The Purple Book

DB PENSIONS UNIVERSE RISK PROFILE | 2015

The Pensions Regulator

Pension Protection Fund

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

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Summary

This is the tenth edition of the Pensions Universe Risk Profile (The Purple Book), a joint annual publication by the Pension Protection Fund (the PPF) and The Pensions Regulator (the regulator). The Purple Book focuses on the risks faced by Defined Benefit (DB) pension schemes, predominantly in the private sector.

1.1 Economic background and introduction

The main focus in each year's Purple Book is the position at the end of March for the year in question, and a comparison of how risks have changed over the last year. This year we also focus on the major changes over Purple's 10-year history.

Over the 12 months to March 2015, the economic recovery continued. However, 10-year gilt yields fell markedly, adversely affecting scheme funding. The drop in yields largely reflected international developments such as the collapse in oil prices, deflation fears in the euro-area, the announcement of Quantitative Easing (QE) by the European Central Bank, and indications from the US Fed that it could be patient in raising rates.

- The UK economy saw further robust growth, GDP rising by 2.7 per cent in the year to the first quarter of 2015.
- CPI Inflation fell from 1.6 per cent in March 2014 to zero in March 2015.
- Insolvency Service statistics showed that the company liquidation rate in the year to the first quarter of 2015 was 0.5 per cent, down from 0.6 per cent in the first quarter of 2014.
- The total number of company insolvencies (also including receiverships, administrations, and company voluntary arrangements) was 12 per cent lower in the first quarter of 2015 than in the same quarter of 2014.
- The FTSE All-Share index rose by 3.0 per cent in the year to March 2015.
- 10-year gilt yields fell from 2.7 per cent to 1.6 per cent while 10-year AA corporate bond yields increased slightly to 3.4 per cent.
- The Bank of England kept its policy rate unchanged at 0.5 per cent and did not add to its asset purchases under its Quantitative Easing programme.

Since March 2015, the UK economic recovery has continued with GDP rising by a further 0.7 per cent in the second quarter while inflation was -0.1 per cent in September. The total number of company insolvencies fell by a further three per cent between the first and second quarters of 2015. Equity markets fell by 9 per cent between end-March and end-September while gilt yields rose by 0.2 percentage points.

Figure 1.1 | UK economic and financial environment

UK	End March							End Sep 2015
	2009	2010	2011	2012	2013	2014	2015	
GDP growth year-on-year	-6.8%	0.5%	1.7%	0.6%	0.7%	3.0%	2.7%	2.4%*
CPI Inflation	2.9%	3.4%	4.0%	3.5%	2.8%	1.6%	0.0%	-0.1%
Company liquidation rate – 12 months prior	0.9%	0.9%	0.8%	0.8%	0.7%	0.6%	0.5%	0.5%*
Total insolvency events**	6,857	5,348	5,332	5,613	4,528	4,571	4,025	3,908*
FTSE All-Share level	1,984	2,910	3,068	3,003	3,381	3,556	3,664	3,336
10-year gilt yield	3.2%	3.9%	3.7%	2.2%	1.8%	2.7%	1.6%	1.8%
10-year index linked yield	0.9%	0.4%	0.6%	-0.6%	-1.6%	-0.3%	-1.0%	-0.9%
10-year AA corporate bond yield	6.8%	4.7%	5.1%	3.9%	2.9%	3.3%	3.4%	3.4%
Bank of England policy rate	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
QE £billion	15	200	200	325	375	375	375	375

Sources: Office for National Statistics, the Insolvency Service, Bank of England and Bloomberg

* These relate to Q2 2015.

** This comprises liquidations, receiverships, administrations and company voluntary arrangements. This excludes creditors' voluntary liquidations following administration which had been included in the Insolvency Service statistics a year ago.

Much of the analysis of the 2015 Purple Book ('Purple 2015') is based on new information from 5,945 scheme returns issued in December 2014 and January 2015 and returned to the regulator by the end of March 2015. The Purple Book covers virtually all schemes in the universe of PPF-eligible schemes.

The Purple Books have focused on the risk of scheme members not receiving promised benefits and of claims on the PPF. These in turn depend on two key elements, namely the risk of the sponsoring employer becoming insolvent and the extent of scheme underfunding. The main focus of this publication is risk as at 31 March 2015.

Some of the key points from Purple 2015 are given below, followed by a description of the main changes since Purple 2006.

Purple 2015: main developments

Scheme demographics

- The percentage of schemes closed to future accrual rose again in 2015 – from 32 per cent to 34 per cent. This is a continuation of the trend that has been in place since the start of the Purple Book in 2006.
- The percentage of schemes that are open remained at 13 per cent in 2015 and has changed little over the last three years.
- The number of active memberships fell by 3.4 per cent in 2015, to 1.75 million.

Scheme funding

- Scheme funding deteriorated between end-March 2014 and end-March 2015 - from 97 per cent in 2014 to 84 per cent on a section 179 (s179) basis, and from 67 per cent to 62 per cent on a full buy-out basis – reflecting the impact of the fall in gilt yields on liabilities which more than offset the impact of higher equity markets and gilt prices on assets.
- Between end-March 2015 and end-September 2015, scheme funding on a s179 basis deteriorated by a further 3.1 percentage points, mainly reflecting the impact of lower equity markets and gilt prices on assets which more than offset the impact of higher gilt yields on liabilities.

Asset allocation

- In 2015, the equity share of total scheme assets fell from 35.0 per cent to 33.0 per cent while the gilts and fixed interest share rose from 44.1 per cent to 47.7 per cent.
- The share of "other investments", total investments less equities and bonds, fell from 20.9 per cent in 2014 to 19.3 per cent in 2015. This largely reflected a large fall in the cash share which more than offset increases for the remaining components (insurance policies, property, hedge funds and "other[1]").
- The share of UK-quoted equities in total equity holdings fell from 28.9 per cent in 2014 to 25.6 per cent in 2015, while the overseas-quoted share increased from 62.4 per cent to 65.4 per cent.
- Within total gilts and fixed interest assets, the corporate fixed interest securities' proportion decreased from 40.3 per cent in 2014 to 37.7 per cent in 2015. Meanwhile, the proportion of government fixed interest securities rose from 18.6 per cent to 20.3 per cent. The balance of holdings in index-linked securities rose to 42.0 per cent from 41.1 per cent in 2014.

10 years of dramatic change for DB schemes

There have been major changes in the scheme status of the PPF-eligible universe of mainly private sector DB schemes over the last 10 years as companies became more aware of the market and longevity risks attached to the schemes. There have also been major changes in financial markets as boom was followed by the financial crisis and recession, near-zero interest rates and Quantitative Easing.

The proportion of schemes open to new members and new accrual has dropped by two-thirds since 2006. The equity share of total assets has almost halved while the gilt and fixed interest share has risen by almost two-thirds and alternative assets have grown rapidly. The UK-quoted share of total equities has almost halved since 2008.

[1] Other includes deferred or immediate fully insured annuities, commodities, and a residual 'other' category.

Schemes have made around £120 billion in special contributions. However, scheme funding on a s179 basis was significantly weaker in March 2015 than in March 2006 while recovery plan lengths under the scheme funding regime were longer in the latest Tranche than in the comparable Tranche six years ago. A halving of gilt yields has made deficit reduction a major challenge.

Some of the key changes over the last 10 years are given below:

10 years: scheme demographics

- The percentage of schemes open to new members and future accrual fell from 43 per cent in 2006 to 13 per cent in 2015.
- The percentage of schemes closed to new members and future accrual rose from 12 per cent to 34 per cent.
- The percentage of schemes closed to new members but open to future accrual rose from 44 per cent to 51 per cent.
- The number of active members fell from 3.6 million in 2006 to 1.75 million in 2015.
- The proportion of schemes in Manufacturing fell from 36 per cent in 2006 to 25 per cent in 2015; the proportion in Services rose from 21 per cent to 28 per cent.

10 years: asset allocation

- Between 2006 and 2015, the equity share of total assets fell from 61.1 per cent to 33.0 per cent, the gilt and fixed interest share rose from 28.3 per cent to 47.7 per cent, and the 'other investments' share of total assets rose from 10.6 per cent to 19.3 per cent. The hedge fund share rose from 1.5 per cent in 2009, the first year the data was collected, to 6.1 per cent in 2015. The cash and property shares also rose as did the residual "other" category which included hedge funds before 2009.
- Between 2008 and 2015, the UK-quoted share of total equity holdings fell from 48.0 per cent to 25.6 per cent, while the overseas-quoted equity share rose from 51.6 per cent to 65.4 per cent.
- Government fixed interest bonds' share of gilts and fixed interest holdings fell from 33.2 per cent in 2008 to 17.7 per cent in 2012, but rose to 20.3 per cent by 2015. Meanwhile, the corporate bonds' share rose from 32.6 per cent to 44.8 per cent in 2012 but then declined to 37.7 per cent by 2015. The index-linked bonds' proportion rose steadily from 33.9 per cent to 42.0 per cent.

10 years: scheme funding (s179)

- Scheme funding on a s179 basis has shown considerable volatility over the last ten years. The funding ratio peaked at almost 120 per cent in June 2007 and reached lows of under 80 per cent in February 2009, December 2011, January 2012, May to August 2012, and January 2015.
- At end-March 2015, the aggregate funding ratio was 84 per cent compared with 97 per cent at end-March 2006. The aggregate balance was -£244 billion compared with -£23 billion.
- The deterioration in funding largely reflects bond market developments. The 15-year gilt yield at end-March 2015 was 2.0 per cent compared with 4.3 per cent in 2006 and the yield on the index-linked equivalent was -0.9 per cent down from 1.2 per cent.
- The impact of these lower yields on scheme liabilities dwarfed the impact of rising equity markets over the 10 years (FTSE All-Share up 20 per cent) and substantial deficit reduction contributions.

10 years: other risk reduction

- ONS data suggest that employers made special contributions to DB pension schemes of over £120 billion between the first quarter of 2006 to the second quarter of 2015.
- The value of risk transfer deals – buy-outs, buy-ins and longevity swaps – since 2006 sums to £105 billion. Just under half of the deals were longevity swaps.

2 The Data

2.1 Summary

- The main body of the analysis in Purple 2015 is based on new scheme returns for a dataset of 5,945 Defined Benefit (DB) schemes, covering 11.0 million memberships[2]. This represents virtually all PPF-eligible schemes and universe liabilities. Complete 2015 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 is 5,967, a reduction from 6,070 in March 2014. The declining universe reflects schemes winding up, scheme mergers, schemes entering assessment, and schemes transferring into the PPF.
- The fact that the dataset accounts for such a large proportion of the universe means that results for the whole universe are expected to be only slightly different from those presented in Purple 2015.
- The Risk-Based Levy charged by the PPF to eligible schemes takes account of the risk of a scheme's sponsoring employer becoming insolvent (insolvency risk) and the size of the potential claim on the PPF (underfunding risk).
- As in previous Purple Books, the bulk of the analysis uses funding on a s179 basis. This is an estimate of 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 provides the PPF with scores as indicators of insolvency risk using the PPF-specific model. This is a statistical model, developed using observed insolvencies amongst employers and guarantors of DB pension schemes. More detail on the model can be found on the PPF website[3].
- In earlier levy years, Dun and Bradstreet (D&B) failure scores were used as indicators of insolvency risk in determining scheme levy payments.
- To look at insolvency risk more broadly, the PPF and the regulator use other information, for example long-term credit ratings from the major ratings agencies, and market implied ratings (based on the credit default swap and equity markets).

[2] A 'membership' is one individual's participation in one scheme. One individual can have multiple memberships. Hence the number of memberships exceeds the number of individuals.

[3] For more information see: **www.pensionprotectionfund.org.uk/levy/insolvencyrisk/Pages/InsolvencyRisk.aspx**

2.2 Introduction

The PPF covers certain DB occupational schemes and DB elements of hybrid schemes. Some DB schemes are 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; 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:

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 2014 and January 2015 and returned by 31 March 2015.

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 a 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".

Insolvency risk score supplied by Experian

From the Levy Year 2015/16, Experian provide 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 amongst employers and guarantors of DB pension schemes.

The starting point in establishing the insolvency risk element of the Risk-Based Levy is normally the annual average of schemes' Experian Monthly Scores (for 2015/16 the six month average of the October 2014 to March 2015 scores was taken). The averaged 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.

For Levy Years prior to 2015/16 failure scores (ranging from 1 to 100) were provided by Dun & Bradstreet (D&B). Each score corresponded to a probability of insolvency, which was used in the PPF's Risk-Based Levy calculations. A score of 1 represented the businesses with the highest probability of insolvency and 100 the lowest. Chapter 9 "Levy Payments 2014/15" uses D&B failure scores since they were used to calculate the Risk-Based Levy in that year.

The data used in Chapters 9 (Levy Payments), 10 (Schemes in Assessment) and 11 (PPF Compensation) are derived from the PPF's business operations.

2.3 The PPF-eligible DB universe[4]

The Purple 2015 sample covers almost all of the estimated number of PPF-eligible schemes.

Figure 2.1 | Distribution of schemes excluding those in assessment by number of members as at 31 March 2015

Number of members	Fewer than 100	100 – 999	1,000 – 4,999	5,000 – 9,999	10,000+	Total Schemes
Estimated Purple 2015 universe	2,156	2,630	788	179	214	5,967
Purple 2015 dataset	2,144	2,625	785	179	212	5,945
Purple 2015 dataset as % of 2015 PPF-eligible DB universe	99.4%	99.8%	99.6%	100.0%	99.1%	99.6%

Source: PPF/ The Pensions Regulator

Large schemes with over 5,000 members make up 7 per cent of the total number of schemes but almost 75 per cent of total assets, liabilities and memberships.

Figure 2.2 | Distribution of assets, s179 liabilities and memberships by number of members as at 31 March 2015

Number of members	Fewer than 100	100 – 999	1,000 – 4,999	5,000 – 9,999	10,000+	Total Schemes
Assets £billion	14.1	114.7	199.0	150.4	820.1	1,298.3
s179 liabilities £billion	15.1	140.0	248.1	178.4	961.0	1,542.5
Memberships thousands	93.1	924.6	1,761.6	1,229.3	6,963.9	10,972.6

Source: PPF/ The Pensions Regulator

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

Figure 2.3 | Purple datasets and universe estimates*

	2010	2011	2012	2013	2014	2015
Estimated eligible DB universe	6,850	6,550	6,460	6,225	6,070	5,967
Purple dataset (as a percentage of final universe)	6,596 (96.3%)	6,432 (98.2%)	6,316 (97.8%)	6,150 (98.8%)	6,057 (99.8%)	5,945 (99.6%)

Source: PPF/ The Pensions Regulator

* Since Purple 2010, schemes in assessment have been excluded from the universe and dataset estimates. This has been done so as to capture accurately the risk present in DB schemes whose employers had not experienced insolvency.

The declining universe reflects schemes winding up, scheme mergers and schemes entering PPF assessment.

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 an estimate of what would have to be paid to an insurance company to take on the payment of PPF levels of compensation. The analysis in Chapter 4, "Scheme Funding", uses data that, as far as possible, reflects the position at 31 March 2015 with the s179 assumptions that came into effect on 1 May 2014. The funding positions of different schemes in the scheme returns are given at different valuation dates. The funding positions are then converted to a common date, 31 March 2015, using rules set out in the Levy Determination published on the PPF's website.

As in previous years, actuaries at the PPF and the regulator have also produced full buy-out estimates of the funding position for the Purple 2015 dataset.

3 Scheme Demographics

3.1 Summary

- 13 per cent of schemes in the dataset are open to new members.
- 34 per cent of schemes are closed to future accrual, 2 per cent more than in 2014, with the proportion of schemes closed to new members falling from 53 per cent to 51 per cent.
- Schemes with 2 to 99 members were the least likely group to be closed to new members. The largest schemes have the highest proportion of closed to new members schemes – they also have the largest proportion of open schemes.
- 22 per cent of memberships were in schemes which were open to new members.
- 8 per cent of memberships in the dataset are active members in open schemes. The largest group is deferred members in schemes closed to new members.
- Active memberships fell by 3.4 per cent from 2014, the smallest drop in active members recorded in the Purple Book. The number of active memberships is around half of those found in the expanded Purple 2006 dataset.
- The highest proportion of active members is in schemes with 10,000 or more members.
- The proportions of schemes and memberships by size band have remained stable over time.
- Since 2006 there has been a long-term trend for the proportion of schemes associated with the Manufacturing industry to diminish and the proportion of schemes associated with the Services industry to increase.

3.2 Introduction

In this chapter the composition of the dataset used for this year's edition of the Purple Book is described. Figures for the total number of schemes and total scheme membership are included, with breakdowns by size, maturity, scheme status and industrial classification.

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 2014 - original dataset

3.3 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 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 Purple 2006, 40 per cent of memberships 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 Purple 2007, the 'part open' category was removed and the percentage of schemes classified as open increased in comparison with Purple 2006. Many hybrid schemes which had previously identified themselves as 'part open' now identified themselves as 'open'. In Purple 2008 and Purple 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.

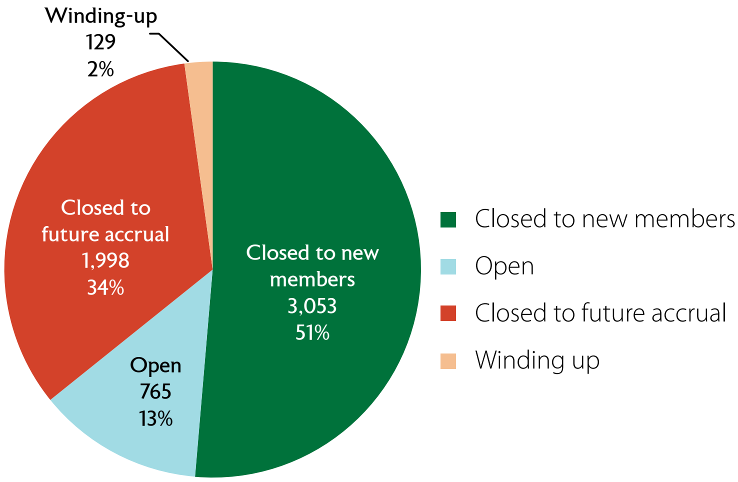
Improved levels of information on hybrid schemes are now available from the scheme returns and since Purple 2010 we are able to adjust hybrid statuses to 'closed' where DB provision is not available to new members.

Since 2013, those hybrids which no longer admit new defined benefit 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. In 2015, 264 open hybrid schemes with approximately 1.3 million members were reclassified as closed to new members and a further 116 open hybrid schemes with approximately 321,000 members had their status amended to 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.

13 per cent of schemes in the dataset are open to new members.

Figure 3.1 | Distribution of schemes by status



Source: PPF/ The Pensions Regulator

34 per cent of schemes are closed to future accrual, 2 per cent more than in 2014, with the proportion of schemes closed to new members falling from 53 per cent to 51 per cent.

Figure 3.2 | Distribution of schemes by status

Percentage of schemes	Extended Purple 2006*	Extended Purple 2007	2008	2009	2010	2011	2012	2013	2014	2015
Open	43%	36%	31%	27%	18%	16%	14%	14%	13%	13%
Closed to new members	44%	45%	50%	52%	58%	58%	57%	54%	53%	51%
Closed to future accruals	12%	16%	17%	19%	21%	24%	26%	30%	32%	34%
Winding up	<1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: PPF / The Pensions Regulator

*For 2006, schemes declared as open and part open have all been counted as open.

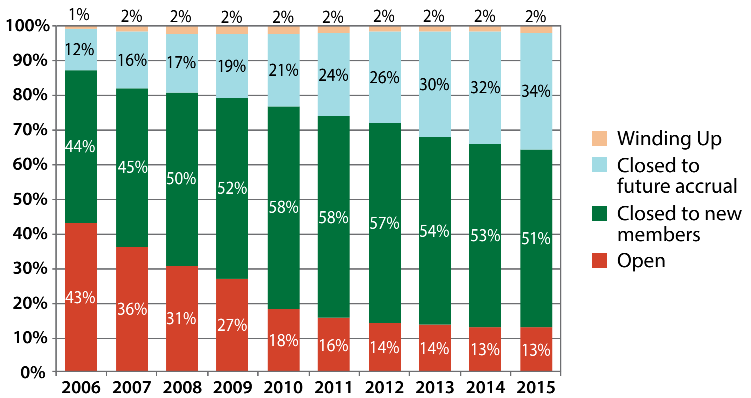
Note that whilst schemes which are labelled as 'closed to future accrual' are also closed to new memberships, references to 'closed to new members' status schemes do not include 'closed to future accruals' status schemes.

Figure 3.3 | Distribution of schemes by status (excluding hybrid schemes)

Percentage of schemes	Extended Purple 2006	Extended Purple 2007	2008	2009	2010	2011	2012	2013	2014	2015
Open	35%	33%	26%	22%	21%	18%	17%	16%	15%	14%
Closed to new members	49%	49%	52%	55%	54%	54%	53%	51%	50%	49%
Closed to future accruals	15%	17%	19%	20%	23%	26%	29%	31%	33%	35%
Winding up	1%	1%	3%	3%	2%	2%	2%	2%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

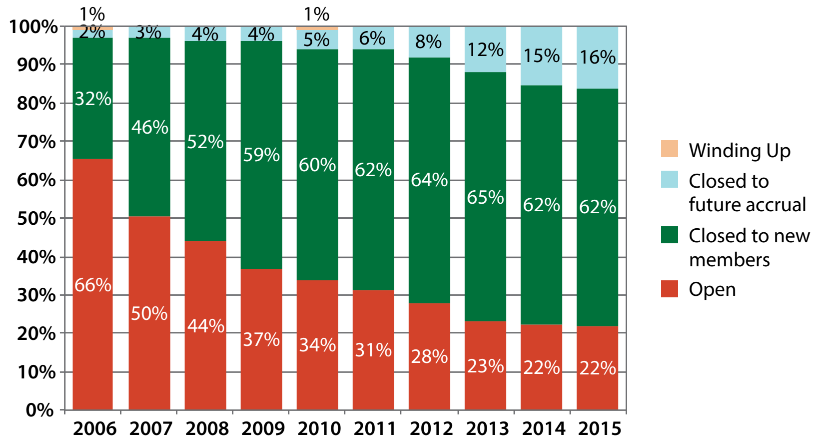
Source: PPF/ The Pensions Regulator

Figure 3.4 | Schemes by status and year



Source: PPF/ The Pensions Regulator

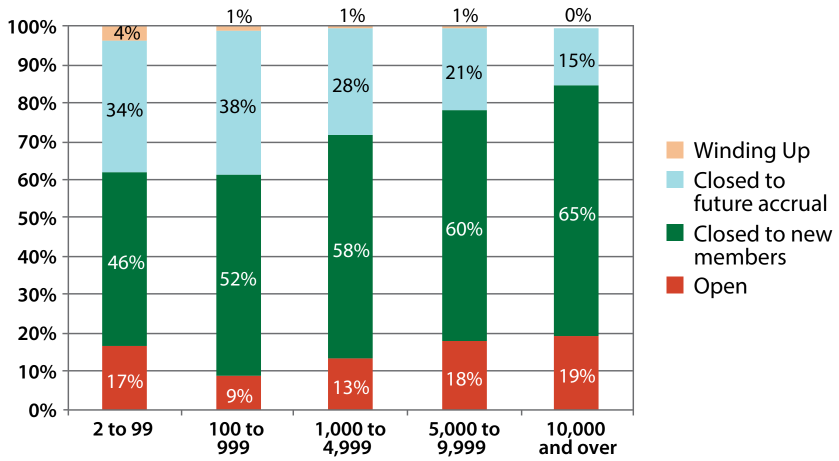
Figure 3.5 | Memberships by status and year



Source: PPF/ The Pensions Regulator

Schemes with 2 to 99 members were the least likely group to be closed to new members. The largest sized schemes have the highest proportion of both closed to new members and open schemes.

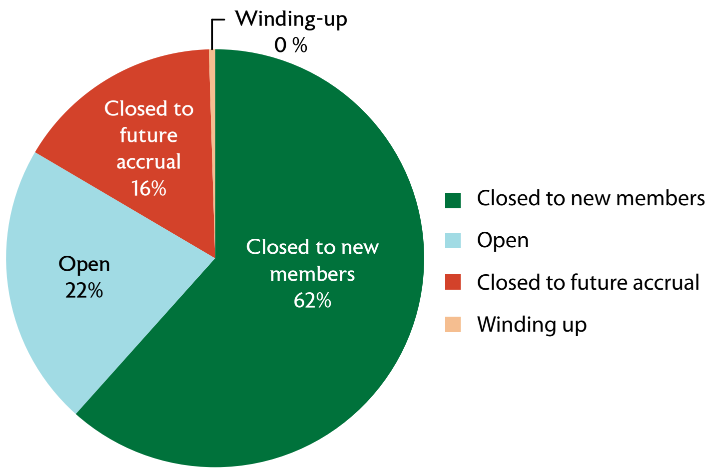
Figure 3.6 | Scheme status by member group



Source: PPF/ The Pensions Regulator

3.4 Scheme status and membership

Figure 3.7 | Percentage distribution of memberships by scheme status



Source: PPF/ The Pensions Regulator

22 per cent of memberships were in schemes which were open to new members.

Figure 3.8 | Distribution of membership by status

Percentage of schemes	Extended Purple 2006*	Extended Purple 2007	2008	2009	2010	2011	2012	2013	2014	2015
Open	66%	50%	44%	37%	34%	31%	28%	23%	22%	22%
Closed to new members	32%	46%	52%	59%	60%	62%	64%	65%	62%	62%
Closed to future accruals	2%	3%	4%	4%	5%	6%	8%	12%	15%	16%
Winding up	<1%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: PPF/ The Pensions Regulator

*For 2006, schemes declared as open and part open have all been counted as open

Figure 3.9 | Distribution of membership by status (excluding hybrid schemes)

Percentage of schemes	Extended Purple 2006	Extended Purple 2007	2008	2009	2010	2011	2012	2013	2014	2015
Open	35%	55%	46%	38%	38%	34%	30%	27%	25%	24%
Closed to new members	49%	41%	49%	57%	56%	58%	61%	61%	60%	59%
Closed to future accruals	15%	3%	4%	5%	6%	8%	9%	11%	14%	16%
Winding up	1%	0%	0%	0%	1%	0%	0%	0%	1%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: PPF/ The Pensions Regulator

3.5 Scheme membership

Figure 3.10 | Membership by membership type and status, 31 March 2015*

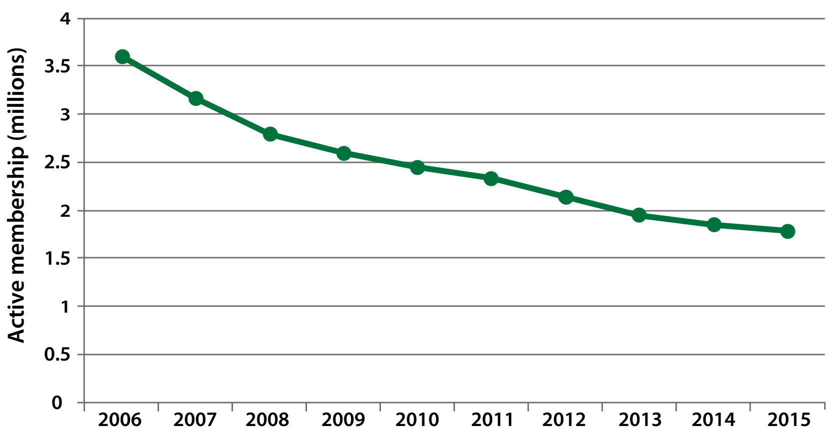
Members (millions)	Open	Closed	Closed to future accrual	Winding Up	Total
Active members	0.84	0.91	0.00	0.00	1.75
Deferred members	0.83	3.04	1.06	0.02	4.95
Pensioner Members	0.72	2.81	0.70	0.03	4.27
Total	2.40	6.76	1.76	0.05	10.97

Source: PPF/ The Pensions Regulator

* Note that for various reasons a small number of schemes have breakdowns of membership by active, deferred and pensioner types which do not match the total figure for membership. Therefore, totals may not match figures calculated from the component parts. Where members are listed as active in the information provided by closed schemes they are assumed to be deferred members.

8 per cent of memberships in the dataset are active members in open schemes. The largest group is deferred members in schemes closed to new members.

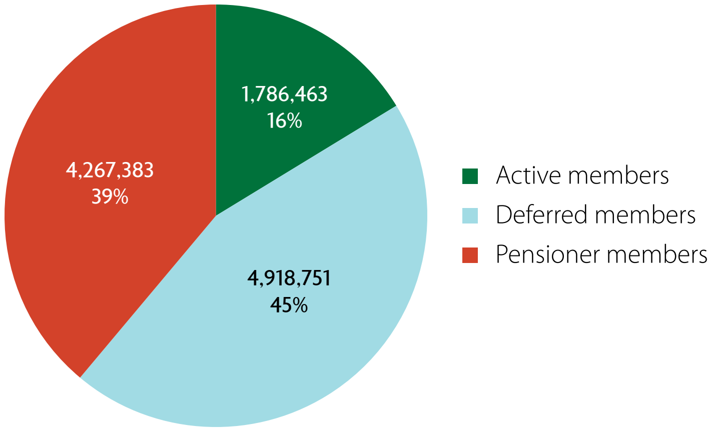
Figure 3.11 | Active memberships in Purple datasets



Source: PPF / The Pensions Regulator

Active memberships fell by 3.4 per cent from 2014, the smallest drop in active members recorded in the Purple Book. The number of active memberships is around half of that found in the expanded Purple 2006 dataset.

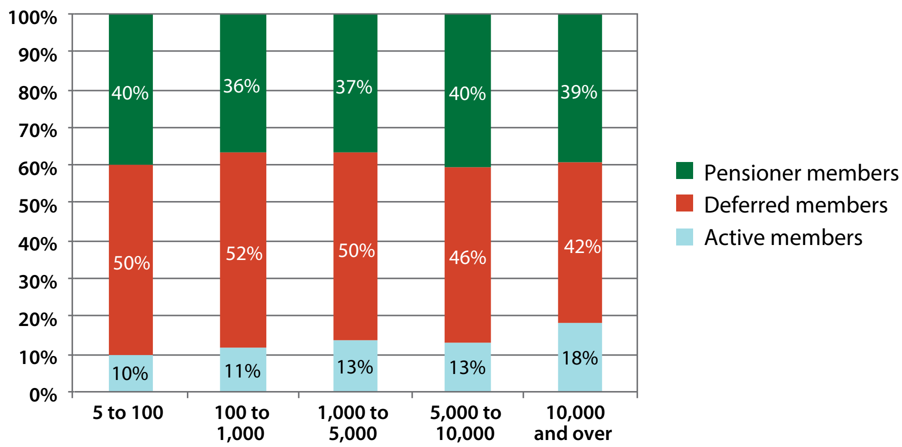
Figure 3.12 | Distribution of member types in the Purple 2015 dataset



Source: PPF/ The Pensions Regulator

Figure 3.13 | Distribution of member types in the Purple 2015 dataset

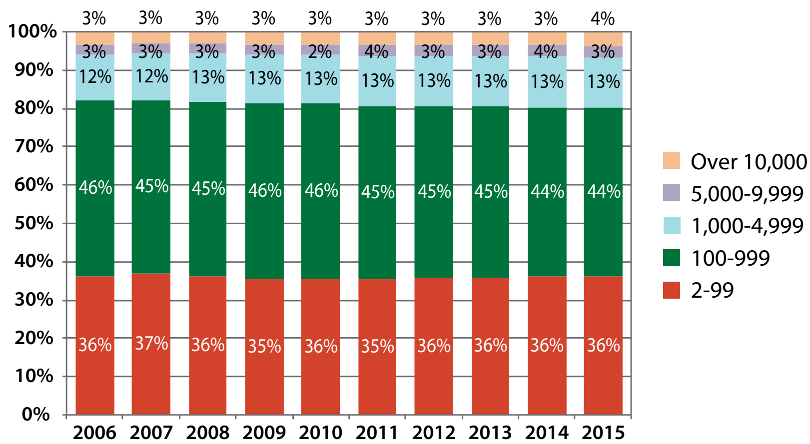
The highest proportion of active members is in schemes with 10,000 or more members.



Source: PPF / The Pensions Regulator

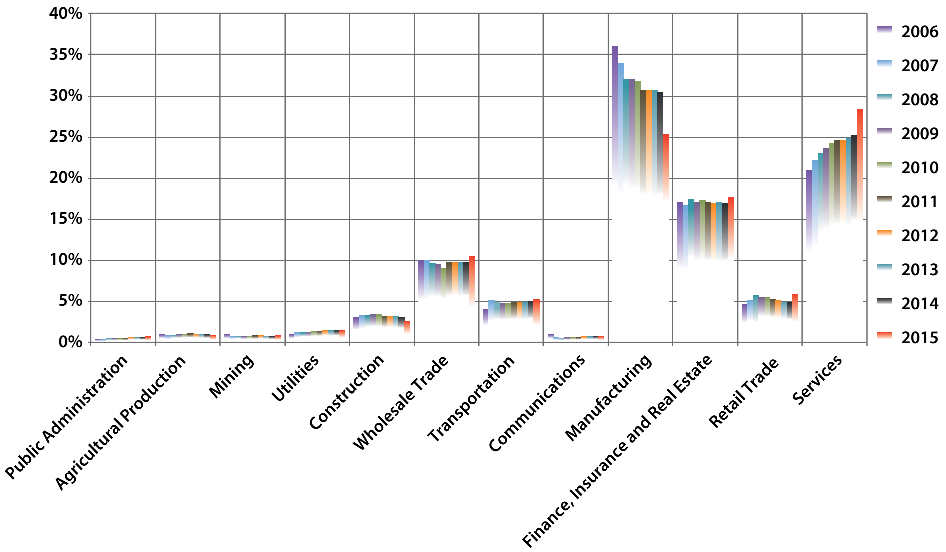
Figure 3.14 | Proportion of schemes by size band by year

The proportions of schemes and memberships by size band have remained stable over time.



Source: PPF/ The Pensions Regulator

Figure 3.15 | Proportion of schemes by industry classification*



Source: PPF / The Pensions Regulator

* Based on US 1972 Standard Industrial Classification.

Note that the greater than usual change in Manufacturing and Services proportions between 2014 and 2015 are partly the result of improved and updated data.

Since 2006, there has been a long-term trend for the proportion of schemes associated with the Manufacturing industry to diminish and the proportion of schemes associated with the Services industry to increase.

4 Scheme Funding

4.1 Summary

- The aggregate s179 funding position of the schemes in the Purple 2015 dataset as end-March 2015 was a deficit of £244.2 billion. This is the largest s179 deficit at an end-March date since the establishment of the PPF (although the funding ratio was lower in 2009 and 2012). This is primarily because of the reduction in real and nominal discount rates as a result of marked changes in relevant interest rates.
- The s179 funding ratio for 2015 is 84 per cent. Total liabilities have increased from £1,176.8 billion in 2014 to £1,542.5 billion this year. Total assets have increased from £1,137.5 billion to £1,298.3 billion.
- 21 per cent of schemes in the over 10,000 members group had s179 funding levels of over 100 per cent compared with 45 per cent last year.
- Higher funding levels remain associated with schemes with greater maturity.
- 26 per cent of s179 liabilities in the dataset were in respect of active members.

4.2 Introduction

This chapter primarily deals with funding on a s179 basis as at March 2015. 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. A scheme 100 per cent funded on a s179 basis is broadly speaking at the level which would have to be paid to an insurance company for it to take on the payment of PPF levels of compensation. In addition, full buy-out funding information is included.

The processing of s179 results allows for the different assumptions used for the s179 valuations at different effective dates. s179 figures form the basis for PPF levy calculations, subject to subsequent adjustments in defined circumstances. Estimates of liabilities on the full buy-out basis have used the same valuation assumptions and underlying data but allow for the difference between the PPF level of compensation and full scheme benefits. The buy-out calculations are hypothetical, as only small numbers of buy-outs actually occur and the terms achieved are confidential and not necessarily obtainable for other schemes.

4.3 Overall funding

Figure 4.1 | Key funding statistics as at 31 March 2015

	s179	Full buy-out
Total number of schemes	5,945	5,945
Total assets (£ billion)	1,298.3	1,298.3
Total liabilities (£ billion)	1,542.5	2,099.2
Aggregate funding position (£ billion)	-244.2	-800.9
Total balance for schemes in deficit (£ billion)	-285.3	-804.9
Total balance for schemes in surplus (£ billion)	41.1	4.0
Funding ratio	84%	62%

Source: PPF/ The Pensions Regulator

The aggregate s179 funding position of the schemes in the Purple 2015 dataset as at end March 2015 was a deficit of £244.2 billion. This is the largest s179 deficit at an end-March date since the establishment of the PPF (although the funding ratio was lower in 2009 and 2012). This is primarily because of the reduction in real and nominal discount rates as a result of marked changes in relevant interest rates.

The s179 funding ratio for 2015 is 84 per cent. Total liabilities have increased from £1,176.8 billion in 2014 to £1,542.5 billion this year. Total assets have increased from £1,137.5 billion to £1,298.3 billion.

Figure 4.2 | Historical funding figures on a s179 basis

Year	No. of schemes	Total assets (£ billion)	s179				
			Liabilities (£ billion)	Aggregate funding (s179) (£ billion)	Deficit of schemes in deficit (£ billion)	Surplus of schemes in surplus (£ billion)	Funding ratio
2006	7,751	769.5	792.2	-22.7	-76.3	53.5	97%
2007	7,542	837.7	769.9	67.8	-46.8	96.5	109%
2008	6,897	837.2	842.3	-5.1	-67.7	62.6	99%
2009	6,885	780.4	981.0	-200.6	-216.7	16.0	80%
2010	6,596	926.2	887.9	38.3	-49.1	87.4	104%
2011	6,432	968.5	969.7	-1.2	-78.3	77.1	100%
2012	6,316	1,026.8	1,231.0	-204.2	-231.3	27.1	83%
2013	6,150	1,118.5	1,329.2	-210.8	-245.8	35.0	84%
2014	6,057	1,137.5	1,176.8	-39.3	-119.0	79.7	97%
2015	5,945	1,298.3	1,542.5	-244.2	-285.3	41.1	84%

Source: PPF/ The Pensions Regulator

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

Year	Full buy-out				
	Liabilities (£ billion)	Aggregate funding (£ billion)	Deficit of schemes in deficit (£ billion)	Surplus of schemes in surplus (£ billion)	Funding ratio
2006	1,273.5	-504.0	n/a	n/a	60%
2007	1,289.3	-451.6	n/a	n/a	65%
2008	1,356.0	-518.6	-520.4	1.6	62%
2009	1,351.6	-571.2	-572.3	1.1	58%
2010	1,359.2	-433.0	-436.5	3.5	68%
2011	1,435.5	-467.0	-470.7	3.7	67%
2012	1,702.6	-675.8	-677.3	1.5	60%
2013	1,826.7	-708.2	-709.9	1.7	61%
2014	1,690.3	-552.8	-558.2	5.4	67%
2015	2,099.2	-800.9	-804.9	4.0	62%

Source: PPF/ The Pensions Regulator

4.4 Analysis of funding by scheme size

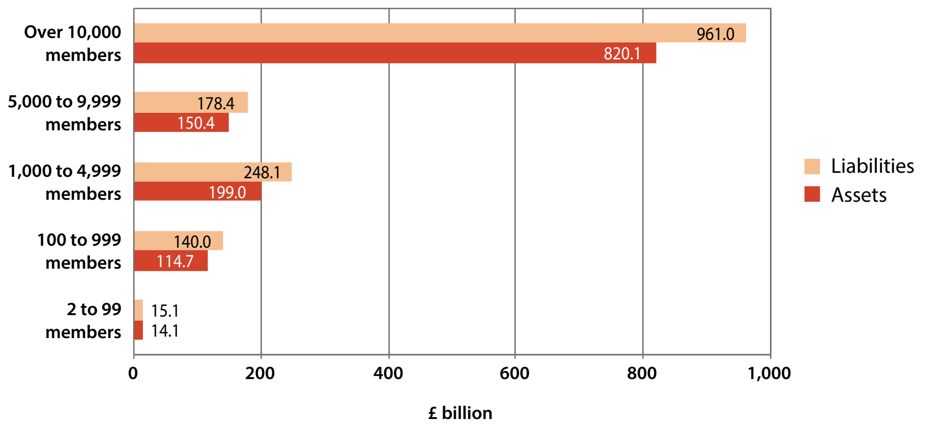
Figure 4.4 | s179 funding levels by size of scheme membership as at 31 March 2015

Membership group	Number of schemes in sample	Market value of assets (£ billion)	Liabilities (£ billion)	Balance (£ billion)	Weighted average funding ratio	Simple average funding ratio*
2 to 99 members	2,144	14.1	15.1	-1.0	93%	90%
100 to 999 members	2,625	114.7	140.0	-25.2	82%	80%
1,000 to 4,999 members	785	199.0	248.1	-49.0	80%	78%
5,000 to 9,999 members	179	150.4	178.4	-28.0	84%	82%
Over 10,000 members	212	820.1	961.0	-140.9	85%	85%
Total	**5,945**	**1,298.3**	**1,542.5**	**-244.2**	**84%**	**84%**

Source: PPF/ The Pensions Regulator

*Note that schemes with unusual funding arrangements were excluded from the simple averages in this table to avoid distortions. Sixteen schemes were removed on the basis that their buy-out funding level was equal to or greater than 200 per cent.

Figure 4.5 | Total assets and liabilities on a s179 basis as at 31 March 2015



Source: PPF/ The Pensions Regulator

21 per cent of schemes in the over 10,000 members group had s179 funding levels of over 100 per cent compared with 45 per cent last year.

Figure 4.6 | Distribution of s179 funding levels by size of scheme membership as at 31 March 2015

Source: PPF/ The Pensions Regulator

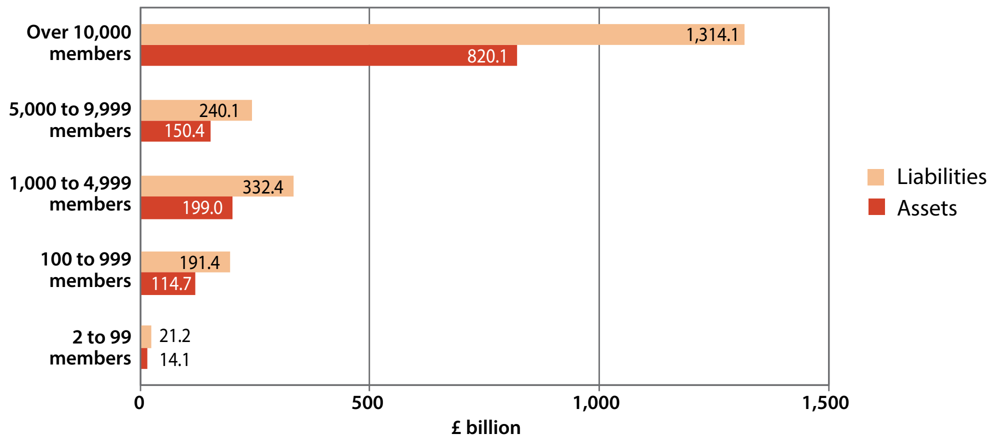
Figure 4.7 | Estimated full buy-out levels by size of scheme membership as at 31 March 2015

Membership group	Number of schemes in sample	Market value of assets (£ billion)	Liabilities (£ billion)	Balance (£ billion)	Weighted average funding ratio	Simple average funding ratio*
2 to 99 members	2,144	14.1	21.2	-7.1	67%	66%
100 to 999 members	2,625	114.7	191.4	-76.7	60%	59%
1,000 to 4,999 members	785	199.0	332.4	-133.4	60%	59%
5,000 to 9,999 members	179	150.4	240.1	-89.7	63%	60%
Over 10,000 members	212	820.1	1,314.1	-494.0	62%	62%
Total	**5,945**	**1,298.3**	**2,099.2**	**-800.9**	**62%**	**62%**

Source: PPF / The Pensions Regulator

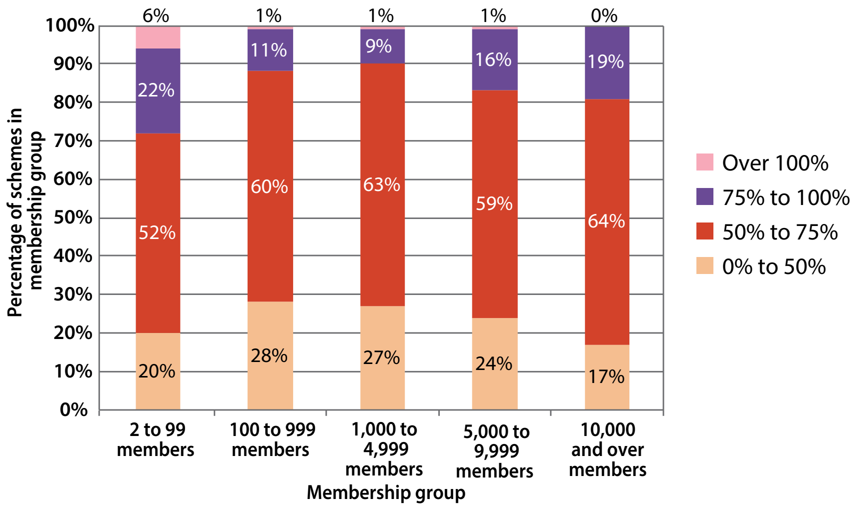
*Note that schemes with unusual funding arrangements were excluded from the simple averages in this table to avoid distortions. Sixteen schemes were removed on the basis that their buy-out funding level was equal to or greater than 200 per cent.

Figure 4.8 | Total assets and liabilities by size of scheme membership on an estimated full buy-out basis as at 31 March 2015



Source: PPF/ The Pensions Regulator

Figure 4.9 | Distribution of buy-out funding levels by size of scheme membership as at 31 March 2015



Source: PPF/ The Pensions Regulator

4.5 Analysis of funding by scheme maturity

Scheme maturity is represented by dividing schemes into groups according to the proportion of s179 liabilities which relate to pensioners.

Higher funding levels remain associated with schemes with greater maturity.

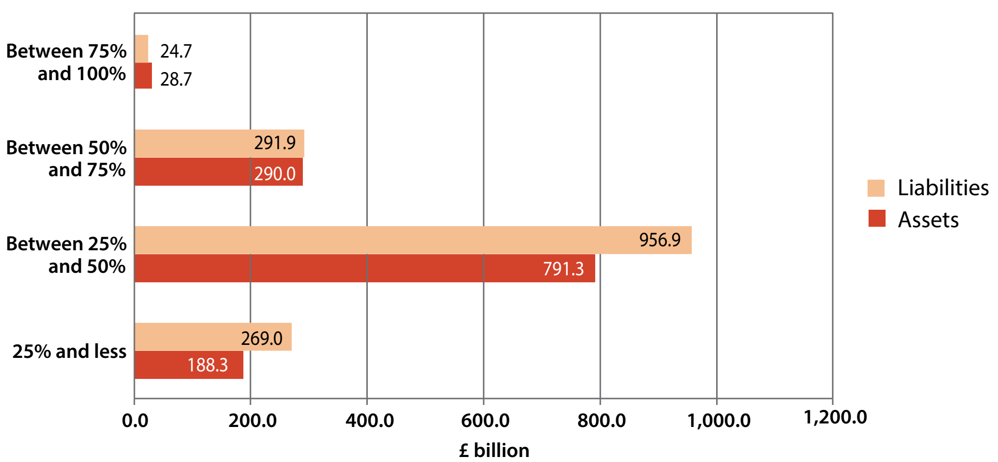
Figure 4.10 | Analysis of s179 funding levels by scheme maturity as at 31 March 2015

Proportion of s179 liabilities relating to pensioners	Number of schemes in sample	Market value of Assets (£ billion)	Liabilities (£ billion)	Balance (£ billion)	Weighted average funding ratio	Simple average funding ratio*
25% and less	1,970	188.3	269.0	-80.7	70%	76%
Between 25% and 50%	2,787	791.3	956.9	-165.6	83%	82%
Between 50% and 75%	984	290.0	291.9	-1.9	99%	97%
Between 75% and 100%	204	28.7	24.7	3.9	116%	118%
Total	**5,945**	**1,298.3**	**1,542.5**	**-244.2**	**84%**	**84%**

Source: PPF/ The Pensions Regulator

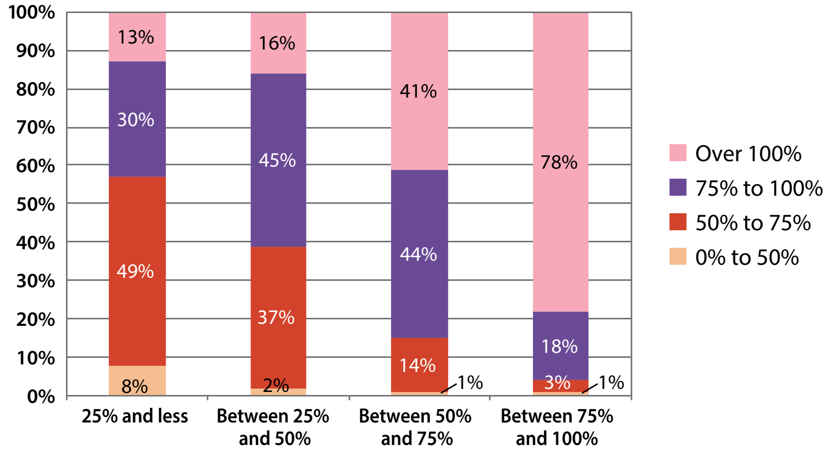
*Note that schemes with unusual funding arrangements were excluded from the simple averages in this table to avoid distortions. Sixteen schemes were removed on the basis that their buy-out funding level was equal to or greater than 200 per cent.

Figure 4.11 | Distribution of s179 assets and liabilities by scheme maturity as at 31 March 2015



Source: PPF/ The Pensions Regulator

Figure 4.12 | Distribution of funding levels on a s179 basis by scheme maturity as at 31 March 2015



Source: PPF/ The Pensions Regulator

4.6 Analysis of funding by scheme status

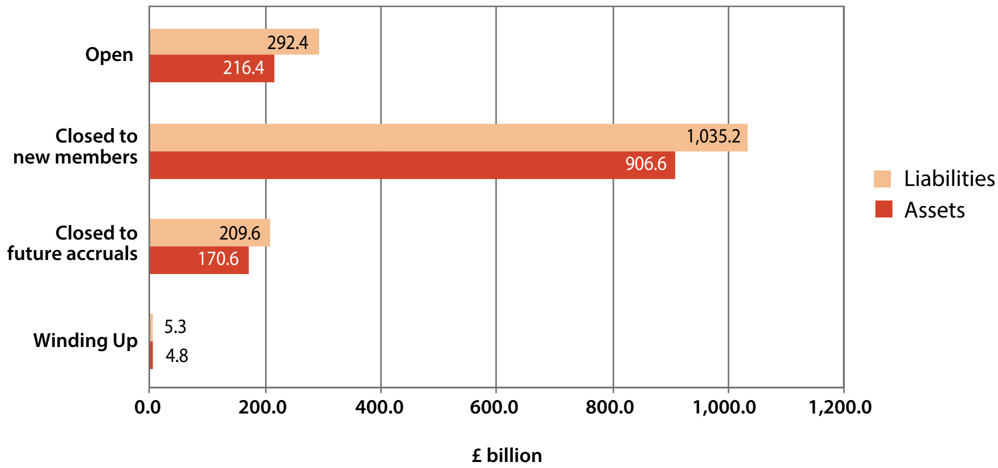
Figure 4.13 | Analysis of s179 funding levels by scheme status as at 31 March 2015

Status	Number of schemes in sample	Market value of Assets (£ billion)	Liabilities (£ billion)	Balance (£ billion)	Weighted average funding ratio	Simple average funding ratio*
Open	765	216.4	292.4	-76.0	74%	82%
Closed to new members	3,053	906.6	1,035.2	-128.6	88%	85%
Closed to future accrual	1,998	170.6	209.6	-39.1	81%	82%
Winding up	129	4.8	5.3	-0.6	89%	103%
Total	**5,945**	**1,298.3**	**1,542.5**	**-244.2**	**84%**	**84%**

Source: PPF/ The Pensions Regulator

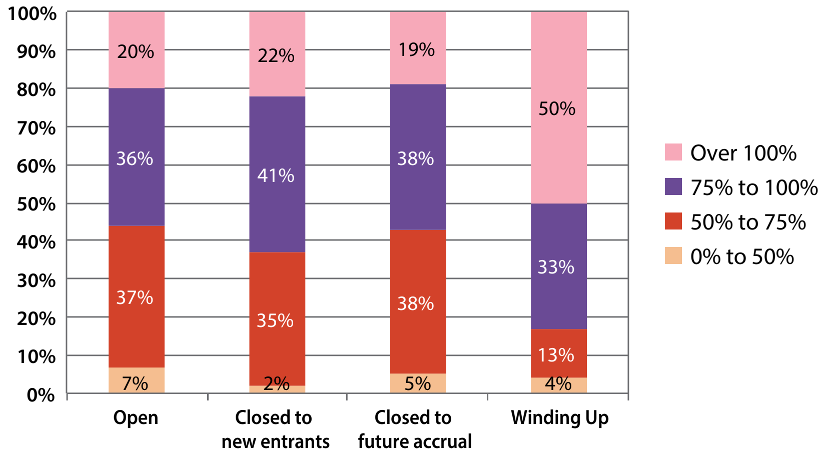
*Note that schemes with unusual funding arrangements were excluded from the simple averages in this table to avoid distortions. Sixteen schemes were removed on the basis that their buy-out funding level was equal to or greater than 200 per cent.

Figure 4.14 | Distribution of s179 assets and liabilities by scheme status as at 31 March 2015



Source: PPF/ The Pensions Regulator

Figure 4.15 | Distribution of schemes by s179 funding levels within scheme status groups as at 31 March 2015



Source: PPF/ The Pensions Regulator

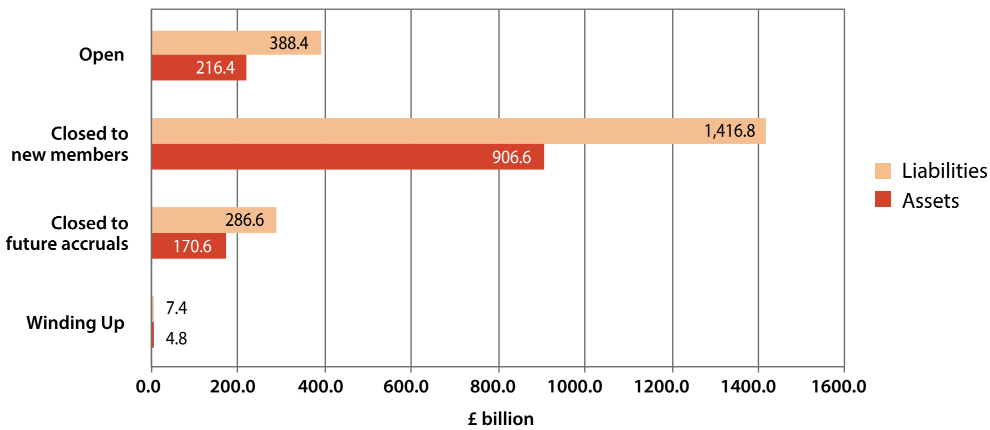
Figure 4.16 | Analysis of estimated full buy-out funding levels by scheme status as at 31 March 2015

Status	Number of schemes in sample	Market value of Assets (£ billion)	Liabilities (£ billion)	Balance (£ billion)	Weighted Average funding ratio	Simple average funding ratio*
Open	765	216.4	388.4	-172.0	56%	64%
Closed to new members	3,053	906.6	1,416.8	-510.2	64%	62%
Closed to future accrual	1,998	170.6	286.6	-116.0	60%	60%
Winding up	129	4.8	7.4	-2.6	64%	76%
Total	**5,945**	**1,298.3**	**2,099.2**	**-800.9**	**62%**	**62%**

Source: PPF / The Pensions Regulator

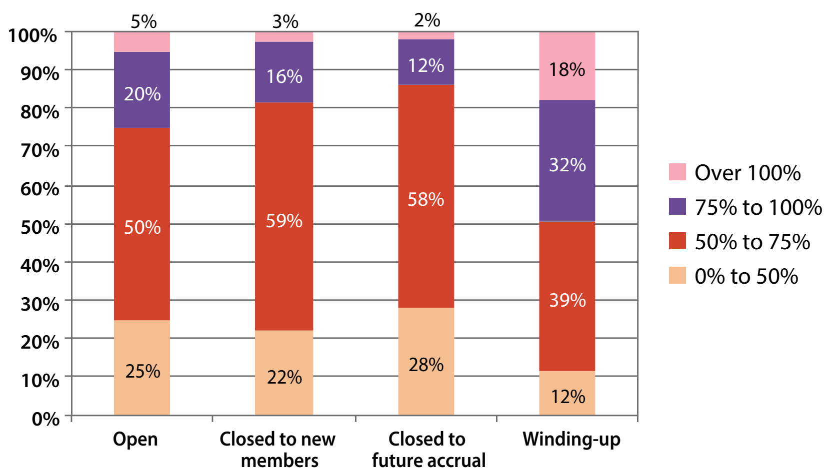
*Note that schemes with unusual funding arrangements were excluded from the simple averages in this table to avoid distortions. Sixteen schemes were removed on the basis that their buy-out funding level was equal to or greater than 200 per cent.

Figure 4.17 | Distribution of estimated full buy-out assets and liabilities by status as at 31 March 2015



Source: PPF / The Pensions Regulator

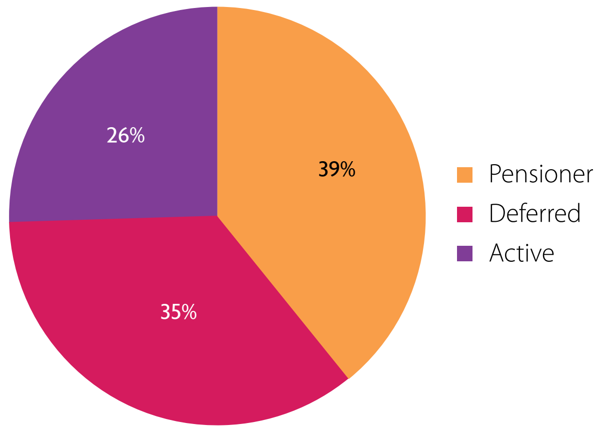
Figure 4.18 | Distribution of estimated full buy-out funding levels by scheme status as at 31 March 2015



Source: PPF / The Pensions Regulator

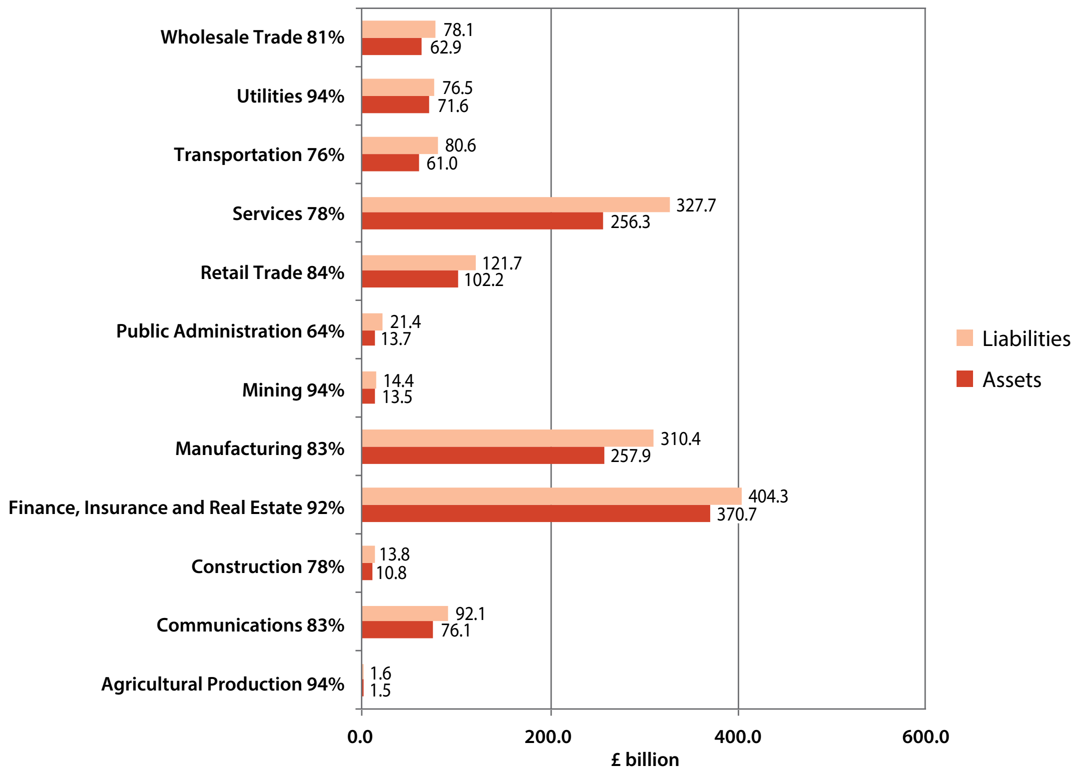
26 per cent of s179 liabilities in the dataset were in respect of active members.

Figure 4.19 | s179 liabilities by active, deferred and pensioner members



Source: PPF / The Pensions Regulator

Figure 4.20 | s179 assets and liabilities by industry* with overall funding level as at 31 March 2015



Source: PPF / The Pensions Regulator
*Based on US 1972 Standard Industrial Classification.

Funding Sensitivities

5

5.1 Summary

- All the funding sensitivities in Chapter 5 are on a s179 basis, taking the funding position as at 31 March 2015[5] as the base and using the Purple 2015 dataset. The sensitivities do not take into account the use of derivative instruments to hedge changes in interest rates, inflation, equity levels or longevity.
- The historical series in section 5.2 takes the estimated funding position at 31 March of each year given in Chapter 4, "Scheme Funding". 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 the latest scheme asset allocation and movements in nominal and real gilt yields and equity markets.
- The funding position of schemes can change over time reflecting changes in a number of factors including: financial markets, actuarial assumptions, the decline in the universe of defined benefit schemes, employers' special contributions[6], and pensions getting closer to payment.
- Since the start of the financial crisis in 2008, aggregate scheme funding on a s179 basis has been over 100 per cent in only 10 of the 89 months. Over this period, the funding ratio has averaged 89.7 per cent compared with 102.1 per cent between March 2006 and March 2008.
- The historical aggregate balance and funding ratio have been trending downwards since 2006.
- The percentage of schemes in deficit on a historical s179 basis was around 85 per cent in January 2015, similar to the peak percentages in 2009 and 2012.
- A 0.1 percentage point (10 basis point) rise in gilt yields decreases the end-March 2015 aggregate deficit by £23.3 billion from £244.2 billion to £220.9 billion while a 2.5 per cent rise in equity prices would reduce the aggregate deficit by £10.6 billion.
- A 0.1 percentage point (10 basis point) reduction in gilt yields raises aggregate scheme liabilities by 2.0 per cent and raises aggregate scheme assets by 0.5 per cent. A 2.5 per cent rise in equity markets raises scheme assets by 0.8 per cent.
- If the assumed rate of inflation increases by 0.1 percentage point with nominal gilt yields unchanged, then the s179 liabilities for aggregate schemes increases by approximately 0.7 per cent or £11 billion.
- An increase in longevity such that the experienced mortality is now equivalent to that of an individual two years younger would increase aggregate schemes' liabilities by 6.4 per cent, or £99.4 billion. This sensitivity is greater than last year (5.5 per cent or £63 billion) because a constant addition to longevity is much more expensive at lower bond yields.

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[5] Using the previous valuation guidance as in Chapter 4, please follow the link for more information **www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/Section_179_Assumptions_Guidance_VA7_May14.pdf**

[6] For more information, please see Chapter 12, section 12.3 on special contributions.

5.2 Historical changes in s179 scheme funding since 2006 – the new PPF Funding Index

Movements in the estimated funding position of schemes can change over time reflecting changes in a number of factors including: financial markets, actuarial assumptions, the decline in the universe of defined benefit schemes, employers' special contributions[7], and pensions getting closer to payment. The historical series in this section takes the estimated funding position at 31 March of each year given in Chapter 4 "Scheme Funding". 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.

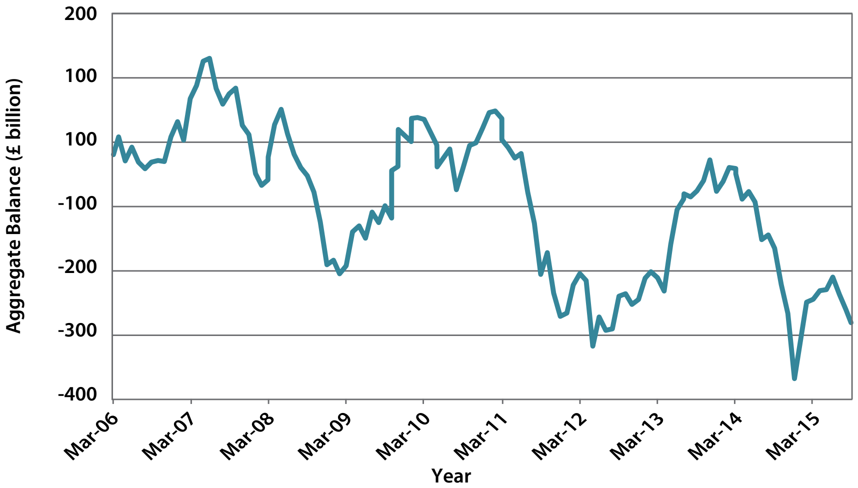
Since the start of the financial crisis in 2008, scheme funding on a s179 basis has been over 100 per cent in only 10 of the 89 months. The February 2009 trough was mainly the result of lower equity markets while the May 2012 and January 2015 troughs mainly reflected lower gilt yields.

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

Source: PPF / The Pensions Regulator

[7] For more information, please see Chapter 12, section 12.3 on special contributions.

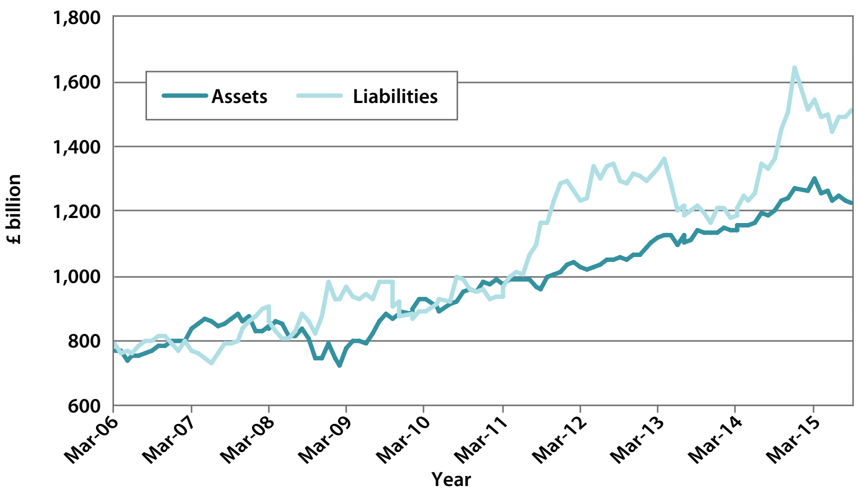
Figure 5.2 | Historical s179 aggregate balance (assets less liabilities) of pension schemes in the Purple datasets



Source: PPF / The Pensions Regulator

There has been a more marked downward trend in the aggregate balance. Although the funding ratios are similar in March 2009, April 2012, and January 2015 the aggregate deficit becomes larger over time as assets and liabilities rise.

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

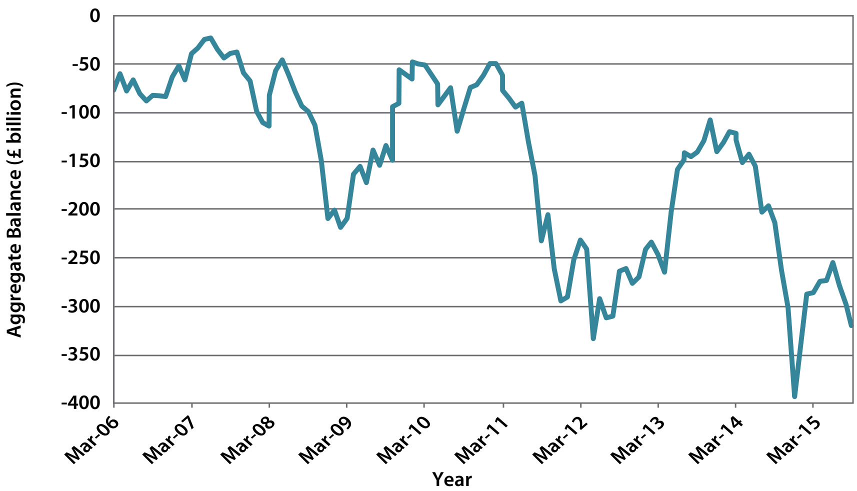


Source: PPF / The Pensions Regulator

Scheme assets have risen strongly since the end of the financial crisis largely reflecting both rising equity markets and bond prices. However, scheme liabilities have risen more, reflecting the impact of lower gilt yields.

The aggregate deficit of schemes in deficit was at its largest in January 2015 at £392.6 billion, almost double the deficit in the financial crisis.

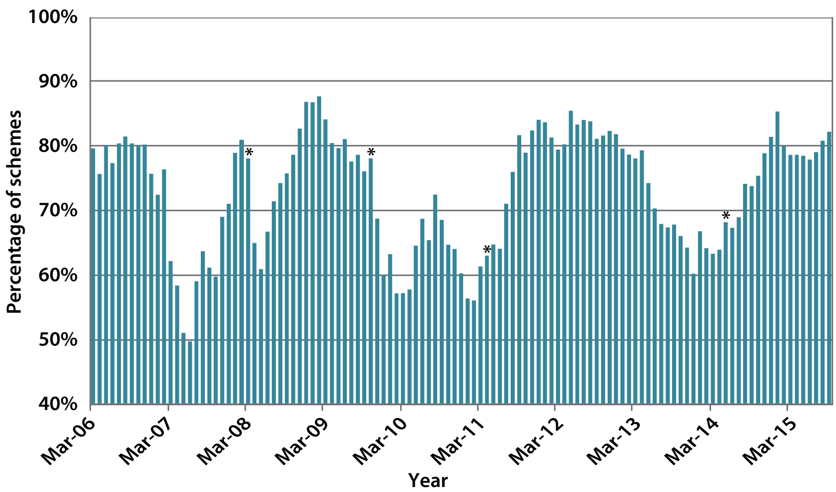
Figure 5.4 | Historical aggregate assets less aggregate liabilities for schemes in deficit



Source: PPF/ The Pensions Regulator

In January 2015, around 85 per cent of schemes were in deficit, similar to the peak percentages in 2009 and 2012.

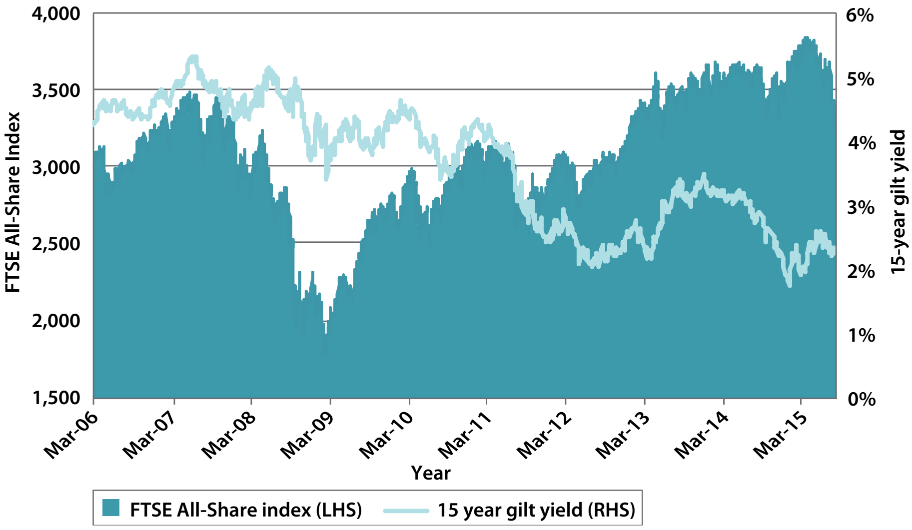
Figure 5.5 | Historical percentage of schemes in deficit each month in the Purple datasets*



Source: PPF / The Pensions Regulator

*Note: the changes to assumptions in March 2008, October 2009 and April 2011 reduced the number of schemes in deficit by 473, 714 and 253 respectively, while the changes in assumptions in May 2014 raised the number of schemes in deficit by 259.

Figure 5.6 | Movements in stock markets and gilt yields



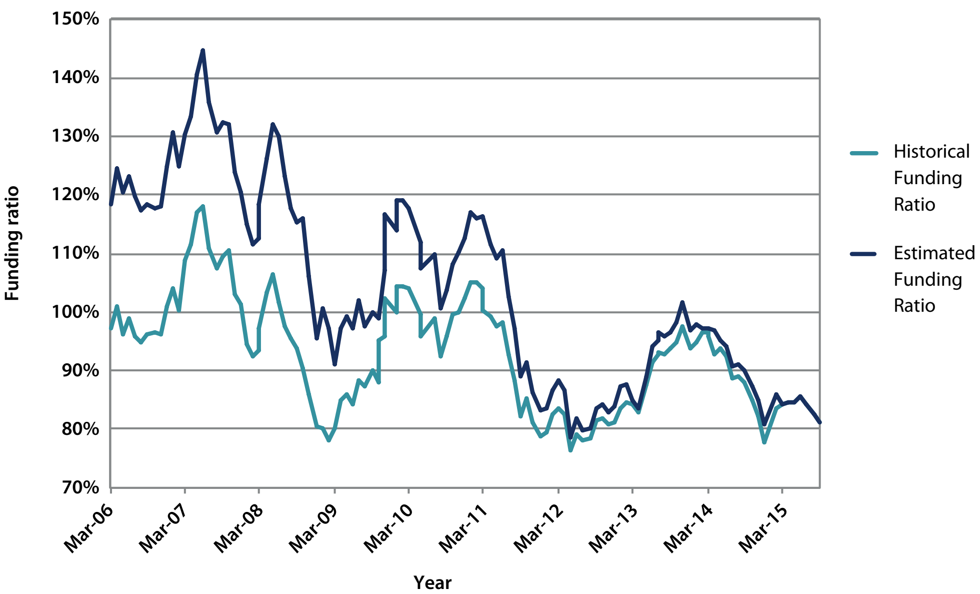
Source: Bloomberg

The FTSE All-Share Index saw its lowest level in March 2009. However, it more than doubled by March 2015. Meanwhile the 15-year gilt yield fell dramatically over the same period.

5.3 Impact of estimated changes in markets and actuarial assumptions since 2006

These charts take the Purple 2015 dataset and roll back the assets and liabilities. They only show the impact of market movements and changes in actuarial assumptions. They also assume that the levels of Deficit Reduction Contributions built into the latest valuations were present historically.

Figure 5.7 | Estimated s179 funding level (assets as a percentage of liabilities) of pension schemes in the Purple 2015 dataset

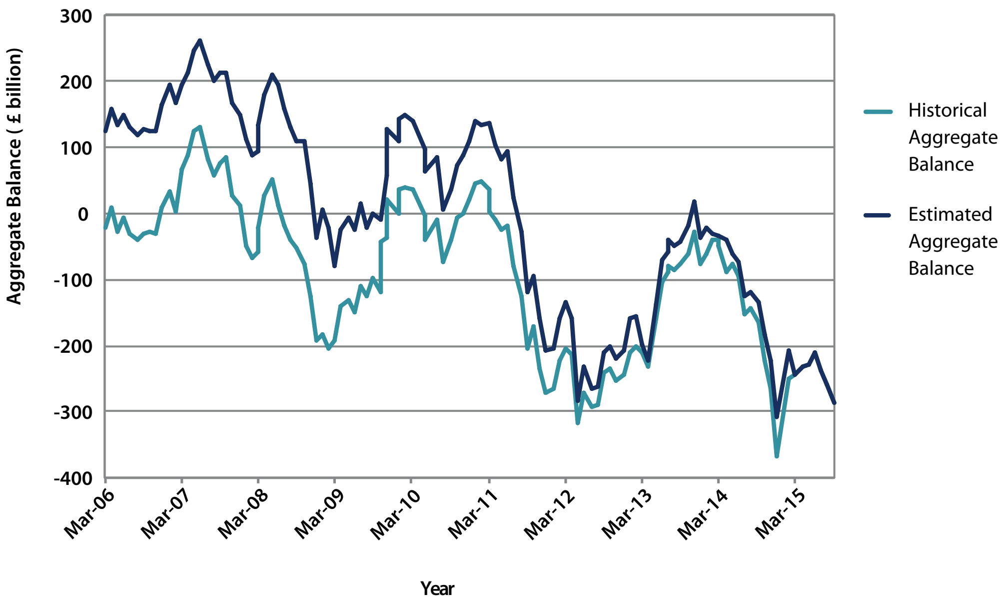


Source: PPF/ The Pensions Regulator

Market movements would have resulted in an estimated variation in the funding ratio of around 66 percentage points with the highest ratio of 144.7 per cent in June 2007 and the lowest ratio of 78.6 per cent in May 2012.

Market movements would have resulted in an estimated variation in the s179 aggregate balance of around £570 billion with the largest surplus of £261.5 billion in June 2007 and the largest deficit of £308.8 billion in January 2015.

Figure 5.8 | Estimated s179 aggregate balance (assets less liabilities) of pension schemes in the Purple 2015 dataset



Source: PPF/ The Pensions Regulator

5.4 Funding Sensitivities: rules of thumb

A 0.1 percentage point (10 basis point) rise in gilt yields would have improved the end March 2015 s179 aggregate deficit by £23.4 billion from £244.2 billion (bold) to £220.9 billion (shaded), somewhat larger than the impact of a 2.5 per cent increase in equity prices which result in a deficit of £233.6 billion (shaded).

Figure 5.9 | Impact of changes in gilt yields and equity prices on s179 funding levels from a base aggregate deficit of £244.2 billion, as at 31 March 2015

Assets less s179 liabilities (£ billion)							
Movement in equity prices	Movement in gilt yields						
	-0.3pp	-0.2pp	-0.1pp	0.0pp	0.1pp	0.2pp	0.3pp
7.5%	-281.9	-258.7	-235.5	-212.2	-188.8	-165.4	-141.9
5.0%	-292.6	-269.4	-246.2	-222.9	-199.5	-176.1	-152.6
2.5%	-303.3	-280.1	-256.9	-233.6	-210.2	-186.8	-163.3
0.0%	-313.9	-290.8	-267.5	**-244.2**	-220.9	-197.4	-173.9
-2.5%	-324.6	-301.4	-278.2	-254.9	-231.5	-208.1	-184.6
-5.0%	-335.3	-312.1	-288.9	-265.6	-242.2	-218.8	-195.3
-7.5%	-346.0	-322.8	-299.6	-276.3	-252.9	-229.5	-206.0

Source: PPF / The Pensions Regulator

Figure 5.10 | Impact of changes in gilt yields and equity prices on assets from a base of 100, as at 31 March 2015

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%	104.1	103.6	103.0	102.5	101.9	101.4	100.9
5.0%	103.3	102.7	102.2	101.6	101.1	100.6	100.1
2.5%	102.5	101.9	101.4	100.8	100.3	99.8	99.2
0.0%	101.6	101.1	100.5	100.0	99.5	98.9	98.4
-2.5%	100.8	100.3	99.7	99.2	98.6	98.1	97.6
-5.0%	100.0	99.4	98.9	98.4	97.8	97.3	96.8
-7.5%	99.2	98.6	98.1	97.5	97.0	96.5	95.9

Source: PPF/ The Pensions Regulator

A 2.5 per cent increase in equity prices would have raised scheme assets by 0.8 per cent. A 0.3 per cent decrease in gilt yields would increase scheme assets by 1.6 per cent.

Figure 5.11 | Impact of changes in gilt yields on s179 liabilities from a base of 100, as at 31 March 2015

s179 liabilities relative to a base of 100							
s179 liabilities relative to March level (=100)	Movement in gilt yields						
	-0.3pp	-0.2pp	-0.1pp	0.0pp	0.1pp	0.2pp	0.3pp
	105.9	103.9	102.0	100.0	98.0	96.1	94.1

Source: PPF/ The Pensions Regulator

A 0.1 percentage point (10 basis points) reduction or increase in gilt yields increases or reduces s179 liabilities by 2 per cent.

Figure 5.12 | Impact of changes in gilt yields and equity prices on the s179 funding position from a base total deficit of £285.3 billion, **excluding schemes in surplus**, as at 31 March 2015

Assets less s179 liabilities (£ billion)							
Movement in equity prices	Movement in gilt yields						
	-0.3pp	-0.2pp	-0.1pp	0.0pp	0.1pp	0.2pp	0.3pp
7.5%	-321.8	-301.4	-280.9	-260.4	-239.8	-219.2	-198.6
5.0%	-330.1	-309.7	-289.2	-268.7	-248.1	-227.5	-206.9
2.5%	-338.4	-318.0	-297.5	-277.0	-256.4	-235.8	-215.2
0.0%	-346.7	-326.3	-305.8	**-285.3**	-264.7	-244.1	-223.5
-2.5%	-355.0	-334.5	-314.1	-293.6	-273.0	-252.4	-231.8
-5.0%	-363.3	-342.8	-322.4	-301.9	-281.3	-260.7	-240.1
-7.5%	-371.6	-351.1	-330.7	-310.2	-289.6	-269.0	-248.4

Source: PPF / The Pensions Regulator

A 2.5 per cent increase in equity prices would decrease the scheme deficit for underfunded schemes by £8.3 billion from a base case of £285.3 billion. A 0.3 per cent decrease in gilt yields would increase the scheme deficit by £61.4 billion from a base of £285.3 billion.

If the assumed rate of inflation increases by 0.1 percentage points and nominal rates remain unchanged then the s179 liabilities rise by 0.7 per cent or £11.3 billion.

Figure 5.13 | Impact of changes in the rate of inflation on s179 liabilities (base = £1,542.5 billion), as at 31 March 2015

s179 liabilities (£ billion)				
Movement in equity prices	Change in nominal yields		Change in real yields	
	-0.1pp	0.1pp	-0.1pp	0.1pp
£ billions	1,562.8	1,522.3	1,553.8	1,531.3
Percentage change	1.3%	-1.3%	0.7%	-0.7%

Source: PPF / The Pensions Regulator

An increase in longevity such that experienced mortality is now equivalent to that of an individual two years younger would cause total scheme s179 liabilities to increase by £99.4 billion, or 6.4 per cent.

Figure 5.14 | Impact of changes in longevity assumptions on s179 liabilities (base = £1,542.5 billion), as at 31 March 2015

	s179 liabilities (£ billion)	% Change from base
Age Rating + 2 years	1,443.0	-6.5%
Age Rating - 2 years	1,641.9	6.4%

Source: PPF / The Pensions Regulator

Insolvency Risk

6

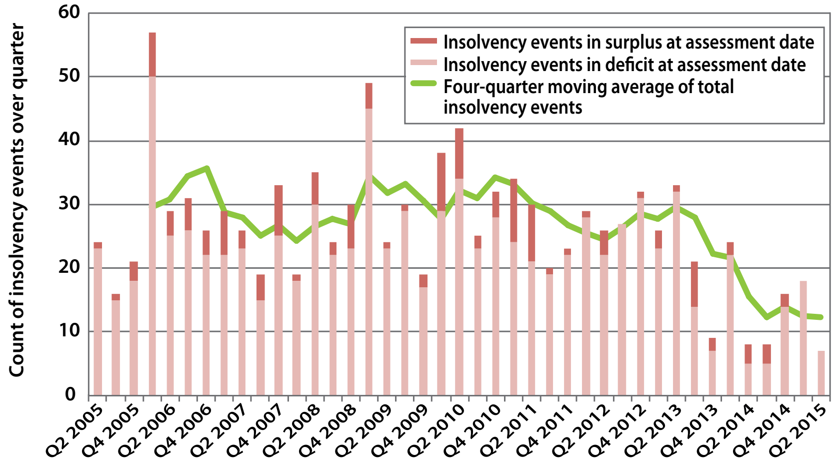
6.1 Summary

- The insolvency rate of the PPF universe (number of insolvency events for sponsors of PPF-eligible schemes divided by the total number of scheme sponsors) has fallen sharply since the second quarter of 2013, reaching 0.32 per cent (four-quarter moving average basis) in the second quarter of 2015.
- The UK economy has seen strong growth since early 2013. GDP in the second quarter of 2015 was 5.2 per cent above the pre-crisis high in the first quarter of 2008, despite the challenging environment in the eurozone, the UK's biggest trading partner.
- Smaller schemes tend to have higher insolvency probabilities. The average one-year ahead insolvency probability for schemes with fewer than 100 members is 1.1 per cent, considerably higher than for schemes with between 1,000 and 4,999 members which stood at 0.53 per cent at the end of the first quarter of 2015.
- From Levy Year 2015/16, Experian is the new provider of insolvency scores for the purpose of the PPF levy determination. In order to improve predictive power and account for the different composition of the PPF universe of companies as opposed to the UK broad corporate sector, Experian has constructed a PPF-specific model.
- The model is calibrated to predict insolvencies within the PPF-specific universe of employers that sponsor eligible DB pension schemes. In addition to improved predictability, the PPF-specific model provides greater transparency and stability and increased resilience due to the use of, primarily, published financial data, and additionally is less vulnerable to manipulation[8].

[8] Further information on the Experian model can be found on the PPF website: **www.pensionprotectionfund.org.uk/levy/Pages/LevyPublications.aspx**

The PPF-universe insolvency rate has been trending down since Q2 2013.

Figure 6.1 | PPF universe insolvency rates*

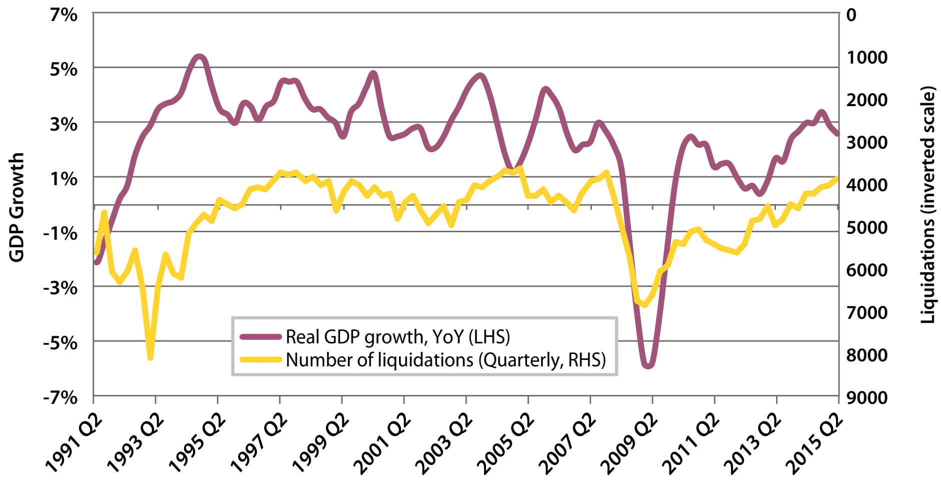


Source: The UK Insolvency Service and the PPF / The Pensions Regulator

*There are around 2.7 million companies in the UK, compared to around 14,000 in the PPF universe.

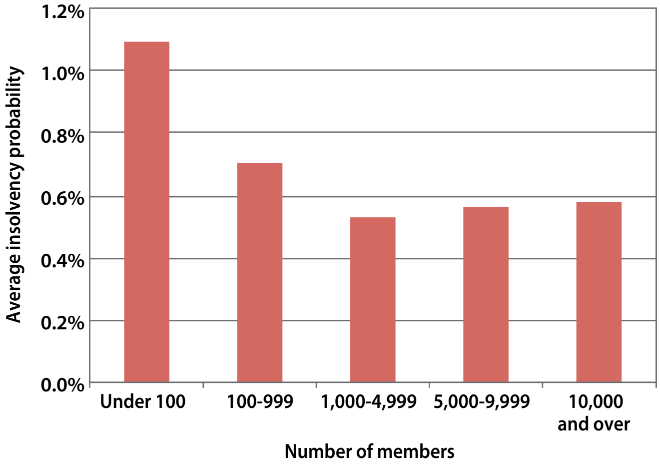
GDP growth has been strong since the end of 2013, and GDP in Q2 2015 was 5.2 per cent above the pre-crisis level in Q1 2008. The number of company liquidations has been trending down since 2013.

Figure 6.2 | UK company liquidations



Source: Office for National Statistics and the UK Insolvency Service

Figure 6.3 | Average one-year ahead insolvency probability based on Experian failure scores* by scheme size as measured by number of members, as at 31 March 2015



Source: PPF/The Pensions Regulator

*Experian failure scores are converted into credit ratings. These are then converted into the probability of insolvency over the next year. This conversion uses a mapping matrix that takes into account data on historical company insolvencies.

Smaller schemes tend to have higher insolvency probabilities.

7 Asset Allocation

7.1 Summary

- In 2015, the equity share of total scheme assets fell from 35.0 per cent to 33.0 per cent while the gilts and fixed interest share rose from 44.1 per cent to 47.7 per cent.

- The share of "other investments", total investments less equities and bonds, fell from 20.9 per cent in 2014 to 19.3 per cent in 2015. This largely reflected a large fall in the cash share which more than offset increases for the remaining components (insurance policies, property, hedge funds and "other" [9]).

- The UK-quoted proportion of total equity holdings fell from 28.9 per cent in 2014 to 25.6 per cent in 2015, while the overseas-quoted share increased from 62.4 per cent to 65.4 per cent. The balance of holdings in unquoted/private equities rose from 8.7 per cent in 2014 to 9.0 per cent in 2015.

- Within total gilts and fixed interest assets, the changes were more noticeable in 2015 after modest changes in 2014. The corporate fixed interest bonds' proportion decreased from 40.3 per cent in 2014 to 37.7 per cent in 2015. Meanwhile, the proportion of government fixed interest bonds rose from 18.6 per cent to 20.3 per cent. The balance of holdings in index-linked bonds rose to 42.0 per cent from 41.1 per cent in 2014.

- Many of the changes in 2015 continue the trends that have been in place for some time.

    - Between 2006 and 2015, the equity share of total assets fell from 61.1 per cent to 33.0 per cent, the gilt and fixed interest share rose from 28.3 per cent to 47.7 per cent. Between 2008 and 2015, the UK-quoted share of total equity holdings fell from 48.0 per cent to 25.6 per cent, while the overseas-quoted equity share rose from 51.6 per cent to 65.4 per cent.

    - Government fixed interest bonds' share of gilts and fixed interest holdings fell from 33.2 per cent in 2008 to 17.7 per cent in 2012, but rose to 20.3 per cent by 2015. Meanwhile, the corporate bonds' share rose from 32.6 per cent to 44.8 per cent in 2012 but then declined to 37.7 per cent by 2015. The index-linked bonds' proportion rose steadily from 33.9 per cent to 42.0 per cent.

- Between 2006 and 2015 the share of other investments rose from 10.6 per cent to 19.3 per cent. The hedge fund share rose from 1.5 per cent in 2009, the first year the data was collected, to 6.1 per cent in 2015. The cash and property shares also rose as did the residual "other" category which will have included hedge funds before 2009.

- Schemes provide their most recent asset allocations in their scheme returns. In the 2015 returns, approximately 99 per cent of schemes provided asset allocations for 2013 or later.

[9] Other includes deferred or immediate fully insured annuities, commodities, asset backed securities and a residual 'other' category.

- Smaller schemes tend to have a higher proportion of assets in UK-quoted equities and a smaller proportion in overseas-quoted equities and unquoted/private equities. For example, schemes with under £5 million in assets have 54 per cent of their equity holdings in UK-quoted equities compared with 29 per cent for schemes with over £100 million in assets.
- Within gilts and fixed interest, smaller schemes tend to have a higher proportion in government fixed interest and a smaller proportion in index-linked bonds. For example, schemes with under £5 million in assets have 30 per cent of their fixed interest holdings in government fixed interest compared with 19 per cent for schemes with over £100 million in assets.
- The proportion of equities in total assets falls with scheme maturity while the proportion of gilts and fixed interest rises.
- The best funded schemes tend to have the greatest proportion of their assets invested in gilts and fixed interest, and a smaller proportion invested in equities.
- Most of this chapter uses weighted-average asset allocations. For example, the share of equities in each scheme's asset allocation is multiplied by the weight of its assets in the total and then added together for all schemes. This is equivalent to the share of total equities in total assets. The simple average just takes the arithmetic average of the share of equities in total assets for each scheme.

7.2 Scheme return data[10]

Figure 7.1 | Distribution of schemes by asset allocation date*

Asset allocation year	Number of schemes	Percentage of Purple dataset
2006-2011**	30	0.5%
2012	55	0.9%
2013	1,989	33.5%
2014	3,855	64.9%
2015	16	0.3%

Source: PPF/ The Pensions Regulator

*There can be a gap, sometimes significant, 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.

**This is due to winding up schemes which have not updated their asset return data.

About 99 per cent of schemes provided an asset allocation which was for 2013 or later.

[10] Asset allocations submitted by schemes are not adjusted for market movements.

The proportion of gilts and fixed interest rose while the proportions in equities decreased in 2015, a continuation of long term trends. The other investments share fell for the first time since 2012.

Figure 7.2 | Average asset allocation in total assets

	Extended Purple 2006	Extended Purple 2007	Extended Purple 2008	Purple 2009	Purple 2010	Purple 2011	Purple 2012	Purple 2013	Purple 2014	Purple 2015
Equities	61.1%	59.5%	53.6%	46.4%	42.0%	41.1%	38.5%	35.1%	35.0%	33.0%
Gilts and fixed interest	28.3%	29.6%	32.9%	37.1%	40.4%	40.1%	43.2%	44.8%	44.1%	47.7%
Other investments of which:	10.6%	10.9%	13.5%	16.5%	17.6%	18.8%	18.3%	20.1%	20.9%	19.3%
Insurance policies	*0.9%*	*0.8%*	*1.1%*	*1.4%*	*1.4%*	*1.6%*	*0.2%**	*0.1%*	*0.1%*	*0.1%*
Cash and deposits	*2.3%*	*2.3%*	*3.0%*	3.9%	*3.9%*	*4.1%*	*5.1%*	*6.7%*	*6.1%*	*3.5%*
Property	*4.3%*	*5.2%*	*5.6%*	*5.2%*	*4.6%*	*4.4%*	*4.9%*	*4.7%*	*4.6%*	*4.9%*
Hedge Funds	*n/a*	*n/a*	*n/a*	*1.5%*	*2.2%*	*2.4%*	*4.5%*	*5.2%*	*5.8%*	*6.1%*
'Other'	*3.1%*	*2.5%*	*3.8%*	*4.5%*	*5.4%*	*6.3%*	*3.6%*	*3.5%*	*4.3%*	*4.7%*

Source: PPF/ The Pensions Regulator

*The fall in the insurance policies shown from 2012 reflects the fact that schemes were encouraged to give a split of their insurance investments by asset class given the New Levy formula which included investment risk.

Looking at simple averages, the equity share also fell and the gilt and fixed interest share also rose. However, the other investments share rose slightly.

Figure 7.3 | Asset allocation: simple averages

	Simple averages									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Equities	52.6%	53.5%	50.2%	46.6%	43.1%	43.7%	43.7%	40.6%	39.4%	38.8%
Gilts and fixed interest	22.6%	24.0%	26.5%	29.2%	32.6%	32.6%	36.1%	39.1%	39.0%	39.4%
Other investments of which:	24.8%	22.5%	23.3%	24.2%	24.3%	23.7%	20.2%	20.3%	21.6%	21.8%
Insurance policies	*14.9%*	*13.7%*	*13.0%*	*12.4%*	*12.3%*	*11.8%*	*4.4%*	*2.0%*	*1.8%*	*1.7%*
Cash and deposits	*3.9%*	*3.7%*	*4.4%*	*5.6%*	*5.7%*	*4.9%*	*5.5%*	*6.2%*	*6.4%*	*5.7%*
Property	*2.1%*	*2.5%*	*2.9%*	*2.8%*	*2.6%*	*2.7%*	*3.5%*	*3.6%*	*3.5%*	*3.6%*
Hedge Funds	*n/a*	*n/a*	*n/a*	*0.7%*	*0.9%*	*1.0%*	*3.7%*	*5.0%*	*6.2%*	*7.3%*
'Other'	*3.6%*	*2.6%*	*2.9%*	*2.6%*	*2.8%*	*3.3%*	*3.2%*	*3.5%*	*3.9%*	*3.7%*

Source: PPF/ The Pensions Regulator

Figure 7.4 | Gilt and fixed interest splits

Year	Gilts and fixed interest					
	Government fixed interest bonds		Corporate fixed interest bonds		Index linked bonds	
	Average share	Weighted average share	Average share	Weighted average share	Average share	Weighted average share
2008	47.2%	33.2%	33.0%	32.6%	19.8%	33.9%
2009	45.6%	29.0%	37.3%	38.3%	17.1%	32.6%
2010	37.3%	24.6%	43.0%	42.2%	19.8%	33.1%
2011	31.2%	19.6%	47.1%	44.3%	21.7%	36.1%
2012	28.2%	17.7%	49.4%	44.8%	22.4%	37.5%
2013	27.0%	18.5%	49.6%	40.6%	23.4%	40.9%
2014	23.8%	18.6%	51.9%	40.3%	24.4%	41.1%
2015	23.8%	20.3%	51.2%	37.7%	25.0%	42.0%

Source: PPF/ The Pensions Regulator

Within gilts and fixed interest, the weighted average corporate bond proportion declined in 2015, while the proportions of government fixed interest and index-linked rose. The proportion of index-linked bonds has risen steadily since 2009 by over nine percentage points. Over the same period, the share of government fixed interest bonds has fallen by a similar amount.

Figure 7.5 | Equity splits

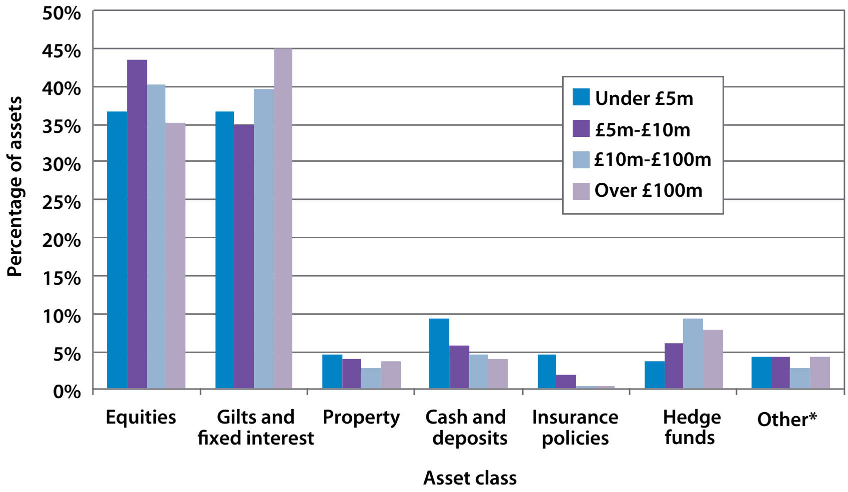
Year	Equities					
	UK-quoted equities		Overseas-quoted equities		Unquoted/private equities	
	Average share	Weighted average share	Average share	Weighted average share	Average share	Weighted average share
2008	60.4%	48.0%	39.6%	51.6%	n/a	n/a
2009	57.6%	44.2%	41.7%	53.8%	0.7%	1.9%
2010	55.3%	40.1%	43.7%	55.3%	1.0%	4.4%
2011	52.7%	38.0%	46.1%	57.2%	1.2%	4.8%
2012	49.9%	33.9%	48.5%	60.0%	1.7%	6.1%
2013	47.5%	31.0%	50.3%	61.3%	2.2%	7.7%
2014	44.9%	28.9%	52.7%	62.4%	2.4%	8.7%
2015	42.2%	25.6%	55.3%	65.4%	2.5%	9.0%

Source: PPF/ The Pensions Regulator

Within equities the overseas-quoted and unquoted equity proportions continued to rise in 2015, while the share of UK-quoted equities continued to fall.

The proportion of assets held in gilts and fixed interest bonds and in hedge funds tends to increase with scheme size. The proportions held in insurance policies and cash and deposits tend to decrease with scheme size.

Figure 7.6 | Simple average asset allocation of schemes by asset size

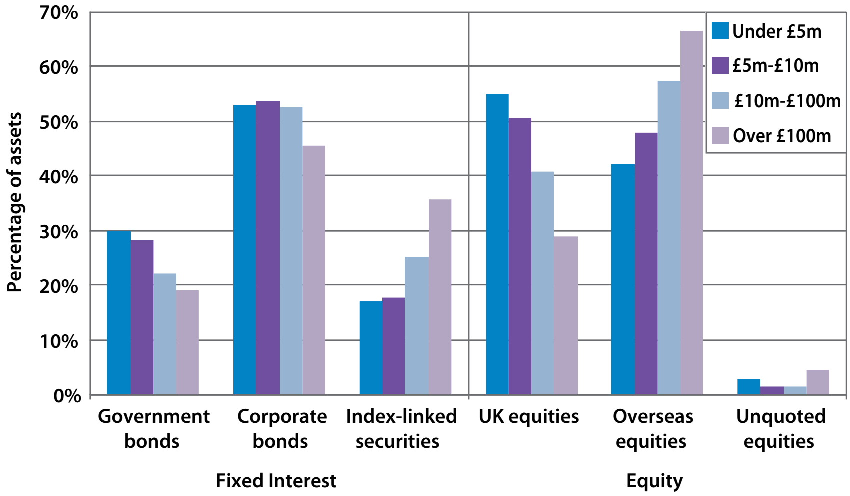


Source: PPF/ The Pensions Regulator

*Other includes deferred or immediate fully insured annuities, commodities, asset backed securities and a residual 'other' category

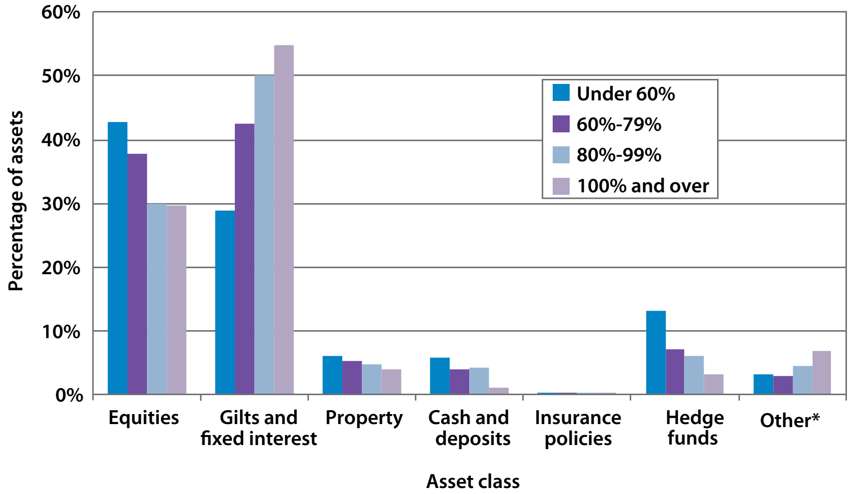
Larger schemes tend to hold more in overseas-quoted rather than UK-quoted equities and more in index-linked rather than in conventional government bonds.

Figure 7.7 | Simple average of equities and fixed-interest assets split by asset size



Source: PPF/ The Pensions Regulator

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

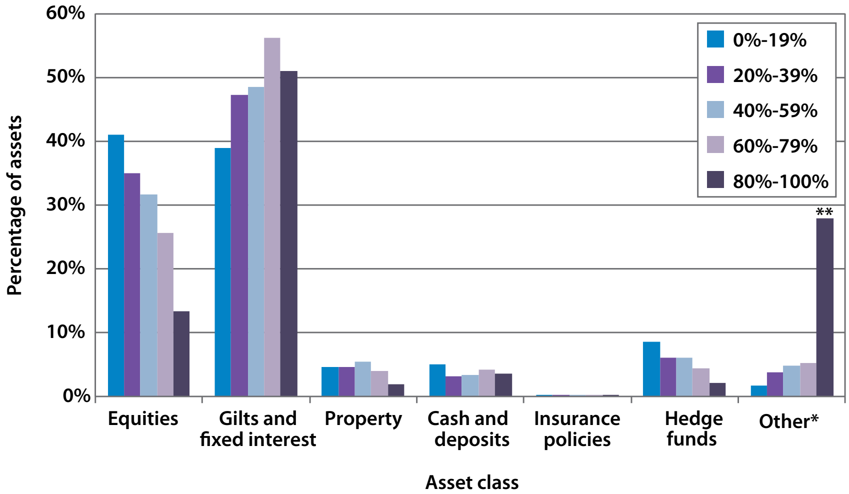


Source: PPF/ The Pensions Regulator

*Other includes deferred or immediate fully insured annuities, commodities, asset backed securities and a residual 'other' category.

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

Figure 7.9 | Weighted-average asset allocation of schemes by current pensioner liabilities as a percentage of total liabilities



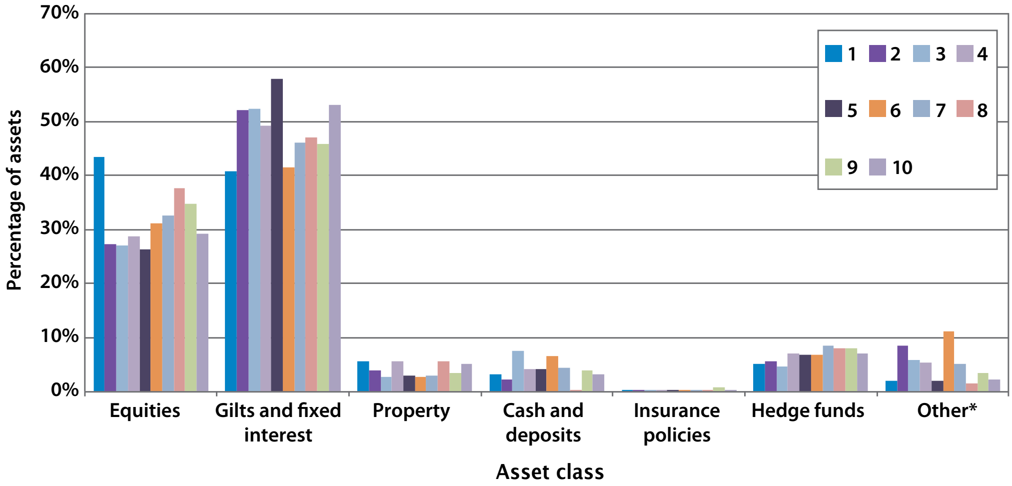
Source: PPF/ The Pensions Regulator

*Other includes deferred or immediate fully insured annuities, commodities, asset backed securities and a residual 'other' category.
**This is dominated by one large scheme which has shifted a lot of its assets into annuities

The proportion of equities in total assets falls with scheme maturity (as measured by the percentage of pensioner liabilities) while the proportion of gilts and fixed interest rises.

There appears to be no relationship between asset allocation and Experian levy band.

Figure 7.10 | Weighted-average asset allocation of schemes by Experian levy band (the lower the band the lower the predicted probability of insolvency)



Source: PPF/ The Pensions Regulator

*Other includes deferred or immediate fully insured annuities, commodities, asset backed securities and a residual 'other' category.

PPF Risk Developments

8

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 2030. The target for self-sufficiency is set as a percentage margin over the liabilities, this being held to cover remaining risks after the PPF reaches the funding horizon. The risk margin covers the risk of unexpected longevity 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 the funding objective remains appropriate and whether the PPF is on track to achieve it.

- 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 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 2015, suggest that the PPF has an 88 per cent probability of meeting its funding objective compared with 90 per cent one year earlier[11] while the "downside risk" has risen from £4 billion to £5 billion. This assumes no change to the PPF's investment strategy or to the PPF Levy formula.

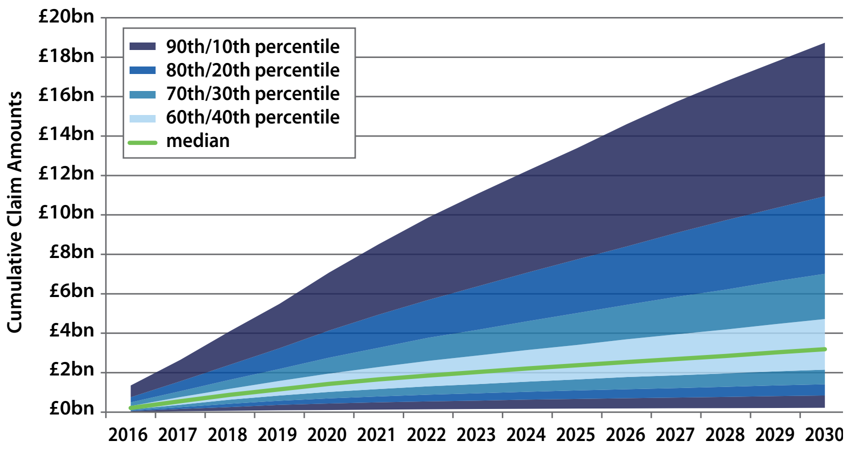
- The decrease in the probability of success, and higher downside risk, are mostly attributable to the combination of an increase in employer insolvency probabilities over the year and a decrease in the funding level of the schemes that they sponsor. These were partially offset by changes to the assumptions in the model and an improvement in the PPF's own funding position.

[11] This probability is sensitive to a range of modelling assumptions. For a description of the modelling methodology and assumptions employed, see www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/PPF_Funding_Strategy_Document.pdf
For the July 2015 review of the funding strategy, see: www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/Funding_Strategy_Review_2015.pdf

8.2 Long-Term Risk

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 can be some way above the median level.

Figure 8.1 | Cumulative deficits of schemes entering the PPF from 31 March 2015*



Source: PPF/ The Pensions Regulator

*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 2015 will be within certain boundaries.

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 2015. 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 2030. Self-sufficiency means that the PPF is fully-funded with zero 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. 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 2030 would be sufficient to cover unexpected claims, longevity, operational and matching risk, regarding the CPI, (over the lifetime of the Fund) 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 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 2015, the probability of success was estimated to be 88 per cent, down from 90 per cent at 31 March 2014, while the downside risk was estimated to be £5 billion, up from £4 billion.
- 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.
- The Board of the PPF regularly monitors the probability of success and the downside risk in quarterly updates of the modelling. To do this it has devised a Red-Amber-Green framework where a Green rating indicates that the Board should be comfortable, an Amber rating indicates that it should consider pulling one of its strategic levers and a Red rating indicates that it should almost certainly be planning to pull one of its strategic levers. Though the probability of success has fallen, it has remained in the Green zone throughout the past year. Its strategic levers are adjustments to its investment strategy, levy parameters and, as a last resort, compensation.

The base-case probability of the PPF meeting its funding objective is 88 per cent, down from 90 per cent a year ago. The probability of meeting the funding objective and the downside risk are subject to modelling assumptions as illustrated in the table.

Figure 8.2 | Modelled probability of the PPF meeting its funding objective, as at 31 March 2015

Scenario	Change in probability of meeting funding objective	Change in downside risk (£ billion)
Base case	88%	5
Scheme deficits (surpluses) increase (reduce) by 50%	-6%	+5
Recovery plans 5 years longer	-1%	+1
Reduction in asset returns of 0.25% pa (excluding cash and government bonds)	-2%	+1
Assumed difference between RPI and CPI widens (1.1% to 1.5%)	+2%	-1
Levy reduced by 10 per cent	-1%	<+1
Initial PPF funding reduced by 10 percentage points	-3%	+3
Sponsor insolvency probabilities increased by 20 per cent	-2%	+2
Scheme Technical Provisions reduced by 10 per cent (relative to S179 basis)	-4%	+3
Size of PPF increases by 20% (assets and liabilities)	+1%	-1
No closure to new accruals	-1%	+1
Longevity stress (probability of death in any single year reduced by 20%)	-2%	+2

Source: PPF/ The Pensions Regulator

PPF Levy Payments 2014/15

9

Summary

- Since 2006/7, the PPF has collected a levy determined mainly by the risk schemes pose to the PPF. Over this period, it has collected a total of £5.2 billion.
- The dataset used in this chapter is based on 6,020 schemes which, at the time of writing, have contributed a total levy of £579 million for the year 2014/15. This represents 0.06 per cent of the total assets of the schemes[12]. The total levy is somewhat smaller than the £695 million the PPF expected to collect. This was mainly because the underfunding and insolvency risk turned out to be lower than had been assumed.
- In 2014/15, the number of schemes paying no Risk-Based Levy (RBL) represented 18 per cent of total schemes which is similar to the two preceding years.
- Since 2012/13, schemes that were fully funded, after taking account of their investment risk, pay no RBL. By comparison, in earlier years, schemes had to be significantly over funded to pay no RBL[13].
- In 2014/15, 274 schemes had their Risk-Based Levy capped at 0.75 per cent of unstressed liabilities. This is around 5 per cent of the total number of schemes. The liabilities of capped schemes equalled £5 billion or 0.4 per cent of total s179 liabilities.
- The top 100 levy payers accounted for £243 million or 42 per cent of the total levy in 2014/15.
- Manufacturing accounted for 26 per cent of total liabilities in 2014 and pays 37 per cent of total levy in 2014/15 due to it having the largest average insolvency probability of any industry. Finance, Insurance and Real Estate account for 24 per cent of total liabilities and 15 per cent of total levy.
- This chapter uses Dun & Bradstreet failure scores because these were used for measuring insolvency risk in the levy formula for the 2014/15 financial year.
- From the Levy Year 2015/16, Experian provides the PPF with scores as indicators of insolvency risk using the PPF-specific model. This is a statistical model, developed using observed insolvencies amongst employers and guarantors of DB pension schemes.

[12] Assets and liabilities in this chapter are on a smoothed, stressed basis
www.pensionprotectionfund.org.uk/levy/Pages/1415_Levy_Determination.aspx
[13] In 2012/13, changes were made to the way the Pension Protection Levy is calculated. Notable changes included: assets and liabilities being smoothed to reduce data volatility and stressed to account for investment risk; averaging insolvency risk taken over a 12-month period; using more current data and moving from 100 to ten levy bands.

Since 2007/08, actual levy payments have fluctuated between £577 million and £663 million with payments at their lowest in the last two years.

Figure 9.1 | Levy Payments

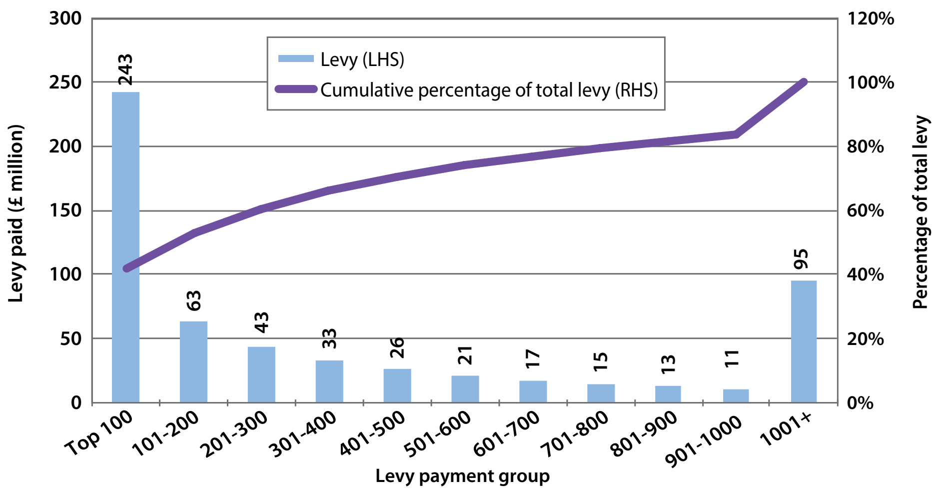
	Actual levy payments (£ m)*	Levy as percentage of assets**	Estimated collection (£ m)***	Number of capped schemes
2006/07	271	0.03%	575	310
2007/08	585	0.07%	675	411
2008/09	651	0.08%	675	564
2009/10	592	0.07%	700	340
2010/11	663	0.09%	720	679
2011/12	596	0.08%	600	626
2012/13	648	0.08%	550	427
2013/14	577	0.06%	630	302
2014/15	579	0.06%	695	274

Source: PPF/ The Pensions Regulator

*Actual 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 6,020 schemes in 2014/15, or from prior years' Purple Books.
**Actual levy payments as a percentage of total assets of schemes paying a levy.
*** The estimated collection represents the Board's published estimate made in its levy policy statement[14].

In 2014/15, the top 100 levy payers accounted for £243 million, or 42 per cent of the total levy, but 37 per cent of total liabilities.

Figure 9.2 | Distribution of levy payments by largest levy payers in 2014/2015



Source: PPF/The Pensions Regulator

Note: the 1,001+ category accounts for a relatively large percentage of the total levy as it contains more than 5,000 schemes.

[14] For details of the 2014-15 levy policy statement, please visit: **www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/1415_levy_policy_statement.pdf**
For full details of the levy determination please visit: **www.pensionprotectionfund.org.uk/levy/Pages/1415_Levy_Determination.aspx**

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

	Number of schemes	Percentage of total schemes	s179 liabilities [15] (£ billion)	s179 liabilities as percentage of total
2006/07	345	5%	44.1	6%
2007/08	570	9%	83.0	12%
2008/09	473	7%	71.8	10%
2009/10	363	6%	32.7	5%
2010/11	195	3%	8.8	1%
2011/12	296	5%	24.6	3%
2012/13	1,191	19%	199.3	19%
2013/14	1,056	17%	171.1	15%
2014/15	1,113	18%	206.0	17%

Source: PPF/ The Pensions Regulator

The percentage of schemes paying no Risk-Based Levy rose markedly with the introduction of the New Levy formula in 2012/13.

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

Levy band[16]	Levy rate*[17]	Total number of schemes	Number of capped schemes[18]	Percentage of schemes in Insolvency Group which are capped
1	0.23%	1,942	0	0.0%
2	0.36%	946	0	0.0%
3	0.57%	747	0	0.0%
4	0.90%	606	0	0.0%
5	1.35%	734	3	0.4%
6	1.81%	222	10	4.5%
7	2.31%	321	59	18.4%
8	2.83%	93	22	23.7%
9	3.51%	81	32	39.5%
10	4.00%	328	148	45.1%
Total		**6,020**	**274**	

Source: PPF/ The Pensions Regulator

*Schemes with multiple employers will have a weighted insolvency probability based upon the different employers' failure scores and number of employees. In this year's Purple, unlike in previous years, such schemes have been allocated to the nearest levy band based upon the corresponding levy rates. For bands 1 to 9 here, the averaged levy rates shown are the average of the levy rates in consecutive bands.

In 2014/15, 274 schemes had their Risk Based Levy capped compared with 302 in 2013/14. The proportion of schemes in each levy band which are capped increases with levy rates (from band 5 onwards).

[15] Liabilities are stressed and smoothed from 2012/13 onwards, in line with the New Levy Framework. **www.pensionprotectionfund.org.uk/levy/Pages/1415_Levy_Determination.aspx**
[16] For full details of the levy bands, please visit: **www.pensionprotectionfund.org.uk/levy/Pages/1415_Levy_Determination.aspx**
[17] For the definition of Scheme and Risk-Based Levy, please visit: **www.pensionprotectionfund.org.uk/levy/Pages/1415_Levy_Determination.aspx**
[18] For the definition of capped Schemes, please visit: **www.pensionprotectionfund.org.uk/levy/Pages/1415_Levy_Determination.aspx**

The proportion of schemes which are capped decreases as the funding level improves, as lower underfunding makes the application of the cap less likely.

Figure 9.5 | Number of schemes with capped Risk-Based Levies by funding level

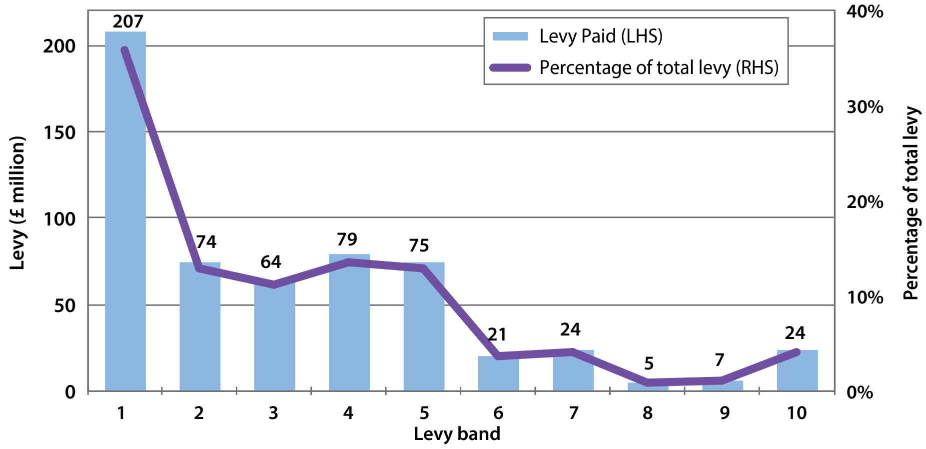
Funding level	Number of capped schemes	Percentage of schemes in funding band which are capped	Number of schemes
Less than 50%	125	17.6%	711
50%-75%	146	5.4%	2,687
75%-100%	3	0.2%	1,681
Greater than 100%	0	0.0%	941
Total	**274**	**23.2%**	**6,020**

Source: PPF/ The Pensions Regulator

In 2014/15, almost all capped schemes had a funding level of 75 per cent, or lower.

Levy band 1 made the largest contribution to total levy receipts, paying £207 million, or 36 per cent of total levy collected.

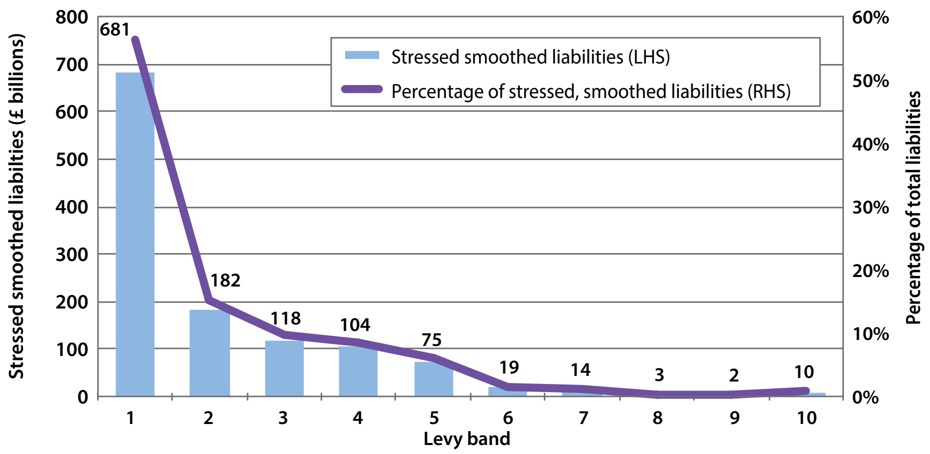
Figure 9.6 | Levy distribution by levy band



Source: PPF/ The Pensions Regulator

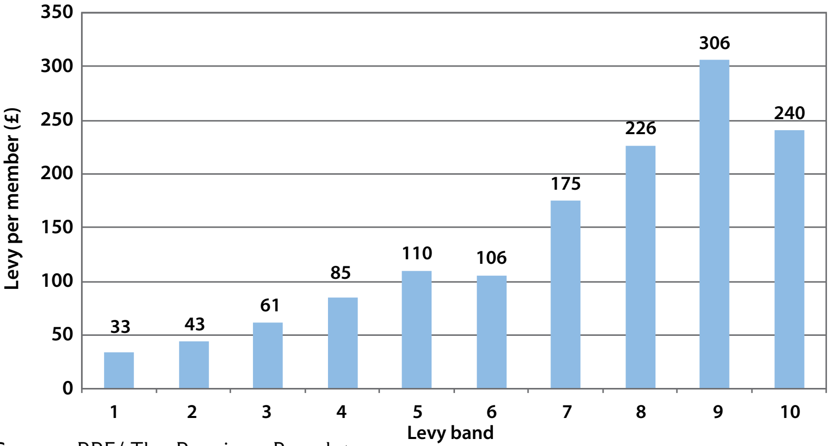
Levy band 1 accounts for 57 per cent of the total liabilities.

Figure 9.7 | Liabilities by levy band



Source: PPF/ The Pensions Regulator

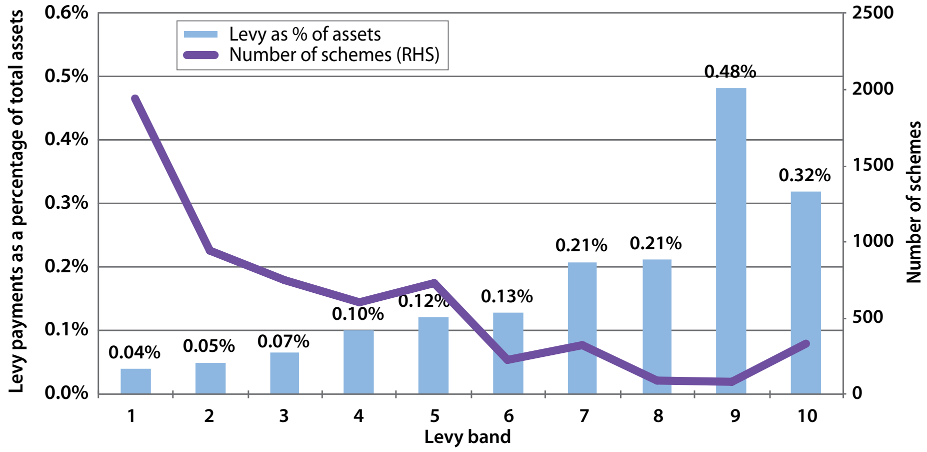
Figure 9.8 | Levy per member by levy band



Source: PPF/ The Pensions Regulator

The average levy per member was £52 in 2014/15. Levy per member is the highest in band 9. The decrease in levy band 10 reflects the RBL cap on schemes.

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

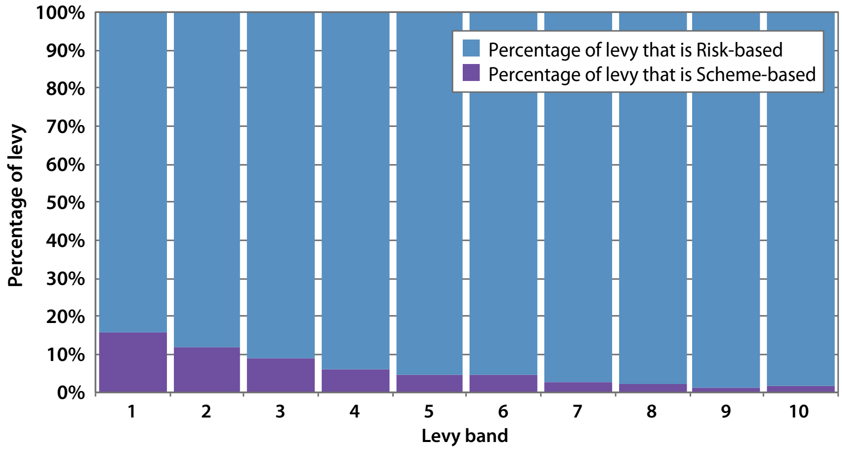


Source: PPF/ The Pensions Regulator

The PPF levy is very small compared with the value of total assets. The average (total levy divided by total assets) was 0.06 per cent in 2014/15, the same as in 2013/14. The low overall average of 0.06 per cent reflects the large number of schemes in the lower levy bands.

The share of Risk-Based Levy tends to rise and the share of Scheme-Based Levy to fall as the levy band increases.

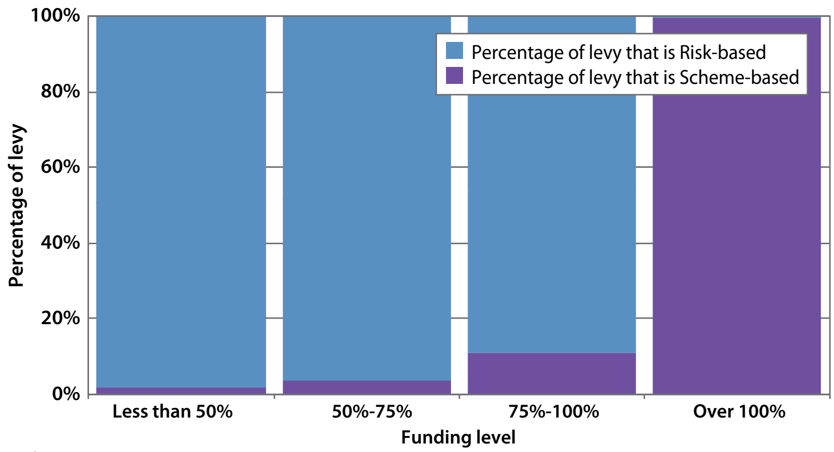
Figure 9.10 | Percentage of total levy that is Scheme- and Risk-based[19] by levy band



Source: PPF/ The Pensions Regulator

The proportion of Risk-Based Levy declines as scheme funding improves. The levy paid by schemes which are over 100 per cent funded consists of 100 per cent Scheme-Based Levy.

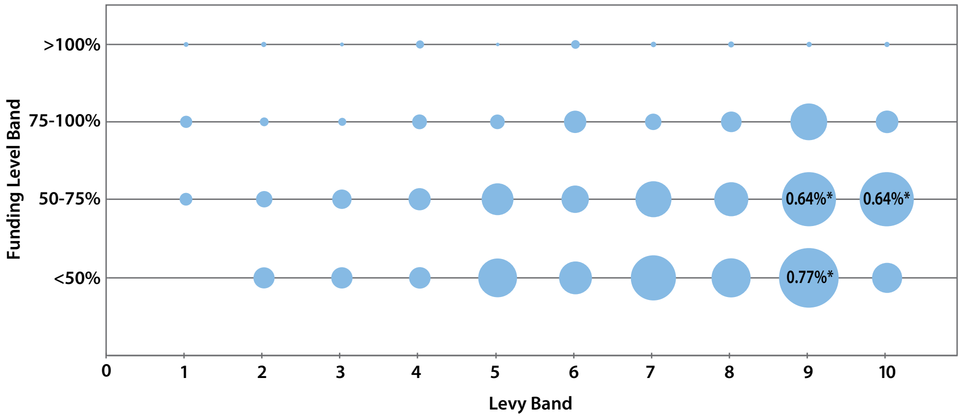
Figure 9.11 | Percentage of total levy that is Scheme- and Risk-based by funding level



Source: PPF/ The Pensions Regulator

[19] For the definition of scheme and risk based levy, please visit: **www.pensionprotectionfund.org.uk/levy/Pages/1415_Levy_Determination.aspx**

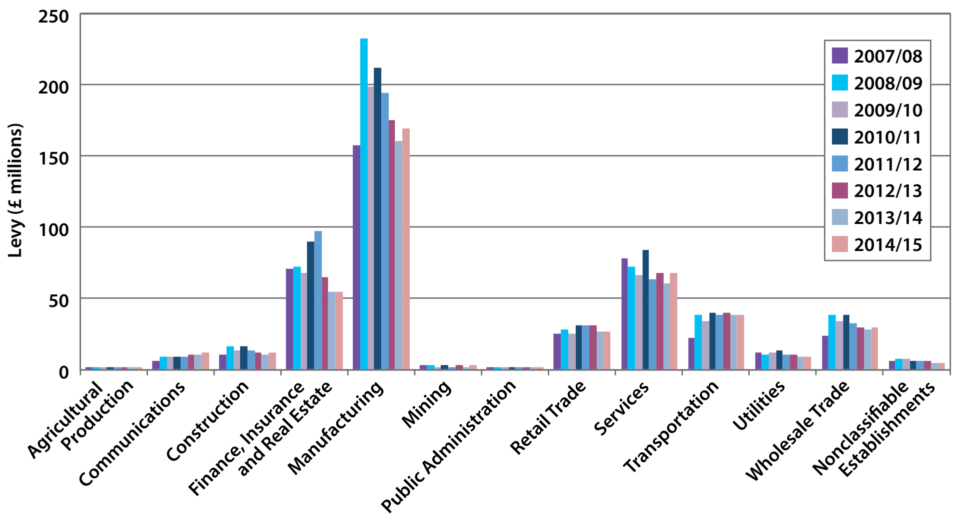
Figure 9.12 | Levy per £ of liabilities by levy and funding bands



Source: PPF/ The Pensions Regulator

*The circles represent the total levy divided by the stressed smoothed liabilities for schemes in a particular levy band with a certain funding level. For example, 0.77 per cent represents the proportion of total levy with respect to the smoothed stressed liabilities for the schemes in levy band 9 with a funding ratio lower than 50 per cent.

Figure 9.13 | Total levy by industry[20]



Source: PPF/ The Pensions Regulator

Those schemes which are below 75 per cent funded pay more levy per £ of liabilities compared with other schemes grouped in the same levy band.

Manufacturing, Finance, Insurance and Real Estate, and Services are the highest levy paying industries.

[20] These figures are based on a sample of 5,100 schemes across all years. Industry data is based on the 1972 US Standard Industrial Classification.

10 Schemes in Assessment

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[21]. The PPF aims to complete the assessment period for most schemes within two years.

- The PPF's Annual Report and Accounts 2014/15 show that there were 133 schemes in assessment as at 31 March 2015 compared with 182 as at 31 March 2014. Of the 133 figure, 111 were recognised in provisions on the PPF balance sheet, down from 158 at 31 March 2014. In these figures, all segregated parts of schemes have been counted as separate schemes.

- In this chapter, for analytical purposes, scheme sections and segregated parts are amalgamated at scheme level. As a result, the number of schemes in assessment in this chapter is less than reported in the 2014/15 Annual Report and Accounts. After this amalgamation there were 112 schemes (with 80,500 members) in a PPF assessment period as at 31 March 2015, compared with 148 schemes (with 95,000 members) a year earlier.

- The fall over the year reflects 46 new schemes entering and remaining in assessment, 64 schemes transferring into the PPF and 18 being rescued, rejected or withdrawn.

- As at 31 March 2015, the aggregate assets of schemes in assessment totalled £5.3 billion and their liabilities £7.5 billion (equivalent to 0.5 per cent of universe liabilities) on a s179 basis. Liabilities averaged £67.4 million per scheme and assets averaged £47.0 million.

- Schemes with liabilities below £5 million account for 32.1 per cent of schemes in assessment but only 0.8 per cent of the liabilities in assessment, while schemes with liabilities of over £100 million account for 11.6 per cent of schemes in assessment but 76.3 per cent of liabilities in assessment.

- The aggregate funding level (total assets divided by total liabilities) of the schemes in assessment as at 31 March 2015 was 70 per cent, considerably below the aggregate funding levels of the schemes in the Purple 2015 dataset (84 per cent).

- Compared to schemes in the 2015 Purple dataset, schemes in assessment had a greater allocation to insurance policies and a lower allocation to gilts and fixed interest.

- The Manufacturing sector accounted for 39 per cent of schemes in assessment while the Services sector accounts for 16 per cent and the Finance, Insurance and Real Estate sector for 15 per cent.

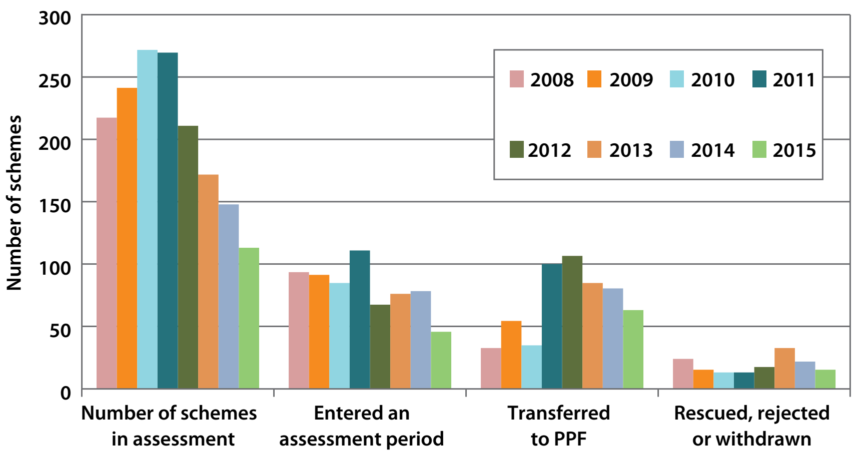
[21] See Chapter 2, The Data, for a description of the eligibility test.

- The representation of Manufacturing in schemes in assessment is much greater than the sector's share of scheme sponsors in the PPF universe (29 per cent), which in turn is greater than the share of Manufacturing in the UK economy (10 per cent).
- Since 2005, there have been around 1,100 claims on the PPF with a total deficit value of £6.7 billion on a s179 basis (excluding recoveries). During the same period, total levy and recoveries were £5.2 billion and £1.9 billion respectively. Schemes with under 100 members accounted for 48 per cent of the claims since 2005.
- The Manufacturing sector makes up 44 per cent of the total claims, higher than its average share of scheme sponsors (31 per cent). The Services sector makes up 15 per cent of total claims, much lower than its average share over the 10 years (28 per cent).

10.2 Schemes entering assessment

The number of schemes in assessment has been declining since 2011.

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



Source: PPF/ The Pensions Regulator

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

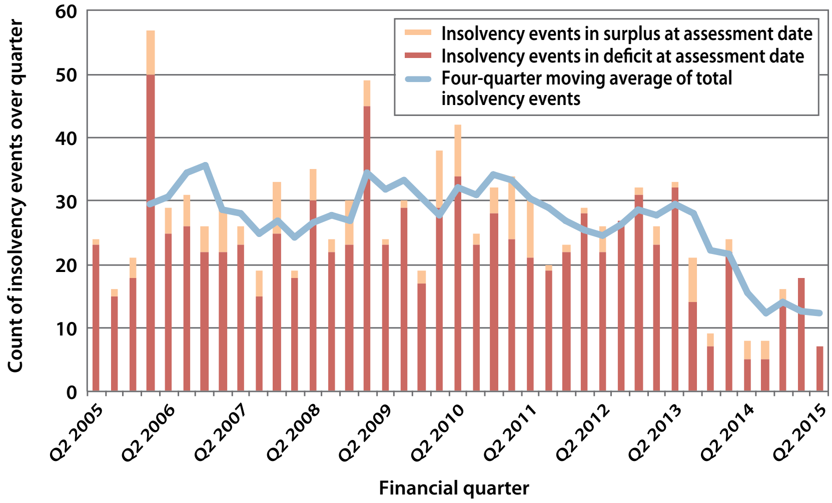
Year	Assets (£billion)	Liabilities (£billion)	Surplus (£billion)	Funding ratio	Universe funding ratio
2007	4.0	4.7	-0.7	85%	109%
2008	4.2	5.4	-1.2	78%	99%
2009	6.7	9.4	-2.8	71%	80%
2010	8.9	10.0	-1.1	89%	104%
2011	9.5	10.9	-1.4	87%	100%
2012	6.2	8.4	-2.2	74%	83%
2013	5.8	7.6	-1.8	77%	84%
2014	5.8	7.6	-1.7	77%	97%
2015	5.3	7.5	-2.3	70%	84%

Source: PPF/ The Pensions Regulator

At 31 March 2015, the scheme funding ratio for schemes in assessment was 70 per cent compared with 77 per cent the year before. It has been below the universe funding ratio every year.

The number of insolvency events has been trending down over the past three years.

Figure 10.3 | Number of qualifying insolvency events by date of insolvency*

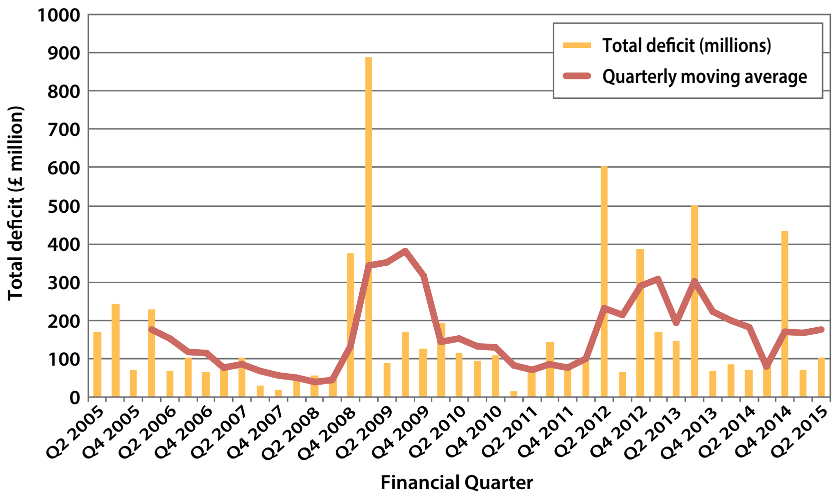


Source: PPF/ The Pensions Regulator

*Sections and segregated schemes not amalgamated.

The total deficit of schemes entering assessment in the year to Q2 2015 was £707 million, down from £725 million in the year to Q2 2014.

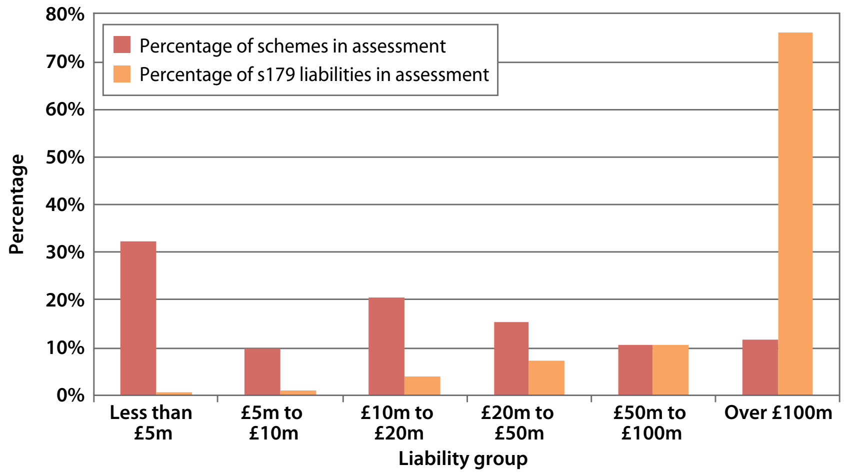
Figure 10.4 | Total s179 deficits for schemes entering an assessment period



Source: PPF/ The Pensions Regulator

10.3 Scheme Demographics

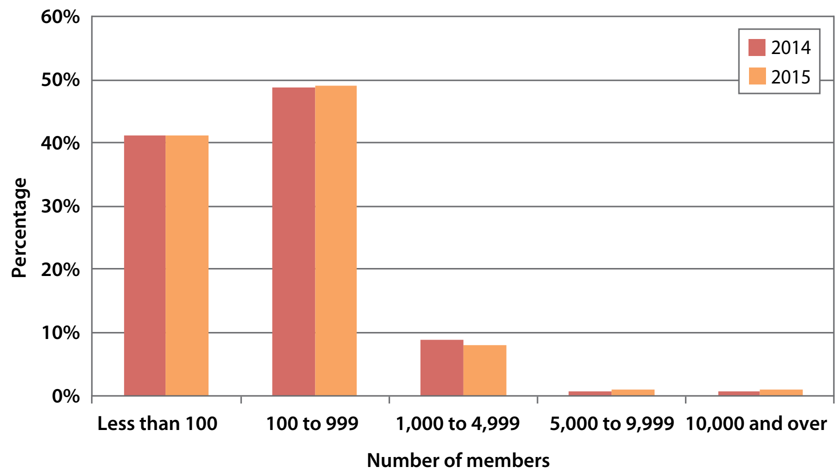
Figure 10.5 | Percentage of schemes and percentage of s179 liabilities grouped by size of liabilities for schemes in assessment, as at 31 March 2015



Source: PPF/ The Pensions Regulator

Schemes with liabilities of more than £100 million represent 11.6 per cent of schemes in assessment but 76.3 per cent of liabilities.

Figure 10.6 | Proportion of schemes in assessment by number of members

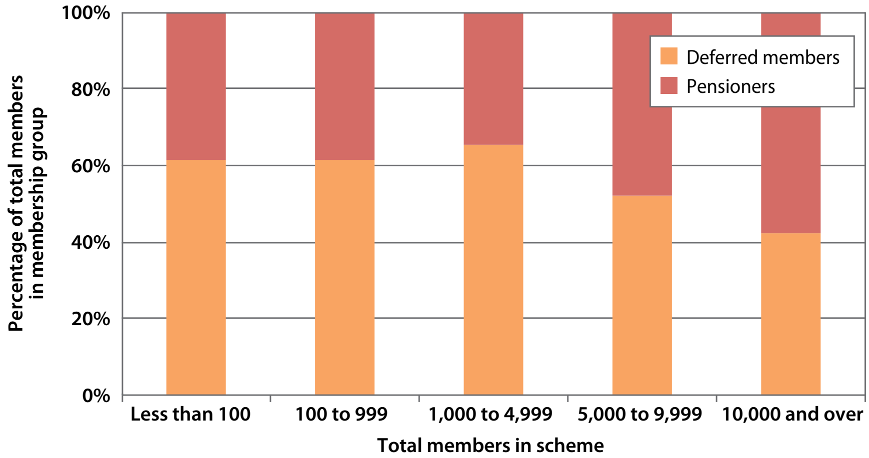


Source: PPF/ The Pensions Regulator

In 2015, 41 per cent of the schemes in assessment had fewer than 100 members. 49 per cent were in the 100-999 membership range.

Schemes in assessment in the 10,000 and over membership range are the most mature schemes.

Figure 10.7 | Maturity of schemes in assessment by membership size

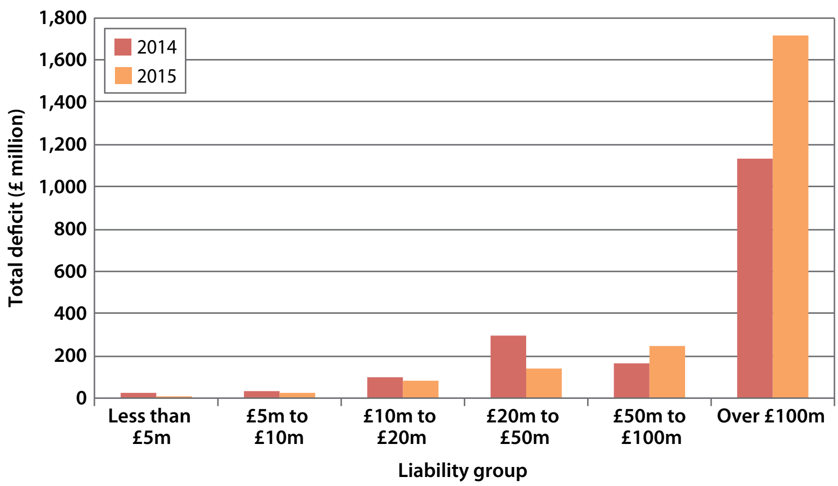


Source: PPF/ The Pensions Regulator

10.4 Funding level

2015 saw an increase in the deficit of the schemes in the over £100 million liability group.

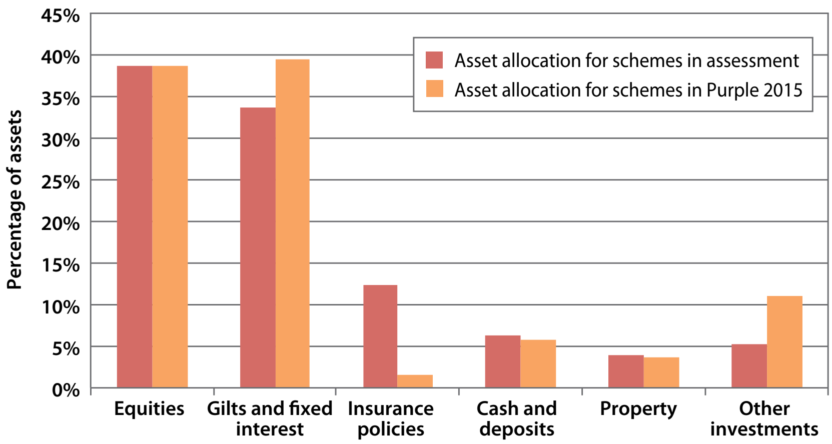
Figure 10.8 | Total s179 deficit of schemes in assessment by liability size



Source: PPF/ The Pensions Regulator

10.5 Asset Allocation

Figure 10.9 | Simple-average asset allocations prior to assessment for schemes in assessment and the Purple 2015 dataset as at 31 March 2015

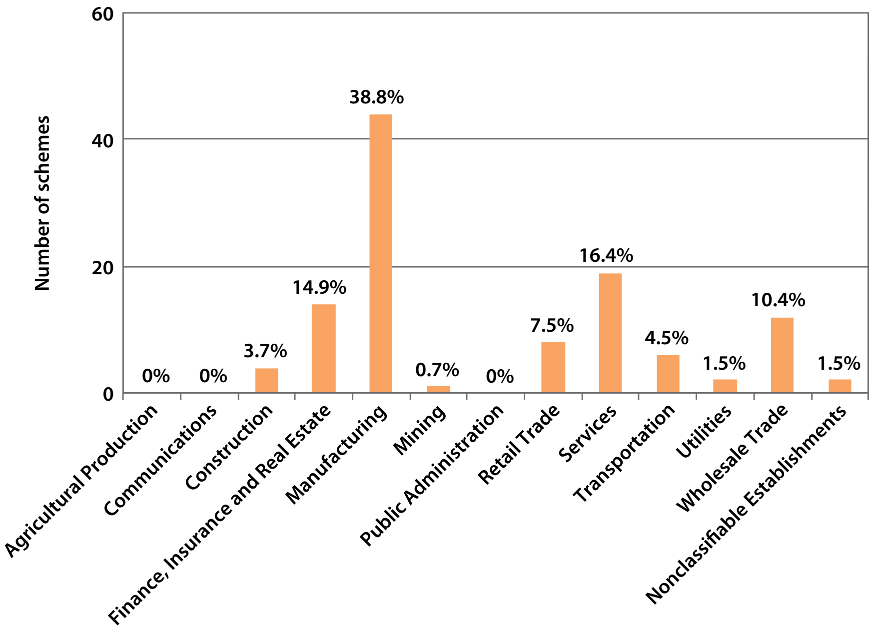


Source: PPF/ The Pensions Regulator

Compared to schemes in the 2015 universe, schemes in assessment had a greater allocation to insurance policies and a lower allocation to gilts and fixed interest.

10.6 Industry Classification

Figure 10.10 | Distribution of schemes in assessment by industry classification*



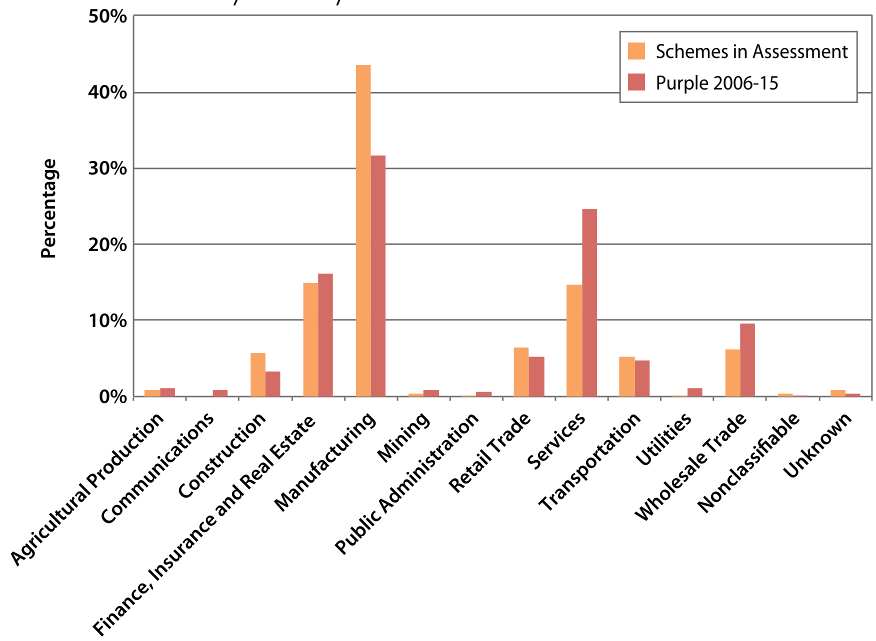
Source: PPF/ The Pensions Regulator
*Based on a US 1972 Standard Industrial Classification

Manufacturing made up 44 of the 112 schemes in assessment (39 per cent).

10.7 Total Claims since 2005[22] up to 31 March 2015

Manufacturing contributed 44 per cent of the schemes entering assessment since 2005. This is much higher than its proportion in the PPF-eligible universe.

Figure 10.11 | Distribution of schemes entering an assessment period since 2005 by industry classification*

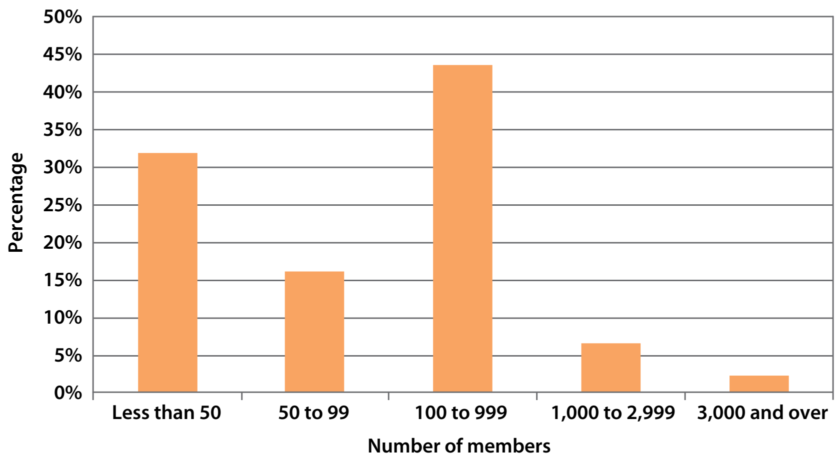


Source: PPF/ The Pensions Regulator

*Based on US 1972 Standard Industrial Classification; the figures which are averages

44 per cent of claims since 2005 came from schemes in the 100-999 membership range. Schemes under 100 members make up 48 per cent of the claims since 2005.

Figure 10.12 | Proportion of claims since 2005 by membership size



Source: PPF/ The Pensions Regulator

[22]Sections and segregated schemes not amalgamated.

PPF Compensation 2014/15

11

11.1 Summary

- When an eligible Defined Benefit (DB) 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[23].
- In 2014/15, the PPF made compensation payments of £564 million compared with £445 million in 2013/14.
- As at 31 March 2015, 114,028 members were in receipt of PPF compensation, up from 95,599 as at 31 March 2014. Average compensation in payment stood at £4,128 a year (unless otherwise stated, totals and averages relating to pensioners include dependants). The number of members with compensation not yet in payment (deferred members) as at 31 March 2015 totalled 110,681. For these members, the average accrued periodic compensation (before any prospective application of the compensation cap at NPA) was £3,396 a year.
- As at 31 March 2015, males constituted 63 per cent of pensioner and 68 per cent of deferred members.
- Spouses and other dependants account for 15 per cent of those currently in receipt of compensation. They receive 10 per cent of the total compensation in payment.
- Around 41 per cent of pensioner compensation is attributable to former employees of the Manufacturing sector down from 49 per cent the previous year.
- The North East region has the largest receipt of compensation, currently at 15 per cent of total pensioner compensation.
- 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. £9,100 a year).
- The majority of compensation (and liabilities) was accrued in relation to service before 6 April 1997 and is, therefore, not subject to indexation. Compensation accrued on or after 6 April 1997 is increased each year in line with Consumer Price Inflation (CPI) capped at 2.5 per cent with a floor of zero per cent.
- Deferred compensation is re-valued over the period to NPA in line with CPI capped at 5 per cent per annum (for compensation accrued before 6 April 2009) and CPI capped at 2.5 per cent per annum (for compensation accrued on or after 6 April 2009), subject to a floor of zero per cent in both cases.

[23] The annualised average rate of compensation is calculated by scaling up compensation over one month to reflect one year. This measure, which excludes lump sum payments, is used in order to accurately represent periodic compensation in payment at 31 March 2015.

11.2 Total compensation and number of members

Total compensation paid has increased over the year from £445 million to £564 million.

Figure 11.1 | Total compensation and number of members

	Year				
	2007	**2008**	**2009**	**2010**	**2011**
Total compensation (£ million, year to 31 March)	1.4	17.3	37.6	81.6	119.5
Total pensioner members (31 March)	1,457	3,596	12,723	20,775	33,069
Total deferred members (31 March)	5,621	8,577	18,009	26,058	42,063

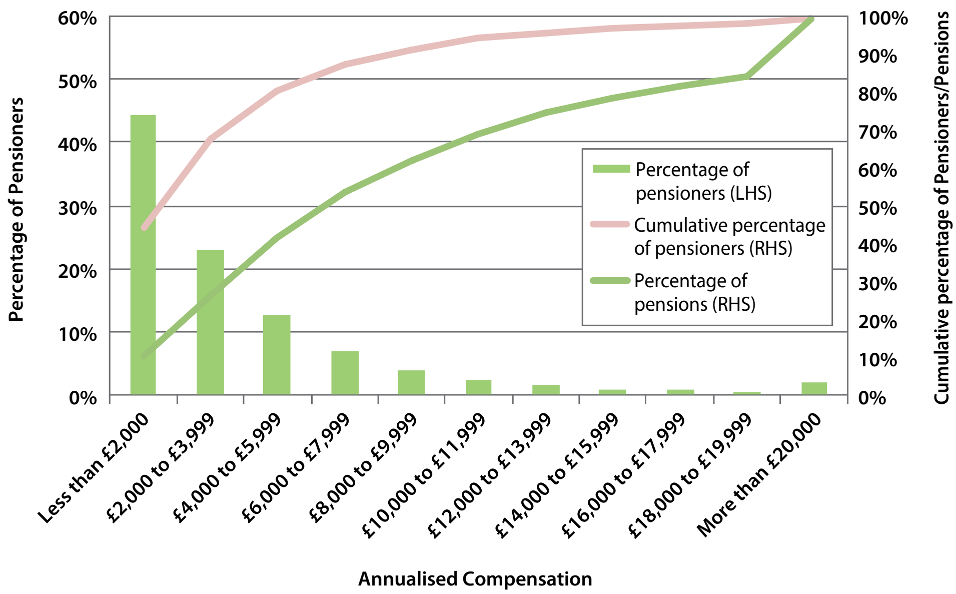
	Year			
	2012	**2013**	**2014**	**2015**
Total compensation (£ million, year to 31 March)	203.3	331.8	445.1	564.0
Total pensioner members (31 March)	57,506	80,665	95,599	114,028
Total deferred members (31 March)	70,608	91,353	100,070	110,681

Source: PPF/ The Pensions Regulator

11.3 Distribution of compensation

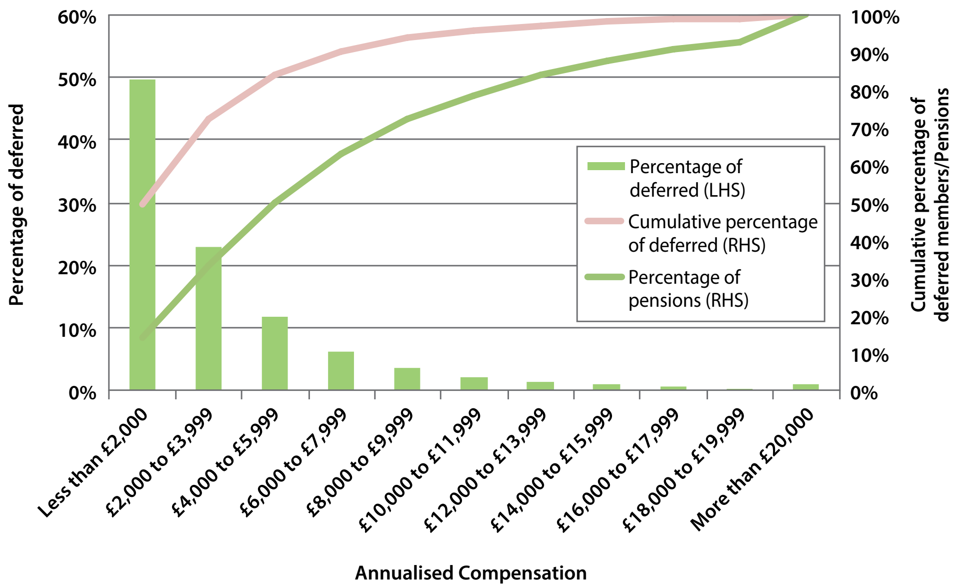
80 per cent of pensioner members are in receipt of annualised compensation of less than £6,000.

Figure 11.2 | Distribution of pensioners by annualised compensation levels



Source: PPF/ The Pensions Regulator

Figure 11.3 | Distribution of deferred members by annualised compensation levels

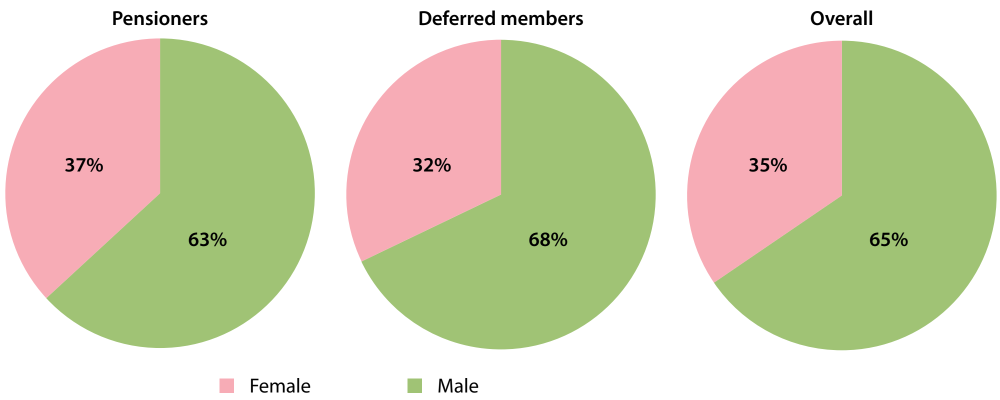


Source: PPF/ The Pensions Regulator

84 per cent of deferred members have accrued annualised compensation of less than £6,000.

11.4 Gender

Figure 11.4 | Gender composition of pensioners and deferred members



Source: PPF/ The Pensions Regulator

Overall, males make up 65 per cent of members of transferred schemes.

11.5 Spouses and other dependants

Spouses and other dependants constitute 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 (£000s, pa)	Percentage of total annualised compensation
Dependants	17,230	15%	£48,227	10%
Members	96,798	85%	£422,424	90%
Total	114,028	100%	£470,651	100%

Source: PPF/ The Pensions Regulator

11.6 Normal Pension Age (NPA)

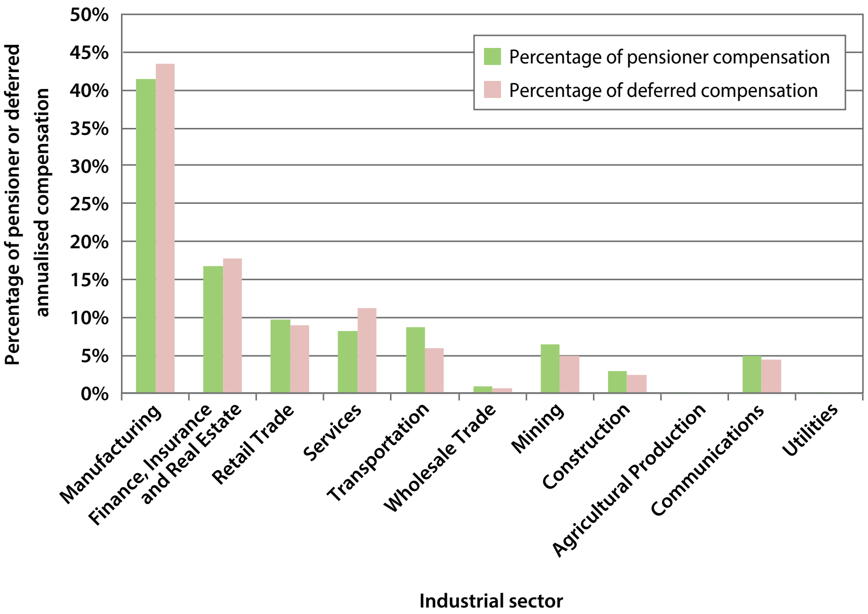
52 per cent of pensioner and 60 per cent of deferred members have an NPA of 65.

Figure 11.6 | Distribution of pensioner and deferred members by NPA

Source: PPF/ The Pensions Regulator

11.7 Industry

Figure 11.7 | Pensioner and deferred member annualised compensation by individual sector*



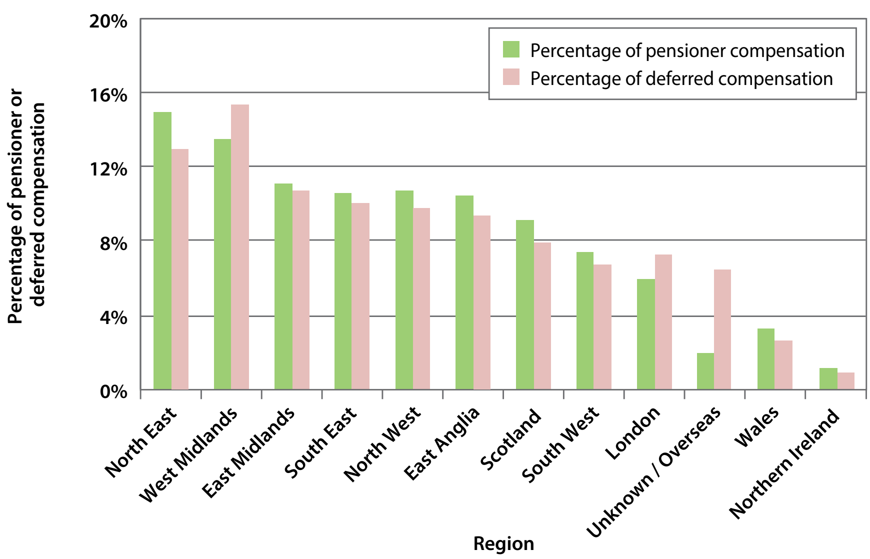
Source: PPF/ The Pensions Regulator

*Based on US 1972 Standard Industrial Classification

The proportion of pensioner compensation paid to former employees of the Manufacturing industry has fallen to 41 per cent from 49 per cent the previous year.

11.8 Geography

Figure 11.8 | Pensioner and deferred member annualised compensation by UK region



Source: PPF/ The Pensions Regulator

The largest share of compensation goes to the North East, due to the high number of sponsor insolvencies in the region. In Purple 2014 the largest share of compensation was in the North West.

11.9 Period of service

The majority of compensation for pensioners was accrued in relation to service before 5 April 1997.

Figure 11.9 | Pre-6 and Post-5 April 1997 annualised compensation for pensioners and deferred members

	Pensioners		Deferred	
	Compensation (£000s, pa)	Percentage of total	Compensation (£000s, pa)	Percentage of total
Pre-April 1997	346,805	74%	180,842	48%
Post-April 1997	123,846	26%	195,076	52%
Total	470,651	100%	375,918	100%

Source: PPF/ The Pensions Regulator

Figure 11.10 | Value of non-AVC liabilities[24] attributable to Pre-6 and Post-5 April 1997 compensation for pensioners and deferred members sector

	Pensioners		Deferred	
	Liabilities (£000s)	%	Liabilities (£000s)	%
Pre-April 1997	5,409,755	63%	3,652,494	39%
Post-April 1997	3,126,816	37%	5,621,249	61%
Total	8,536,571	100%	9,273,744	100%

Source: PPF/ The Pensions Regulator

[24] On the basis used for the PPF's Annual Report and Accounts 2014/15. AVC are additional voluntary contributions.

Risk Reduction

12

12.1 Summary

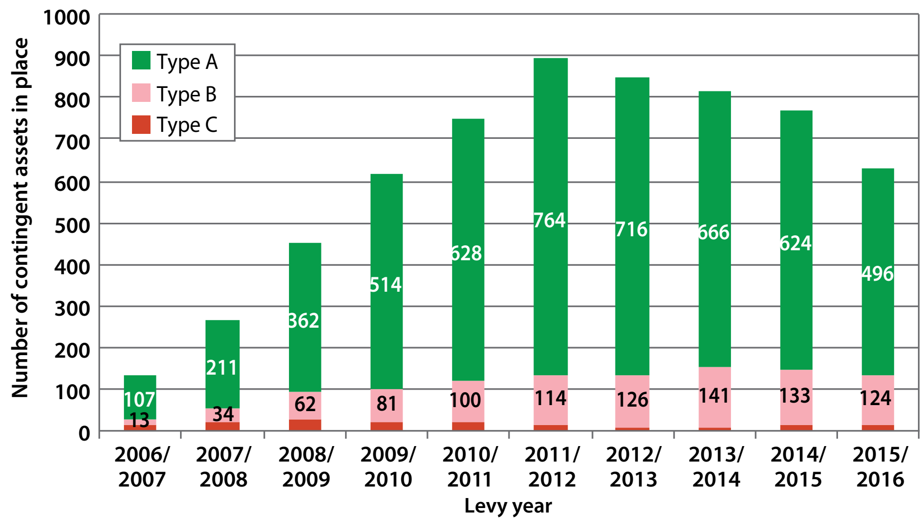
- The total number of Contingent Assets (CAs) recognised by the PPF for the 2015/16 levy year was 632, almost 20 per cent lower than in 2014/15. This mainly reflected a further fall in the number of Type A CAs (company guarantees). The number of Type A CAs in 2015/16 is 35 per cent below the level in 2011/12. The fall in the number of Type A CAs reflects two main factors; PPF tightening rules and checking certificates and, in 2015/16, reduced benefit from CAs due to the move to Experian for measuring insolvency risk (group strength is now included as a factor in assigning company scores, which will narrow differences in scores across a group).
- The number of Type B CAs (security over holdings of cash, real estate and or securities) fell slightly.
- Data from the Office for National Statistics (ONS) covering 350 large pension schemes (including 100 local authorities and some DC schemes) show that in 2014 employers made £12.6 billion in special contributions (i.e. those in excess of regular annual contributions), lower than £16.7 billion in 2013.
- Analysis of the Pension Regulator's latest technical provisions and recovery plan data show that in Tranche 8[25], the average recovery plan length was 8.5 years, the same as in Tranche 5 (comparable given the three year valuation cycle).
- The average funding ratio as measured by assets divided by technical provisions was 82.5 per cent in Tranche 8, also the same as in Tranche 5.
- Technical provisions as a percentage of s179 liabilities dropped to 98.5 per from 111.6 per cent in Tranche 5, and was at its lowest level since the start of the scheme funding regime. The fall in technical provisions as a percentage of buy-out liabilities was smaller, from 73.8 per cent to 71.2 per cent.
- Total risk transfer business covering buy-outs, buy-ins and longevity hedges amounted to £105.4 billion between the end of 2007 and the second quarter of 2015. Just under half of these deals were longevity hedges.

[25] Tranche 8 covers schemes with valuation dates between 22 September 2012 and 21 September 2013. **www.thepensionsregulator.gov.uk/docs/scheme-funding-appendix-2015.pdf**

12.2 Contingent assets

The total number of contingent assets (CAs) recognised by the PPF fell to 632 for the 2015/16 levy year. This mainly reflected a further fall in the number of Type A CAs. The number of recognised Type A CAs has fallen markedly since 2011/12.

Figure 12.1 | Contingent assets by type*



Source: PPF/ The Pensions Regulator

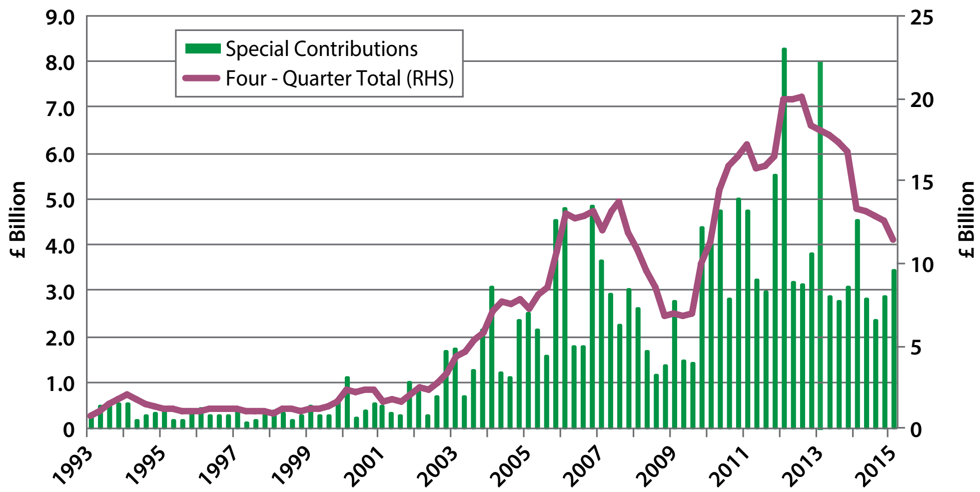
*The numbers of recognised contingent assets for each year presented in Figure 12.1 may change as a result of, for example, successful appeals.

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[26] contingent assets consist of letters of credit and bank guarantees.

12.3 Special contributions

ONS data covering 350 large pension schemes (including 100 local authorities and some DC schemes), show that employers made £12.6 billion in special contributions in 2014, lower than £16.7 billion in 2013. Special contributions have been on a downward trend since 2012.

Figure 12.2 | Special contributions



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

[26] The values for type C are 15 in 2006/2007, 19 in 2007/2008, 29 in 2008/2009, 20 in 2009/2010, 19 in 2010/2011, 17 in 2011/2012, 8 in 2012/2013, 10 in 2013/2014, 13 in 2014/2015, and 12 in 2015/2016

12.4 The scheme funding regime

Figure 12.3 | Technical Provision (TP) and Recovery Plan (RP) lengths (unweighted)*

Tranche	Valuation dates	Number of plans	Average recovery plan length years	Assets as a percentage of Technical Provisions	Technical provisions as a percentage of s179 liabilities	Technical provisions as a percentage of buyout 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	1,643	8.5	82.5%	98.5%	71.2%

Source: "Scheme funding statistics, Appendix" The Pensions Regulator, May 2015

*Notes: (1) valuation dates run from 22 September to 21 September

(2) 83% of schemes with Tranche 8 valuations reported in respect of Tranche 5 and Tranche 2.

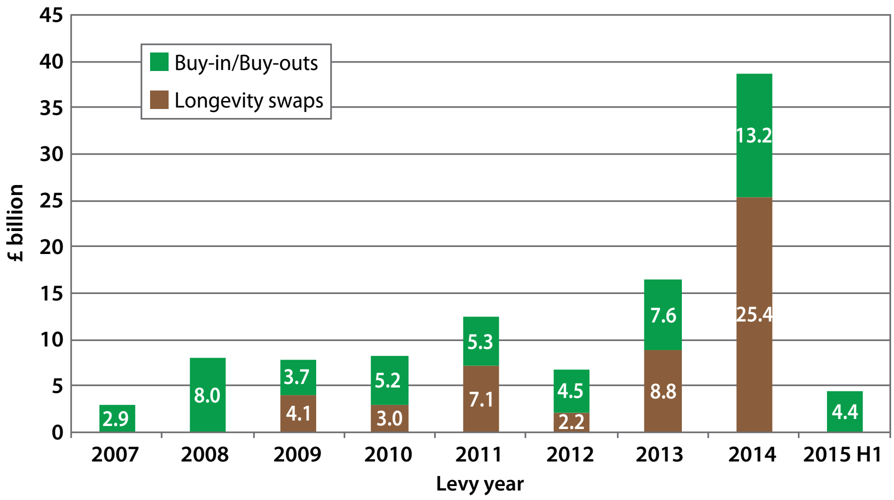
In Tranche 8, the average recovery plan was 8.5 years the same as Tranche 5 (comparable given the three year valuation cycle).

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 cashflows that vary in accordance with the longevity experience of a reference population (either the named scheme members or a wider sample).

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 sums to £105.4 billion. Just under half of these deals were longevity swaps.

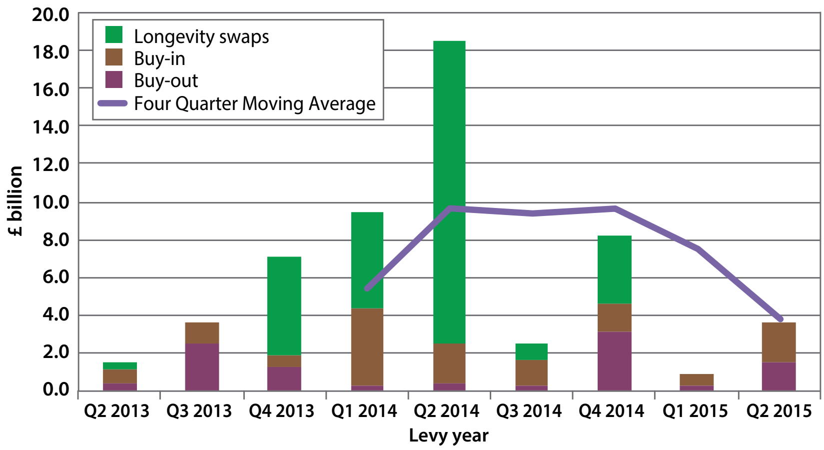
Figure 12.5 | Number of risk transfer deals since 2010

	2010	2011	2012	2013	2014	2015 H1
Buy-in/ Buy-outs	174	171	167	219	177	61
Longevity swaps	1	5	2	10	5	0

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

Over the year to Q2 2015, the total value of transfer deals was £15.1 billion, down from £40.2 billion in the year to Q2 2014. 37 per cent were buy-ins, 34 per cent buy-outs and 29 per cent longevity swaps.

Figure 12.6 | Value of risk transfer deals since Q2 2013



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

Chapter 3 appendix

Schemes by size band

Schemes	Status				All
	Open	Closed to new entrants	Closed to future accrual	Winding-up	
Member Group					
5 to 99 members	354	978	725	87	2,144
100 to 999 members	233	1,372	986	34	2,625
1,000 to 4,999 members	105	457	217	6	785
5,000 to 9,999 members	32	108	38	.	179
Over 10,000 members	41	138	32	.	212
Total	765	3,053	1,998	127	5,945

Note that results have been suppressed to preserve confidentiality.

Members by size band

Members	Status				All
	Open	Closed to new entrants	Closed to future accrual	Winding-up	
Member Group					
5 to 99 members	11,486	43,880	35,107	2,626	93,099
100 to 999 members	78,431	512,725	321,044	12,408	924,608
1,000 to 4,999 members	266,174	1,005,641	474,623	15,193	1,761,631
5,000 to 9,999 members	222,861	743,600	256,605	6,269	1,229,335
Over 10,000 members	1,818,834	4,455,312	673,693	16,085	6,963,924
Total	2,397,786	6,761,158	1,761,072	52,581	10,972,597

Membership by member type

	Active members	Deferred members	Pensioner members
5 to 99 members	9,247	46,572	37,280
100 to 999 members	105,363	483,529	335,716
1,000 to 4,999 members	234,824	878,879	647,928
5,000 to 9,999 members	162,391	570,875	496,069
Over 10,000 members	1,274,638	2,938,896	2,750,390
Total	1,786,463	4,918,751	4,267,383

Schemes, membership, and s179 liability by industry

Industry	Total number of schemes	Total % of schemes	Total DB members	Total % of memberships	Total % s179 liability
Agricultural production	52	0.9	18,343	0.2	0.1
Communications	45	0.8	555,119	5.1	6.0
Construction	154	2.6	98,285	0.9	0.9
Finance, insurance and real estate	1,047	17.6	2,712,045	24.7	26.2
Manufacturing	1,503	25.3	2,210,947	20.1	20.1
Mining	48	0.8	80,522	0.7	0.9
Public administration	41	0.7	131,610	1.2	1.4
Retail trade	349	5.9	1,385,082	12.6	7.9
Services	1,686	28.4	2,204,819	20.1	21.2
Transportation	311	5.2	569,166	5.2	5.2
Utilities	87	1.5	376,110	3.4	5.0
Wholesale trade	622	10.5	630,549	5.7	5.1

Chapter 4 appendix

Scheme size

		5 to 99	100 to 999	1,000 to 4,999	5,000 to 9,999	10,000 and over
£ bn	Assets	14.1	114.7	199.0	150.4	820.1
	s179 Liabilities	15.1	140.0	248.1	178.4	961.0
	Buy-out Liabilities	21.2	191.4	332.4	240.1	1,314.1
Schemes by s179 funding group	0% to 50%	75	102	29	10	9
	50% to 75%	597	1,085	344	52	50
	75% to 100%	775	1,035	321	87	108
	Over 100%	697	403	91	30	45
Schemes by buy-out funding groups	0% to 50%	419	735	209	43	37
	50% to 75%	1,105	1,563	492	105	135
	75% to 100%	478	294	74	-	40
	Over 100%	142	33	10	-	-

Scheme maturity

		25% and less	Between 25% and 50 %	Between 50% and 75%	Between 75% and 100%
£ bn	Assets	188.3	791.3	290.0	28.7
	s179 Liabilities	269.0	956.9	291.9	24.7
Schemes by s179 funding group	0% to 50%	159	54	10	-
	50% to 75%	959	1,029	133	7
	75% to 100%	596	1,260	434	36
	Over 100%	256	444	407	159

Scheme status

		Open	Closed to new entrants	Closed to future accrual	Winding-up
£ bn	Assets	216.4	906.6	170.6	4.8
	S179 Liability	292.4	1,035.2	209.6	5.3
	Buy-out Liability	388.4	1,416.8	286.6	7.4
Schemes by s179 funding groups	0% to 50%	52	80	88	-
	50% to 75%	286	1,056	769	17
	75% to 100%	274	1,248	762	42
	Over 100%	153	669	379	65
Schemes by estimated buy-out liability group	0% to 50%	192	671	565	15
	50% to 75%	380	1,814	1,156	50
	75% to 100%	152	483	238	41
	Over 100%	41	85	39	23
Assets by scheme size (£bn)	5 to 99	1.8	7	4.9	0.3
	100 to 999	9.2	70.5	33.7	1.3
	1,000 to 4,999	24.4	120.3	53.1	1.1
	5,000 to 9,999	20.0	105.7	24.0	0.6
	10,000 and over	161	602.9	54.7	1.5

Industry

	Schemes by status				£ bn	
	Open	Closed to new entrants	Closed to future accrual	Winding-up	Assets	s179 Liability
Agricultural production	-	24	23	-	1.5	1.6
Communications	-	27	10	-	76.1	92.1
Construction	-	63	57	-	10.8	13.8
Finance, insurance and real estate	99	582	345	21	370.7	404.3
Manufacturing	124	783	576	20	257.9	310.4
Mining	-	29	12	-	13.5	14.4
Public administration	21	19	-	-	13.7	21.4
Retail trade	33	162	133	21	102.2	121.7
Services	323	801	519	43	256.3	327.7
Transportation	-	173	77	-	61	80.6
Utilities	-	59	14	-	71.6	76.5
Wholesale trade	43	331	231	17	62.9	78.1

Glossary

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

Acronyms

LDI
Liability-driven investment

ONS
Office for National Statistics

Administration
See Company: trading status.

Aggregate funding position
Sum of assets less sum of liabilities, or average 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 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 **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: business types

Limited liability partnerships

These are a type of alternative corporate business vehicle that gives the benefits of limited liability but allows its members the flexibility of organising their internal structure as a traditional partnership.

Partnership

The relationship that exists between individuals who run a business together with a view to making a profit. The rights of each partner are governed by a partnership agreement or the Partnership Act 1980.

Private company

A company registered under the Companies Act 1985 that is not a public limited company. A private company may be registered as a limited or unlimited liability company. It must have at least one member and at least one director. There is no minimum share capital requirement.

Public limited company

A company registered under the Companies Act 1985. It must have at least two members and two directors and a share capital that complies with the authorised minimum amounts. It can offer its shares to the public and may be among the public companies that trade on the Stock Exchange.

Registered charity

An institution (corporate or not) which is established for exclusively charitable purposes and which is registered with the Charity Commission.

Sole trader

An individual who carries on a business on his or her own account. The individual is fully liable for any losses of the business and pays income tax on any taxable profits of the business.

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.

Default risk
The risk that the borrower will be unable to satisfy the terms of its borrowing obligations with respect to the timely payment of interest and repayment of the amount borrowed.

Deferred member
In relation to an occupational pension scheme, a person (other than an active or pensioner member) who has accrued rights 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.

Dun & Bradstreet (D&B)
A provider of insolvency scores. This was used in the levy calculations before levy year 2015/16.

Experian
A provider of insolvency scores. This is used in the levy calculations from levy year 2015/16 onwards.

FRS17

In November 2000, the UK Accounting Standards Board released a new financial reporting standard, numbered 17 ('FRS17'). This sets out the accounting treatment for retirement benefits such as pensions and medical care during retirement. It replaces SSAP 24 ('Accounting for pension costs') and UITF Abstract 6 ('Accounting for post-retirement benefits other than pensions').

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 and MFR 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 GMP or Reference Scheme test basis is a common example of a hybrid scheme.

IAS19

An international accounting standard equivalent of FRS17.

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 managed funds

A unitised fund invested in multiple investment categories managed by an insurance company.

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 350 pension schemes. This comprises around 100 local authorities and 250 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 fewer 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 an organisational pension programme created by a company for the benefit of its employees. The sample may also contain defined contribution schemes.

Open

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

Paid up (or frozen)

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

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

Principal employer

The employer named in the trust deed and rules of the scheme which usually has powers such as those to appoint trustees, amend the scheme rules or wind the scheme up. This is often the employer who set up the scheme, or its successor in business.

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 actuary

The named actuary appointed by the trustees of a defined benefit occupational pension scheme to carry out specific duties set out in the Pensions Act 1995.

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.

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 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 on death are also not included.

Scheme return notice

The Pensions Act 2004 set out the requirement to send occupational pension schemes a scheme return to complete. The information collected in the scheme return will further enable the regulator to perform its new role and responsibilities. The scheme return notice is issued to schemes to inform them that it is time to complete a scheme return.

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.

Some sections open/some sections closed

A scheme that has sections with different status types. For example the scheme may have a defined benefit section closed to new entrants, and a defined contribution section open to new entrants.

Swap

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 average 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 nonassociated 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.

How to contact us:

Pension Protection Fund

The Pensions Regulator

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