Pension Protection Fund

# The Purple Book

DB PENSIONS UNIVERSE RISK PROFILE

2017

The Purple Books give the most comprehensive picture of the risks faced by the PPF-eligible defined benefit pension schemes.

# Contents

# Overview

## Key figures

**NUMBER OF PPF ELIGIBLE SCHEMES**

2006 7,800 → 2017 5,588

**NUMBER OF ACTIVE MEMBERS**

2006 3.6M → 2017 1.3M

**PERCENTAGE OF SCHEMES OPEN TO NEW MEMBERS**

2006 43% → 2017 12%

**PERCENTAGE OF SCHEMES CLOSED TO NEW MEMBERS BUT OPEN TO NEW BENEFIT ACCRUAL**

2006 44% → 2017 47%

**PERCENTAGE OF SCHEMES CLOSED TO FUTURE BENEFIT ACCRUAL**

2006 12% → 2017 39%

**PERCENTAGE INVESTED IN EQUITIES**

2006 61% → 2017 29%

**PERCENTAGE INVESTED IN BONDS**

2006 28% → 2017 56%

**PERCENTAGE INVESTED IN ASSETS OTHER THAN EQUITIES AND BONDS**

2006 11% → 2017 15%

**FUNDING LEVEL (s179 BASIS)**

2006 97% ↓ 2017 91%

**MAXIMUM AND MINIMUM FUNDING LEVELS (s179 BASIS)**

2007 109% | 2009 80%

**FUNDING LEVEL (BUY-OUT BASIS)**

2006 60% ↑ 2017 68%

**AVERAGE INSOLVENCY RATE OF PPF ELIGIBLE SCHEMES' SPONSORING COMPANIES**

2006 0.8% ↓ 2017 0.3%

**ANNUAL COMPENSATION PAID BY PPF**

2006/07 £1M ↑ 2016/17 £661M

**PPF LEVY COLLECTED IN YEAR**

2006/07 £271M ↑ 2016/17 £563M

# 1 Executive Summary

## Summary

This is the twelfth edition of the Pensions Universe Risk Profile (The Purple Book). The Purple Book provides comprehensive data on the PPF's universe of Defined Benefit (DB) pension schemes, predominantly those in the UK private sector. This year the Purple dataset covers 5,588 schemes, 98.5 per cent of the estimated universe of schemes eligible for PPF compensation.

## Scheme demographics

The proportion of schemes that are open to new members fell slightly in 2017 to 12 per cent. The open share has, in fact, declined only slowly since 2012, after falling sharply in the preceding six years. There is, however, a continuing trend of schemes which are closed to new members also closing to future benefit accrual. The proportion of schemes closed to both new members and future accrual rose to 39 per cent from 35 per cent in 2016.

Schemes that are open tend to be larger in terms of membership. 21 per cent of members were in open schemes with a further 55 per cent in schemes that are closed to new members but open to new accrual.

The Purple 2017 dataset includes 10.5 million members of DB schemes, down from 10.9 million last year. Of these, around 47 per cent are deferred members, around 40 per cent are pensioner members, and around 12 per cent are active members. The number of active members has been falling steadily since 2006 - there were 1.3 million active members in 2017 down from 3.6 million in 2006.

## Scheme funding

Scheme funding improved in the year to the end of March 2017. The aggregate deficit on an s179 basis fell to £161.8 billion from £221.7 billion while the aggregate funding level improved to 90.5 per cent from 85.8 per cent. Around 1.5 percentage points of the improvement was the result of a change in actuarial assumptions in December 2016[1]. More up-to-date valuations and the shrinking dataset/universe also contributed to the improvement. Market movements made a small negative contribution to funding - the impact of lower gilt yields on liability values more than offset the impact of the rise in equity markets and bond prices on assets. There was considerable volatility in scheme funding through the year mainly reflecting the path of gilt yields.

On a full buy-out basis, the estimated aggregate deficit fell to £736.2 billion from £779.9 billion, the funding level improving to 67.7 per cent from 63.2 per cent.

Many members of defined benefit pension schemes are choosing to transfer out of these schemes. Recent studies suggest that both the number of requests for transfer value quotations, and subsequent transfers, have been increasing, particularly in the year 2016/17. This recent experience is partly due to market conditions and life expectancy expectations increasing transfer values, as well as members seeking to take advantage of the flexibilities introduced by the new pensions freedoms in 2015. While this has not had a discernible effect on the proportions of active or deferred membership shown in the Purple Book 2017 dataset, we'd note that due to a lag in the effective date of the membership count in the data we receive, our membership data is unlikely to capture everything that's happened since 2015. Any subsequent trends in member transfers will be captured in future Purple Books.

## Asset allocation

Continuing the long-term trends, the aggregate proportion of schemes' assets invested in equities fell from 30.3 per cent last year to 29.0 per cent while the proportion in bonds rose from 51.3 per cent to 55.7 per cent. The proportion invested in instruments other than bonds and equities fell from 18.4 per cent to 15.3 per cent.

Within bonds, the corporate fixed interest securities' proportion decreased to 31.4 per cent, the fifth successive decline. The proportion of government fixed interest securities rose for a fifth consecutive year to 24.1 per cent. The balance of holdings in index-linked securities was little changed at 44.5 per cent, a stabilisation after seven successive increases.

[1] On 1 December 2016, the PPF updated its valuation assumption guidance for both s179 and s143 valuations.

Within equities, the UK-quoted proportion fell from 22.4 per cent to 20.5 per cent, while the overseas proportion increased slightly to 69.0 per cent. The proportion in unquoted/private equities increased from 9.0 per cent to 10.5 per cent.

The proportion invested in instruments other than bonds and equities fell mainly because of a swing to a negative 0.9 per cent holding in cash and deposits (from 3.0 per cent in the Purple Book 2016). This is likely to reflect increases in holdings of swaps and gilt repurchase agreements among a number of large schemes, as well as refined reporting of this in the recent scheme returns. The allocation to hedge funds edged higher, to 6.7 per cent, the eighth successive annual increase.

## Risk reduction

DB pension schemes have been continuing to close to new accrual. In terms of asset-side risk reduction, they have been:

- moving their asset allocation away from equities and towards bonds, and
- diversifying their investments.

Scheme sponsors have also been making deficit reduction contributions. Data from the Office for National Statistics covering around 360 large pension schemes (including 100 local authorities and some DC schemes) show that in the year to 31 March 2017 sponsoring employers made £11.4 billion in special contributions (i.e. those in excess of regular annual contributions) compared with £16.3 billion in the year to 31 March 2016.

Analysis of The Pensions Regulator's latest Technical Provisions and recovery plan data shows that in Tranche 10[2], the average recovery plan length was 7.5 years, 1 year shorter than that of Tranche 7 (comparable given the three year valuation cycle). Assets as a percentage of Technical Provisions rose from 81.0 per cent in Tranche 7 to 88.7 per cent in Tranche 10.

The total number of Contingent Assets submitted to the PPF for the 2017/18 levy year was 601, compared with 591 in 2016/17. This reflects a number of additional Type B & C Contingent Assets (security holdings or bank guarantees).

There were £16.3 billion of risk transfer deals in the year to 30 June 2017.

## PPF claims, levy and compensation

In the year to 31 March 2017, 43 new schemes entered PPF assessment. This is similar to the number in the preceding two years, and well down on the levels seen between 2008 and 2014. The value of new claims was £252 million down from £476 million in 2015/16.

In 2016/17, levy payments totalled £563 million, similar to the previous year. The top 100 levy payers accounted for 42 per cent of the total levy paid. Around 17 per cent of schemes paid no Risk-Based Levy while three per cent of schemes saw the cap of 0.75 per cent of smoothed liabilities apply to their Risk-Based Levy. Over three quarters of the levies paid came from schemes sponsored by employers categorised as Large/Complex or Group £50m+ for Experian scorecard purposes.

In the year to 31 March 2017, the PPF made compensation payments of £661 million compared with £616 million in the previous year. As at 31 March 2017, 129,661 members were in receipt of compensation, up from 121,059 as at 31 March 2016. The average amount of compensation in payment to pensioners and dependants was £4,309 per year, up from £4,162 per year as at 31 March 2016.

## Economy and market background

Annual GDP growth rose from 1.6 per cent in the first quarter of 2016 to 2.0 per cent in the first quarter of 2017. The Official Bank Rate remained at 25 basis points at 31 March 2017 following its cut in August 2016.

15-year gilt yields at the end of March 2017 stood at 1.6 per cent per year, some 40 basis points lower than the level a year earlier, while 15-year index linked yields were 72 basis points lower at -1.7 per cent per year. The FTSE all-share index rose by 17.5 per cent over the year.

[2] Tranche 10 covers schemes with valuation dates between 22 September 2014 and 21 September 2015. http://www.thepensionsregulator.gov.uk/docs/scheme-funding-appendix-2017.pdf

# 2 The Data

## 2.1 Summary

- The main body of the analysis in the Purple Book 2017 is based on new scheme returns for a dataset of 5,588 Defined Benefit (DB) schemes, covering 10.5 million members[3]. This represents virtually all PPF-eligible schemes and universe liabilities. Complete 2017 information is not yet available for the remaining schemes and, hence, these have been excluded from the sample.
- It is estimated that the eligible universe of schemes was 5,671, a reduction from 5,886 in March 2016. The declining universe reflects schemes winding up, scheme mergers, and schemes entering PPF assessment.
- The fact that the dataset accounts for such a large proportion of the universe means that results for the whole universe would only be slightly different from those presented in the Purple Book 2017.
- As in previous Purple Books, the bulk of the analysis uses funding on a section 179 basis. This is, broadly speaking, what would have to be paid to an insurance company to take on the payment of PPF levels of compensation.
- From the Levy Year 2015/16, Experian has provided the PPF with scores as indicators of insolvency risk using the PPF-specific model. This is a statistical model, developed using observed insolvencies among employers and guarantors of DB pension schemes. More detail on the model can be found on the the PPF's website[4].

## 2.2 Introduction

The PPF covers certain DB occupational schemes and DB elements of hybrid schemes. Some DB schemes will be exempt from the PPF, including:

- unfunded public sector schemes,
- some funded public sector schemes, for example, those providing pensions to local government employees,
- schemes to which a Minister of the Crown has given a guarantee,
- schemes with only one member, and
- schemes which began to wind up, or were completely wound up, prior to 6 April 2005.

For a more comprehensive list see 'eligible schemes' on the PPF's website at: http://www.pensionprotectionfund.org.uk/About-Us/eligibility/Pages/Eligibility.aspx

The information used in Chapters 3 to 8 of this publication comes from three primary sources, as described below.

### Scheme returns provided to The Pensions Regulator

Most of the analysis in this year's publication is based on new scheme returns issued in December 2016 and January 2017 and returned by 31 March 2017.

### Voluntary form reporting

Electronic forms are available on The Pensions Regulator's website for pension schemes to provide data regarding Contingent Assets (CAs), valuation results on an s179 basis, Deficit-Reduction Contributions (DRCs), the s179 valuation results following block transfers, and Asset-Backed Contributions. More information on DRCs and CAs is given in Chapter 12, "Risk Reduction".

[3] One individual can have multiple memberships (for example of different pension schemes). Hence the number of members exceeds the number of individuals.

[4] For more information see: http://www.pensionprotectionfund.org.uk/levy/Pages/PensionProtectionLevy.aspx

## Sponsor failure scores

From the Levy Year 2015/16, Experian has provided the PPF with scores for the purpose of calculating the PPF Levy, using the PPF-specific model. This is a statistical model, developed using observed insolvencies among employers and guarantors of DB pension schemes.

Currently, the starting point in establishing the insolvency risk element of the Risk-Based Levy is normally the annual average of schemes' Experian Monthly Scores. The average Monthly Score is then matched to the minimum and maximum mean score range of one of ten Levy Bands and the corresponding Levy Rate is used.

The data used in Chapters 9 (PPF Levy Payments 2016/17), 10 (Schemes in Assessment) and 11 (PPF Compensation 2016/17) are derived from the PPF's business operations. The data from Chapter 12 is in the main taken from a variety of public sources, as noted underneath each figure.

## 2.3 The PPF-eligible DB universe[5]

**Figure 2.1 |** Distribution of schemes excluding those in assessment by number of members as at 31 March 2017

| Number of members | 2-99 | 100-999 | 1,000 - 4,999 | 5,000 - 9,999 | 10,000+ | Total |
|---|---|---|---|---|---|---|
| Estimated 2017 Universe (number of schemes) | 2,033 | 2,488 | 772 | 180 | 198 | 5,671 |
| Purple 2017 dataset (number of schemes) | 1,994 | 2,458 | 759 | 180 | 197 | 5,588 |
| Purple 2017 dataset as % of 2017 PPF-eligible DB universe | 98.1% | 98.8% | 98.3% | 100.0% | 99.5% | 98.5% |

Source: PPF

The Purple Book 2017 sample covers almost all of the estimated number of PPF-eligible schemes.

**Figure 2.2 |** Distribution of assets, s179 liabilities and members in the Purple Book 2017 dataset as at 31 March 2017

| Number of members | 2-99 | 100-999 | 1,000 - 4,999 | 5,000 - 9,999 | 10,000+ | Total |
|---|---|---|---|---|---|---|
| Assets (£ billion) | 16.1 | 133.2 | 255.4 | 195.4 | 941.0 | 1,541.1 |
| s179 liabilities (£ billion) | 16.2 | 152.3 | 293.7 | 214.9 | 1,025.8 | 1,702.9 |
| Members (000's) | 88 | 863 | 1,721 | 1,244 | 6,553 | 10,469 |

Source: PPF

Large schemes with over 5,000 members make up 7 per cent of the total number of schemes in the Purple Book 2017 dataset but around 74 per cent of each of total assets, liabilities and members.

## 2.4 Scheme Funding

As in previous Purple Books, the bulk of the analysis uses funding estimates on a section 179 (s179) basis. This is, broadly speaking, what would have to be paid to an insurance company to take on the payment of PPF levels of compensation. The PPF uses estimates of scheme liabilities on an s179 basis in the calculation of Scheme-Based levies. The analysis in Chapter 4, "Scheme Funding", uses data that, as far as possible, reflects the position at 31 March 2017 with the s179 assumptions that came into effect on 1 December 2016. As in previous years, actuaries at the PPF have also produced full estimates of the funding position on a buy-out basis for the Purple 2017 dataset.

[5] The universe estimates are based on an assessment of the number of additional schemes for which full data will become available.

# 3 Scheme Demographics

## 3.1 Summary

- The 5,588 schemes in the Purple Book 2017 dataset cover around 10.5 million members, down from the 10.9 million members in the Purple Book 2016's 5,794 schemes.
- There have been some small movements over the year in the distribution of schemes by status. The percentage of schemes open to new members decreased from 13 per cent to 12 per cent (this small change contrasts with a rapid closure of schemes in the period 2006 to 2010), the percentage of schemes closed to new members but open to new benefit accrual decreased from 50 per cent to 47 per cent, and the percentage of schemes closed to future accrual increased from 35 per cent to 39 per cent. Large schemes are less likely to be closed to future accrual of benefits.
- While 76 per cent of members are in schemes still open to new accrual, only 12 per cent of members are still accruing benefits, a decrease of 1 percentage point from 2016. The number of active members is less than half of those found in the first Purple Book dataset in 2006.
- The proportion of active members in schemes increases with size, with actives making up 14 per cent of the membership of the largest schemes (categorised as those with 10,000 or more members) compared with 8-12 per cent for schemes with fewer than 10,000 members.

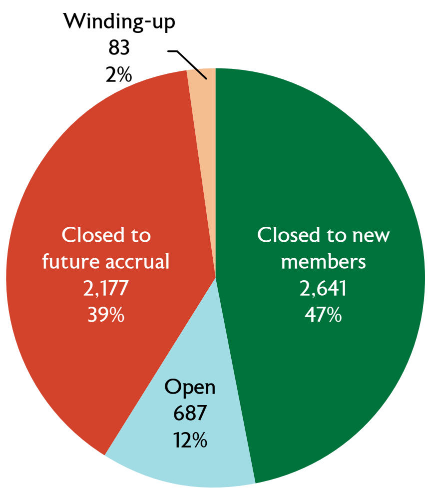
## 3.2 Introduction

This chapter describes the dataset used for this year's edition of the Purple Book. Figures for the total number of schemes and total scheme membership are included, with breakdowns by scheme size, scheme status, and member status.

The categorisation of schemes has varied in previous editions of the Purple Book as more informative breakdowns have become available. For more detailed information, see the appendix.

## 3.3 Scheme Status

**Figure 3.1** | Distribution of schemes by status




**Source:** PPF

47 per cent of schemes are closed to new members, and another 39 per cent are also closed to future benefit accrual.

**Figure 3.2 |** Distribution of schemes by scheme status and year

| Percentage of schemes | Open | Closed to new members | Closed to future accrual | Winding-up |
|---|---|---|---|---|
| 2006 | 43% | 44% | 12% | 1% |
| 2007 | 36% | 45% | 16% | 2% |
| 2008 | 31% | 50% | 17% | 2% |
| 2009 | 27% | 52% | 19% | 2% |
| 2010 | 18% | 58% | 21% | 2% |
| 2011 | 16% | 58% | 24% | 2% |
| 2012 | 14% | 57% | 26% | 2% |
| 2013 | 14% | 54% | 30% | 2% |
| 2014 | 13% | 53% | 32% | 2% |
| 2015 | 13% | 51% | 34% | 2% |
| 2016 | 13% | 50% | 35% | 2% |
| 2017 | 12% | 47% | 39% | 2% |

Source: PPF

The proportion of schemes that are closed to new members but open to future benefit accrual has decreased as those schemes close to future accrual.

**Figure 3.3 |** Distribution of schemes by scheme status and year (excluding hybrid schemes[6])

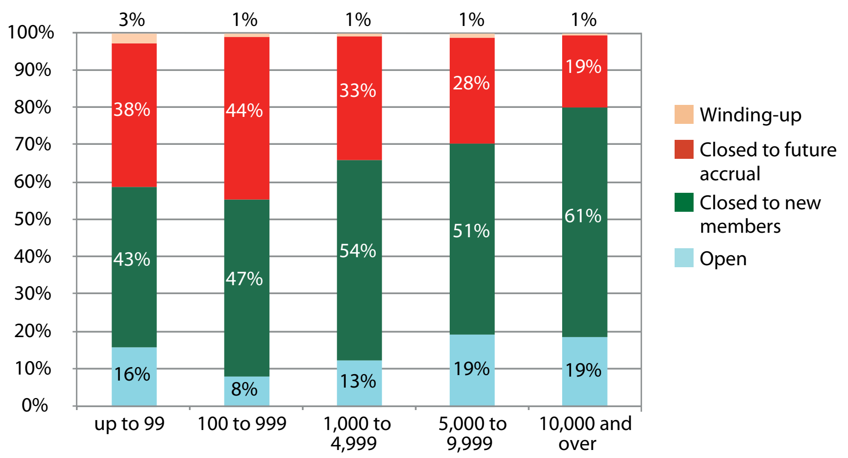
| Percentage of schemes | Open | Closed to new members | Closed to future accrual | Winding-up |
|---|---|---|---|---|
| 2006 | 35% | 49% | 15% | 1% |
| 2007 | 33% | 49% | 17% | 1% |
| 2008 | 26% | 52% | 19% | 3% |
| 2009 | 22% | 55% | 20% | 3% |
| 2010 | 21% | 54% | 23% | 2% |
| 2011 | 18% | 54% | 26% | 2% |
| 2012 | 17% | 53% | 29% | 2% |
| 2013 | 16% | 51% | 31% | 2% |
| 2014 | 15% | 50% | 33% | 2% |
| 2015 | 14% | 49% | 35% | 2% |
| 2016 | 14% | 47% | 37% | 2% |
| 2017 | 13% | 45% | 40% | 2% |

Source: PPF

[6] A hybrid scheme is one that provides defined benefit (DB) and defined contribution (DC) benefits. The treatment of such schemes has varied in past editions of the Purple Book as better data has become available (see the appendix for a detailed explanation). At present we define a scheme as closed if the DB section is closed, even if the DC section remains open.

Large schemes are less likely to be closed to future accrual of benefits.

**Figure 3.4** | Distribution of schemes by scheme status and member group

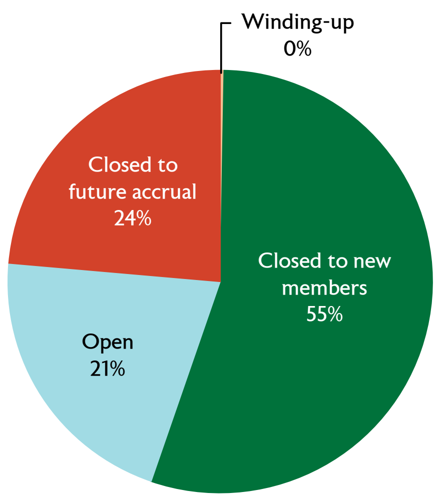



**Source:** PPF
Note that the components may not sum to the total because of rounding.

## 3.4 Scheme status and scheme members

21 per cent of members are in schemes that are open to new members with a further 55 per cent in schemes that are closed to new members but open to future benefit accrual.

**Figure 3.5** | Distribution of members by scheme status




**Source:** PPF

**Figure 3.6 |** Distribution of members by scheme status and year

| Percentage of schemes | Open | Closed to new members | Closed to future accrual | Winding-up |
|---|---|---|---|---|
| 2006 | 66% | 32% | 2% | 1% |
| 2007 | 50% | 46% | 3% | 0% |
| 2008 | 44% | 52% | 4% | 0% |
| 2009 | 37% | 59% | 4% | 0% |
| 2010 | 34% | 60% | 5% | 1% |
| 2011 | 31% | 62% | 6% | 0% |
| 2012 | 28% | 64% | 8% | 0% |
| 2013 | 23% | 65% | 12% | 0% |
| 2014 | 22% | 62% | 15% | 0% |
| 2015 | 22% | 62% | 16% | 0% |
| 2016 | 19% | 60% | 20% | 1% |
| 2017 | 21% | 55% | 24% | 0% |

Source: PPF

The proportion of members in schemes that are closed to future accrual has increased from 2 per cent in 2006 to 24 per cent in 2017.

**Figure 3.7 |** Distribution of members by scheme status (excluding hybrid schemes)

| Percentage of schemes | Open | Closed to new members | Closed to future accrual | Winding-up |
|---|---|---|---|---|
| 2006 | 35% | 49% | 15% | 1% |
| 2007 | 55% | 41% | 3% | 0% |
| 2008 | 46% | 49% | 4% | 0% |
| 2009 | 38% | 57% | 5% | 0% |
| 2010 | 38% | 56% | 6% | 1% |
| 2011 | 34% | 58% | 8% | 0% |
| 2012 | 30% | 61% | 9% | 0% |
| 2013 | 27% | 61% | 11% | 0% |
| 2014 | 25% | 60% | 14% | 1% |
| 2015 | 24% | 59% | 16% | 1% |
| 2016 | 19% | 56% | 24% | 1% |
| 2017 | 19% | 53% | 27% | 1% |

Source: PPF

The movements from 2016 to 2017 in the proportions of closed schemes are similar whether hybrid schemes are included or excluded from the dataset.

Of the 10.5 million members included in the Purple Book dataset, 76 per cent were in schemes still open to future accrual. However, only 12 per cent of members were still accruing benefits.

## 3.5 Scheme membership

**Figure 3.8** | Number and distribution of members by member type and scheme status, 31 March 2017

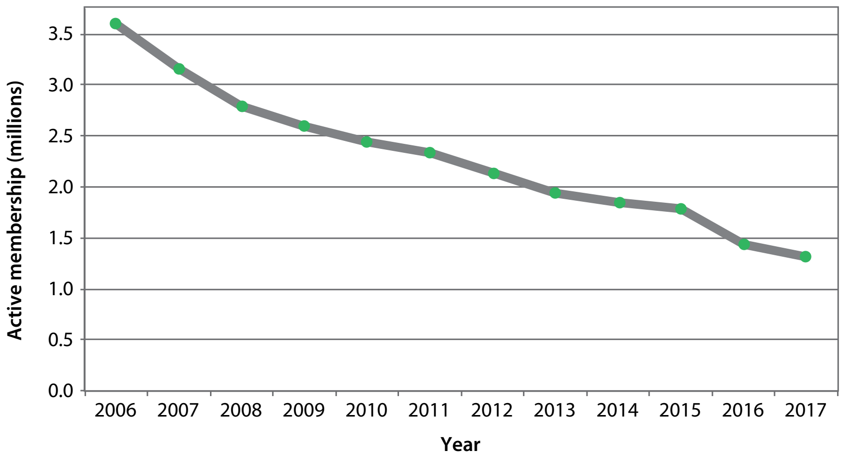
| Number % | Open | Closed to new members | Closed to future accrual | Winding up | All |
|---|---|---|---|---|---|
| Active members | 623,486<br>6% | 684,097<br>7% | -<br>0% | -<br>0% | 1,307,583<br>12% |
| Deferred members | 807,151<br>8% | 2,582,089<br>25% | 1,532,931<br>15% | 16,247<br>0% | 4,938,418<br>47% |
| Pensioner members | 725,942<br>7% | 2,496,628<br>24% | 974,523<br>9% | 26,011<br>0% | 4,223,104<br>40% |
| Total | 2,156,579<br>21% | 5,762,814<br>55% | 2,507,454<br>24% | 42,258<br>0% | 10,469,105<br>100% |

**Source:** PPF

Note that the components may not sum to the total because of rounding.

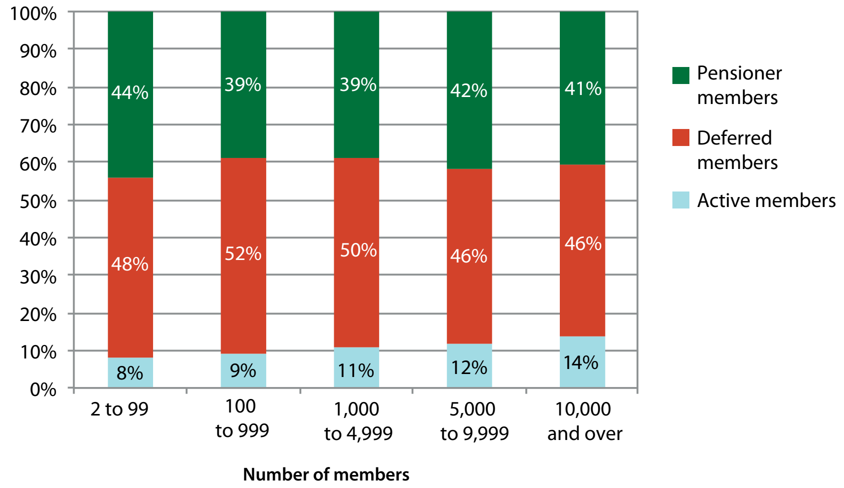
The number of active members in the PPF universe has been steadily declining since 2006.

**Figure 3.9** | Active members in Purple Book datasets




**Source:** PPF

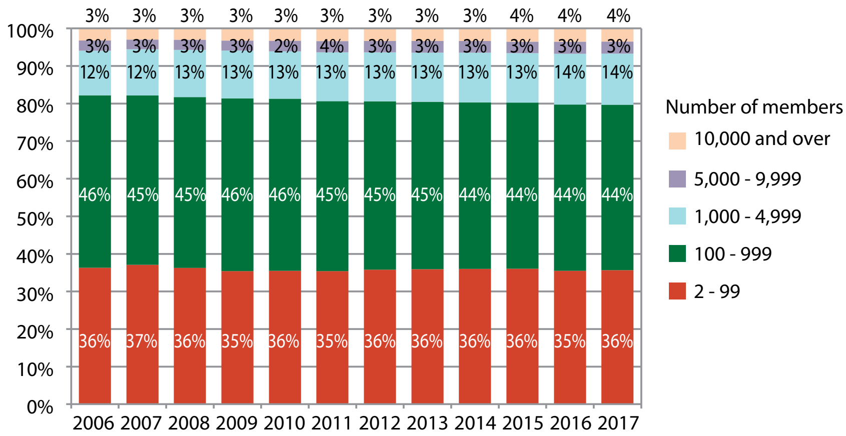
**Figure 3.10** | Distribution of member type, by size of scheme




**Source:** PPF
Note that the components may not sum to the total because of rounding.

The distribution of member types is stable across scheme sizes, as measured by numbers of members.

**Figure 3.11** | Proportion of schemes by size, as measured by number of members, by year




**Source:** PPF
Note that the components may not sum to the total because of rounding.

The distribution of schemes by size, as measured by numbers of members, has remained stable over time.

# 4 Scheme Funding

## 4.1 Summary

- The estimated aggregate funding level on a full buy-out basis improved to 67.7 per cent at 31 March 2017, up from 63.2 per cent a year earlier, while the deficit improved to £736.2 billion from £779.9 billion.
- The aggregate s179 funding position of the schemes in the Purple Book 2017 dataset as at 31 March 2017 was a deficit of £161.8 billion, down from £221.7 billion a year earlier.
- Total liabilities have increased by 8.9 per cent to £1,702.9 billion this year. Total assets increased by 14.9 per cent to £1,541.1 billion.
- The aggregate s179 funding level rose 4.7 percentage points to 90.5 per cent at 31 March 2017, from 85.8 per cent at 31 March 2016.
- In the year to 31 March 2017, 15-year conventional gilt yields fell by 40 basis points and over 15-year index-linked gilt yields by 72 basis points. The FTSE All-Share Index grew by 18 per cent and FTSE All-World by 13 per cent.
- The impact of market movements alone would have resulted in a deterioration in the scheme aggregate funding level of around 0.3 percentage points, as the impact on liability values of lower gilt yields more than offset the impact on assets of the rise in equity markets and bond prices. However, the change in s179 assumptions in December 2016 led to a 1.5 percentage point improvement in aggregate funding level. This shows that the new scheme valuations and the shrinking of the PPF universe had a net positive impact on funding.
- The smallest and the largest schemes tend to have better aggregate funding levels than mid-size schemes.
- More mature schemes (i.e. those with a higher proportion of pensioner liabilities) have higher aggregate funding levels.
- Since 2010, the proportion of liabilities that relates to deferred members has risen from 27 per cent to 38 per cent while the proportions that relate to pensioners and active members have both fallen.

## 4.2 Introduction

This chapter covers funding on an s179 basis as at March 2017[7]. Funding information supplied in scheme returns is processed so that the funding levels can be estimated at a common date, allowing consistent totals to be used. (In the Purple Book we have added deficit reduction contributions, as submitted for levy purposes, to the asset values submitted in s179 valuations.) A scheme that is 100 per cent funded on an s179 basis has broadly enough assets to pay to an insurance company for it to take on the payment of PPF levels of compensation. In addition, this chapter considers estimated full buy-out funding information - this has been calculated using the same valuation assumptions and underlying data as for the s179 calculations but includes an approximate allowance for the difference between the PPF level of compensation and full scheme benefits.

[7] Latest effective s179 assumptions guidance is available at the following link: http://www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/S179%20Assumptions%20Guidance.pdf

## 4.3 Overall Funding

**Figure 4.1** | Key funding statistics as at 31 March 2017

| | s179 | Full buy-out |
|---|---|---|
| Total number of schemes | 5,588 | 5,588 |
| Total assets (£ billion) | 1,541.1 | 1,541.1 |
| Total liabilities (£ billion) | 1,702.9 | 2,277.3 |
| Aggregate funding position (£ billion) | -161.8 | -736.2 |
| Total balance for schemes in deficit (£ billion) | -246.7 | -741.6 |
| Total balance for schemes in surplus (£ billion) | 84.9 | 5.4 |
| Aggregate funding level | 90.5% | 67.7% |

**Source:** PPF

The aggregate s179 funding position of the schemes in the Purple 2017 dataset as at 31 March 2017 was a deficit of £161.8 billion.

**Figure 4.2** | Historical funding figures on an s179 basis

| Year | No. of schemes | Total assets (£ billion) | s179 Liabilities | | | | |
|---|---|---|---|---|---|---|---|
| | | | Liabilities (£ billion) | Aggregate funding position (s179) (£ billion) | Deficit of schemes in deficit (£ billion) | Surplus of schemes in surplus (£ billion) | Aggregate funding level |
| 2006 | 7,751 | 769.5 | 792.2 | -22.7 | -76.3 | 53.5 | 97.1% |
| 2007 | 7,542 | 837.7 | 769.9 | 67.8 | -46.8 | 96.5 | 108.8% |
| 2008 | 6,897 | 837.2 | 842.3 | -5.1 | -67.7 | 62.6 | 99.4% |
| 2009 | 6,885 | 780.4 | 981.0 | -200.6 | -216.7 | 16.0 | 79.6% |
| 2010 | 6,596 | 926.2 | 887.9 | 38.3 | -49.1 | 87.4 | 104.3% |
| 2011 | 6,432 | 968.5 | 969.7 | -1.2 | -78.3 | 77.1 | 99.9% |
| 2012 | 6,316 | 1,026.8 | 1,231.0 | -204.2 | -231.3 | 27.1 | 83.4% |
| 2013 | 6,150 | 1,118.5 | 1,329.2 | -210.8 | -245.8 | 35.0 | 84.1% |
| 2014 | 6,057 | 1,137.5 | 1,176.8 | -39.3 | -119.0 | 79.7 | 96.7% |
| 2015 | 5,945 | 1,298.3 | 1,542.5 | -244.2 | -285.3 | 41.1 | 84.2% |
| 2016 | 5,794 | 1,341.4 | 1,563.1 | -221.7 | -273.5 | 51.8 | 85.8% |
| 2017 | 5,588 | 1,541.1 | 1,702.9 | -161.8 | -246.7 | 84.9 | 90.5% |

**Source:** PPF

The aggregate s179 funding level for 2017 was 90.5 per cent, up from 85.8 per cent a year earlier. Total liabilities increased by 8.9 per cent and total assets by 14.9 per cent

The aggregate buy-out funding level increased from 63.2 per cent to 67.7 per cent over the year, and the aggregate deficit decreased from £779.9 billion to £736.2 billion.

**Figure 4.3** | Historical funding figures on a full buy-out basis

| Year | Total assets (£ billion) | Full buy-out | | | | |
|---|---|---|---|---|---|---|
| | | Liabilities (£ billion) | Aggregate funding position (s179) (£ billion) | Deficit of schemes in deficit (£ billion) | Surplus of schemes in surplus (£ billion) | Aggregate funding level |
| 2006 | 769.5 | 1,273.5 | -504.0 | n/a | n/a | 60.4% |
| 2007 | 837.7 | 1,289.3 | -451.6 | n/a | n/a | 65.0% |
| 2008 | 837.2 | 1,356.0 | -518.6 | -520.4 | 1.6 | 61.7% |
| 2009 | 780.4 | 1,351.6 | -571.2 | -572.3 | 1.1 | 57.7% |
| 2010 | 926.2 | 1,359.2 | -433.0 | -436.5 | 3.5 | 68.1% |
| 2011 | 968.5 | 1,435.5 | -467.0 | -470.7 | 3.7 | 67.5% |
| 2012 | 1,026.8 | 1,702.6 | -675.8 | -677.3 | 1.5 | 60.3% |
| 2013 | 1,118.5 | 1,826.7 | -708.2 | -709.9 | 1.7 | 61.2% |
| 2014 | 1,137.5 | 1,690.3 | -552.8 | -558.2 | 5.4 | 67.3% |
| 2015 | 1,298.3 | 2,099.2 | -800.9 | -804.9 | 4.0 | 61.8% |
| 2016 | 1,341.4 | 2,121.3 | -779.9 | -784.0 | 4.1 | 63.2% |
| 2017 | 1,541.1 | 2,277.3 | -736.2 | -741.6 | 5.4 | 67.7% |

Source: PPF

## 4.4 Analysis of funding by scheme size

The best funded schemes were the smallest with an aggregate s179 funding level of 99.1 per cent for schemes with fewer than 100 members.

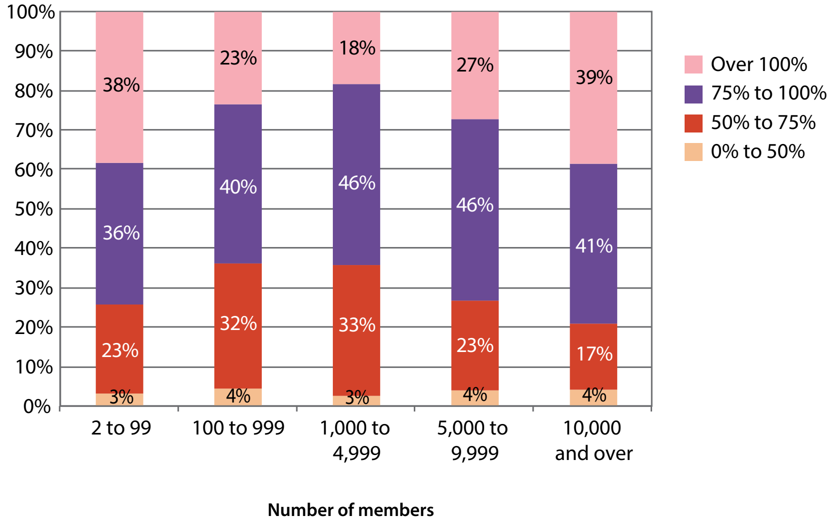
**Figure 4.4** | s179 funding levels by size of scheme membership as at 31 March 2017

| Membership | Number of schemes | Total assets (£ billion) | Liabilities (£ billion) | Aggregate funding position (£ billion) | Aggregate funding level | Simple average funding ratio* |
|---|---|---|---|---|---|---|
| 2 to 99 members | 1,994 | 16.1 | 16.2 | -0.2 | 99.1% | 95.1% |
| 100 to 999 members | 2,458 | 133.2 | 152.3 | -19.1 | 87.5% | 85.2% |
| 1,000 to 4,999 members | 759 | 255.4 | 293.7 | -38.2 | 87.0% | 84.4% |
| 5,000 to 9,999 members | 180 | 195.4 | 214.9 | -19.5 | 90.9% | 88.6% |
| 10,000 and over members | 197 | 941.0 | 1,025.8 | -84.8 | 91.7% | 92.0% |
| Total | 5,588 | 1,541.1 | 1,702.9 | -161.8 | 90.5% | 88.9% |

Source: PPF

*Whereas aggregate funding levels are determined by comparing the total assets and liabilities for all schemes, the simple average funding level is the average of all of the schemes' individual funding levels. Note that 24 schemes with funding levels over 200 per cent (on a full buy-out measure) were excluded from the simple averages to avoid distortions.

**Figure 4.5** | Distribution of s179 funding levels by size of scheme membership as at 31 March 2017




**Source:** PPF

Note that the percentages in each column may not sum to 100 because of rounding.

Schemes with 10,000 or more members are less likely to have an s179 funding level under 75 per cent.

**Figure 4.6** | Estimated full buy-out levels by size of scheme membership as at 31 March 2017

| Members | Number of schemes | Total assets (£ billion) | Liabilities (£ billion) | Aggregate funding position (£ billion) | Aggregate funding level | Simple average funding level * |
|---|---|---|---|---|---|---|
| 2 to 99 members | 1,994 | 16.1 | 21.6 | -5.5 | 74.5% | 71.5% |
| 100 to 999 members | 2,458 | 133.2 | 201.4 | -68.1 | 66.2% | 64.1% |
| 1,000 to 4,999 members | 759 | 255.4 | 390.9 | -135.5 | 65.3% | 63.4% |
| 5,000 to 9,999 members | 180 | 195.4 | 287.0 | -91.6 | 68.1% | 64.0% |
| 10,000 and over members | 197 | 941.0 | 1,376.5 | -435.5 | 68.4% | 68.5% |
| Total | 5,588 | 1,541.1 | 2,277.3 | -736.2 | 67.7% | 66.9% |

**Source:** PPF

Note that the columns may not sum to the totals due to rounding.

*Note that 24 schemes with funding levels over 200 per cent (on a full buy-out measure) were excluded from the simple averages to avoid distortions.

The best funded schemes were the smallest with an aggregate buy-out funding level of 74.5 per cent for schemes with fewer than 100 members.

Schemes with fewer than 100 members are less likely to have a buy-out funding level under 75 per cent.

Figure 4.7 | Distribution of buy-out funding levels by size of scheme membership as at 31 March 2017


**Source:** PPF

Note that the percentages of each column may not sum to 100 because of rounding.

## 4.5 Analysis of funding by scheme maturity

Maturity is measured here as the percentage of the scheme liabilities that relates to pensioners.

Figure 4.8 | Analysis of s179 funding levels by scheme maturity as at 31 March 2017

More mature schemes tend to have higher funding levels.

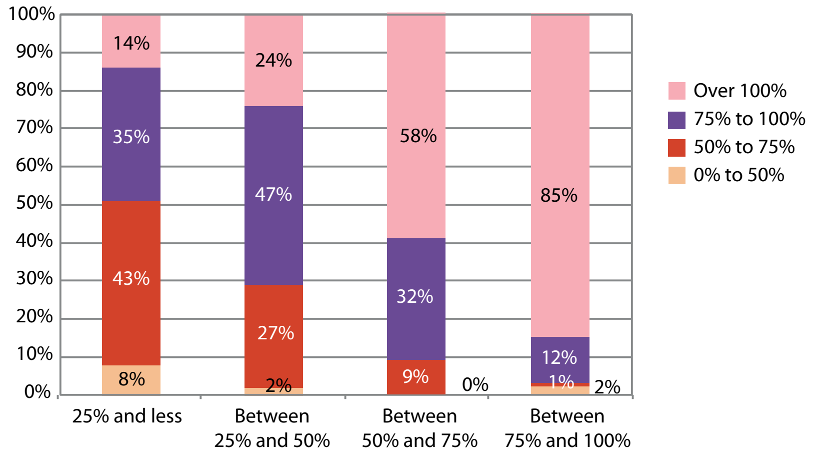
| Proportion of s179 liabilities relating to pensioners | Number of schemes | Total assets (£ billion) | Liabilities (£ billion) | Aggregate funding position (£ billion) | Aggregate funding level | Simple average funding level * |
|---|---|---|---|---|---|---|
| 25% and less | 1,754 | 240.4 | 326.2 | -85.8 | 73.7% | 78.2% |
| Between 25% and 50% | 2,705 | 938.1 | 1,031.3 | -93.2 | 91.0% | 87.0% |
| Between 50% and 75% | 943 | 332.8 | 322.0 | 10.9 | 103.4% | 107.3% |
| Between 75% and 100% | 186 | 29.8 | 23.5 | 6.3 | 127.1% | 126.2% |
| Total | 5,588 | 1,541.1 | 1,702.9 | -161.8 | 90.5% | 88.9% |

**Source:** PPF

Note that the components may not sum to the totals because of rounding.

*Note that 24 schemes with funding levels over 200 per cent (on a full buy-out measure) were excluded from the simple averages to avoid distortions.

**Figure 4.9 |** Distribution of funding levels on an s179 basis by scheme maturity as at 31 March 2017




**Source:** PPF

Note that the percentages of each column may not sum to 100 because of rounding.

Funding levels improve with scheme maturity. For the most mature group, 85 per cent of schemes are over 100 per cent funded.

## 4.6 Analysis of funding by scheme status

**Figure 4.10 |** Analysis of s179 funding levels by scheme status as at 31 March 2017

| Status | Number of schemes | Total assets (£ billion) | Liabilities (£ billion) | Aggregate funding position (£ billion) | Aggregate average funding level | Simple average funding level |
|---|---|---|---|---|---|---|
| Open | 687 | 272.3 | 345.8 | -73.5 | 78.7% | 85.1% |
| Closed to new entrants | 2,641 | 981.8 | 1,032.2 | -50.5 | 95.1% | 90.6% |
| Closed to future accrual | 2,177 | 279.2 | 318.0 | -38.8 | 87.8% | 87.6% |
| Winding-up | 83 | 7.8 | 6.8 | 1.0 | 114.1% | 103.0% |
| Total | 5,588 | 1,541.1 | 1,702.9 | -161.8 | 90.5% | 88.9% |

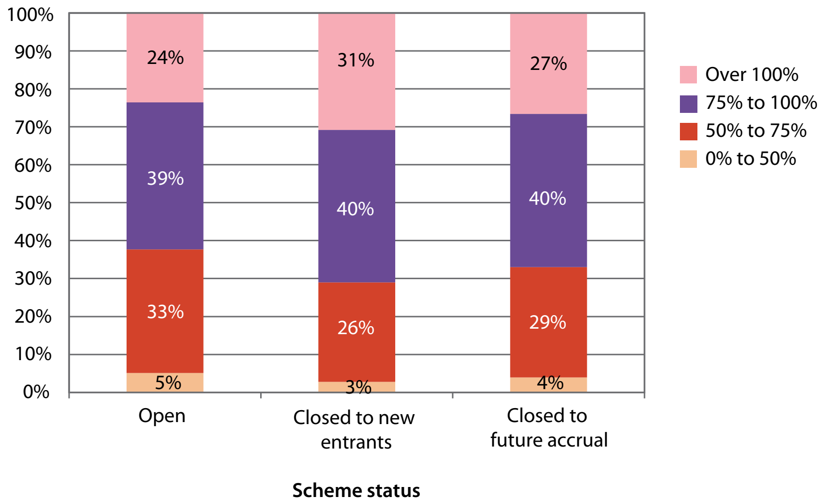
**Source:** PPF

Note that the components may not sum to the totals because of rounding.

Schemes that were open to new entrants were the worst funded, with an aggregate funding level of 78.7 per cent.

The distribution of funding levels is similar for open and closed schemes.

**Figure 4.11** | Distribution of schemes by s179 funding levels within scheme status groups as at 31 March 2017




**Source:** PPF

As measured by the aggregate buy-out funding level, open schemes are worse funded than closed schemes.

**Figure 4.12** | Analysis of estimated full buy-out funding levels by scheme status as at 31 March 2017

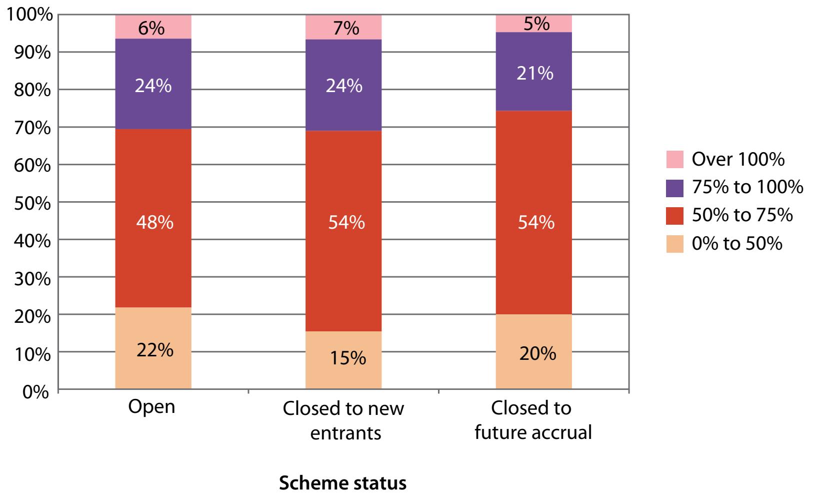
| Status | Number of schemes | Total assets (£ billion) | Liabilities (£ billion) | Aggregate funding position (£ billion) | Aggregate average funding level | Simple average funding level * |
|---|---|---|---|---|---|---|
| Open | 687 | 272.3 | 454.6 | -182.3 | 59.9% | 66.8% |
| Closed to new entrants | 2,641 | 981.8 | 1,388.1 | -406.4 | 70.7% | 68.0% |
| Closed to future accrual | 2,177 | 279.2 | 425.0 | -145.8 | 65.7% | 65.2% |
| Winding-up | 83 | 7.8 | 9.5 | -1.7 | 82.4% | 75.6% |
| Total | 5,588 | 1,541.1 | 2,277.3 | -736.2 | 67.7% | 66.9% |

**Source:** PPF

Note that the components may not sum to the totals because of rounding.

*Note that 24 schemes with funding levels over 200 per cent (on a full buy-out measure) were excluded from the simple averages to avoid distortions.

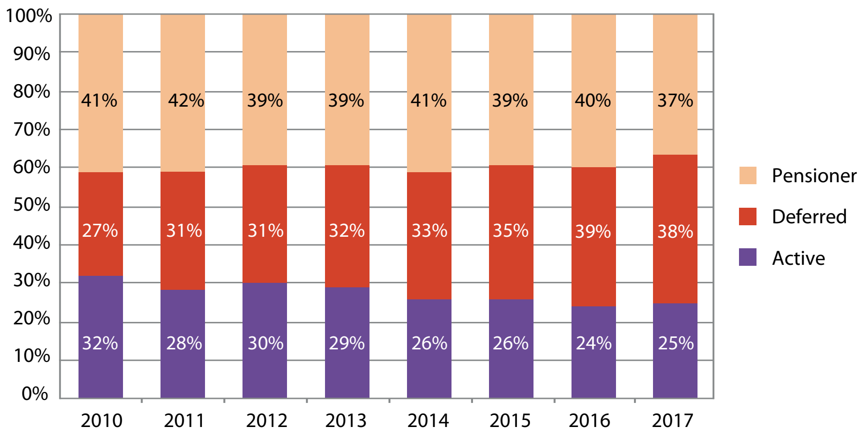
**Figure 4.13 |** Distribution of estimated full buy-out funding levels by scheme status as at 31 March 2017




**Source:** PPF

The distribution of funding level on a buy-out basis does not vary significantly with scheme status.

**Figure 4.14 |** s179 liabilities by member status in historical Purple Book datasets




**Source:** PPF

Note that the percentages in each column may not sum to the total column because of rounding.

Since 2010 the proportion of liabilities that relates to pensioners has been relatively stable at around 40 per cent. The proportion relating to active members has reduced from 32 per cent to 25 per cent.

# 5 Funding Sensitivities

## 5.1 Summary

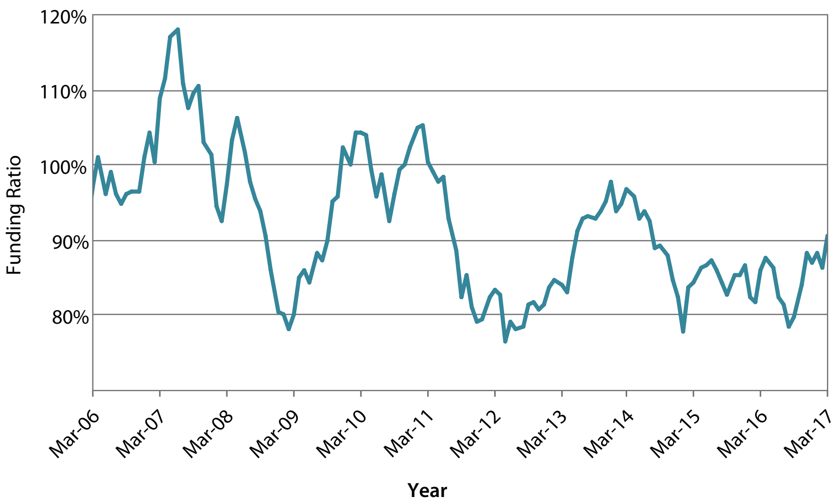
- Section 5.2 of Chapter 5 gives the historical changes in section 179 scheme funding since 2006. The series in this section take the estimated funding position at 31 March in previous years' Purple Books.
- The estimated funding position of schemes can change over time owing to changes in a number of factors including: financial markets, actuarial assumptions, the decline in the number of defined benefit schemes, and sponsoring employers' special contributions.
- Section 5.3 gives various funding sensitivities. All of these are on an s179 basis, taking the funding position as at 31 March 2017[8] as the base and using the Purple Book 2017 dataset.
- Both the historical aggregate funding position (assets less liabilities) and funding level had been trending downwards since 2006, although by March 2017 both had increased from their all-time lows in August 2016 to levels last seen in autumn 2014.
- The proportion of schemes in deficit on a historical s179 basis was around 71 per cent in March 2017, which is slightly lower than the average (since March 2006) of 73 per cent.
- A 0.1 percentage point (10 basis point) rise in both nominal and real gilt yields decreases the end-March 2017 aggregate deficit by £24.1 billion from £161.8 billion to £137.7 billion while a 5 per cent rise in equity prices would reduce the aggregate deficit by a similar amount. (Please note these sensitivities do not take account of the use of derivatives to hedge interest rates, inflation, or changes in equity.)
- A 0.1 percentage point (10 basis point) reduction in both nominal and real gilt yields raises aggregate scheme liabilities by 2.0 per cent and raises aggregate scheme assets by 0.7 per cent. A 5 per cent rise in equity markets raises scheme assets by 1.6 per cent. (Please note these sensitivities do not take account of the use of derivatives to hedge interest rates, inflation, or changes in equity.)
- An increase in life expectancy such that the experienced life expectancy is now equivalent to that of an individual two years younger would increase aggregate schemes' liabilities by 7.4 per cent, or £125.5 billion.

## 5.2 Historical changes in s179 scheme funding since 2006

The estimated funding position of schemes can change over time owing to changes in a number of factors including: financial markets, actuarial assumptions, the decline in the number of defined benefit schemes, and sponsoring employers' special contributions. The historical series in this section take the estimated funding position at 31 March from previous Purple Books. The monthly profiles between end-March of one year and end–February of the next are obtained by rolling forward the assets and liabilities using movements in nominal and real gilt yields and equity markets.

[8] Using the valuation guidance as in Chapter 4. Please follow the link for more information: http://www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/S179%20Assumptions%20Guidance.pdf

**Figure 5.1 |** Historical s179 aggregate funding level (assets as a percentage of liabilities) of pension schemes in the Purple Book datasets




**Source:** PPF

The aggregate s179 funding level at 31 March 2017 is over 90 per cent for the first time since July 2014.

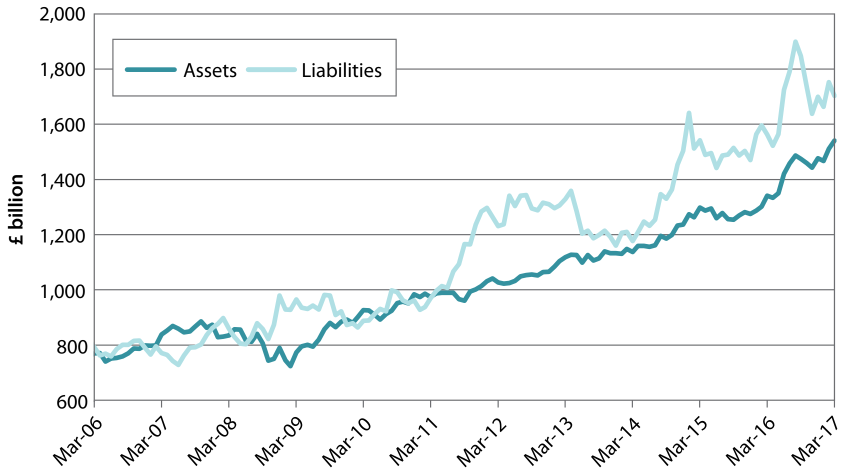
**Figure 5.2 |** Historical s179 aggregate funding position (assets less liabilities) of pension schemes in the Purple Book datasets


**Source:** PPF

A strong downward trend in the aggregate balance of pension schemes led to an all-time low in August 2016. The balance has since increased, to a level last seen in autumn 2014.

There has been a general upward trend in both assets and liabilities since 2006, with the increase in liabilities outstripping that in assets.

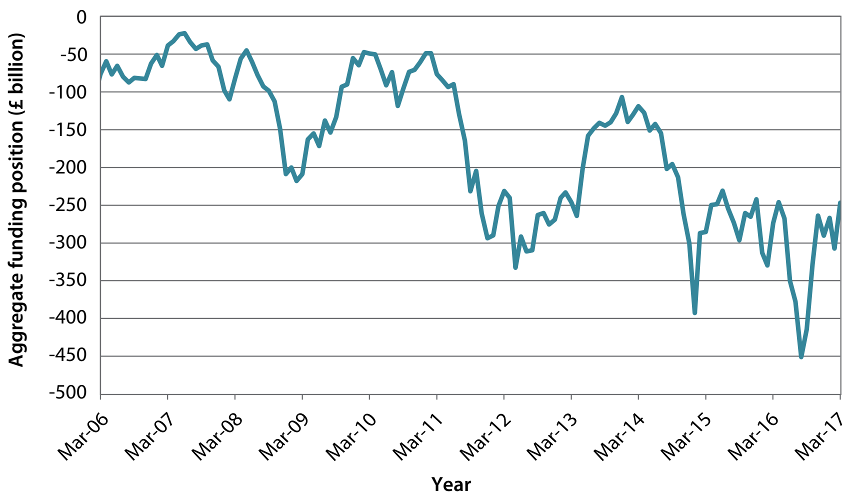
**Figure 5.3 |** Historical movements in assets and s179 liabilities of schemes in the Purple Book datasets




**Source:** PPF

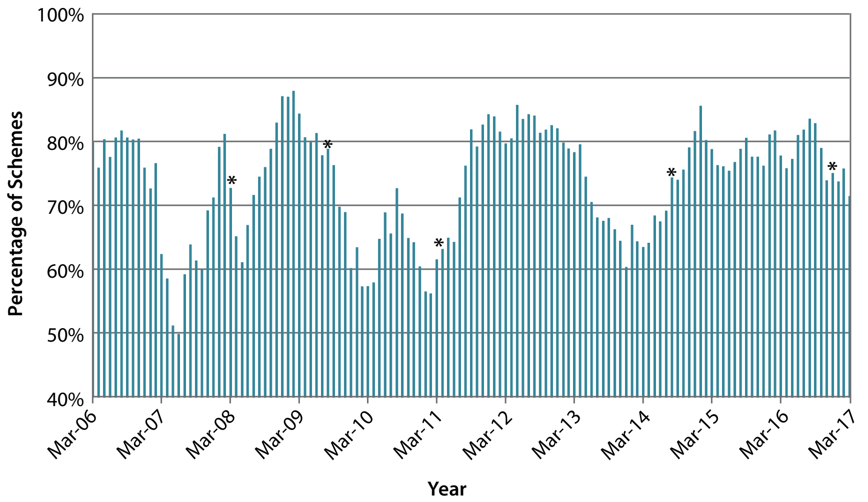
The aggregate deficit of schemes in deficit was at its largest in August 2016 at £451 billion. At 31 March 2017 this deficit had fallen to just under £250 billion.

**Figure 5.4 |** Historical aggregate funding position for schemes in deficit




**Source:** PPF

**Figure 5.5** | Historical percentage of schemes in deficit (on a s179 measure) each month in the Purple Book datasets*

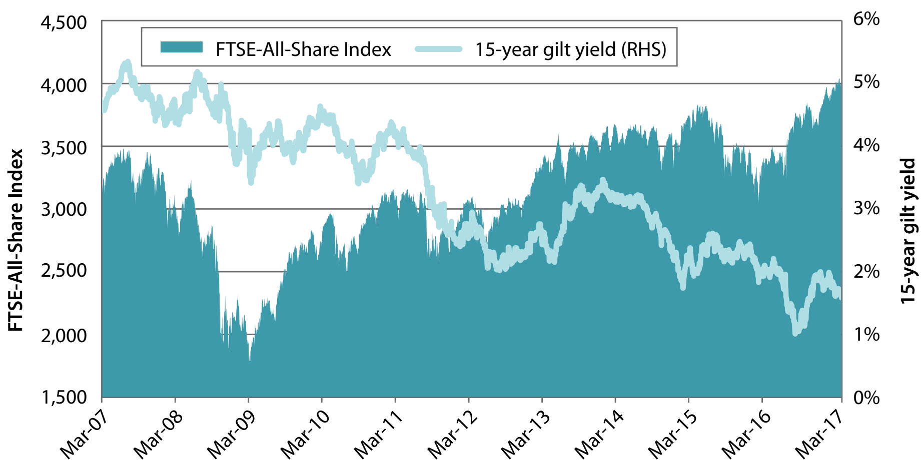



**Source:** PPF

*Note: the changes to assumptions in March 2008 and October 2009 reduced the number of schemes in deficit by 412 and 566 respectively, while the changes to assumptions in April 2011 and May 2014 raised the number of schemes in deficit by 107 and 259 respectively. The changes to assumptions in December 2016 reduced the number of schemes in deficit by 157.

In March 2017, around 71 per cent of schemes were in deficit, slightly lower than the average since March 2006 of 73 per cent.

**Figure 5.6** | Movements in stock markets and gilt yields




**Source:** Bloomberg

The FTSE All-Share Index reached an all time high in March 2017.

Meanwhile, the 15-year gilt yield reached its all-time low in August 2016, but has since recovered.

## 5.3 Funding Sensitivities: rules of thumb

Funding levels are sensitive to movements in financial markets, with equity and gilt prices in particular having a major impact upon scheme assets, and gilt yields affecting liability values. In this section we show the effect on scheme funding positions of changes in equity and gilt markets. We have precisely calculated the impact of a change of a 7.5 per cent rise in equity prices and a 0.3 percentage point increase in gilt yields, and interpolated to obtain the rest of the results.

The sensitivities do not take into account the use of derivative instruments to hedge changes in interest rates, inflation, equity levels or life expectancy.

A 0.1 percentage point rise in both nominal and real gilt yields would have improved the end-March 2017 s179 aggregate deficit by £24.1 billion from £161.8 billion (bold) to £137.7 billion (shaded), around the same impact as a 5 per cent increase in equity prices (shaded).

**Figure 5.7** | Impact of changes in gilt yields and equity prices on s179 funding levels from a base aggregate deficit of £161.8 billion at 31 March 2017

| Assets less s179 liabilities (£ billion) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Movement in equity prices | Movement in nominal and real gilt yields | | | | | | |
| | -0.3pp | -0.2pp | -0.1pp | 0.0pp | 0.1pp | 0.2pp | 0.3pp |
| 7.5% | -196.1 | -172.4 | -148.5 | -124.6 | -100.5 | -76.3 | -52.1 |
| 5.0% | -208.5 | -184.8 | -160.9 | -137.0 | -112.9 | -88.8 | -64.5 |
| 2.5% | -220.9 | -197.2 | -173.3 | -149.4 | -125.3 | -101.2 | -76.9 |
| 0.0% | -233.3 | -209.6 | -185.8 | **-161.8** | -137.7 | -113.6 | -89.3 |
| -2.5% | -245.8 | -222.0 | -198.2 | -174.2 | -150.1 | -126.0 | -101.7 |
| -5.0% | -258.2 | -234.4 | -210.6 | -186.6 | -162.6 | -138.4 | -114.1 |
| -7.5% | -270.6 | -246.8 | -223.0 | -199.0 | -175.0 | -150.8 | -126.5 |

Source: PPF

A 5 per cent increase in equity prices would raise scheme assets by 1.6 per cent. A 0.1 percentage point decrease in gilt yields would increase scheme assets by 0.7 per cent.

**Figure 5.8** | Impact of changes in gilt yields and equity prices on assets from a base of 100 at 31 March 2017

| Assets relative to a base of 100 | | | | | | | |
|---|---|---|---|---|---|---|---|
| Movement in equity prices | Movement in gilt yields | | | | | | |
| | -0.3pp | -0.2pp | -0.1pp | 0.0pp | 0.1pp | 0.2pp | 0.3pp |
| 7.5% | 104.4 | 103.7 | 103.1 | 102.4 | 101.8 | 101.1 | 100.5 |
| 5.0% | 103.6 | 102.9 | 102.3 | 101.6 | 101.0 | 100.3 | 99.7 |
| 2.5% | 102.8 | 102.1 | 101.5 | 100.8 | 100.2 | 99.5 | 98.9 |
| 0.0% | 102.0 | 101.3 | 100.7 | **100.0** | 99.3 | 98.7 | 98.1 |
| -2.5% | 101.2 | 100.5 | 99.9 | 99.2 | 98.5 | 97.9 | 97.3 |
| -5.0% | 100.4 | 99.7 | 99.0 | 98.4 | 97.7 | 97.1 | 96.5 |
| -7.5% | 99.6 | 98.9 | 98.2 | 97.6 | 96.9 | 96.3 | 95.6 |

Source: PPF

**Figure 5.9 |** Impact of changes in gilt yields on s179 liabilities at 31 March 2017

| Impact on s179 liabilities relative to a base of 100 | | | | | | |
|---|---|---|---|---|---|---|
| | Movement in both nominal and real gilt yields | | | | | |
| Percentage change | -0.3pp | -0.2pp | -0.1pp | 0.1pp | 0.2pp | 0.3pp |
| | 6.0% | 4.0% | 2.0% | -2.0% | -4.0% | -6.0% |

Source: PPF

A 0.1 percentage point movement in gilt yields would impact s179 liabilities by 2 per cent.

**Figure 5.10 |** Impact of changes in the rate of nominal or real gilt yields on s179 liabilities at 31 March 2017 (base = £1,702.9 billion)

| s179 liabilities (£ billion) | | | | |
|---|---|---|---|---|
| | Change in nominal yields | | Change in real yields | |
| | -0.1pp | 0.1pp | -0.1pp | 0.1pp |
| £ billions | 1,727.1 | 1,678.6 | 1,713.9 | 1,691.8 |
| Percentage change | 1.4% | -1.4% | 0.6% | -0.6% |

Source: PPF

Note: s179 liabilities are assessed using a combination of various nominal and real gilt yields. Whereas Figure 5.9 shows the impact of universal stresses across both nominal and real yields, Figure 5.10 stresses the nominal and real gilt yields separately.

As at 31 March 2017, the s179 liabilities are over twice as sensitivite to changes in nominal yields as to changes in real yields.

**Figure 5.11 |** Impact of changes in life expectancy assumptions on s179 liabilities at 31 March 2017 (base = £1,702.9 billion)

| | s179 liabilities (£ billion) | % Change from base |
|---|---|---|
| Age Rating + 2 years | 1,578.8 | -7.3% |
| Age Rating - 2 years | 1,828.4 | 7.4% |

Source: PPF

If individuals' life expectancies were to increase to those of someone two years younger, total scheme s179 liabilities would increase by £125.5 billion, or 7.4 per cent.

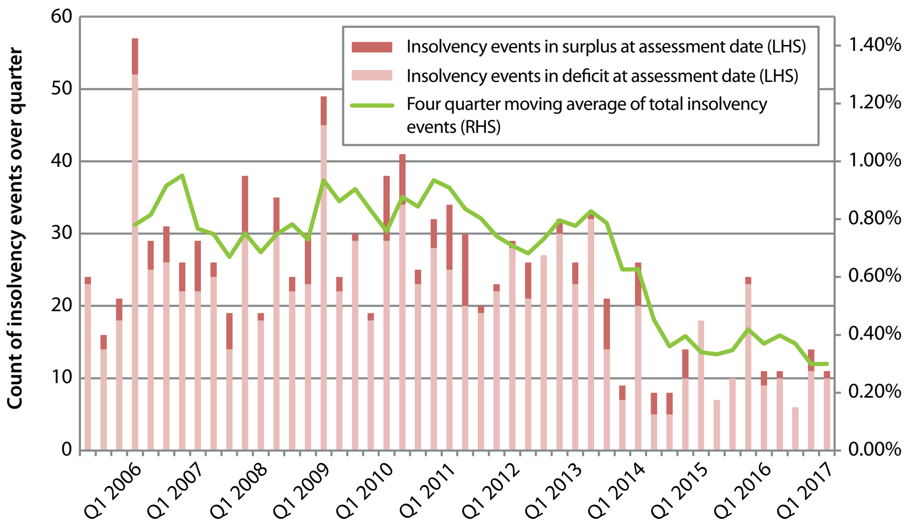
# 6 Insolvency Risk

## 6.1 Summary

- The four quarter average insolvency rate of the PPF universe fell sharply between the second quarter of 2013 and the fourth quarter of 2014, since when it has been broadly flat.
- UK growth has slowed somewhat since the end of 2014. Real GDP growth stood at around 2.0% in Q1 2017.
- The level of whole UK economy insolvencies has increased slightly since last year.
- Schemes with the fewest members tend to have sponsors with higher insolvency probabilities.

The number of PPF-universe insolvencies fell sharply between the second quarter of 2013 and the fourth quarter of 2014 since when they have levelled out.

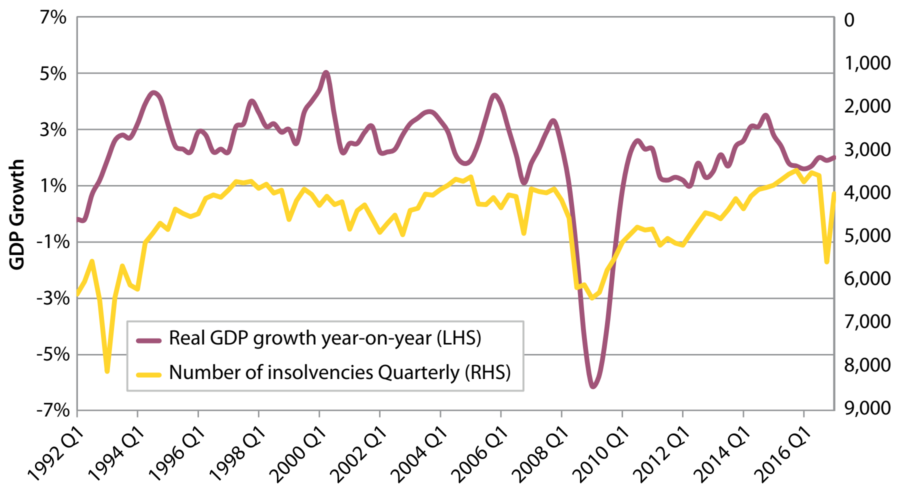
**Figure 6.1** | PPF universe insolvency rates*




**Source:** PPF

*There are around 14,000 companies in the PPF universe compared with around three million companies in the UK.

Figure 6.2 | UK company insolvencies

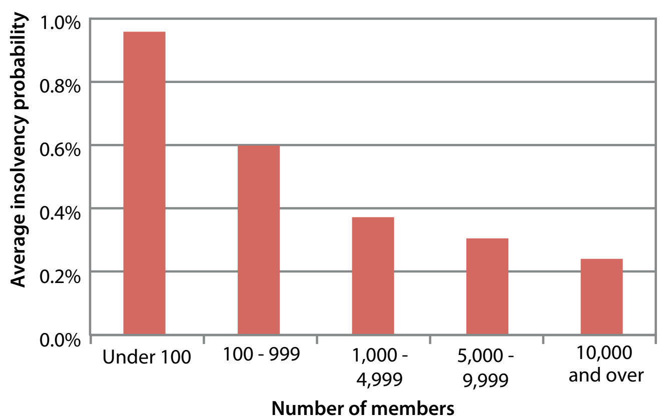



**Source:** Office for National Statistics and the UK Insolvency Service

Note: the spike in Q4 2016 is a distortion due to 1,796 connected companies all entering insolvency procedures at the same time.

GDP growth at Q1 2017 stood at around 2.0%, still lower than seen in 2014.

Figure 6.3 | Average levy rates of sponsoring companies by scheme membership size, as at 31 March 2017*




**Source:** PPF

*We have used the schemes' levy rates, as used in calculating the PPF levy, as a proxy for the insolvency probabilities.

Schemes with the fewest members tend to have sponsors with higher insolvency probabilities.

# 7 Asset Allocation

## 7.1 Summary

- Looking at the movements from the Purple Book 2016 dataset to the Purple Book 2017 dataset (the latter of which uses asset distribution information from 2016 for around two thirds of schemes and from 2015 for most of the rest):
  - Continuing the long-term trends, the aggregate proportion invested in equities fell from 30.3 per cent to 29.0 per cent while the proportion in bonds rose from 51.3 per cent to 55.7 per cent.
  - Within bonds, the corporate fixed interest securities' proportion decreased from 33.7 per cent in 2016 to 31.4 per cent, the fifth successive decline. The proportion of government fixed interest securities rose, for a fifth consecutive year, from 21.9 per cent in 2016 to 24.1 per cent. The balance of holdings in index-linked securities remained very similar.
  - Within equities, the UK-quoted proportion fell from 22.4 per cent to 20.5 per cent, while the overseas proportion increased from 68.6 per cent to 69.0 per cent. The proportion in unquoted/private equities increased from 9.0 per cent to 10.5 per cent.
  - The proportion invested in instruments other than bonds and equities fell from 18.4 per cent in 2016 to 15.3 per cent. Included within this is a swing to a negative 0.9 per cent holding in cash and deposits (from 3.0 per cent in the Purple Book 2016), which is likely to reflect increases in holdings of swaps and gilt repurchase agreements among a number of large schemes, as well as refined reporting of this in the recent scheme returns .
- Within equities, smaller schemes tend to hold higher proportions in UK equities and smaller proportions in overseas equities than larger schemes do. For example, schemes with under £5 million in assets have 50.5 per cent of their equity holdings in UK equities compared with 16.6 per cent for schemes with over £1 billion in assets.
- Within bonds, smaller schemes tend to have higher proportions in government fixed interest and corporate fixed interest bonds than in index-linked bonds. For example, schemes with under £5 million in assets have 30.2 per cent of their bond holdings in government bonds and 50.4 per cent in corporate bonds, compared with 23.8 per cent and 30.2 per cent, respectively, for schemes with over £1 billion in assets.
- The best funded schemes tend to have the greatest proportion of their assets invested in bonds, and a smaller proportion invested in equities.
- As scheme maturity increases, the proportion of equities held in total assets falls while the proportion of bonds rises.

## 7.2 Asset data[9]

**Figure 7.1** | Distribution of schemes by asset allocation date*

| Asset Allocation year | Number of schemes | Percentage of Purple Book dataset |
|---|---|---|
| 2006-2011 | 2 | 0.0% |
| 2012 | 1 | 0.0% |
| 2013 | 5 | 0.1% |
| 2014 | 40 | 0.7% |
| 2015 | 1,927 | 34.5% |
| 2016 | 3,589 | 64.2% |
| 2017 | 24 | 0.4% |
| Total | 5,588 | 100% |

**Source:** PPF

Note that percentage column may not sum to 100% due to rounding.

*There can be a significant gap between the date of the scheme return and the date at which the asset allocation was taken. This means that the date at which asset allocation data is provided differs from scheme to scheme.

Around 99 per cent of schemes provided an asset allocation less than two years old.

**Figure 7.2** | Weighted average asset allocation in total assets

| Year / Purple dataset | Asset class | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Equities | Bonds | Other investments | Breakdown of other investments | | | | |
| | | | | Property | Cash and deposits | Insurance policies | Hedge Funds | Miscellaneous* |
| 2006 | 61.1% | 28.3% | 10.6% | *4.3%* | *2.3%* | *0.9%* | *n/a* | *3.1%* |
| 2007 | 59.5% | 29.6% | 10.9% | *5.2%* | *2.3%* | *0.8%* | *n/a* | *2.5%* |
| 2008 | 53.6% | 32.9% | 13.5% | *5.6%* | *3.0%* | *1.1%* | *n/a* | *3.8%* |
| 2009 | 46.4% | 37.1% | 16.5% | *5.2%* | *3.9%* | *1.4%* | *1.5%* | *4.5%* |
| 2010 | 42.0% | 40.4% | 17.6% | *4.6%* | *3.9%* | *1.4%* | *2.2%* | *5.4%* |
| 2011 | 41.1% | 40.1% | 18.8% | *4.4%* | *4.1%* | *1.6%* | *2.4%* | *6.3%* |
| 2012 | 38.5% | 43.2% | 18.3% | *4.9%* | *5.1%* | *0.2%* | *4.5%* | *3.6%* |
| 2013 | 35.1% | 44.8% | 20.1% | *4.7%* | *6.7%* | *0.1%* | *5.2%* | *3.5%* |
| 2014 | 35.0% | 44.1% | 20.9% | *4.6%* | *6.1%* | *0.1%* | *5.8%* | *4.3%* |
| 2015 | 33.0% | 47.7% | 19.3% | *4.9%* | *3.5%* | *0.1%* | *6.1%* | *4.7%* |
| 2016 | 30.3% | 51.3% | 18.4% | *4.8%* | *3.0%* | *0.1%* | *6.6%* | *3.8%* |
| 2017 | 29.0% | 55.7% | 15.3% | *5.3%* | *-0.9%* | *0.1%* | *6.7%* | *4.1%* |

**Source:** PPF

*Other alternative investments excluding hedge funds

In 2017, the proportion invested in bonds rose while the proportion in equities decreased, continuing the long-term trend.

[9] Asset allocations submitted by schemes are not adjusted for market movements. Most of this chapter uses weighted-average asset allocations. For example, the weighted average share of equities is the total amount of equities across all schemes divided by the total amount of assets across all schemes. The simple average takes the arithmetic average of each scheme's proportion of its assets held in equities.

Comparing simple with weighted averages in 2017, there is a greater weighted allocation to bonds and a smaller allocation to other investments.

**Figure 7.3** | Asset allocation: simple averages

| Year / Purple dataset | Asset class | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Equities | Bonds | Other investments | Breakdown of other investments | | | | |
| | | | | Property | Cash and deposits | Insurance policies | Hedge Funds | Miscellaneous* |
| 2006 | 52.6% | 22.6% | 24.8% | *2.1%* | *3.9%* | *14.9%* | *n/a* | *3.6%* |
| 2007 | 53.5% | 24.0% | 22.5% | *2.5%* | *3.7%* | *13.7%* | *n/a* | *2.6%* |
| 2008 | 50.2% | 26.5% | 23.3% | *2.9%* | *4.4%* | *13.0%* | *n/a* | *2.9%* |
| 2009 | 46.6% | 29.2% | 24.2% | *2.8%* | *5.6%* | *12.4%* | *0.7%* | *2.6%* |
| 2010 | 43.1% | 32.6% | 24.3% | *2.6%* | *5.7%* | *12.3%* | *0.9%* | *2.8%* |
| 2011 | 43.7% | 32.6% | 23.7% | *2.7%* | *4.9%* | *11.8%* | *1.0%* | *3.3%* |
| 2012 | 43.7% | 36.1% | 20.2% | *3.5%* | *5.5%* | *4.4%* | *3.7%* | *3.2%* |
| 2013 | 40.6% | 39.1% | 20.3% | *3.6%* | *6.2%* | *2.0%* | *5.0%* | *3.5%* |
| 2014 | 39.4% | 39.0% | 21.6% | *3.5%* | *6.4%* | *1.8%* | *6.2%* | *3.9%* |
| 2015 | 38.8% | 39.4% | 21.8% | *3.6%* | *5.7%* | *1.7%* | *7.3%* | *3.7%* |
| 2016 | 36.8% | 41.1% | 22.1% | *3.7%* | *5.4%* | *1.2%* | *7.9%* | *3.9%* |
| 2017 | 34.5% | 41.4% | 24.1% | *3.7%* | *3.6%* | *0.7%* | *7.9%* | *8.1%* |

**Source:** PPF
*Other alternative investments excluding hedge funds.

Within bonds, the proportion invested in corporate bonds declined in 2017 for a fifth consecutive year, while the proportion invested in government bonds rose.

**Figure 7.4** | Bond splits

| Year | Bonds | | | | | |
|---|---|---|---|---|---|---|
| | Weighted average | | | Simple average | | |
| | Government fixed interest bonds | Corporate fixed interest bonds | Index Linked Bonds | Government fixed interest bonds | Corporate fixed interest bonds | Index Linked Bonds |
| 2008 | 33.2% | 32.6% | 33.9% | 47.2% | 33.0% | 19.8% |
| 2009 | 29.0% | 38.3% | 32.6% | 45.6% | 37.3% | 17.1% |
| 2010 | 24.6% | 42.2% | 33.1% | 37.3% | 43.0% | 19.8% |
| 2011 | 19.6% | 44.3% | 36.1% | 31.2% | 47.1% | 21.7% |
| 2012 | 17.7% | 44.8% | 37.5% | 28.2% | 49.4% | 22.4% |
| 2013 | 18.5% | 40.6% | 40.9% | 27.0% | 49.6% | 23.4% |
| 2014 | 18.6% | 40.3% | 41.1% | 23.8% | 51.9% | 24.4% |
| 2015 | 20.3% | 37.7% | 42.0% | 23.8% | 51.2% | 25.0% |
| 2016 | 21.9% | 33.7% | 44.4% | 24.4% | 49.0% | 26.6% |
| 2017 | 24.1% | 31.4% | 44.5% | 25.9% | 46.8% | 27.3% |

**Source:** PPF
Note that rows may not sum to 100% due to rounding.

**Figure 7.5** | Equity splits

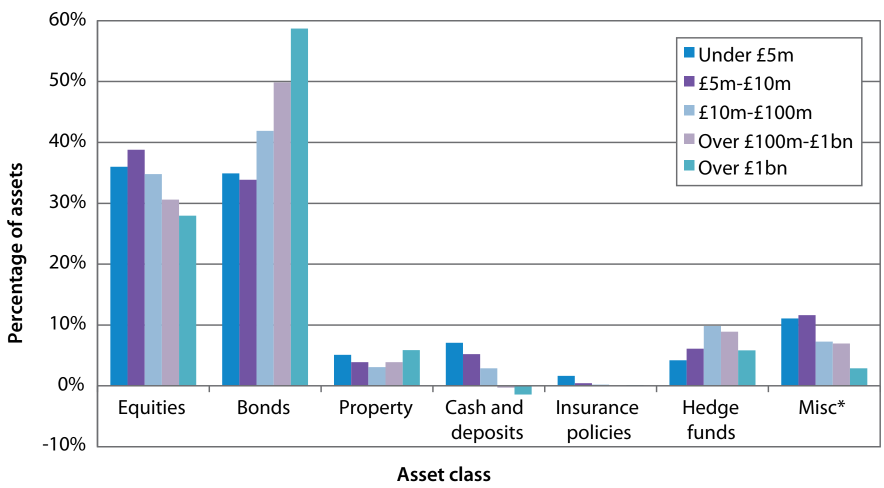
| Year | Equities | | | | | |
|---|---|---|---|---|---|---|
| | Weighted average | | | Simple average | | |
| | UK quoted equities | Overseas quoted equities | Unquoted/ Private equities | UK quoted equities | Overseas quoted equities | Unquoted/ Private equities |
| 2008 | 48.0% | 51.6% | n/a | 60.4% | 39.6% | n/a |
| 2009 | 44.2% | 53.8% | 1.9% | 57.6% | 41.7% | 0.7% |
| 2010 | 40.1% | 55.3% | 4.4% | 55.3% | 43.7% | 1.0% |
| 2011 | 38.0% | 57.2% | 4.8% | 52.7% | 46.1% | 1.2% |
| 2012 | 33.9% | 60.0% | 6.1% | 49.9% | 48.5% | 1.7% |
| 2013 | 31.0% | 61.3% | 7.7% | 47.5% | 50.3% | 2.2% |
| 2014 | 28.9% | 62.4% | 8.7% | 44.9% | 52.7% | 2.4% |
| 2015 | 25.6% | 65.4% | 9.0% | 42.2% | 55.3% | 2.5% |
| 2016 | 22.4% | 68.6% | 9.0% | 38.8% | 58.6% | 2.6% |
| 2017 | 20.5% | 69.0% | 10.5%* | 36.3% | 61.0% | 2.7%* |

**Source:** PPF

Note that most of the unquoted/private equity investment is carried out by the largest schemes – see figure 7.7.

Within equities, the proportions invested in overseas and unquoted/ private equities each continued to rise, while the proportion in UK equities continued to fall.

**Figure 7.6** | Weighted average asset allocation of schemes by asset size



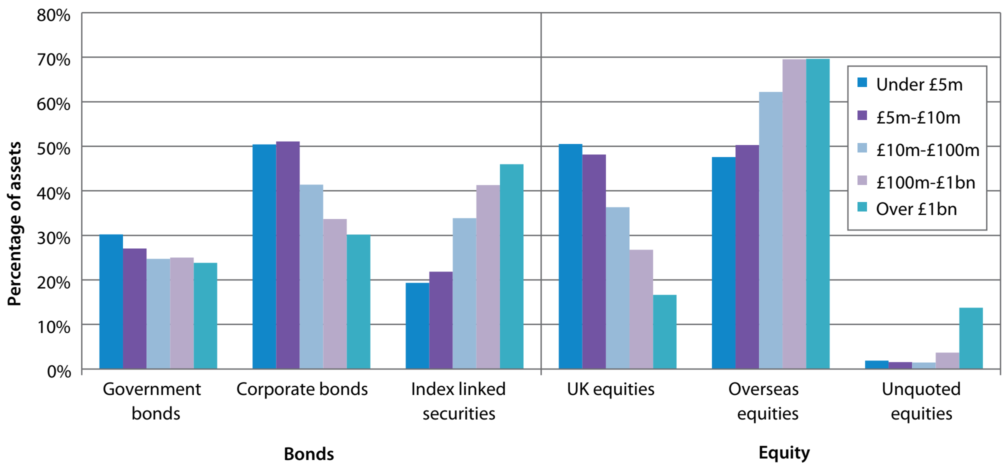

**Source:** PPF

*Other alternative investments excluding hedge funds.

The proportion of assets held in bonds and hedge funds tends to increase with scheme size, with equities displaying the opposite relationship.

Larger schemes tend to hold more in overseas equities than in UK equities and more in index-linked securities than in conventional government bonds and corporate bonds.

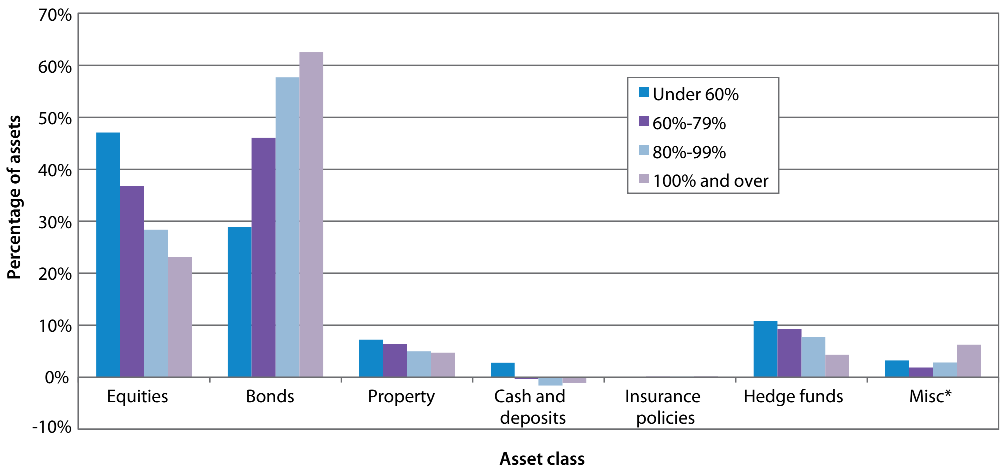
**Figure 7.7** | Weighted averages of equity and bond holdings split by asset size




**Source:** PPF

The best funded schemes tend to have the greatest proportion of assets invested in bonds, and a smaller proportion invested in equities.

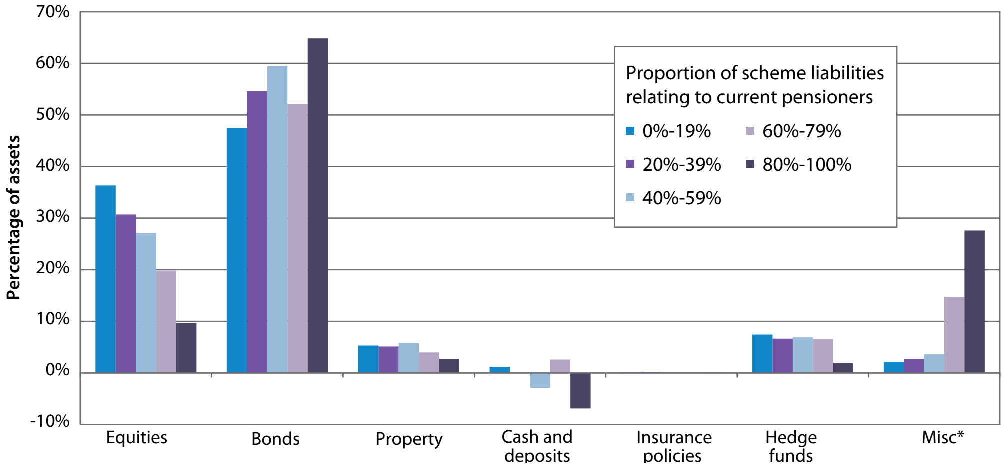
**Figure 7.8** | Weighted average asset allocation by s179 funding level




**Source:** PPF

* Other alternative investments excluding hedge funds.

**Figure 7.9** | Weighted average asset allocation of schemes by scheme maturity




**Source:** PPF

*Other alternative investments excluding hedge funds.

Note: the heavy concentration to 'Misc' for mature schemes is explained by one large scheme with a heavy concentration in annuity policies.

Note: scheme maturity is measured as the proportion of liabilities relating to current pensioners.

The proportion of equities and hedge funds falls as scheme maturity rises, whereas the proportion in bonds is generally higher for more mature schemes.

# 8 PPF Risk Developments

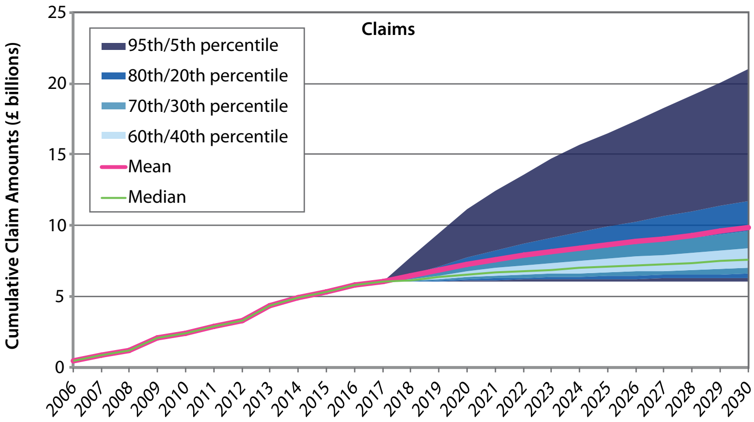
## 8.1 Summary

- The PPF published its Long-Term Funding Strategy in August 2010. As part of this strategy the PPF aims to be self-sufficient by the end of the funding horizon. The target for self-sufficiency is set as a percentage margin over liabilities, this being held to cover remaining risks after the PPF reaches the funding horizon, currently set as 2030. This margin covers the risk of unexpected life expectancy improvements and any future claims (beyond the horizon) in excess of PPF levies together with operational risk and the fact that the PPF's assets do not exactly track its CPI-linked liabilities. The Funding Strategy is reviewed annually to check whether it remains appropriate and whether the PPF is on track to achieve its funding objective.
- The PPF uses two key statistics to monitor progress against its funding objective – the "probability of success" and "downside risk". To measure these statistics it has developed an internal model that projects the level of PPF assets and liabilities in future years. It generates an extensive range of claims from eligible schemes, asset returns, insolvency and longevity scenarios and then projects a range of balance sheet outcomes.
- The model projections, with a calculation date of 31 March 2017, suggest that the PPF has a 93 per cent probability of meeting its funding objective, unchanged from 31 March 2016[10], while the "downside risk" has also remained unchanged at £2 billion. This assumes no change to the PPF's investment strategy or to the PPF Levy formula.
- While there has been no overall change in the reported probability of success over the year there have been competing factors driving this result. Improvement to the PPF's starting funding level over the year had a positive impact on the probability of success. Largely offsetting this were the impacts from updated data on schemes in the universe and their employers, and a deterioration in the economic outlook in the projections.
- The year to 31 March 2017 saw a very slight decrease in the total number of claims for compensation compared with the previous year, giving another year with a relatively low number of claims. While the number of claims decreased slightly, the aggregate claim amount from these schemes, calculated as the total estimated actuarial liabilities less the total value of assets reported as owned by the schemes, reduced by nearly 50 per cent.

[10] This probability is sensitive to a range of modelling assumptions. For a description of the modelling methodology and assumptions employed, see http://www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/PPF_Funding_Strategy_Document.pdf For the July 2017 update of the funding strategy, see: http://www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/Funding_Strategy_Update_2017.pdf

## 8.2 Long-Term Risk

**Figure 8.1 |** Historical amount of claims entering the PPF and projected deficits of schemes entering the PPF from 31 March 2017*




**Source:** PPF

*As projected in the PPF's internal model. The fan chart depicts the probability that the cumulative deficits of schemes entering the PPF from 31 March 2017 will be within certain boundaries.

Claims on the PPF are the pension deficits that are brought into the PPF when scheme sponsors suffer insolvency. The PPF faces a significant tail-risk, i.e. high impact, low probability claims. The claims distribution also means that expected (mean) claims are some way above the median level.

## 8.3 The PPF's Long-Term Funding Strategy

- The PPF published its Long-Term Funding Strategy in August 2010 and its most recent annual update was in July 2017. The strategy established a long-term funding objective and a framework for monitoring the Fund's progress towards this target.
- The PPF's long-term funding objective is to be self-sufficient by its target funding horizon, currently set to be the year 2030. Self-sufficiency means that the PPF is fully-funded with minimal exposure to market, inflation and interest rate risk and with protection against a number of risks beyond the funding horizon: future claims, members living longer than expected, the PPF's RPI-linked assets not exactly tracking its CPI-linked liabilities, and operational risk. The assumption is that at 2030 the PPF levy will be set at a level to match future expected claims.
- Exposure to market, inflation and interest rate risk can be reduced using conventional hedging arrangements and investment in low-risk securities. Analysis of output from the PPF's internal model described below suggests that a funding reserve equivalent to 10 per cent of PPF liabilities at the current funding horizon of 2030 would be sufficient to cover unexpected claims, life expectancy, operational and matching risk (over the lifetime of the PPF) in 9 out of 10 scenarios.
- The PPF has two key measures to monitor progress against its funding objective – the "probability of success" and the "downside risk". The probability of success measures its chances of being self-sufficient at the funding horizon if it continues on its current course with no change to its investment strategy or to the PPF Levy formula on its course to self-sufficiency. The downside risk is a measure of how poorly funded the PPF might become on its path to self-sufficiency. It is calculated such that in ten per cent of modelled scenarios its deficit reaches at least that level at some point before it reaches its funding horizon.
- To measure these statistics the PPF has developed an internal model that projects the level of PPF assets and liabilities in future years. It generates an extensive range of claims from eligible schemes, asset returns, insolvency and longevity scenarios and then projects a range of PPF balance sheet outcomes. The process of using a large number of modelled scenarios to derive a distribution of outcomes is termed stochastic analysis. It is widely used in the financial services industry and its primary advantage over deterministic or 'single point' forecasts is that having a distribution of outcomes allows the PPF to assess not just its best estimate of the future but also the likelihood of specific variations from that outcome.
- As at 31 March 2017, the probability of success was estimated to be 93 per cent, and the downside risk was estimated at £2 billion. Each of these is unchanged from 31 March 2016.
- As with any financial model it is important to exercise an appropriate degree of caution when analysing output. To help assess the level of model and parameter risk the PPF carries out multiple runs to test the sensitivity of the output to changes in the key assumptions - see Figure 8.2. The PPF also carries out more fundamental stresses by changing various assumptions all at once.
- In terms of claims for compensation, the year to 31 March 2017 saw a very slight decrease in the total number of claims compared with the previous year, giving another year with a relatively low number of claims. While the number of claims decreased slightly, the aggregate claim amount from these schemes, calculated as the total estimated actuarial liabilities less the total value of assets reported as owned by the schemes, reduced by nearly 50 per cent.
- Figure 8.3 shows the history of claims made on the PPF, taking into account recoveries, as well as expected levy collections, as published in the Levy Determination, since the PPF's inception.

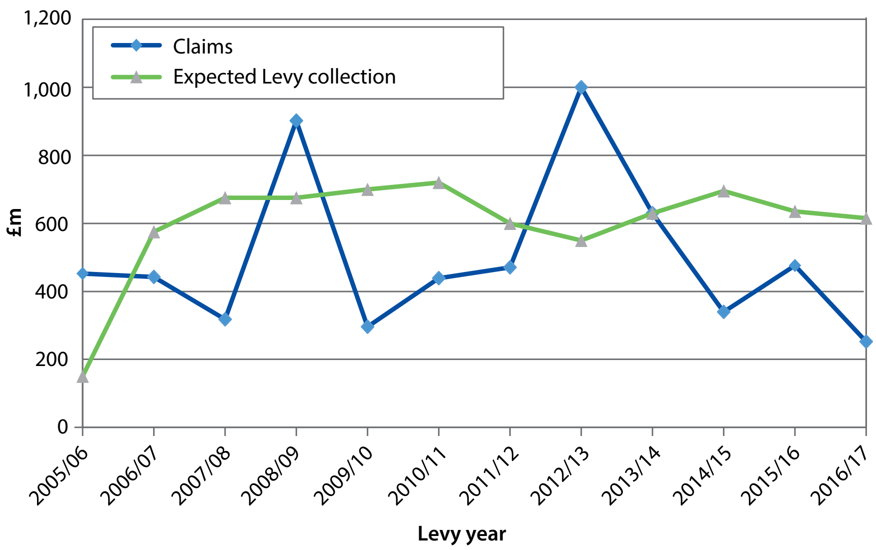
**Figure 8.2 |** Sensitivities of the probability of the PPF meeting its funding objective, and downside risk, to key assumptions, as at 31 March 2017

| Scenario | Change in probability of meeting funding objective | Downside Risk (£ billion) |
|---|---|---|
| **Base case** | **93%** | **2** |
| Initial PPF Funding reduced by 10 percentage points | -6% | +5 |
| Size of the PPF increases by 20% (assets and liabilities) | No change | No change |
| Reduction in asset returns of 1% pa (excluding cash and government bonds) | -6% | +2 |
| Scheme funding levels reduce by 10% | -3% | +2 |
| Recovery Plans 5 years longer | -1% | +1 |
| Scheme Technical Provisions reduced by 10% (relative to S179 basis) | -3% | +1 |
| Sponsor credit rating falls by one rating notch | -2% | +2 |
| PPF levies lower by 10% | -1% | No change |
| Schemes close to new accruals | +1% | No change |
| Life expectancy sensitivity (probability of death in any single year reduced by 20%) | -5% | +5 |
| Assumed difference between best estimate RPI and CPI inflation assumptions widens (1.1% to 1.6% per annum) | +2% | -1 |
| Assumed difference between best estimate RPI and CPI inflation assumptions narrows (1.1% to 0.6% per annum) | -3% | +1 |
| Simulated large claim | -8% | +6 |
| Continued low interest rate | -3% | +2 |

**Source:** PPF

The probability of the PPF meeting its funding objective is 93 per cent, unchanged from a year ago. The probability of meeting the funding objective and the downside risk are subject to modelling assumptions, the sensitivities to which are illustrated in the table.

**Figure 8.3 |** History of claims made on the PPF and published levy estimate




**Source:** PPF

# 9 PPF Levy Payments 2016/17

## 9.1 Summary

- Since 2006/7, the PPF has collected a total of £6.3 billion via a levy determined mainly by the risk schemes pose to the PPF.
- The dataset used in this chapter is based on 5,773 schemes which have contributed a total levy of £563 million[11] for the year 2016/17. This represents around 0.05 per cent of the total assets of the schemes.
- Assets and liabilities, and therefore funding levels, in this chapter are on a smoothed, stressed basis unless otherwise stated and exclude Deficit-Reduction Contributions (DRCs).[12]
- The top 100 levy payers, by size of levy, accounted for £237 million or 42 per cent of the total levy in 2016/17.
- In 2016/17, the number of schemes paying no Risk-Based Levy represented around 17 per cent of total schemes. This is similar to the four preceding years.
- In 2016/17, 187 schemes saw the cap of 0.75 per cent of smoothed liabilities apply to their Risk-Based Levy. This is around three per cent of the total number of schemes.
- Schemes in PPF levy band 1 made the largest contribution to total levy receipts, paying £192 million, or 34 per cent, of the total levy collected. Schemes in levy band 1 account for around 58 per cent of the total liabilities.
- Over three quarters of the levies paid in the 2016/17 levy year came from schemes sponsored by employers categorised as Large/Complex or Group £50m+ for Experian scorecard purposes.

[11] Unlike the figure disclosed in the PPF's annual report and accounts (ARA), this figure excludes levies paid the year to 31 March 2017 in respect of the previous year. The ARA also makes an allowance for credit notes, accrued invoices, and bad debt provisions, which the Purple Book does not.

[12] For more information, see: http://www.pensionprotectionfund.org.uk/levy/Pages/1617_Levy_Determination.aspx

## 9.2 Levy payments

In this chapter we analyse the levy payments made in levy years 2006/07 - 2016/17. We look at the distribution across schemes broken down by the size and levy band, considering the Risk-Based Levy and Scheme-Based Levy separately.

Figure 9.1 | Levy payments

| | Levy payments (£ m)* | Levy as percentage of assets** | Number of capped schemes |
|---|---|---|---|
| 2006/07 | 271 | 0.03% | 310 *** |
| 2007/08 | 585 | 0.07% | 411 |
| 2008/09 | 651 | 0.08% | 564 |
| 2009/10 | 592 | 0.07% | 340 |
| 2010/11 | 663 | 0.09% | 679 |
| 2011/12 | 596 | 0.08% | 626 |
| 2012/13 | 648 | 0.08% | 427 |
| 2013/14 | 577 | 0.06% | 302 |
| 2014/15 | 579 | 0.06% | 274 |
| 2015/16 | 560 | 0.05% | 211 |
| 2016/17 | 563 | 0.05% | 187 |

Source: PPF

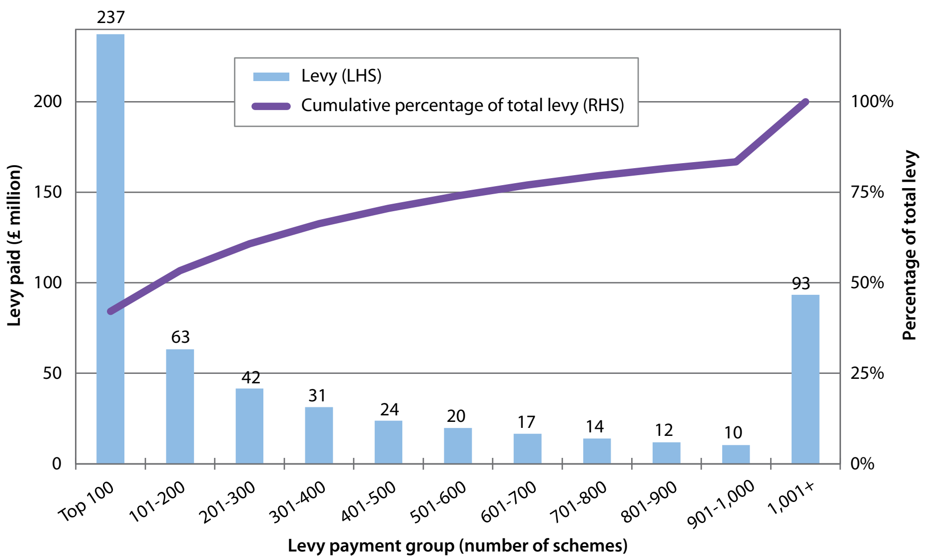
* Levy payments are the total amount collected in each year. The remainder of the figures quoted in this chapter are based on the total levy invoiced for the dataset of 5,773 schemes in 2016/17, or from prior years' Purple Books.

** Levy payments as a percentage of total assets of schemes paying a levy.

*** Refers to schemes to which the Risk-Based Levy cap (0.75 per cent of smoothed liabilities for levy year 2016/17) applied.

Since 2007/08, levy payments have fluctuated between £560 million and £663 million with payments at their lowest in the last four years.

Figure 9.2 | Distribution of levy payments by largest levy payers in 2016/17




Source: PPF

In 2016/17, the top 100 levy payers accounted for £237 million, or 42 per cent of the total levy.

The percentage of schemes paying no Risk-Based Levy rose markedly with the introduction of the New Levy Framework in 2012/13 and has remained at a similar level since.

**Figure 9.3 |** Schemes paying no Risk-Based Levy by levy year

| Levy year | Number of schemes | Percentage of total schemes | s179 liabilities[13] (£ billion) | s179 liabilities as percentage of total |
|---|---|---|---|---|
| 2006/07 | 345 | 5% | 44 | 6% |
| 2007/08 | 570 | 9% | 83 | 12% |
| 2008/09 | 473 | 7% | 72 | 10% |
| 2009/10 | 363 | 6% | 33 | 5% |
| 2010/11 | 195 | 3% | 9 | 1% |
| 2011/12 | 296 | 5% | 25 | 3% |
| 2012/13 | 1,191 | 19% | 199 | 19% |
| 2013/14 | 1,056 | 17% | 171 | 15% |
| 2014/15 | 1,113 | 18% | 206 | 17% |
| 2015/16 | 985 | 17% | 195 | 14% |
| 2016/17 | 961 | 17% | 239 | 16% |

Source: PPF

[13] Liabilities are stressed and smoothed from 2012/13 onwards, in line with the New Levy Framework.
http://www.pensionprotectionfund.org.uk/levy/Pages/1617_Levy_Determination.aspx

**Figure 9.4 |** Number of schemes with capped Risk-Based Levies by levy band

| Levy band[14] | Levy rate[15] | Total number of schemes | Number of capped schemes[16] | Percentage of schemes in levy band which are capped |
|---|---|---|---|---|
| 1 | 0.17% | 1,480 | 0 | 0.0% |
| 2 | 0.23% | 663 | 0 | 0.0% |
| 3 | 0.30% | 684 | 0 | 0.0% |
| 4 | 0.40% | 576 | 0 | 0.0% |
| 5 | 0.53% | 502 | 0 | 0.0% |
| 6 | 0.81% | 596 | 0 | 0.0% |
| 7 | 1.26% | 568 | 0 | 0.0% |
| 8 | 1.76% | 253 | 17 | 6.7% |
| 9 | 2.39% | 255 | 76 | 29.8% |
| 10 | 3.83% | 196 | 94 | 48.0% |
| **Total** | | **5,773** | **187** | **3.2%** |

**Source:** PPF

**Note:** Schemes with multiple employers have had their insolvency probability calculated as an average of the corresponding employers, and then this has been mapped back to the nearest levy band.

In 2016/17, 3.2 per cent of schemes had their Risk-Based Levy restricted so as to not exceed the Risk-Based Levy cap, with a slight reduction on 3.6 per cent in 2015/16. The proportion of schemes in each levy band which are capped increases with levy band (from band 8 onwards).

**Figure 9.5 |** Number of schemes with capped Risk-Based Levies by funding level (on a stressed and smoothed basis)

| Funding level | Number of capped schemes | Percentage of schemes in funding band which are capped | Number of schemes |
|---|---|---|---|
| Less than 50% | 104 | 12.9% | 807 |
| 50%-75% | 83 | 3.2% | 2,590 |
| Greater than 75% | 0 | 0.0% | 2,376 |
| **Total** | **187** | **3.2%** | **5,773** |

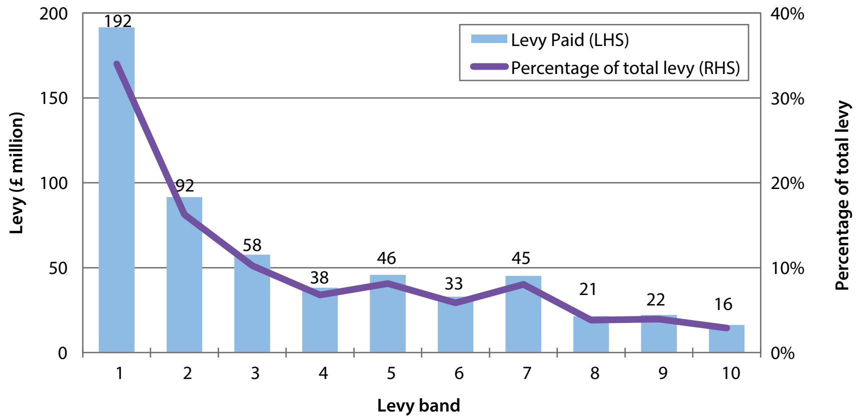
**Source:** PPF

No scheme better funded than 75 per cent had its 2016/17 Risk-Based levy capped. Schemes less than 50 per cent funded had their levies capped 4 times as often as schemes between 50 and 75 per cent funded.

[14] For full details of the levy bands, or
[15] For the definition of Scheme and Risk-Based Levy, and details of the derivation of levy bands, or
[16] For the definition of capped schemes, please visit:
http://www.pensionprotectionfund.org.uk/levy/Pages/1617_Levy_Determination.aspx

Schemes in levy band 1 made the largest contribution to total levy receipts, paying £192 million, or 34 per cent, of the total levy collected.

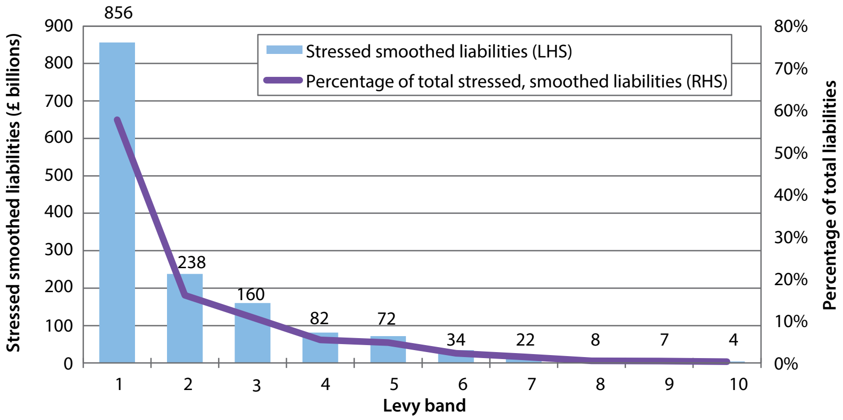
Figure 9.6 | Levy distribution by levy band




Source: PPF

Schemes in levy band 1 account for 58 per cent of the total liabilities.

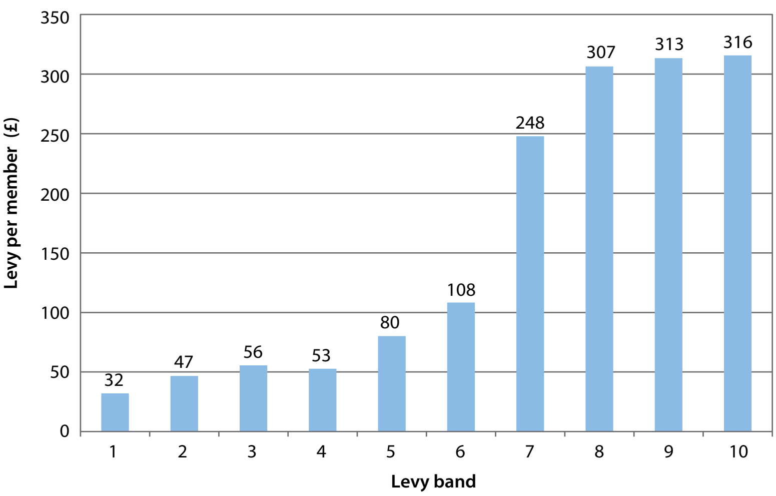
Figure 9.7 | Liabilities by levy band




Source: PPF

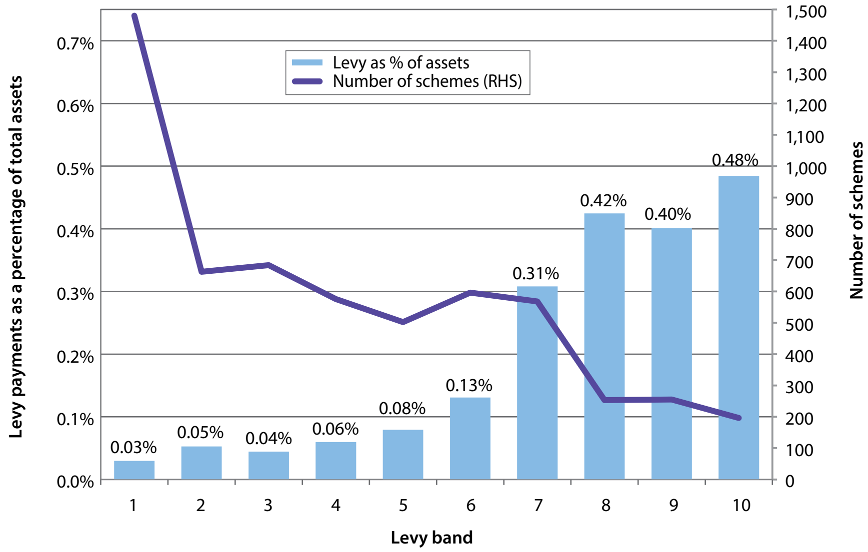
The average levy per member was £51 in 2016/17. Levy per member generally increases with levy band.

Figure 9.8 | Levy per member by levy band



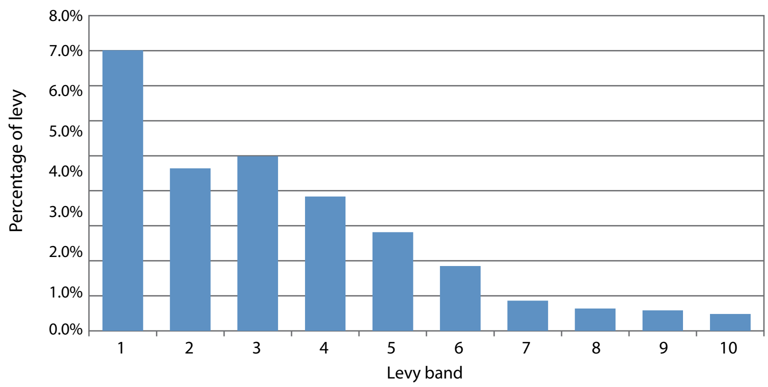

Source: PPF

**Figure 9.9 |** Levy payments as a proportion of assets by levy band




Source: PPF

**Figure 9.10 |** Percentage of total levy that is Scheme-Based[17] by levy band




Source: PPF

**Figure 9.11 |** Percentage of total levy that is Scheme-Based by funding level (on a stressed and smoothed basis)

| Funding level | Less than 50% | 50%-75% | 75%-100% | Over 100% |
|---|---|---|---|---|
| Percentage of levy that is Scheme-Based | 1.6% | 3.5% | 10.9% | 100.0% |

Source: PPF

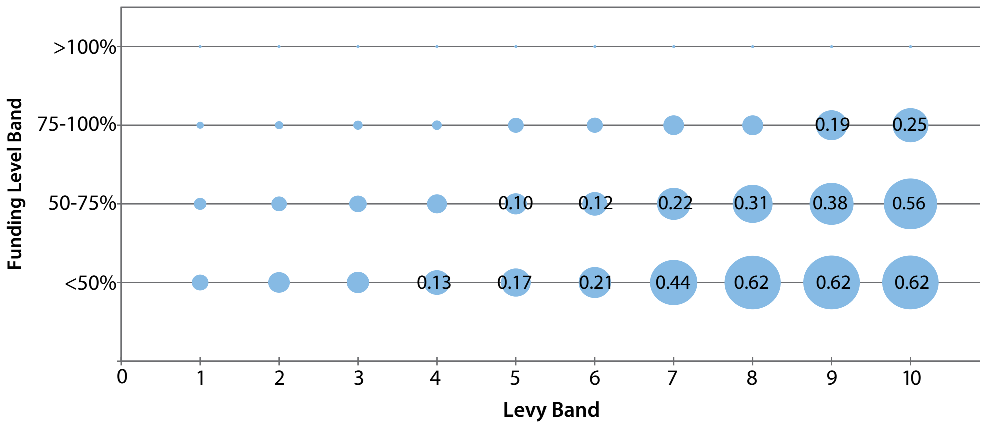
The PPF levy is very small compared with the value of total assets. The average was 0.05 per cent in 2016/17.

In general, the proportion of total levy made up by the Scheme-Based Levy falls as the levy band increases.

The proportion of total levy made up by the Scheme-Based Levy increases as the funding level increases.

[17] For the definition of Scheme-Based Levy, please visit http://www.pensionprotectionfund.org.uk/levy/Pages/1617_Levy_Determination.aspx

Figure 9.12 | Levy per £100 of liabilities by levy band and funding band, £




Source: PPF

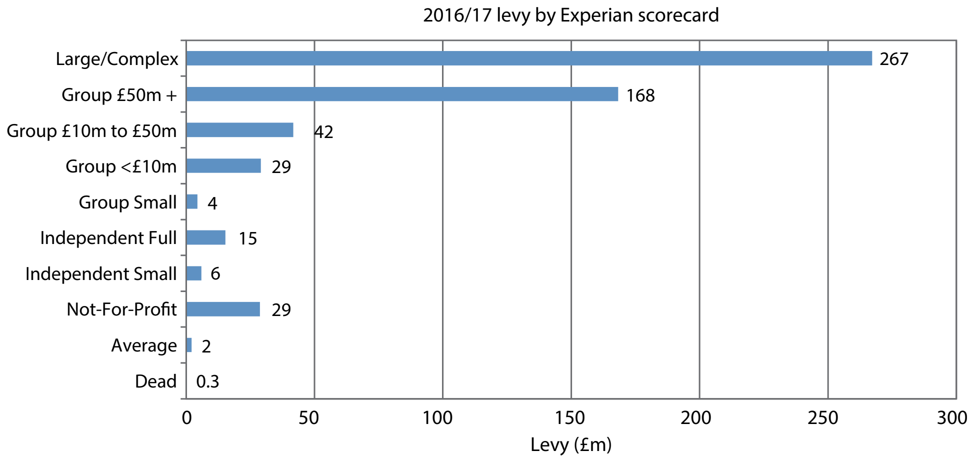
The Levy is designed to increase as a scheme's underfunding risk and insolvency risk increase.

## 9.3 Experian scorecards

The PPF uses Experian as the provider for assessing insolvency risk of schemes in the universe. For the 2016/17 Levy year, Experian categorised sponsoring employers within one of eight main "scorecards" (or one of a further two in some circumstances) according to certain criteria[18].

The following charts show how many of the sponsoring employers in the PPF universe are assigned to each scorecard, and how much of the 2016/17 PPF Levy was paid in respect of schemes sponsored by the employers in these categories[19].

Figure 9.13 | Levy paid by sponsoring companies against their Experian scorecard



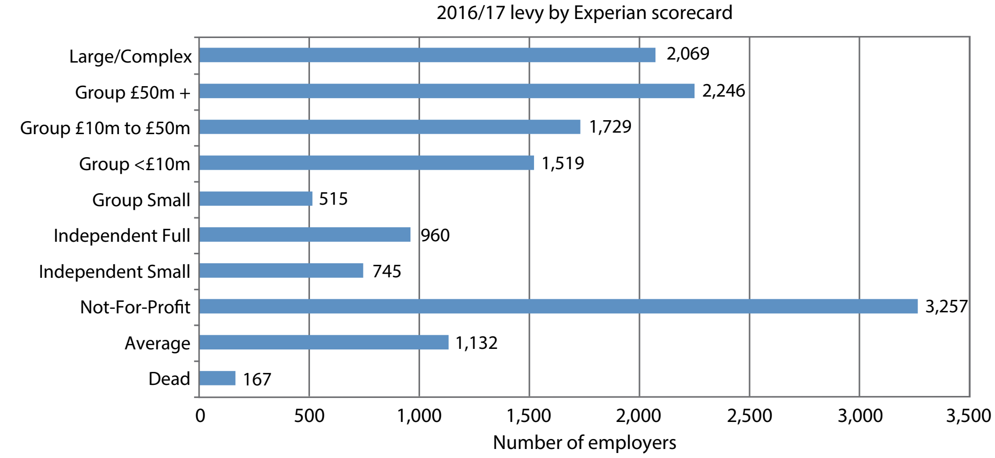

Source: PPF

Over three quarters of the levies paid in the 2016/17 levy year came from sponsoring employers categorised as Large/Complex or Group £50m+.

[18] For more information on the scorecard criteria, see the following links: http://www.pensionprotectionfund.org.uk/levy/Documents/experian_governance.pdf or http://www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/1617_Determination.pdf

[19] For multi-employer schemes (with employers on different scorecards), the levy was split proportionately by membership numbers.

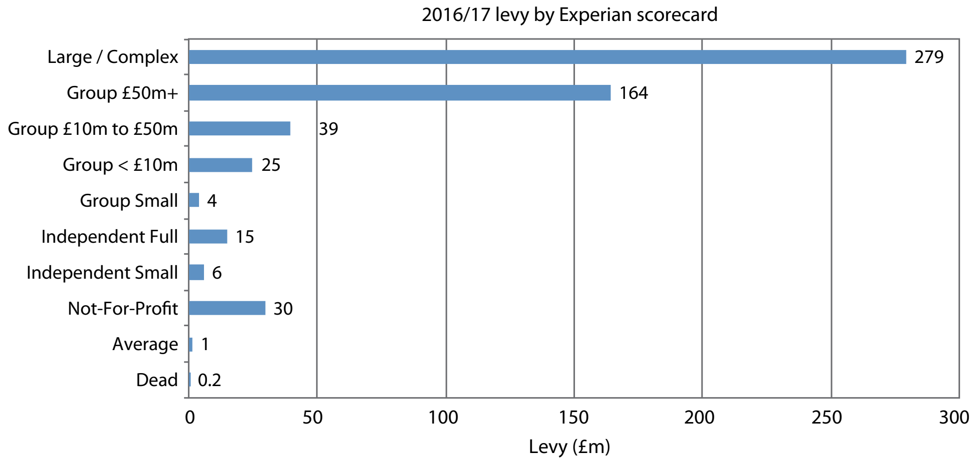
**Figure 9.14 |** Number of sponsoring companies in each Experian scorecard




**Source:** PPF

Not-For-Profit organisations make up the greatest number of sponsoring employers in the PPF universe, despite the majority of the 2016/17 levy coming from sponsors in the first two scorecard categories.

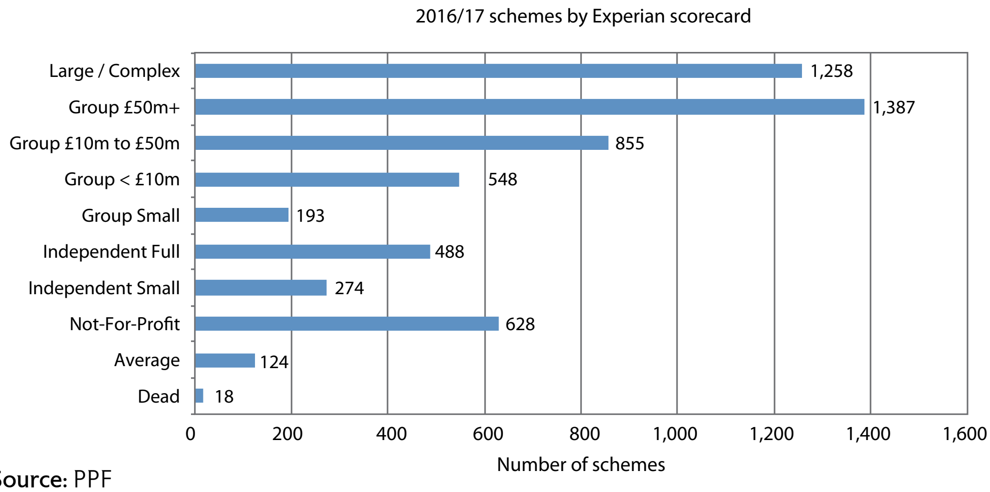
**Figure 9.15 |** Levy paid in respect of schemes with sponsoring employers in each Experian scorecard




**Source:** PPF

Over three quarters of the levies paid in the 2016/17 levy year came from schemes sponsored by employers categorised as Large/Complex or Group £50m+.

**Figure 9.16 |** Number of schemes with sponsoring employers in each Experian scorecard

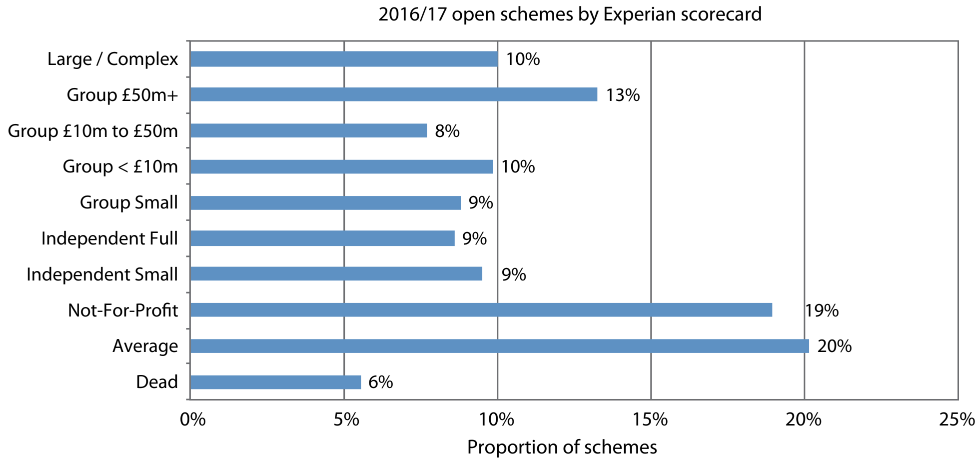



**Source:** PPF

Around 45% of schemes have sponsoring employers categorised as Large / Complex or Group £50m+.

Schemes of sponsoring employers classified as Not-For-Profit, or assessed using an average, have the highest proportion of open schemes.

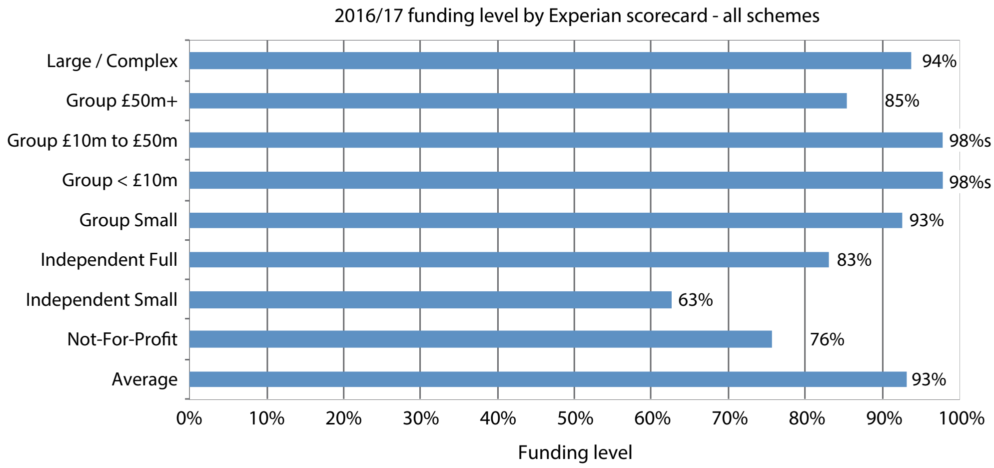
**Figure 9.17** | Proportion of schemes with sponsoring employers in each Experian scorecard that are open to new members




**Source:** PPF

Schemes with sponsoring employers categorised as Independent Small or Not-For-Profit have the lowest average funding levels.

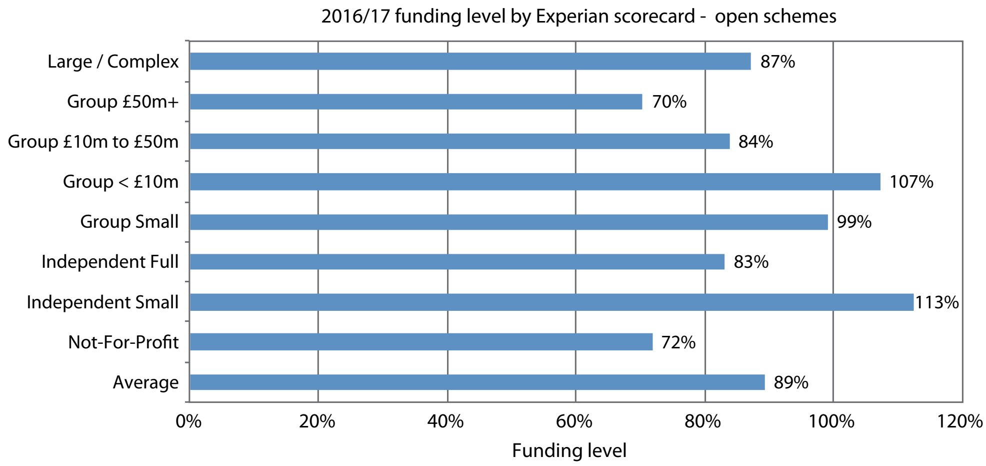
**Figure 9.18** | Average funding level of schemes with sponsoring employers in each Experian scorecard




**Source:** PPF

Among open schemes, schemes with sponsoring employers categorised as Group £50m+ or Not-For-Profit have the lowest average funding levels.

**Figure 9.19** | Average funding level of schemes with sponsoring employers in each Experian scorecard that are open to new members




**Source:** PPF

# Schemes in Assessment

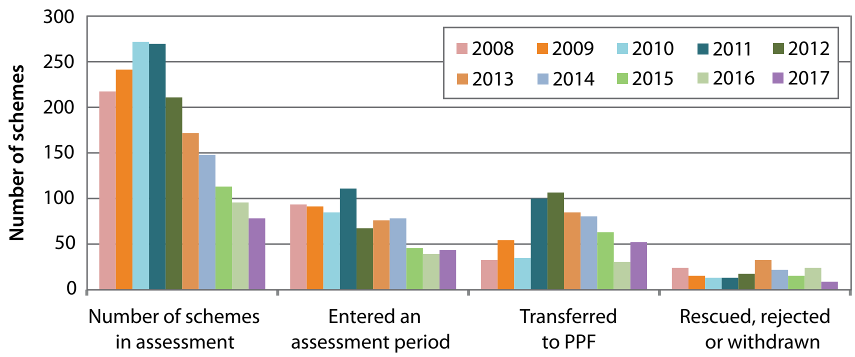
10

## 10.1 Summary

- Before transferring into the PPF, all schemes go through an assessment period to determine their ability to pay PPF levels of compensation. The PPF aims to complete the assessment period for most schemes within two years.
- In this chapter, we consider the schemes[20] that were in a PPF assessment period as at 31 March 2017. There were 78 such schemes at 31 March 2017, comprising some 88,000 members, which is a little lower than the 96 schemes one year earlier. The change over the year reflects new schemes entering and remaining in assessment, schemes transferring into the PPF and schemes being rescued, rejected or withdrawn.
- As at 31 March 2017, the assets of schemes in assessment totalled £5.6 billion and the liabilities £6.6 billion as measured on a section 179 basis[21]. This compares with the PPF's assets of £28.7 billion and liabilities of £22.0 billion at 31 March 2017 as measured on our accounting basis and disclosed in the PPF's 2016/17 Annual Report and Accounts.
- The aggregate funding level (total assets divided by total liabilities) of the schemes in assessment as at 31 March 2017 was 85 per cent, compared with 91 per cent for the universe. This funding level of schemes in assessment is up from 68 per cent at 31 March 2016. (The improvement in funding from 2016 is in part due to additional expected recoveries in respect of two large schemes. If these schemes are removed from the analysis the funding level at 31 March 2017 falls to 73 per cent.)

## 10.2 Schemes entering assessment

**Figure 10.1** | Number of schemes in assessment each year, as at 31 March




**Source:** PPF

The number of schemes in assessment has been declining since 2010.

[20] For the purpose of this chapter we treat separate sections and segregated parts of the same scheme as one single scheme. This is a different from the approach in the PPF's Annual Report and Accounts which treats all segregated parts of schemes as separate schemes.

[21] This differs from the number in the Annual Report and Accounts because of the exclusion of expected reapplications in the Purple Book and the use of a different set of actuarial assumptions. The section 179 basis has been updated since the 2016 Purple Book was published. In general this acts to slightly reduce liabilities compared to the basis used last time.

Since 2010 the funding level of schemes in assessment had fallen from 89 per cent to 68 per cent in 2016, but as at 31 March 2017 the funding level was back up at 85 per cent.

**Figure 10.2** | Funding statistics for schemes in assessment each year, as at 31 March

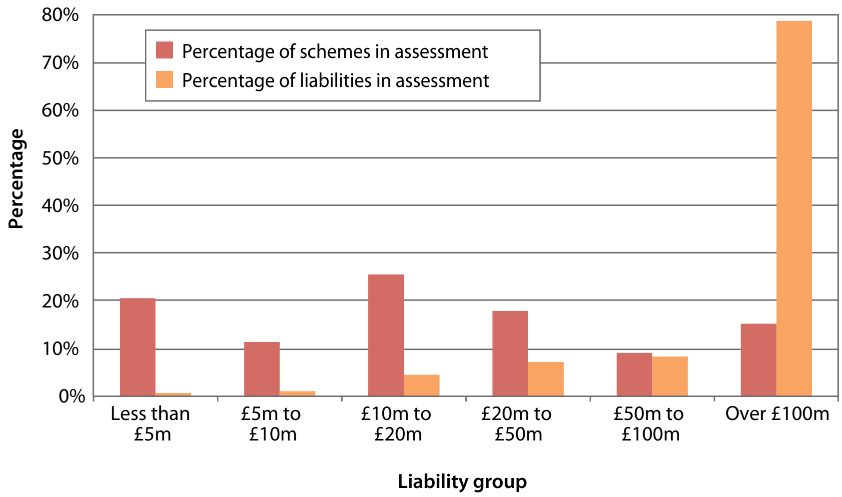
| Year | Assets (£billion) | Liabilities (£billion) | (Deficit)/Surplus (£billion) | Funding level | Universe funding level |
|---|---|---|---|---|---|
| 2007 | 4.0 | 4.7 | -0.7 | 85% | 109% |
| 2008 | 4.2 | 5.4 | -1.2 | 78% | 99% |
| 2009 | 6.7 | 9.4 | -2.8 | 71% | 80% |
| 2010 | 8.9 | 10.0 | -1.1 | 89% | 104% |
| 2011 | 9.5 | 10.9 | -1.4 | 87% | 100% |
| 2012 | 6.2 | 8.4 | -2.2 | 74% | 83% |
| 2013 | 5.8 | 7.6 | -1.8 | 77% | 84% |
| 2014 | 5.8 | 7.6 | -1.7 | 77% | 97% |
| 2015 | 5.3 | 7.5 | -2.3 | 70% | 84% |
| 2016 | 5.0 | 7.4 | -2.4 | 68% | 86% |
| 2017 | 5.6 | 6.6 | -1.0 | 85%[22] | 91% |

Source: PPF

## 10.3 Scheme Demographics

Around 80 per cent of liabilities is concentrated in the largest 15 per cent of schemes.

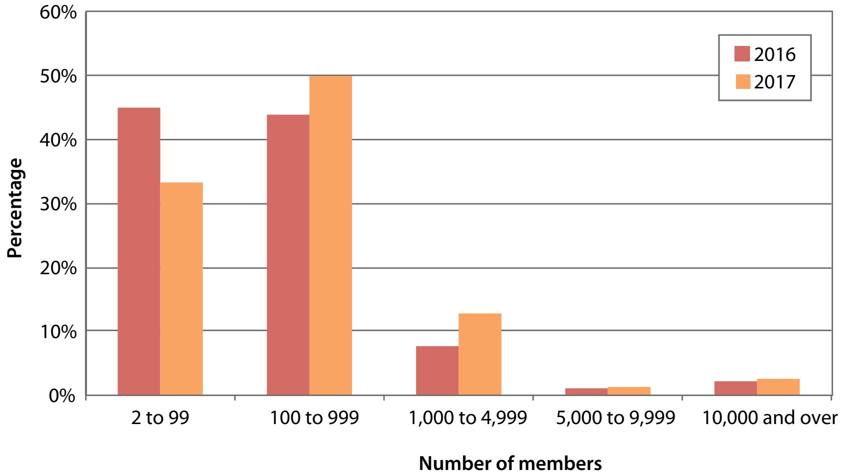
**Figure 10.3** | Percentage of schemes and percentage of s179 liabilities grouped by size of liabilities for schemes in assessment, as at 31 March 2017




Source: PPF

[22] The improvement in funding from 2016 is in part due to additional expected recoveries in respect of two large schemes. If these schemes are removed from the analysis the funding level falls to 73 per cent.

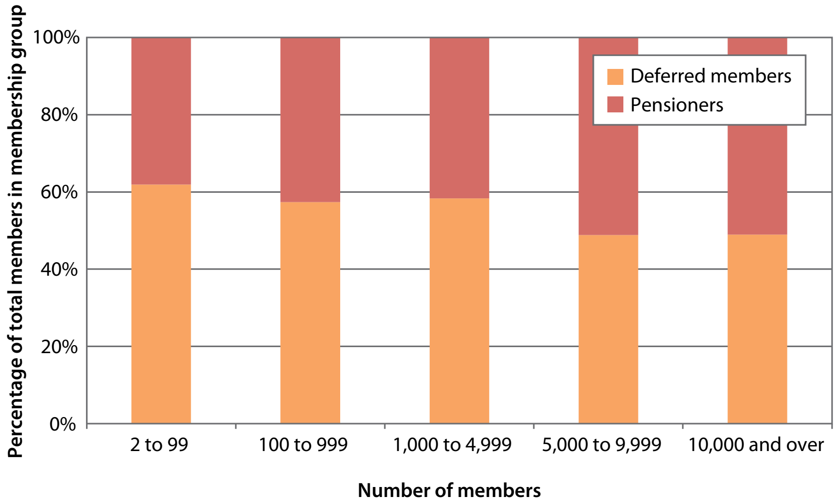
**Figure 10.4** | Proportion of schemes in assessment by number of members




Source: PPF

The average size of a scheme in assessment has increased since last year.

**Figure 10.5** | Maturity of schemes in assessment by membership size



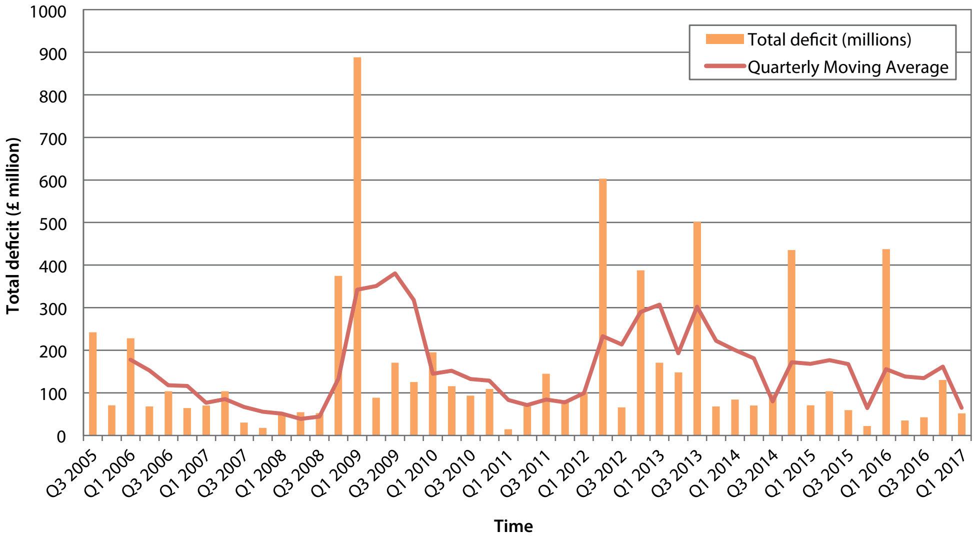

Source: PPF

Larger schemes in assessment tend to be slightly more mature, with a higher proportion of pensioners.

## 10.4 Funding level

The total deficit of schemes entering assessment in the year to 31 March 2017 was £261 million, down from £623 million the year before.

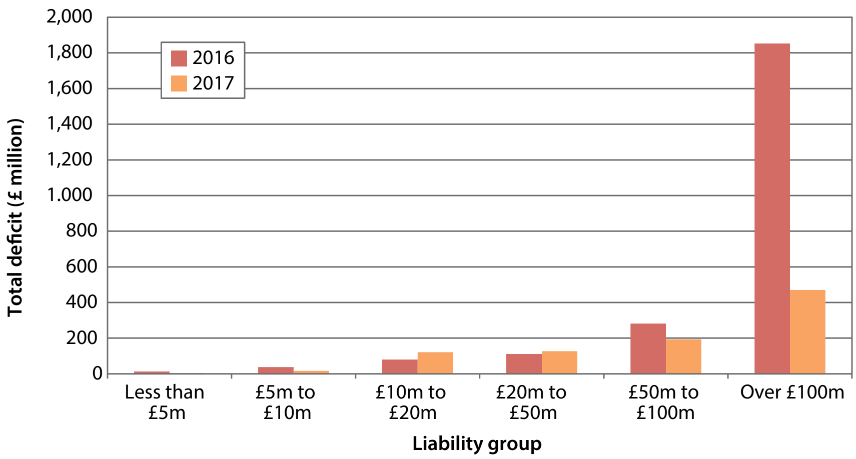
**Figure 10.6** | Total s179 deficit for schemes entering an assessment period




**Source:** PPF

Around 50 per cent of the deficit from schemes in assessment relates to schemes with liabilities over £100 million.

**Figure 10.7** | Total s179 deficit of schemes in assessment by liability size




**Source:** PPF

# PPF Compensation 2016/17

11

## 11.1 Summary

- In the year to 31 March 2017, the PPF made compensation payments of £661 million compared with £616 million in the previous year. These amounts include cash lump sums payable at retirement arising from the commutation of annual compensation.
- As at 31 March 2017, 129,661 members were in receipt of PPF compensation, up from 121,059 as at 31 March 2016. Spouses and other dependants account for 15 per cent of those members currently in receipt of compensation, which is unchanged from last year.
- The average amount of compensation in payment to pensioners and dependants increased to £4,309 per year from £4,162 per year as at 31 March 2016.
- The number of deferred pensioner members, i.e. members with compensation not yet in payment as at 31 March 2017, totalled 110,478. For these members, the average accrued periodic compensation (before any prospective application of the compensation cap) was £3,361 per year.
- As at 31 March 2017, 65 per cent of our members were men. This is unchanged from last year.
- Around 90 per cent of members are in receipt of (or have accrued) compensation of less than 25 per cent of the compensation cap at age 65 ( i.e. less than around £9,600 a year).
- The North East remains the region with the largest receipt of compensation, currently at 15 per cent of total pensioner compensation.

## 11.2 Total compensation and other member statistics

When a scheme transfers into the PPF, the PPF generally pays compensation of 90 per cent of scheme pension (subject to a compensation cap) to members who were yet to reach their Normal Pension Age (NPA) at the date the scheme entered assessment. The PPF will generally pay a starting level of compensation equivalent to 100 per cent of scheme pension to those who were already over their NPA at the start of the assessment period.

Total compensation paid in the year to 31 March 2017 was £661.3 million, almost double the amount paid in the year to 31 March 2013.

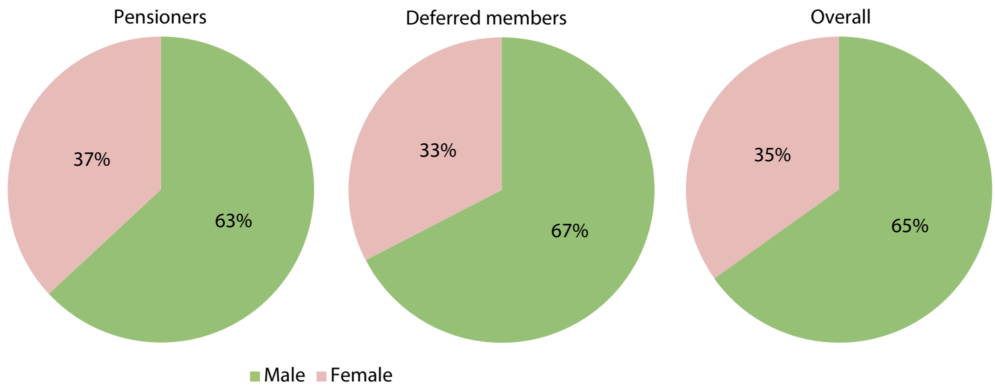
**Figure 11.1** | Total compensation and number of members

| Year | Total compensation paid (£ million, year to 31 March) | Number of members[23] | | |
|---|---|---|---|---|
| | | Pensioners | Deferred members | Total |
| **2007** | 1.4 | 1,457 | 5,621 | 7,078 |
| **2008** | 17.3 | 3,596 | 8,577 | 12,173 |
| **2009** | 37.6 | 12,723 | 18,009 | 30,732 |
| **2010** | 81.6 | 20,775 | 26,058 | 46,833 |
| **2011** | 119.5 | 33,069 | 42,063 | 75,132 |
| **2012** | 203.3 | 57,506 | 70,608 | 128,114 |
| **2013** | 331.8 | 80,665 | 91,353 | 172,018 |
| **2014** | 445.1 | 95,599 | 100,070 | 195,669 |
| **2015** | 564.4 | 114,028 | 110,681 | 224,709 |
| **2016** | 616.0 | 121,059 | 109,143 | 230,202 |
| **2017** | 661.3 | 129,661 | 110,478 | 240,139 |

**Source:** PPF

65 per cent of our members are male.

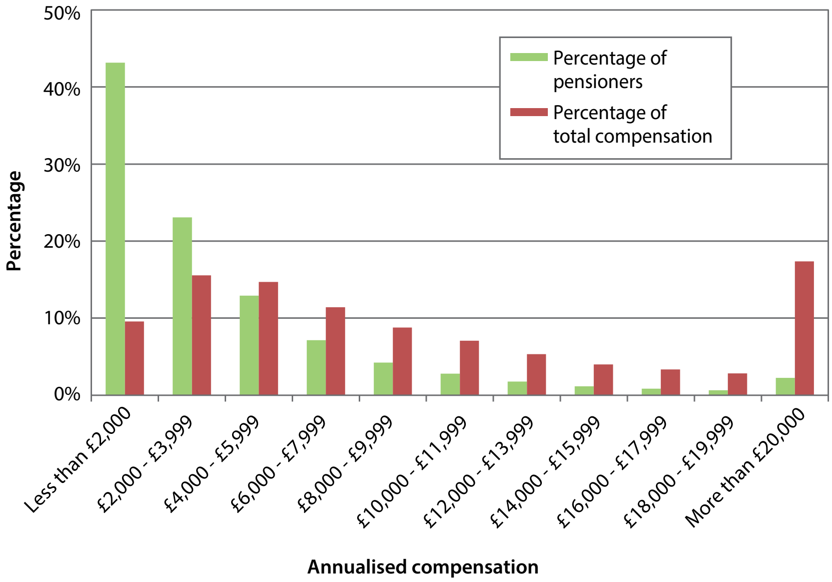
**Figure 11.2** | Sex of members in the PPF




**Source:** PPF

[23] Please note that these refer to the numbers of member records. As some members have more than one record (for example because of different periods of service or tranches of benefit), these numbers may be different to those stated in the Key Figures section of the PPF's Annual Report and Accounts, for which purpose individuals are counted only once, regardless of the number of records.

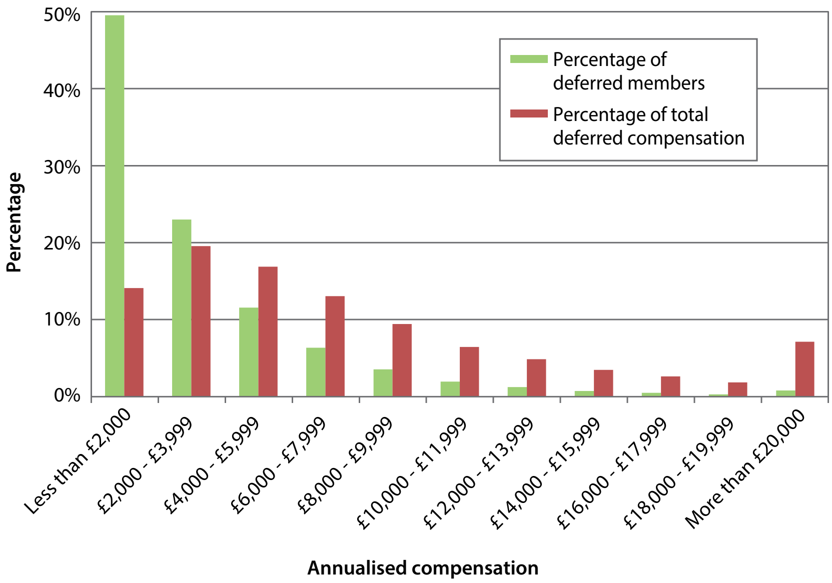
Figure 11.3 | Distribution of pensioners by annualised compensation level




Source: PPF

Around 90 per cent of pensioner members are in receipt of annualised compensation of less than £10,000. However, this compensation makes up around 60 per cent of the total paid out.

Figure 11.4 | Distribution of deferred pensioners by annualised compensation level




Source: PPF

Around 90 per cent of deferred pensioner members have annualised compensation of less than £8,000. This compensation makes up around 60 per cent of the total annual deferred compensation.

Spouses and other dependants make up 15 per cent of total pensioners and 10 per cent of compensation.

**Figure 11.5** | Proportions of spouses and other dependants, and members within the PPF current pensioner population

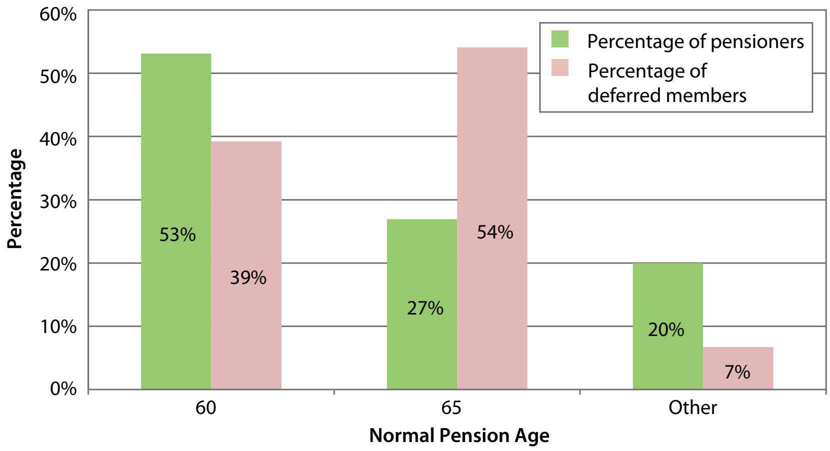
| | Number within pensioner population | Percentage of total population | Annualised compensation (£ millions) | Percentage of total annualised compensation |
|---|---|---|---|---|
| **Dependants** | 19,984 | 15% | 58 | 10% |
| **Members** | 109,677 | 85% | 501 | 90% |
| **Total** | 129,661 | 100% | 559 | 100% |

Source: PPF

Note: annualised compensation is less than compensation paid in the year to 31 March 2017 as the latter includes cash sums taken upon retirement, and takes account of member movements (e.g. deaths or retirements) over the year.

For pensioner members, the majority of compensation is payable from a Normal Pension Age of 60 whereas for deferred members the majority is payable from age 65.

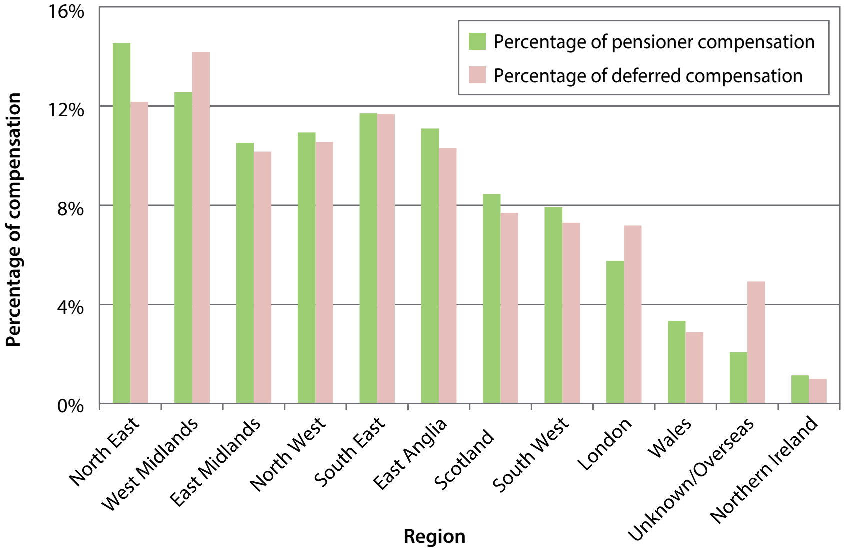
**Figure 11.6** | Distribution of pensioner and deferred member compensation by Normal Pension Age (NPA)[24]




Source: PPF

[24] In previous years the proportions shown in this chart were determined by the number of members. This year we have amended our approach so that the proportions are based on the amount of compensation.

**Figure 11.7** | Annualised compensation by UK region




**Source:** PPF

The largest shares of compensation go to members in the North East and West Midlands.

**Figure 11.8** | Pre-6 and post-5 April 1997 annualised compensation for pensioners and deferred pensioner members

| | Pensioners | | Deferred pensioners | |
|---|---|---|---|---|
| | Annualised compensation (£ millions) | Percentage | Annualised compensation (£ millions) | Percentage |
| **Pre-6 April 97** | 401 | 72% | 168 | 45% |
| **Post-5 April 97** | 158 | 28% | 203 | 55% |
| **Total** | 559 | 100% | 371 | 100% |

**Source:** PPF

Almost three quarters of compensation for pensioners was in respect of service accrued before 6 April 1997.

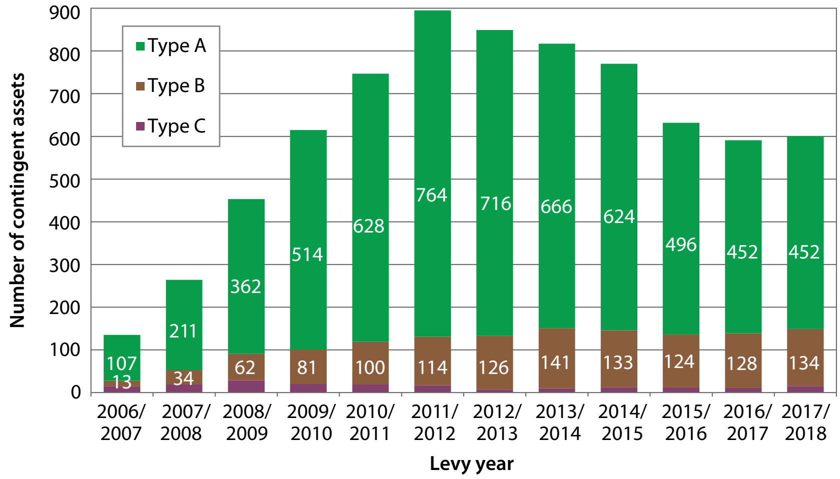
# 12 Risk Reduction

## 12.1 Summary

- The total number of Contingent Assets submitted to the PPF for the 2017/18 levy year was 601, compared with 591 in 2016/17. This reflects a number of additional Type B & C Contingent Assets (security holdings or bank guarantees).
- Data from the Office for National Statistics (ONS) covering around 360 large pension schemes (including 100 local authorities and some DC schemes) show that in the year to 31 March 2017 sponsoring employers made £11.4 billion in special contributions (i.e. those in excess of regular annual contributions) to DB schemes, compared with £16.3 billion in the year to 31 March 2016.
- Analysis of The Pensions Regulator's latest Technical Provisions and recovery plan data shows that in Tranche 10, the average recovery plan length was 7.5 years, 1 year shorter than that of Tranche 7 (comparable given the three year valuation cycle) and 0.5 years shorter than that of Tranche 9.
- The average funding level as measured by assets divided by Technical Provisions was 88.7 per cent in Tranche 10, 7.7 percentage points higher than Tranche 7.
- Technical Provisions as a percentage of s179 liabilities dropped to 96.8 per cent from 99.0 per cent in Tranche 7. The fall in Technical Provisions as a percentage of buy-out liabilities was similar, from 71.2 per cent to 69.2 per cent.
- Total risk transfer business covering buy-outs, buy-ins and longevity hedges amounted to £138 billion between 2007 and the second quarter of 2017. Just under half of these deals were longevity hedges.

## 12.2 Contingent Assets

**Figure 12.1 |** Contingent Assets by type




**Source:** PPF

Type A Contingent Assets are guarantees provided by the parent/group companies to fund the scheme, most commonly, to a pre-arranged percentage of liabilities.

Type B Contingent Assets comprise security over holdings of cash, real estate and/or securities.

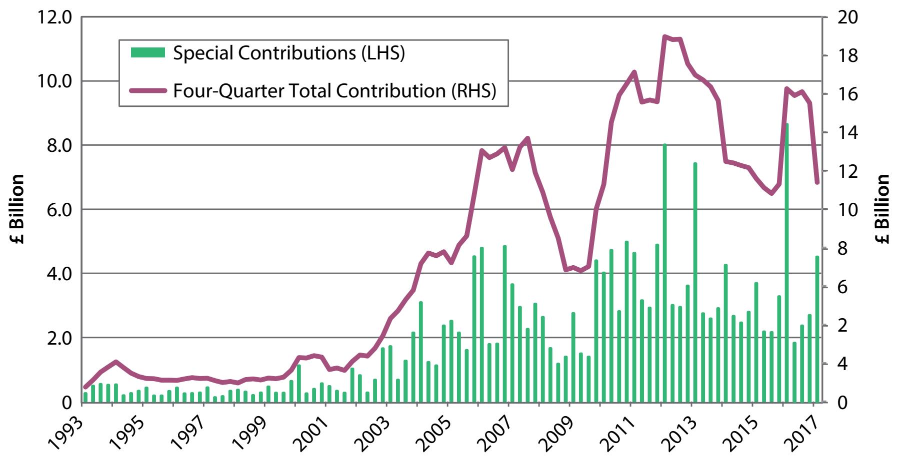
Type C Contingent Assets consist of letters of credit and bank guarantees.

The number of recognised Contingent Assets has stabilised in the last year after large falls between 2011/12 and 2015/16.

## 12.3 Special contributions

ONS data covering around 360 large pension schemes shows that employers made £11.4 billion in special contributions (to DB schemes) in the year to 31 March 2017, lower than the £16.3 billion paid in the year to 31 March 2016.

**Figure 12.2 |** Special contributions




**Source:** MQ5, 'Investment by Insurance Companies, Pension Funds and Trusts', ONS

In the first quarter of 2017, employers made £4.5 billion in special contributions.

## 12.4 The scheme funding regime

In Tranche 10, the average recovery period was 7.5 years, 1 year shorter than Tranche 7 (comparable given the three year valuation cycle).

**Figure 12.3 |** Technical Provisions and Recovery Plan lengths (unweighted)

| Tranche | Year of valuation | Number of Recovery Plans | Average length of Recovery Plan (Years) | Assets as a percentage of Technical Provisions | Technical Provisions as a percentage of s179 liabilities[25] | Techinical Provisions as a percenatge of buy-out liabilities |
|---|---|---|---|---|---|---|
| 1 | 2005-06 | 2,127 | 8.1 | 84.2% | 103.4% | 67.7% |
| 2 | 2006-07 | 1,888 | 7.7 | 87.3% | 111.5% | 71.0% |
| 3 | 2007-08 | 1,840 | 8.6 | 86.3% | 109.0% | 74.6% |
| 4 | 2008-09 | 2,048 | 9.7 | 74.0% | 100.8% | 72.8% |
| 5 | 2009-10 | 1,937 | 8.5 | 82.5% | 111.6% | 73.8% |
| 6 | 2010-11 | 1,652 | 7.8 | 88.2% | 108.4% | 72.4% |
| 7 | 2011-12 | 1,770 | 8.5 | 81.0% | 99.0% | 71.2% |
| 8 | 2012-13 | 1,726 | 8.5 | 82.4% | 98.5% | 71.3% |
| 9[26] | 2013-14 | 1,530 | 8.0 | 89.6% | 102.4% | 71.8% |
| 10[27] | 2014-15 | 1,324 | 7.5 | 88.7% | 96.8% | 69.2% |

**Source:** "Scheme funding statistics, Appendix", The Pensions Regulator, June 2017
Notes:
(1) Valuation dates run from 22 September to 21 September.
(2) 80.7% of schemes with Tranche 10 valuations reported in respect of Tranches 7, 4, and 1.

## 12.5 Buy-out, buy-in and longevity hedging

Buy-out and buy-in transactions provide schemes with the opportunity to remove risk relating to all or part of their liability. Under a buy-out deal, a scheme transfers its entire liability and scheme assets to an insurer in exchange for a premium. Insurers tend to require assets significantly in excess of Technical Provisions to compensate for the risk transferred. Buy-in deals result in an insurance policy as a scheme asset.

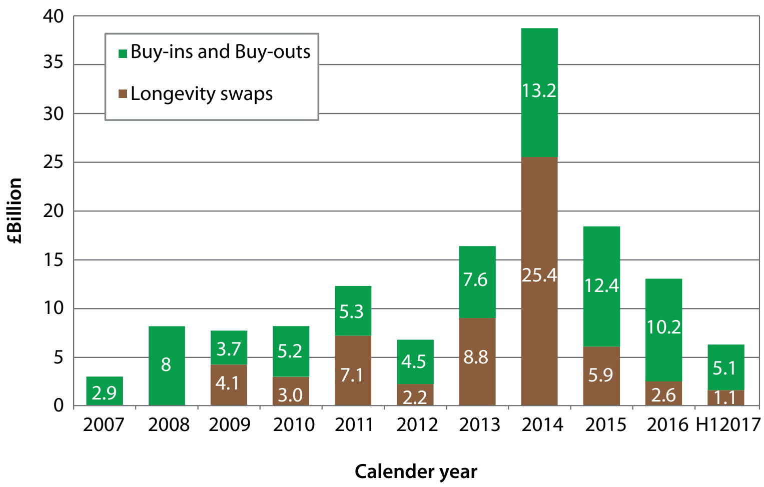
While both longevity swaps and buy-in/buy-out can mitigate the risk of greater than expected life expectancy, under the former there is no transfer of the underlying scheme assets to a counterparty. Longevity swaps entail the pension scheme exchanging fixed payments for cash flows that vary in accordance with the longevity experience of a reference population (either the named scheme members or a wider sample).

[25] Note that the average funding level and the ratio of TPs to s179 liabilities only covers schemes which were in deficit on their TP basis.

[26] Please note that as TPR has received additional Tranche 9 information since the publication of the Purple Book 2016, this row has been updated in the Purple Book 2017.

[27] Tranche 10 covers schemes with valuation dates between 22 September 2014 and 21 September 2015. **http://www.thepensionsregulator.gov.uk/docs/scheme-funding-appendix-2017.pdf**

Figure 12.4 | Value of risk transfer deals since 2007




Source: Hymans Robertson, "Buy-outs, buy-ins and longevity hedging"

The value of risk transfer deals since 2007 totals £138 billion. 2016 saw the lowest value of new deals since 2013.

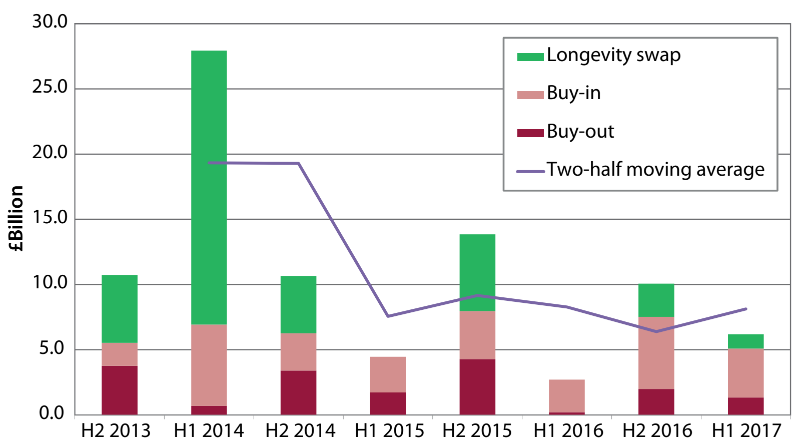
Figure 12.5 | Number of risk transfer deals since 2010

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | H1 2017 |
|---|---|---|---|---|---|---|---|---|
| Buy-in/Buy-out | 174 | 171 | 167 | 219 | 177 | 176 | 104 | 54 |
| Longevity swap | 1 | 5 | 2 | 10 | 5 | 4 | 5 | 2 |

Source: Hymans Robertson, "Buy-outs, buy-ins and longevity hedging"

2016 saw the lowest number of risk transfer deals since 2010.

Figure 12.6 | Value of risk transfer deals since H2 2013




Source: Hymans Robertson, "Buy-outs, buy-ins and longevity hedging"

Over the year to 30 June 2017, the total value of risk transfer deals was £16 billion, broadly similar to the year to H1 2016.

# Appendix – note on historical datasets

For each edition of the Purple Book, a dataset is collated including all appropriate schemes where scheme return information has been processed and cleaned. In subsequent months, more scheme returns are processed and cleaned and in 2006 and 2007 these were incorporated into the existing dataset to produce an 'extended' dataset. For 2006 and 2007, the increased coverage produced significantly different results to the original datasets. However, since then, datasets have been much larger and the increased coverage made only a small difference. Accordingly, comparisons are made with previous publications as follows:

- Purple 2006 and 2007 - extended dataset
- Purple 2008 to 2016 - original dataset

## Scheme status

Scheme status in this Purple Book is split between:

- open schemes, where new members can join the DB section of the scheme and accrue benefits,
- schemes closed to new members, in which existing members continue to accrue benefits,
- schemes closed to future benefit accruals, where existing members can no longer accrue new years of service; and
- schemes that are winding-up.

Because many larger employers have adopted the strategy of migrating their pension provision towards Defined Contribution (DC) by opening a DC section in an existing DB scheme, many hybrid schemes may accept new members but no longer allow new (or existing) members to accrue defined benefits.

This has been handled differently across different editions of the Purple Book. In the Purple Book 2006, 40 per cent of members were in the open category and 25 per cent were categorised as 'part open'. It was noted that the 'part open' category included a significant number of hybrids for which the DB element was closed. In the Purple Book 2007, the 'part open' category was removed and the percentage of schemes classified as open increased by comparison with the Purple Book 2006. Many hybrid schemes which had previously identified themselves as 'part open' now identified themselves as 'open'. In the Purple Books 2008 and 2009, we analysed the largest 100 schemes (by membership) in the hybrid category separately so as to adjust the information provided in the scheme return and remove potential misinterpretation caused by hybrid schemes with closed DB sections declaring themselves as open.

Improved levels of information on hybrid schemes are now available from the scheme returns and since the Purple Book 2010 we have been able to adjust hybrid statuses to 'closed' where DB provision is not available to new members. Since 2013, those hybrids which no longer admit new DB accruing members are categorised as 'closed to new members'. In addition, where those schemes have no active defined benefit membership it is assumed that the scheme is closed to future accrual. The changes to the information available and consequent developing approach across the various editions of the Purple Book should be taken into account when comparing figures from different editions.

# Glossary

# Glossary

## Active member
In relation to an occupational pension scheme, a person who is in pensionable service under the scheme.

## Administration
See Company: trading status.

## Aggregate funding position
Sum of assets less sum of liabilities, or sum of scheme funding positions. In a pool of schemes where schemes in deficit outweigh schemes in surplus there is an aggregate deficit.

## Assessment period
The time when a scheme is being assessed to see if the Pension Protection Fund can assume responsibility for it.

## Asset-Backed Contribution (ABC)
A contractual arrangement between the pension scheme trustees and one or more entities within the sponsoring employer's group. ABCs involve regular payments to the scheme for the duration of the arrangement. The payment stream derives from an underlying asset. For more information see http://www.pensionprotectionfund.org.uk/levy/Pages/1516_Levy_Determination.aspx

## Buy-out basis
The level of coverage the current assets will provide if all benefits were to be bought out in the name of the individual member with an insurance company. See also full buy-out.

## Closed (to new members)
The scheme does not admit new members. Existing members can continue to accrue pensionable service/ benefits.

## Company: trading status
- **Active/currently trading**
  The company is continuing to trade.
- **Administration**
  One of the main corporate insolvency rescue procedures. It can be a precursor to a company voluntary arrangement under which the company is restructured and passed back to its directors. In an administration, the insolvency practitioner, as officer of the court, takes over powers of management of the business (but is able to delegate these back to management) with the objective of rescuing the company or (if that is not possible, or if the result would be better for creditors) rescuing the business as a going concern and providing protection from actions by creditors while doing so. A partnership can also be subject to administration as a prelude to a partnership voluntary arrangement.
- **Dissolved**
  The company has ceased trading. All assets of the company have been disposed of and/ or it has been taken off the register at Companies House.
- **Dormant**
  The company is not currently trading but remains a corporate entity and/or remains on the register at Companies House.
- **In liquidation**
  Either a creditor or the company can apply to the courts to put the company into liquidation. It is the process which eventually brings a company's existence to an end after distributing its assets to creditors/shareholders.
- **Liquidated**
  Following the liquidation process, the company has ceased trading. All assets of the company have been disposed of and/or it has been taken off the register at Companies House.
- **Receivership**
  (Also known as administrative receivership or Law of Property Act (LPA) 1925 receivership.) Non-court procedure whereby an insolvency practitioner takes control of the whole of a company's assets under the terms of a charge or mortgage.

## Deferred member
In relation to an occupational pension scheme, a person (other than an active or pensioner member) who has accrued rights under the the scheme but is not currently accruing or being paid benefits under the scheme.

## Deficit-reduction contribution

A one-off (or irregular) contribution made by a scheme sponsor to a pension scheme to reduce the level of deficit.

## Defined benefit

Benefits are worked out using a formula that is usually related to the members pensionable earnings and/or length of service. These schemes are also referred to as final salary or salary related pension schemes.

## Defined contribution

Benefits are based on the amount of contributions paid, the investment returns earned and the amount of pension this money will buy when a member retires. These schemes are also referred to as money purchase pension schemes.

## Experian

A provider of insolvency scores as used for PPF levy calculations.

## Full buy-out

The cost of insuring a pension scheme in the private market. The discount rate applied to liabilities would be more prudent in general than the discount rate applied to section 179 valuations. The benefit assumed in private insurance is usually non-capped and thus could be greater than Pension Protection Fund coverage.

## Gilt yield

The yield, if held to maturity, of a government (non-indexed) bond.

## Hybrid scheme or partial defined benefit scheme

A scheme that can provide defined benefits and defined contribution benefits. A scheme providing benefits on a defined contribution basis but that is or was contracted out of the state scheme on either a Guaranteed Minimum Pension (GMP) or Reference Scheme test basis is a common example of a hybrid scheme.

## Insolvency events

These are the insolvency triggers set out in the Pension Protection Fund legislation.

## Insolvency risk

The risk that a borrower will have to close business due to its inability to service either the principal or interest of its debt. This is a more extreme event than a default. See also Insolvency events.

## Insurance company

Insurance companies provide a range of services to pension schemes, including:

- asset investment,
- asset management,
- investment advice and expertise,
- custodian facilities, and
- scheme administration services.

## Insurance policy

Investment class: an annuity or a deposit administration contract purchased from an insurance company.

## LTRM

The Pension Protection Fund's Long-Term Risk Model, which is based on stochastic simulations of economic scenarios and their respective impacts on assets and liabilities of pension schemes under coverage and the credit quality of the sponsoring employers.

## MQ5 data

The data from the ONS MQ5 enquiry is based on a sample of around 360 pension schemes. This is comprised of around 100 local authorities and around 260 public and private corporations (the PPF database excludes local authorities and public corporations). The sample has total assets of £1,100 billion, which is much higher than the PPF database. All schemes with more than 20,000 members are automatically included and schemes with less than 20,000 members are randomly selected. The sample is made up of what are known as 'superannuation and self-administered pension funds'. A self-administered pension fund is defined as an occupational pension schemes with units invested in one or more managed schemes or unit trusts; a superannuation pension fund is defined as a an organisational pension programme created by a company for the benefit of its' employees. The sample may also contain defined contribution schemes.

## ONS

Office for National Statistics

## Open scheme

The scheme continues to accept new members, and benefits continue to accrue.

## Paid up (or frozen) scheme

All contributions to the scheme have stopped and no further pensionable service accrues.

Members' benefits for earlier service continue to be held and invested in the scheme.

### Part 3 valuation or scheme funding valuation
An actuarial valuation meeting the requirements of Part 3 of the Pensions Act 2004 concerning the funding of DB, which apply to any actuarial valuation received by trustees (on or after 30 December 2005) that is based on an effective date of 22 September 2005 or later.

### Participating employer
An employer that has some (or all) employees who can join an occupational pension scheme. This term is usually used where there is more than one employer participating in a single scheme.

### Pensioner member
A person who is currently receiving a pension from the scheme or from an annuity bought in the trustee's name.

### Pension Protection Fund (PPF)
A statutory corporation run by the Board of the Pension Protection Fund, established under the Pensions Act 2004.

### Pension protection levy
This is the annual amount that a pension scheme is charged by the Pension Protection Fund. It is composed of a scheme-based levy and a risk-based levy. It is similar to an insurance premium.

### The Pensions Regulator (TPR)
The UK regulator of work-based pension schemes, an executive non-departmental public body established under the Pensions Act 2004.

### Repurchase agreement (repo)
The sale of a security combined with an agreement to repurchase the same security at a higher price at a future date.

### Risk-based levy
See pension protection levy. Calculated on the basis of a pension scheme's deficit and insolvency risk of the sponsoring employer.

### Scheme-based levy
See pension protection levy. Calculated on the basis of section 179 liabilities and the number of members participating in the pension scheme.

### Scheme funding position
The difference between the assets and liabilities of a pension scheme (scheme deficit if negative, scheme surplus if positive).

### Scheme funding valuation
New legislation on scheme funding came into force on 30 December 2005. The new requirements, introduced by the Pensions Act 2004, replace the previously applicable minimum funding requirement and apply to occupational pension schemes providing defined benefits.

### Scheme member
In relation to an occupational pension scheme, a scheme member is any person who:

- is an active member,
- is a deferred member,
- is a pensioner member,
- has rights due to transfer credits under the scheme, or
- has pension credit rights under the scheme.

This includes scheme members whose only entitlements are equivalent pension benefits (EPBs) as those rights were earned through pensionable employment. Members (for occupational and personal schemes) do not include dependants of members. Those whose only entitlements are lump sum benefits payable upon death are also not included.

### Section 179 (s179) valuation
To calculate the risk-based pension protection levy the Pension Protection Fund Board must take account of scheme underfunding. To obtain a consistent basis for determining underfunding, schemes can complete a Pension Protection Fund valuation (section 179). This valuation will be based on the level of assets and liabilities for the scheme. The liabilities will be based on the scheme benefits taking into account key features of the levels of compensation paid by the Board of the Pension Protection Fund as set out in Schedule 7 of the Pensions Act.

### Sectionalised scheme
A multi-employer scheme which is divided into two or more sections where:

- any contributions payable to the scheme by an employer in relation to the scheme, or by an employee of that employer, are allocated to that employer's section, and
- a specified proportion of the assets of the scheme is attributable to each section of the scheme and cannot be used for the purposes of any other section.

## Swap
Investment: A contract calling for the exchange of payments over time. Often one payment is fixed in advance and the other is floating based upon the realisation of a price or interest rate.

## Technical Provisions (TPs)
The funding measure used for the purposes of Part 3 valuations. 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.

## Total deficit
Sum of scheme deficits, or sum of scheme funding positions for schemes in deficit only.

## Trustees
- **Corporate trustee (non-professional)**
  A company usually related to the employer (or the employer itself) set up to act as trustee for a scheme or a series of related or associated schemes.
- **Member-nominated trustee (MNT)**
  A person nominated by the members (and sometimes elected) to be a trustee of the scheme. A MNT may be a member of the scheme. A MNT is appointed in accordance with sections 16-21 of the Pensions Act 1995.
- **Pensioneer trustee**
  A pensioneer trustee is an individual or a company recognised by HMRC (Inland Revenue) as having pensions expertise.
- **Professional trustee (including corporate)**
  A professional trustee not connected with the employer and not a scheme member. The trustee could be a corporate trustee company or an individual. A professional trustee provides trusteeship and trustee services to a number of unrelated and non-associated pension schemes.
- **Statutory independent trustee**
  A trustee appointed to a scheme where an insolvency practitioner has been appointed over an employer in accordance with sections 22-26 of the Pensions Act 1995.

## Voluntary form reporting
Electronic forms are available on the Pension Protection Fund's website for pension schemes to provide data regarding sectionalised schemes, contingent assets, participating employers, scheme structure, estimates of pension fund deficits on a section 179 basis, deficit-reduction contributions and block transfers.

## Winding-up / wound-up
After the wind-up is complete (the scheme is wound-up), there will be no assets or liabilities left in the scheme, and the scheme will cease to exist as a legal entity. Winding-up describes the process of reaching wind-up from normal ongoing status. To make sure that members will still receive benefits, there are several options:

- transferring pension values to another pension arrangement,
- buying immediate or deferred annuities, or
- transferring the assets and liabilities of the scheme to another pension scheme.

The scheme must be wound-up in accordance with the scheme rules and any relevant legislation.

# Charts and Tables

# Charts and Tables

## How to contact us:

Pension
Protection
Fund

Pension Protection Fund

Renaissance
12 Dingwall Road
Croydon
Surrey
CR0 2NA

www.pensionprotectionfund.org.uk

Phone: 0845 600 2541
Textphone: 0845 600 2542
Fax: 020 8633 903
Email: purplebook@ppf.gsi.gov.uk