges faced by Tranche 9 schemes.\(^4\)

The valuation period under the fourth cycle of Part 3 funding commenced for the Tranche 9 cohort on 22 September 2016. Recovery plans (RPs) for Tranche 12 valuations are due in the period December 2017 to December 2018.

This analysis should be read in conjunction with the overview at \(\text{www.tpr.gov.uk/t9-overview}\).

1 \(\text{www.tpr.gov.uk/code}\)
2 \(\text{www.tpr.gov.uk/statements}\)
3 \(\text{ibid}\)
4 Further statistics on Tranche 9 valuations and recovery plans can be found in the 2016 scheme funding publication at \(\text{www.tpr.gov.uk/research}\)
Tranche 9 analysis population

- 1,838 Tranche 9 valuations were submitted to us in the period to 31 January 2016.\(^5\)
- 1,680 (91%) of these had previously submitted a Tranche 6 valuation (‘common schemes’).
- 806 (48%) common schemes faced an increased deficit on a technical provisions (TP) basis.
- 1,011 (60%) common schemes faced an increased deficit on a reference basis.\(^6\)

While schemes are able to adjust their discount rates from one valuation to the next to reflect (among other things) changes in expectations for future returns, to facilitate the consistent comparison of schemes we select a reference point with regards to the discount rate. Deficits on a ‘reference basis’ are based on estimated liabilities using the Bank of England 20 year spot yield on gilts with an additional return of 50 basis points. This yield is not intended to be indicative of common or preferred practice.

- The 2014 statement’s key messages considered how Tranche 9 schemes could manage increased deficits, including the use of adjustments where appropriate.
- The following analysis therefore focuses primarily on schemes with an increased deficit (calculated on a reference basis), and includes those with sufficient data for the analyses of changes in key variables and assumptions.
- This results in a population of up to 1,011 schemes (the analysis population),\(^7\) representing 55% of all Tranche 9 valuations submitted to us up to 31 January 2016.

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\(^5\) Scheme Funding Statistics 2016 at [www.tpr.gov.uk/research](http://www.tpr.gov.uk/research)

\(^6\) Liabilities are calculated on a broadly consistent (‘reference’) basis, ie estimated using the Bank of England 20 year spot rate on gilts with an excess return of 50 basis points (bps).

\(^7\) Base data may vary slightly depending on the specific analysis owing to the availability of data.
Summary of findings

Broad funding outcomes

Tranche 9 schemes experienced a general worsening in funding positions. Over a third of schemes in the analysis population face increased deficits (calculated on a reference basis) of up to 60%; nearly one-tenth face increased deficits of 100% or over, while 5% have moved from surplus to deficit positions (Figure 1).

For Tranche 9 in aggregate, the growth in assets outperformed the increase in TP liabilities. The median increase in TPs, assets and reference liabilities between Tranches 6 and 9 is 20%, 22% and 19% respectively.

General affordability

The ratio of average annual deficit repair contributions (DRCs) committed to the scheme as a proportion profit before tax (PBT) of the employer(s) lies between 3% and 127% for the middle 50% of schemes, and is 20% at the median.

Between valuations, around half of employers saw some improvement in profitability (measured by PBT), either moving from a loss-making to profit-making position or reporting an increase in PBT. Over half who were profitable at both valuations reported some increase in PBT (Figure 2).

Changes in profitability are broadly similar across covenant groups although covenant group 3 (tending-to-weak employers) exhibits a more depressed profile for the period than the other groups (Figure 3).

Managing increased deficits – Current funding strategies

More than half of schemes increased DRCs in nominal terms (Figure 4) and at least half of schemes common to Tranches 6 and 9 have Tranche 9 recovery plans ranging from 4 to 10 years in length.

Average recovery plan lengths for Tranche 9 schemes with less than 40% of assets in return-seeking investments are at least a year shorter than average plan lengths of scheme groups with over 40% of assets in return-seeking investments.

Over one-third of Tranche 9 schemes hold 60-80% of their total asset allocation in return-seeking investments, with a slightly lesser proportion of schemes holding 40-60% of assets in return-seeking investments.

8 Scheme Funding Statistics 2016 at www.tpr.gov.uk/research
9 Calculated as the average of DRCs for the first four years of the Tranche 9 recovery plan.
10 Calculated as the average of PBT over the three financial years to end-2013, as per the employer’s accounting cycle.
11 Assessed in Tranche 9 and defined as: 1(strong), 2 (tending to strong), 3 (tending-to-weak), 4 (weak). See ’Methodology and data’.
12 Averages are unweighted.
13 ‘Return-seeking assets’ in this report include equities, property, commodities, hedge funds, 50% of corporate bonds and assets held in the ‘other’ category. (In the absence of credit ratings, this report assumes that 50% of corporate bonds held rank below investment grade.)


Funding strategies and employer considerations

The analysis suggests, as is expected of a scheme-specific regime, that in order to manage larger deficits, schemes adapted their funding strategies in different ways according to their circumstances and those of the employer – reflecting overall covenant strength, the change in profitability, and to an extent the ability of the employer to underwrite risk.

Schemes with the weakest employers are associated with relatively greater increases in DRCs, although schemes classed as tending-to-weak do not share the same profile. The median increase in annual DRCs for schemes with weak employers is slightly higher than that for schemes corresponding to the two strongest covenant groups, despite a relatively lower increase in PBT at the median (Figure 5A).

Compared to other groups, schemes with tending-to-weak employers have the lowest median increase in DRCs, which might be due in part to generally reduced affordability in 201314 relative to 2010 for those employers.

Among employers that were profitable in both tranches, increases in annual nominal DRCs in excess of 25% were associated with a group of employers with a relatively smaller increase in profitability on average. (Figure 5B).

The relationship between employer covenant and the proportion of return-seeking assets held by the scheme is weak. This is likely to be because other factors, in particular scheme maturity, influence investment strategy. For schemes with the weakest employers however (covenant group 4) there is slightly lesser proportion of return-seeking assets held at the median (Figure 6).

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14 2013 is the employer financial year for the purposes of the Tranche 9 analysis; 2010 likewise corresponds to Tranche 6.
Summary of findings

Adjustments in RPs and discount rates

Just over two thirds of schemes facing an increased reference deficit in Tranche 9 extended their Tranche 6 RP end-dates. The median extension to RP end-dates is approximately three years (Figure 7).

Discount rates increased on average, reversing a downward trend over previous tranches. For the majority, the spread\textsuperscript{15} over the yield on 20 year gilts (‘outperformance’) in the discount rate is greater in Tranche 9 compared to Tranche 6. For just under a third of schemes with a valuation in both Tranches 6 and 9, the increase in outperformance is greater than 0.25% (Figure 8).

A third of schemes increased RP end-dates by up to three years and/or have increases in discount rate outperformance up to 0.25% (Table 4).

Contributions in the context of adjustments made

Due in part to adjustments to RPs and/or TPs, 40% of schemes did not increase DRCs, a proportion in line with expectations based on the 2014 analysis (Figures 4 and 9).

Schemes that brought forward their RP end-dates, or extended them by up to three years, in combination with a greater increase in outperformance (over 0.25%), exhibited the lowest median increase in DRCs. They were also more likely than other analysis groups to have no DRCs in respect of the previous and current valuation (Table 5, Figure 10). It is possible these schemes were able to offset any increases in TP deficits arising from the impact of economic conditions through use of the adjustments, leading to relatively unchanged RPs, and as a result, a lower/or unchanged level of required DRCs. Employers for these schemes reported a greater increase in profitability, on average.

Schemes in the analysis group that made the greatest adjustments (specifically increases in RP length and discount rate outperformance) comprised a minority and had a higher median increase in DRCs than other groups (Table 5, Figure 10). Increases in profitability for this group were higher on average than the group making the least adjustments.

\textsuperscript{15}The spread of the nominal discount rate over 20 year nominal government spot rate, also referred to as the single effective discount rate (SEDR), a single equivalent rate estimated from investment return assumptions reported by schemes. See Scheme Funding Statistics 2016 at www.tpr.gov.uk/research for the methodology.
Proportionality: scheme and employer circumstances

Greater RP end-date extensions are largely explained by greater increased TP deficits, but there is no clear relationship between these changes and covenant group (Figures 11A and 13).

There is however a weak association between covenant group and greater relative outperformance in the discount rate. This is evident in the relatively lower average outperformance for schemes with weak employers compared with schemes with stronger employers (Figure 14).

As would be expected, schemes with the same or reduced outperformance over gilts relative to the previous valuation are generally associated with a greater increase in TP’s deficit. However, there is a wide distribution in percentage changes in TP deficits even within groups of schemes with similar changes in assumed discount rate outperformance. This could be because of varying levels of asset growth, the presence of hedging, and/or varying levels of DRCs committed during the inter-valuation period (Figure 12B).

A greater increase in deficit on a reference basis is generally associated with a greater increase in discount rate outperformance. Variation in changes to reference deficit from scheme to scheme could be the result of various factors – liability profile, level of hedging, asset-downside experience, timing of valuations etc. It is likely that related factors (eg maturity, proportion of return-seeking assets etc) also influence the implied outperformance in the discount rate (Figure 12A).

Although holding a higher proportion of return-seeking assets is generally associated with higher discount rate outperformance, changes in outperformance over the inter-valuation period are not observed to be sensitive to changes in the proportion of return-seeking assets held. This could be because changes in the outperformance may have been chiefly driven by other factors, including changes in expected returns on assets. Also, it could be that strategic changes in asset allocation have not been significant over the period. Alternatively, some schemes may have made use of the flexibility in the discount rate according to improvements in the employers’ circumstances and ability to underwrite the risk of returns underperforming expectations (Figure 15).

Generally, greater increases in profitability are not closely associated with greater increases in annual DRCs for Tranche 9 schemes. This is likely to be because of the adjustments in other areas being adopted. Conversely, and as noted above, schemes with the highest median increases in DRCs have, on average, lower increases in profitability.
Summary of findings

Schemes which brought forward or increased RP end-dates by up to three years and increased outperformance over 0.25% experienced higher increases in employer profitability as a group than other analysis groups (bar loss-making employers), but had lower increases in DRCs on average. They account for just under one-fifth of schemes in the analysis population. This improving affordability may, to an extent, explain the higher increase in discount rate outperformance observed on average for this group. However, among this group there is a slightly higher proportion of loss-making employers in both valuation periods than seen in other analysis groups (Figure 17).

The group of schemes adopting the smallest adjustments corresponds to 17% of the 40% of employers that are loss-making in one or both Tranches (Figure 16).
Results

Broad outcomes

Increased deficits

A key assumption of the 2014 annual funding statement was that the impact of changes in financial conditions combined with the interest cost on scheme liabilities would outweigh the effect of relatively strong asset performance and DRCs combined – leading to an increase in the aggregate deficit for Tranche 9 schemes conducting valuations during that period.

Figure 1A illustrates the distribution of changes in reference deficits faced by Tranche 9 schemes that also submitted Tranche 6 valuations. Three-fifths of those schemes have seen an increase in reference deficit.

In summary:

- 28% of schemes with valuations in both Tranche 6 and Tranche 9 saw a reduction in their deficit calculated on a reference basis.
- 30% of schemes submitting a valuation in both Tranche 6 and Tranche 9 saw an increase in their deficit calculated on a reference basis of up to 40%.
- 9% of schemes saw an increase in deficit of 100% and over.
- Nearly 5% of schemes have moved out of a surplus position in Tranche 6 to a deficit position in Tranche 9, while over 6% have experienced the reverse.
- 5% of schemes were in surplus in both tranches.
From Figure 1A we can see that there is a broad distribution of changes in reference deficit faced by Tranche 9 schemes relative to their Tranche 6 valuation. Approximately 9% of these schemes faced an increase of greater than 100%. For many of these schemes, this significant increase may be explained by the scheme having a small initial reference deficit. Figure 1B below evidences the length of RP agreed for this 9%, with approximately half agreeing an RP of less than six years.

Figure 1A: Distribution of relative (%) change in deficit calculated on a reference basis

Figure 1B: Distribution of T9 RP lengths for schemes facing an increased reference deficit of greater than 100%
Affordability

The 2014 analysis also suggested that, for many schemes, the ratio of a scheme’s deficit relative to the employer’s shareholders’ funds (SHF) (one of a few indicators of potential affordability) would likely increase over the three years to the Tranche 9 valuation.

High level trends in profitability (approximated by employer profit before tax (PBT), another potential affordability indicator) for the analysis population are illustrated in Figure 2, which shows the distribution of relative changes in employers’ PBT. It can be seen that around half of employers reported increases in profit positions.

Figure 2: Distribution of percentage change in employers’ PBT

A significant number of employers were loss-making in one or both tranches, with a lower proportion going from a profitable to loss-making position than vice versa (they have been excluded from the boxplots in Figure 3 to aid visualisation and interpretation). Across covenant groups, the experience of employers in the analysis population with respect to changes in PBT is broadly similar (Figure 3). Although the proportion of PBT growth reduced with declining covenant strength in general, covenant group 3 (tending-to-weak) exhibited a distinctively depressed profile.
Results

For schemes assessed as having a strong employer covenant (covenant group 1), employers’ PBT increased by 23% at the median (with 50% of employers in this group having a relative change in PBT of between -9%\textsuperscript{16} and 64%). This compares to an increase of 11% at the median amongst schemes assessed as having a weak covenant (with 50% of employers in this group having a relative change in PBT of between -39%\textsuperscript{17} and 71%).

The ratio of average annual DRCs to profit before tax (PBT), for the middle 50% of schemes, lies between 3% and 127%, and is 20% at the median.

Figure 3: Distribution of percentage change in employers’ PBT by Tranche 9 covenant group

\textsuperscript{16} That is to say that PBT in Tranche 9 (2013) was 9\% less than that in Tranche 6 (2010), i.e. it had declined by approximately one-tenth.

\textsuperscript{17} That is to say that PBT in Tranche 9 (2013) was 39\% less than that in Tranche 6 (2010), i.e. it had declined by approximately two-fifths.
Results

**Current funding strategies**

**Deficit repair contributions**

The level of a scheme's DRCs relative to the previous recovery plan is influenced by employer affordability and extent to which adjustments have been made. The employers’ affordability position is therefore a key consideration in determining the level of annual DRCs.

Figure 4 shows the distribution of changes to average annual nominal DRCs for the analysis population. Around three fifths of schemes increased DRCs relative to the Tranche 6 levels.

**Figure 4: Percentage change in nominal annual average DRCs**

Base: Analysis population
Source: TPR

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18 Calculated as the average of DRCs scheduled over the first four years of the Tranche 9 vs Tranche 6 recovery plan.
Table 1 shows a broad breakdown of the analysis population by the extent of change in nominal DRCs.

**Table 1: Analysis population categorised by extent of change in nominal DRCs**

<table>
<thead>
<tr>
<th>Change in nominal annual average DRCs group</th>
<th>Proportion of analysis population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static/reduced nominal annual average DRCs</td>
<td>39%</td>
</tr>
<tr>
<td>Up to 25% increase in nominal annual average DRCs</td>
<td>21%</td>
</tr>
<tr>
<td>Greater than 25% increase in nominal annual average DRCs</td>
<td>40%</td>
</tr>
</tbody>
</table>

Base: Analysis population  
Source: TPR

The results above are relatively consistent with the 2014 analysis, which suggested, based on assumptions around the level of adjustments applied across the board, that around 40% of schemes would not need to increase DRCs relative to Tranche 6 levels.

**Recovery plan lengths**

Over a third of Tranche 9 schemes in deficit on a TPs basis reported an RP of less than five years in length. Nearly 40% reported RPs with length of between five to less than 10 years. At least half of schemes common to Tranches 6 and 9 have an RP of between four and 10 years in length. As will be seen later, the RP length is a key area of flexibility in the management of deficits.

**Investments**

In addition to employer DRCs, the scheme relies on investment returns to correct the deficit. Investment returns are also dynamically linked to DRCs as well as plan lengths. All else being equal, relatively lower DRCs imply a higher reliance on investment returns.

Similarly, average plan lengths for Tranche 9 schemes with less than 40% of assets in return-seeking investments are at least a year shorter than average plan lengths of scheme groups with over 40% of assets in return-seeking investments. Over one-third of Tranche 9 schemes have 60-80% of assets invested in return-seeking asset classes, with a slightly lower proportion of Tranche 9 schemes holding 40-60% of assets in return-seeking investments.

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19 Scheme Funding Statistics 2016 at www.tpr.gov.uk/research  
20 ibid
Results

**Employer considerations and risk management**

**DRCs in the context of affordability**

The employer covenant, including affordability (approximated in this analysis by the employer’s PBT), is an important consideration in agreeing an appropriate level of DRCs. The 2014 funding statement encouraged trustees to consider the employer’s covenant and plans for sustainable growth as part of an integrated approach to managing risk.

Figure 5A shows the relationship between the change in nominal DRCs, and the strength of the employer covenant (approximated here by covenant groups 1-4). On average, schemes in the analysis population increased nominal DRCs by a broadly similar amount irrespective of the assessed strength of their employer covenant.

For schemes assessed as having a strong (1) employer covenant, DRCs increased at the median by 18% (with 50% of schemes in this group being between a decrease of 1% and an increase of 88%) compared to an increase at the median of 21% amongst schemes assessed as having a weak (4) covenant (with 50% of schemes in this group having increased DRCs between 0% and 64%).

**Figure 5A: Distribution of percentage change in DRCs by Tranche 9 covenant group**

<table>
<thead>
<tr>
<th>Covenant group</th>
<th>Median change in DRCs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>18%</td>
</tr>
<tr>
<td>2</td>
<td>18%</td>
</tr>
<tr>
<td>3</td>
<td>13%</td>
</tr>
<tr>
<td>4</td>
<td>21%</td>
</tr>
</tbody>
</table>

Base: Analysis population
Source: TPR
Results

In respect of relative changes in PBT, the experience of employers in the analysis population is broadly similar across the groups defined in Table 1. This is shown in Figure 5B below.

For schemes that maintained or reduced nominal DRCs, employers’ PBT increased by 12% at the median (with 50% of employers in this group having a relative change in PBT of between -34% and 66%).

This compares to an increase in employers’ PBT of 4% at the median among schemes which had increased nominal DRCs by more than 25% (with 50% of employers in this group having a relative change in PBT of between -37% and 53%).

![Figure 5B: Distribution of percentage change in employers’ PBT by change in DRCs group](image)

**Figure 5B: Distribution of percentage change in employers’ PBT by change in DRCs group**

<table>
<thead>
<tr>
<th>Change in nominal annual average DRCs</th>
<th>Relative change in PBT (nominal, %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static/reduced</td>
<td>12%</td>
</tr>
<tr>
<td>Up to 25% increase</td>
<td>12%</td>
</tr>
<tr>
<td>Greater than 25% increase</td>
<td>4%</td>
</tr>
</tbody>
</table>

Investments strategies and covenant

The 2014 funding statement also emphasized the importance to risk management of taking into account downside scenarios and the ability of the employer to underwrite risk.

For schemes in the analysis population, there is a weak association between allocation to return-seeking assets and covenant strength. For Tranche 9 as a whole, the majority of schemes in covenant groups 1-3 hold 60-80% of assets in return-seeking assets compared to the majority in covenant group 4 which hold 40-60% in return-seeking assets.\(^\text{23}\)

\(^{21}\) That is to say that PBT in Tranche 9 (2013) was 34% less than that in Tranche 6 (2010), ie it had reduced by approximately one third.

\(^{22}\) That is to say that PBT in Tranche 9 (2013) was 37% less than that in Tranche 6 (2010), ie it reduced by a little over one third.

\(^{23}\) Scheme Funding Statistics 2016 at [www.tpr.gov.uk/research](http://www.tpr.gov.uk/research)
Results

Figure 6 below illustrates the relationship between investment strategy (approximated by the proportion of return seeking assets) and covenant group. The median allocation to return-seeking assets for Tranche 9 schemes with an employer covenant assessed by us as being strong (1) is 59%, with 50% of values falling between 43% and 74%; while for those with an employer covenant assessed as being weak (4) the median allocation to return-seeking assets is 55%, with 50% of values falling between 42% and 69%.

**Figure 6: Distribution of allocation to return-seeking assets by Tranche 9 covenant group**

<table>
<thead>
<tr>
<th>Covenant Group</th>
<th>Median Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>59%</td>
</tr>
<tr>
<td>2</td>
<td>57%</td>
</tr>
<tr>
<td>3</td>
<td>58%</td>
</tr>
<tr>
<td>4</td>
<td>55%</td>
</tr>
</tbody>
</table>

Base: All Tranche 9 valuations received up to 31 January 2016
Source: TPR

Integrated approach to risk management

The 2014 funding statement emphasised collaborative working between trustees and employers towards a balanced funding outcome.

In a survey TPR carried out in 2014, trustees were asked how they manage funding, investment and covenant risks between valuations. This research found that the majority of trustees and employers surveyed reported that schemes risks were integrated to some extent or fully; that there was an open and transparent relationship between trustees and employers and that funding and investment strategies took account of the risk capacity and risk appetite of the sponsor employer. Table 2 shows the proportion of trustees reporting positively to each of five specific risk management activities tested.
Results

Table 2: Trustee boards’ management of funding, investment and covenant risks between valuations

<table>
<thead>
<tr>
<th>Survey results</th>
<th>All trustees (Base – all: 300)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The investment strategy and funding plans are based on an updated view of the</td>
<td>88%</td>
</tr>
<tr>
<td>risk that can be backed by employer covenant</td>
<td></td>
</tr>
<tr>
<td>Risk taking in the investment strategy and funding plans are set following</td>
<td>88%</td>
</tr>
<tr>
<td>establishment of a risk appetite discussed with the employer</td>
<td></td>
</tr>
<tr>
<td>Funding and investment performance are monitored to defined tolerances</td>
<td>84%</td>
</tr>
<tr>
<td>There are clear plans for action when tolerances are breached or on some other</td>
<td>75%</td>
</tr>
<tr>
<td>trigger</td>
<td></td>
</tr>
<tr>
<td>Trustees are in a position to evidence how they have taken an integrated</td>
<td>87%</td>
</tr>
<tr>
<td>approach to risk management</td>
<td></td>
</tr>
<tr>
<td>None of these</td>
<td>3%</td>
</tr>
<tr>
<td>Manage all 5 activities</td>
<td>62%</td>
</tr>
<tr>
<td>Manage at least 4 activities</td>
<td>81%</td>
</tr>
<tr>
<td>Manage at least 3 activities</td>
<td>89%</td>
</tr>
<tr>
<td>Manage at least 2 activities</td>
<td>93%</td>
</tr>
</tbody>
</table>

Base: 300 trustees  
Source: TPR

It can be seen that three in five stated that they manage all five of the specified risk activities – a higher proportion compared to 49% and 42% in 2013 and 2014 scheme governance surveys, respectively.

The 2015 survey presented a similar result to that carried out among Tranche 9 trustees in 2014 (ie 63%). Positive responses were more prevalent in schemes with 1,000+ members (74%) than in schemes with 100-999 members (61%), and schemes with 100 members or less (46%).
**Adjustments to RPs and TPs**

**Recovery plan adjustments**

The length of the RP is a key flexibility in managing increased deficits. RPs can be tailored to scheme and employer circumstances. Figure 7 shows the distribution of RP end-date extensions for the analysis population. Nearly one half of schemes extended their RP end-date by less than six years; while 7% of extended plans by 12 years or more.

Additionally, for the analysis population:

- The median increase in RP end-date is three years.
- Around 13% of schemes have brought forward their RP end-date.
- 17% have maintained their RP end-date (+/- 1 month relative to the end-date under the Tranche 6 RP).
- 23% of schemes have extended their RP end-date by up to and including three years.

![Figure 7: Distribution of changes to RP end-dates](image-url)

*Base: Analysis population  
Source: TPR*
Discount rate adjustments

The analysis supporting the 2014 statement highlighted some of the flexibilities available to schemes for adapting their funding strategy in a way that is tailored to individual scheme circumstances. The ability of schemes to change their assumptions in their discount rate for future investment returns was one of the adjustments highlighted. We have analysed this by looking at the change in outperformance over 20 year gilts (a reference yield) implied in the discount rate.

The annual Scheme Funding Statistics publication for 201624 (based on all Tranche 9 valuations received up to 31 January 2016) reports that average nominal and average real discount rates increased in Tranche 9. The discount rate used to calculate TPs is influenced by the scheme’s investment strategy (that is, based on the expected returns on assets held). The investment strategy of a scheme (approximated here by a scheme’s allocation to return-seeking assets25) may itself take some account of the ability of the employer to underwrite downside risk.

The 2016 statistics show that schemes with a higher proportion of return-seeking assets tend, on average, to assume higher discount rates. 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.

For example: The median discount rate outperformance for Tranche 9 schemes with a return-seeking asset allocation of less than 20% is 0.48%, with 50% of values falling between 0.22% and 0.77%. For schemes with greater than 80% of total assets held in return-seeking asset classes the median outperformance in the discount rate is 0.98%, with 50% of values falling between 0.75% and 1.26%.

The median outperformance over the 20 year nominal spot rate is 0.10% higher for Tranche 9 relative to Tranche 6 while median outperformance of the real discount rate over the 20 year real government spot rate is relatively unchanged.

24 Scheme Funding Statistics 2016 at www.tpr.gov.uk/research

25 Return-seeking assets’ here includes equities, property, commodities, hedge funds, 50% of corporate bonds, and assets held in the ‘other’ category. In the absence of credit ratings, this assumes that 50% of corporate bonds held rank below investment grade.
Results

Figure 8 shows how nominal discount rate outperformance changed between Tranche 6 and Tranche 9 valuations for schemes conducting a valuation in both tranches. Nearly a third of schemes either maintained the same outperformance in the discount rate or reduced it. Over a third increased it by up to 0.25% while just under a third increased it by more than 0.25%.

Figure 8: Distribution of percentage change in discount rate outperformance

DRCs in the context of adjustments made

The analysis supporting the 2014 annual funding statement modelled the impact on DRCs of applying a three year extension to the RP end-date coupled with an increase in the in the discount rate of 0.25%. The level of annual DRCs is similarly considered in the context of adjustments observed. To facilitate further analysis, for schemes facing an increased reference deficit:

- Table 3 groups schemes into three categories which relate to the extent of the changes they have made to RP end-dates.
- Table 4 groups schemes into three categories according to how discount rate outperformance has changed from Tranche 6 to Tranche 9.
- Table 5 groups schemes into four categories based on differing combinations of their use of the key adjustments highlighted in the 2014 statement: discount rate outperformance and RP end-dates, corresponding to those groups defined in Tables 3 and 4.
### Results

#### Table 3: Analysis population categorised by extent of change in RP end-dates

<table>
<thead>
<tr>
<th>Change in RP end-date group</th>
<th>Proportion of analysis population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static/reduced RP length</td>
<td>26%</td>
</tr>
<tr>
<td>Up to three year RP extension</td>
<td>27%</td>
</tr>
<tr>
<td>Greater than three year RP extension</td>
<td>48%</td>
</tr>
</tbody>
</table>

Source: TPR

#### Table 4: Analysis population categorised by extent of change in discount rate outperformance

<table>
<thead>
<tr>
<th>Change in discount rate outperformance group</th>
<th>Proportion of analysis population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static/reduced discount rate outperformance over 20 year nominal spot rate</td>
<td>32%</td>
</tr>
<tr>
<td>Up to 0.25% increase in discount rate outperformance over 20 year nominal spot rate</td>
<td>37%</td>
</tr>
<tr>
<td>Greater than 0.25% increase in discount rate outperformance over 20 year nominal spot rate</td>
<td>31%</td>
</tr>
</tbody>
</table>

Sources: TPR, Thomson Reuters, Bank of England
Results

Table 5 shows that schemes managed their increased deficits in different ways depending on their specific circumstances (which could include for example: the extent to which deficits increased, the structure of the existing RP, the existing extent of assumed discount rate outperformance, the level of nominal DRCs already being paid, employer affordability and sustainable growth plans).

Group A comprises 33% of the analysis population. They increased discount rate outperformance by up to 0.25% whilst bringing forward their RP end-date, keeping a static RP end-date, or extending their RP end-date by up to three years.

Group B comprises 19% of the analysis population. They increased discount rate outperformance by greater than 0.25% whilst bringing forward their RP end-date, keeping a static RP end-date, or extending their RP end-date by up to three years.

Group C comprises 36% of the analysis population. They increased discount rate outperformance by up to 0.25% whilst also extending their RP end-date by more than three years.

Group D comprises 12% of the analysis population. They increased discount rate outperformance by greater than 0.25% whilst also extending their RP end-date by more than three years.

Table 5: Analysis population categorised by extent of use of two adjustments highlighted

<table>
<thead>
<tr>
<th>Discount rate outperformance group</th>
<th>Static/reduced SEDR spread over 20 yr gilt spot-curve</th>
<th>Up to 25bps increase SEDR spread over 20 yr gilt spot-curve</th>
<th>Greater than 25bps increase SEDR spread over 20 yr gilt spot-curve</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP end-date change group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Static/reduced RP length</td>
<td>5%</td>
<td>8%</td>
<td>12%</td>
<td>25%</td>
</tr>
<tr>
<td>Up to 3 yr RP extension</td>
<td>8%</td>
<td>12%</td>
<td>7%</td>
<td>27%</td>
</tr>
<tr>
<td>Greater than 3 yr RP extension</td>
<td>18%</td>
<td>18%</td>
<td>12%</td>
<td>48%</td>
</tr>
<tr>
<td>Total</td>
<td>32%</td>
<td>38%</td>
<td>31%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Sources: TPR, Thomson Reuters, Bank of England
Results

Figure 9 and Table 6 illustrate the concentration of changes to nominal DRCs for the analysis groups (defined in Table 5) at different ranges. Figure 10 illustrates the distribution of changes to nominal DRCs by the groups.

It can be seen that the distribution of changes to nominal average annual DRCs is broad for the analysis groups defined in Table 5.

For Group A (comprising 33% of the analysis population who increased discount rate outperformance by up to 0.25% whilst reducing, keeping static or increasing RP end-dates by up to 3 years), DRCs were increased by 13% at the median (with 50% of schemes in this group increasing DRCs by between 0% and 53%).

This compares to Group D (comprising 12% of the analysis population, who increased discount rate outperformance by greater than 0.25% whilst also extending RP end-dates by greater than three years), for whom DRCs were increased by 31% at the median. 50% of schemes in this group increased DRCs by between 0% and 100%.
## Results

Table 6: Distribution of changes to nominal DRCs (proportion of each analysis group (%))

<table>
<thead>
<tr>
<th>Percentage change</th>
<th>Analysis group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>No DRCs in Tranche 9</td>
<td>3.4</td>
</tr>
<tr>
<td>100-75% decrease</td>
<td>0.9</td>
</tr>
<tr>
<td>75-50% decrease</td>
<td>2.5</td>
</tr>
<tr>
<td>50-25% decrease</td>
<td>3.1</td>
</tr>
<tr>
<td>0-25% decrease</td>
<td>8.8</td>
</tr>
<tr>
<td>No DRCs in either</td>
<td>17.8</td>
</tr>
<tr>
<td>0-25% increase</td>
<td>22.5</td>
</tr>
<tr>
<td>25-50% increase</td>
<td>13.4</td>
</tr>
<tr>
<td>50-75% increase</td>
<td>8.1</td>
</tr>
<tr>
<td>75-100% increase</td>
<td>3.1</td>
</tr>
<tr>
<td>100-125% increase</td>
<td>2.2</td>
</tr>
<tr>
<td>125-150% increase</td>
<td>1.6</td>
</tr>
<tr>
<td>150%+ increase</td>
<td>7.8</td>
</tr>
<tr>
<td>No DRCs in Tranche 6</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Figure 10: Distribution of changes to nominal DRCs by analysis group

Both on this page:

Base: Analysis population
Source: TPR


Results

Proportionality: Scheme and employer circumstances

One of the key messages in the 2014 funding statement was that schemes and employers facing more challenging circumstances might need to make greater adjustments. It is useful to examine the extent to which increased deficits and covenant/affordability explain the adjustments observed.

Worsened positions

806 schemes in the analysis population face increased deficits on a TP basis compared to 1,011 on a reference basis. Figure 11A compares the change in deficit (on a reference basis and on a TP basis) for each group in Table 3. Generally the larger the increase in TP deficit, the greater the extension to the RP end-date.

- For Group 1 deficits at the median remained largely unchanged (with 50% of schemes in this group between a decrease of 4% and an increase of 11%).
- For Group 3 deficits at the median increased by 68% (with 50% of schemes in this group between an increase of 27% and an increase of 100%).

Figure 11B shows how reference deficits have changed for each RP end-date change group. It can be seen there is little in the way of a relationship between increase in reference deficit, and RP extensions. This is not surprising given that recovery plan lengths relate to the TP deficit.

For Group 1, deficits increased at the median by 51% (with 50% of schemes in this group between 26% and 100%) compared to a median increase of 45% in Group 3 (with 50% of schemes in this group between 24% and 77%).

Both figures base: Analysis population
Both figures source: TPR

Medians – Static/reduced: 52%; Up to 25% increase: 29%; Greater than 25% increase: 45%
A greater increase in deficit on a reference basis is generally associated with a greater increase in discount rate outperformance. Figure 12A shows how reference deficits have changed for each discount rate outperformance change group.

For Group 1, deficits increased at the median by 31% (with 50% of schemes in this group between 20% and 65%) compared to a median increase of 60% in Group 3 (with 50% of schemes in this group between 32% and 95%).

Both figures base: Analysis population
Both figures sources: TPR, Thomson Reuters, Bank of England

Medians – Static/reduced: 31%; Up to 25% increase: 33%; Greater than 25% increase: 60%

806 schemes in the analysis population face increased deficits on a TP basis compared to 1,011 on a reference basis.

Figure 12B shows that generally the greater the increase in discount rate outperformance, the smaller the increase in TP deficit – as would be expected. However, there is a wide distribution in percentage changes in TP deficits even within groups of schemes with similar changes in assumed discount rate outperformance. This could be as a result of among other things: varying levels of asset growth which impacts on the level of deficits, and/or the presence of hedging.

For Group 1 deficits increased at the median by 52% (with 50% of schemes in this group between 23% and 100%) compared to a median increase of 9% in Group 3 (with 50% of schemes in this group between 10% decrease and 74% increase).
Covenant strength

On average, schemes in the analysis population extended their RP end-dates by a broadly similar range irrespective of the assessed strength of their employer covenant.

This can be seen in Figure 13 below, which shows the relationship between the absolute change in RP end-date, and the strength of the employer covenant (approximated here by covenant groups 1-4).

For schemes assessed as having a strong employer covenant, RP end-dates extended at the median by three years (with 50% of schemes in this group having an extension of between one month and six years) compared to an extension at the median of three years amongst schemes assessed as having a weak covenant (with 50% of schemes in this group having an extension of between 10 months and 6.6 years).

**Figure 13: Distribution of absolute change in RP end-date by Tranche 9 covenant group**

There is a weak association between discount rate outperformance and covenant strength – as seen in Figure 14.

The median discount rate outperformance for Tranche 9 schemes with an employer covenant assessed by us as being strong is 0.98%, with 50% of such values falling between 0.69% and 1.26%; while for those with an employer covenant assessed as being weak the median outperformance is 0.78%, with 50% of values falling between 0.48% and 1.10%.
Results

Figure 14: Distribution of nominal discount rate outperformance by Tranche 9 covenant group

![Box plot showing nominal SEDR spread over 20 year gilt by covenant group.]

**Medians**
- Covenant group 1: 0.98%
- Covenant group 2: 0.94%
- Covenant group 3: 1.00%
- Covenant group 4: 0.78%

Base: Analysis population
Source: TPR, Thomson Reuters, Bank of England

**Changes in investment strategy**

Given the relationship between outperformance and investment strategy, the extent to which changes in investment strategy explain changes in discount rate outperformance, is of interest. Figure 15 shows how changes in the allocation to return-seeking assets relate to the changes in discount rate outperformance for schemes conducting valuations in both tranches.

For any particular level of change in return-seeking asset allocation, there is a wide distribution of change in discount rate outperformance. This suggests that although outperformance in the discount rate varies by return-seeking assets held, changes to the outperformance assumption are not very sensitive to changes to return-seeking allocation over the inter-valuation period. This may be for a number of reasons including that: changes to the outperformance may be driven by other factors (like changes in expected returns on various asset classes including bond yields) and strategic changes to asset allocations over the period in question are not significant.

Alternatively, some schemes may have made use of the flexibility in the discount rate based on the employer’s ability to underwrite this decision, relaxing more conservative assumptions.
We can see from Figure 15 that:

- at the median\(^{26}\) there has been a small increase in allocation to return-seeking assets (+0.30%) compared to a small increase in the discount rate outperformance (+0.05%)
- the area of the innermost ring\(^ {27}\) is bounded at about -3% and +5% approximately in terms of absolute change in return-seeking assets, and at about -0.11% and +0.18% in terms of absolute change in discount rate outperformance
- the majority of the innermost ring (the central 20% of schemes relative to both axes in concert) lies in the upper right quadrant of the chart. This suggests that the majority of these schemes both increased their allocation to return-seeking assets and increased their discount rate outperformance

**Figure 15: Distribution of change in discount rate outperformance by change in allocation to return-seeking assets**

Base: All schemes with Tranche 6 and Tranche 9 valuations
Sources: TPR, Thomson Reuters, Bank of England

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\(^{26}\) The dotted vertical and horizontal lines indicate median values for each axis respectively.

\(^{27}\) 20% of schemes are contained within each ring. This is a bi-variate kernel distribution (a two way histogram as if viewed from above), whereby each ring can be interpreted much the same as contour lines on an ordinance survey map – that is they are analogous to lines of equal altitude of the two way histogram.
Changes in profitability

The experience of employers in the analysis population with respect to relative changes in PBT is broadly similar across analysis groups A-D (defined in Table 5).

Figure 16 and Table 7 illustrate the concentration of the change in employers’ PBT for the analysis groups at different ranges while Figure 16 illustrates the distribution of changes in employers’ PBT by the analysis groups.

It can be seen in Figure 16 that analysis groups A and C correspond to the majority of the loss-making employers of total employers for schemes in the analysis population. Analysis group A, which adopted relatively smaller adjustments, corresponds to 17% of the 40% of employers that are loss-making, while analysis group C – which behaved similarly with greater adjustments adopted in the recovery plan – corresponds to 15% of the 40%.

Figure 16: Distribution of changes in employers’ PBT at different ranges (all employers to schemes in the analysis population (%))
Results

Table 7: Distribution of changes in employers’ PBT (Proportion of employers to each analysis group (%))

<table>
<thead>
<tr>
<th>Percentage change</th>
<th>Analysis group</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative PBT in Tranche 9</td>
<td>7.6</td>
<td>9.0</td>
<td>12.0</td>
<td>11.8</td>
<td></td>
</tr>
<tr>
<td>50-100% decrease</td>
<td>10.9</td>
<td>6.4</td>
<td>10.1</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>25-50% decrease</td>
<td>7.8</td>
<td>6.2</td>
<td>7.3</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>0-25% decrease</td>
<td>8.7</td>
<td>6.7</td>
<td>7.7</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>Negative PBT in both tranches</td>
<td>15.4</td>
<td>21.6</td>
<td>13.2</td>
<td>14.6</td>
<td></td>
</tr>
<tr>
<td>0-25% increase</td>
<td>6.7</td>
<td>9.7</td>
<td>8.6</td>
<td>12.7</td>
<td></td>
</tr>
<tr>
<td>25-50% increase</td>
<td>6.5</td>
<td>7.7</td>
<td>6.0</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>50-100% increase</td>
<td>6.7</td>
<td>8.4</td>
<td>6.3</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>100-250% increase</td>
<td>8.5</td>
<td>6.4</td>
<td>6.5</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>250%+ increase</td>
<td>5.7</td>
<td>5.2</td>
<td>6.1</td>
<td>6.3</td>
<td></td>
</tr>
<tr>
<td>Negative PBT in Tranche 6</td>
<td>15.5</td>
<td>12.6</td>
<td>16.3</td>
<td>12.7</td>
<td></td>
</tr>
</tbody>
</table>

Base: Employers for schemes in the analysis population
Sources: TPR, FAME published by Bureau van Dijk

There is a significant number of employers who were loss-making in one or both tranches. They are excluded from Figure 17 to aid visualisation and interpretation.

For analysis Group A (comprising 33% of the analysis population, who increased discount rate outperformance by up to 0.25% whilst reducing, keeping static, or extending RP end-dates by up to 3 years), employers’ PBT increased by 5.7% at the median. 50% of employers in this group had a relative change in PBT of between -39% and +65%.

This can be compared to an increase of 17.3% at the median for analysis Group D for example (comprising 12% of the analysis population, who increased SEDR outperformance by greater than 0.25% whilst also extending RP end-dates by greater than 3 years). 50% of employers in this group had a relative change in PBT between -40% and +48%.

On average analysis Group B experienced the greatest relative improvement in profitability (ignoring loss-making employers) which may explain to an extent, the higher increase in discount rate outperformance observed on average, for this group. However this group also has a slightly higher proportion of loss-making employers in both valuations than other groups as seen in Table 7.
Results

Figure 17: Percentage change in employers’ PBT by analysis group

Base: Employers for schemes in the analysis population reporting profits for both Tranche 6 and 9 periods. Sources: TPR, FAME published by Bureau van Dijk

**Medians**
- Analysis group A: 6%
- Analysis group B: 21%
- Analysis group C: 8%
- Analysis group D: 17%
Methodology and data

Methodology

Average annual DRCs are calculated as the average of DRCs over the first four years of the RP.

Liabilities are calculated on a broadly consistent ‘reference’ basis to facilitate comparison, using the Bank of England 20 year nominal gilts plus an excess return of 0.5%.

Covenant groups (1-4) are assigned at the point of initial RP reviews to facilitate prioritisation. These grades may vary to the view taken during case level intervention, where a wider range of information is taken into account. They are defined as: covenant group 1 – strong; 2 – tending to strong; 3 – tending-to-weak; 4 – weak. Covenant assessments are not usually undertaken for surplus schemes. In this analysis all covenant groups were assigned in respect of the Tranche 9 valuation.

Return-seeking assets in this report include equities, property, commodities, hedge funds, 50% of corporate bonds, and assets held in the ‘other’ category. In the absence of credit ratings, this report assumes that 50% of corporate bonds held rank below investment grade.

Extreme or negative values have either been excluded or visualisations capped at an upper bound to aid interpretation where appropriate.

Employer data

We rely solely on the information supplied to us via scheme returns to identify our employer population, which may not be the most up to date or contain the level of detail that would be available to covenant advisors when advising their clients. This inevitably leads to many more simplifications and approximations in the methods we use to estimate aggregate and individual covenant support.

Much of the data underlying the analyses rely on an evaluation of the ownership of participating employers by other group entities. Ownership is defined as where a company is the UK-domiciled domestic ultimate owner (DUO) of a participating employer, with a minimum controlling stake or interest of 50.01% in that employer. In some cases we do not have sufficient data to identify the DUO of a subject company (participating employer).
Methodology and data

We have used the latest published corporate financial data available from our sources as at 1 September 2016 in respect of statutory employers to which more than one DB membership is directly attributable. We have used 2010 financial year end data as relevant to the Tranche 6 valuation, and 2013 for Tranche 9. For some employers (and therefore some schemes) the required data was not available – mainly SMEs, public/third sector or overseas companies – and therefore the analyses may not be representative of these schemes and/or sectors.

In order to estimate the available covenant support we have made certain assumptions and simplifications, the principal ones (though not an exhaustive list) are:

- where an employer participates in more than one scheme and/or a scheme is sponsored by more than one employer, we have made assumptions about the division and aggregation of an employer’s financial support among the pension schemes in which it participates, based on the relative number of members in each scheme attributable to each employer
- where corporate financial information for statutory employers was not available individually, where appropriate we have used consolidated accounts for the relevant group, thus potentially overstating the covenant support available
- where corporate financial information was not available for all statutory employers to a scheme, we have used information aggregated over only those employers for whom the relevant data was available, thus potentially understating the covenant support available

Any of these assumptions, made to overcome data limitations, may be a significant source of error at the individual scheme/employer level.

Moreover, accounting-based metrics may be poor indicators of formally assessed covenant strength and accordingly this analysis should not be seen as a substitute for bespoke assessment.
Glossary

**Deficit repair contributions (DRCs)**

These are DRCs made by employers to the scheme in order to address any asset to TPs deficit, in line with the Schedule of Contributions and the RP. Throughout this analysis we have used DRCs in the context of the value the scheme receives without making any allowance for any tax benefit the sponsoring employer may receive. All DRCs values in this analysis are an annual average of the first four years of the RP.

**Profit before tax (PBT)**

Profit before tax is a profitability measure after deduction of all operating expenses, interest on debt and depreciation but before the deduction of corporate tax. We have used PBT as a reasonable indicator of cash generation after debt service and maintenance capital expenditure (capex). We make no adjustments to remove the impact of any pension items already included in the reported figure.

**Recovery plan (RP)**

Under Part 3 of the Pensions Act 2004, where there is a funding shortfall at the effective date of the actuarial valuation, the trustees must prepare a plan to achieve full funding in relation to the TPs. The plan to address this shortfall is known as an RP.

**RP length**

The RP length is the time that it is assumed it will take for a scheme to eliminate any shortfall at the effective date of the actuarial valuation, so that by the end of the RP it will be fully funded in relation to the TPs.

**Single effective discount rate (SEDR)**

Two approaches are used by pension schemes in respect of the discount rate assumption: a single investment return approach (single rates approach) and a different investment returns approach (different rates approach). The SEDR is a single composite rate made up of constituents of the different rates approach, allowing approximately for the maturity of schemes. In this analysis, the terms ‘discount rate’ and ‘SEDR’ are synonymous.
Glossary

**Technical provisions (TPs)**

The funding measure used for the purposes of Part 3 valuations (see above). The TPs are a calculation undertaken by the actuary of the assets needed at any particular time to make provision for benefits already considered accrued under the scheme using assumptions prudently chosen by the trustees – in other words, what is required for the scheme to meet the statutory funding objective. These include pensions in payment (including those payable to survivors of former members) and benefits accrued by other members and beneficiaries, which will become payable in the future.

**Tranches**

Tranches are the set of schemes that are required to carry out a scheme-specific funding valuation within a particular time period. Schemes whose valuation dates fell from 22 September 2005 to 21 September 2006 (both dates inclusive) were in Tranche 1, from 22 September 2006 to 21 September 2007 were Tranche 2 (both dates inclusive) etc. Because scheme-specific funding valuations are generally required every three years, schemes whose valuations are in Tranche 1 will also be likely to carry out valuations in Tranches 4, 7 and 10.