

04

Scheme funding

This chapter looks at how well funded schemes are, and trends and scheme funding by scheme size, status and maturity.

Summary

This chapter covers funding on an s179 basis as at 31 March 2022, which is based on version A10 of the s179 assumptions. Funding information supplied in scheme returns submitted to The Pensions Regulator (TPR) is processed so that the funding ratios can be estimated at a common date, allowing consistent totals to be used. In *The Purple Book* Deficit-Reduction Contributions (DRCs), as submitted for levy purposes, have been added to the asset values submitted in s179 valuations. More detail on how assets and s179 liabilities have been calculated at 31 March 2022 can be found in the appendix.

A scheme that is 100 per cent funded on an s179 basis has broadly enough assets to pay an insurance company to take on the scheme with PPF levels of compensation.

In addition, this chapter considers estimated full buy-out funding information. This has been calculated using the same valuation assumptions and underlying data as for the s179 calculations. An approximate allowance is then made for the difference between the PPF level of compensation and full scheme benefits. Some of the statistics summarising these calculations are shown below:

Item	The Purple Book	
	31 March 2022	31 March 2021 ¹
Net s179 funding position (£bn)	193.0 surplus	46.9 surplus
s179 liabilities (£bn)	1,473.9	1,673.8
Assets (£bn)	1,666.9	1,720.7
Funding ratio:		
s179 basis	113.1%	102.8%
Estimated full buy-out basis	79.2%	73.7%

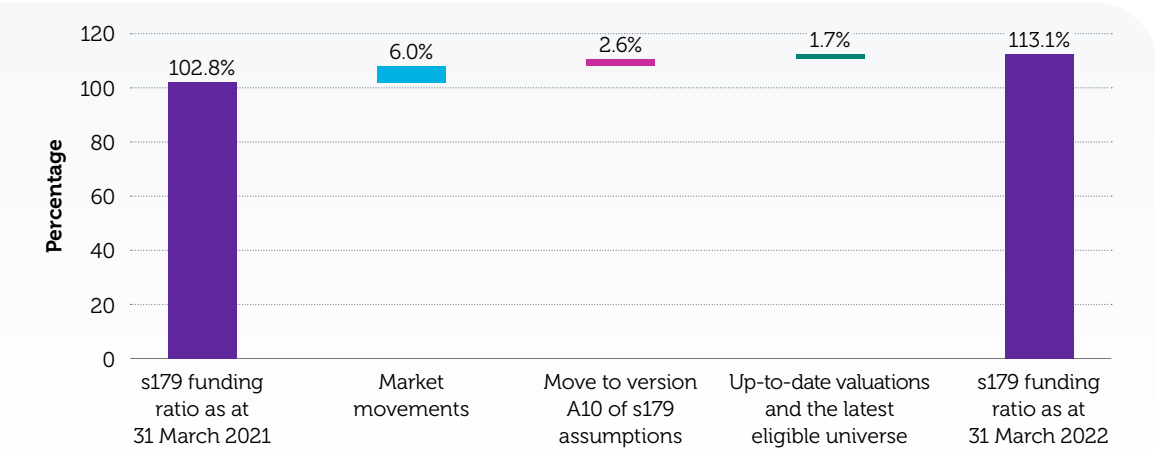
1 The 31 March 2021 figures are based on version A9 of the s179 assumptions, which was in force at the effective date of last year's *Purple Book*.

The following table sets out how some of the market indicators used to assess and roll forward pension scheme assets and s179 liabilities have changed over the year:

Market indicator	Change over the year to 31 March 2022
10-year fixed interest gilt yield	0.72pp
15-year fixed interest gilt yield	0.58pp
20-year fixed interest gilt yield	0.47pp
5–15 year index-linked gilt yield	-0.06pp
FTSE All-Share Index (TR)	13.03%
FTSE All-World Ex-UK Index (TR)	12.62%

pp = percentage point(s)
TR = Total Return

The change in the aggregate s179 funding ratio over the year is a result of market movements, new assumptions and new data, as shown in the following chart.



- The 10.3 percentage point increase in the s179 funding ratio over the year to 31 March 2022 can be broken down as follows:
 - The impact of market movements has resulted in a 6.0 percentage point increase in the s179 funding ratio. This was due to large increases in equity values and gilt yields over the year, which caused total assets to increase while total liabilities decreased.
 - The impact of moving to the A10 version of the s179 assumptions was an increase of 2.6 percentage points in the s179 funding ratio. This was due to a reduction in scheme liabilities.
 - Additionally, an increase of 1.7 percentage points in the s179 funding ratio was observed from adopting the new *Purple Book 2022* dataset, which includes more up-to-date scheme valuations.
- The s179 funding ratio at 31 March 2022 is 16 percentage points higher than that disclosed in the first *Purple Book* as at 31 March 2006. However, total assets and liability values have more than doubled over this period for the following reasons:
 - The significant increase in assets has arisen from increases in equity values (returns of around 143 per cent and 350 per cent on UK and global equities respectively), increases in bond values and DRCs, offset to some extent by schemes that have left the PPF universe.
 - The significant increase in liabilities has arisen from lower gilt yields and longer life expectancies driving up liability values, again offset to some extent by schemes that have left the PPF universe.
- Funding ratios are higher among:
 - More mature schemes (i.e. those with a higher proportion of liabilities that relate to pensioners); and
 - The smallest and largest schemes (compared to mid-size schemes).
- In the last 12 years, the proportion of liabilities that relates to pensioner members has remained relatively stable at around 40 per cent, although there are recent signs this is increasing as the proportion increased by 3 percentage points to 44 per cent over the last year. The proportion relating to active members has reduced significantly over the same period and has reduced by 15 percentage points to 17 per cent.

Overall funding

Figure 4.1 | Key funding statistics as at 31 March 2022

The net s179 funding position of the schemes in <i>The Purple Book 2022</i> dataset at 31 March 2022 was a surplus of £193.0 billion, corresponding to a funding ratio of 113.1 per cent.		
Number of members	s179	Estimated full buy-out
Total number of schemes	5,131	5,131
Total assets (£bn)	1,666.9	1,666.9
Total liabilities (£bn)	1,473.9	2,105.3
Net funding position (£bn)	193.0	-438.4
Aggregate funding ratio	113.1%	79.2%
Number of schemes in deficit	1,752	4,515
Number of schemes in surplus	3,379	616
Net funding position for schemes in deficit (£bn)	-61.1	-454.4
Net funding position for schemes in surplus (£bn)	254.1	16.0

Source: PPF
Note: the component figures may not sum to the total because of rounding.

Scheme funding continued

Figure 4.2 | Current and historical funding figures on an s179 basis

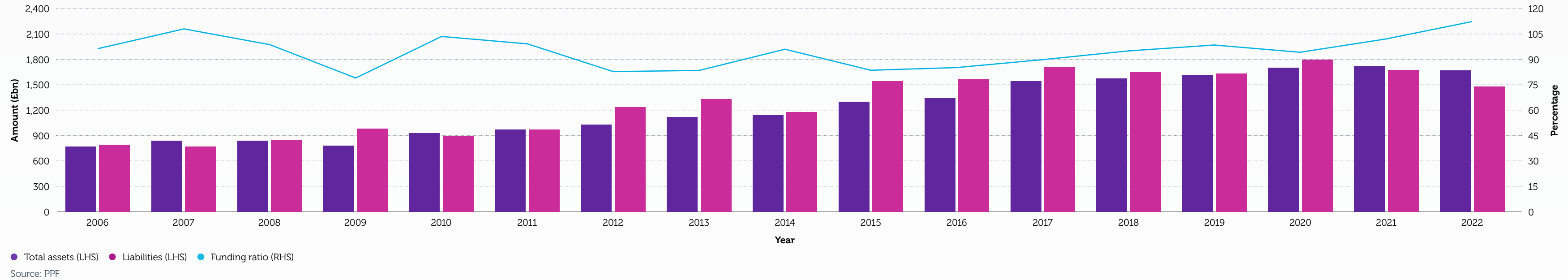
The aggregate s179 funding ratio improved by 10.3 percentage points over the year to 31 March 2022 to a record high of 113.1 per cent. The deficit of schemes in deficit improved from £128.5 billion to £61.1 billion over the year to 31 March 2022.

Year	Number of schemes	Total assets (£bn)	s179 liabilities				Surplus of schemes in surplus (£bn)
			Liabilities (£bn)	Net funding position (£bn)	Aggregate funding ratio	Deficit of schemes in deficit (£bn)	
2006	7,751	769.5	792.2	-22.7	97.1%	-76.3	53.5
2007	7,542	837.7	769.9	67.8	108.8%	-38.5	106.2
2008	6,897	837.2	842.3	-5.1	99.4%	-67.7	62.6
2009	6,885	780.4	981.0	-200.6	79.6%	-216.7	16.0
2010	6,596	926.2	887.9	38.3	104.3%	-49.1	87.4
2011	6,432	968.5	969.7	-1.2	99.9%	-78.3	77.1
2012	6,316	1,026.8	1,231.0	-204.2	83.4%	-231.3	27.1
2013	6,150	1,118.5	1,329.2	-210.8	84.1%	-245.8	35.0
2014	6,057	1,137.5	1,176.8	-39.3	96.7%	-119.0	79.7

Year	Number of schemes	Total assets (£bn)	s179 liabilities				Surplus of schemes in surplus (£bn)
			Liabilities (£bn)	Net funding position (£bn)	Aggregate funding ratio	Deficit of schemes in deficit (£bn)	
2015	5,945	1,298.3	1,542.5	-244.2	84.2%	-285.3	41.1
2016	5,794	1,341.4	1,563.1	-221.7	85.8%	-273.5	51.8
2017	5,588	1,541.1	1,702.9	-161.8	90.5%	-246.7	84.9
2018	5,450	1,573.3	1,643.8	-70.5	95.7%	-187.6	117.1
2019	5,422	1,615.3	1,628.0	-12.7	99.2%	-159.8	147.1
2020	5,318	1,700.6	1,791.3	-90.7	94.9%	-229.1	138.4
2021	5,215	1,720.7	1,673.8	46.9	102.8%	-128.5	175.3
2022	5,131	1,666.9	1,473.9	193.0	113.1%	-61.1	254.1

Note: the component figures may not sum to the total because of rounding.

Total s179 liabilities fell by almost 12 per cent over the year to 31 March 2022, which is the largest fall recorded. This was primarily a result of rising gilt yields.



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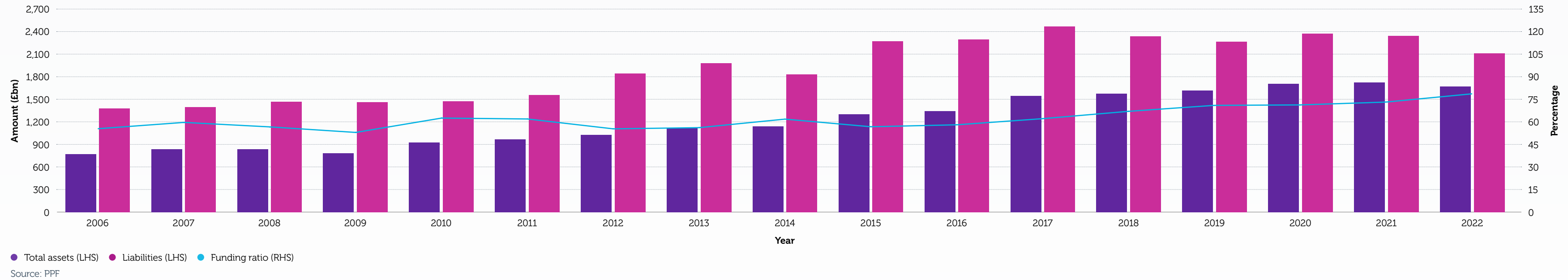
Figure 4.3 | Current and historical funding figures on an estimated full buy-out basis

The aggregate full buy-out funding ratio increased from 73.7 per cent to 79.2 per cent over the year to 31 March 2022, which is smaller than the increase in the aggregate s179 funding ratio. This is because of an increase in inflation expectations over the year, which is more significant for buy-out liabilities than for s179 liabilities.

Year	Total assets (Ebn)	Estimated full buy-out			Year	Total assets (Ebn)	Estimated full buy-out		
		Liabilities (Ebn)	Net funding position (Ebn)	Aggregate funding ratio			Liabilities (Ebn)	Net funding position (Ebn)	Aggregate funding ratio
2006	769.5	1,376.7	-607.2	55.9%	2015	1,298.3	2,269.2	-970.9	57.2%
2007	837.7	1,393.7	-556.0	60.1%	2016	1,341.4	2,293.1	-951.7	58.5%
2008	837.2	1,465.8	-628.6	57.1%	2017	1,541.1	2,461.7	-920.6	62.6%
2009	780.4	1,461.1	-680.7	53.4%	2018	1,573.3	2,332.0	-758.7	67.5%
2010	926.2	1,469.3	-543.1	63.0%	2019	1,615.3	2,260.3	-644.9	71.5%
2011	968.5	1,551.8	-583.3	62.4%	2020	1,700.6	2,369.1	-668.5	71.8%
2012	1,026.8	1,840.5	-813.7	55.8%	2021	1,720.7	2,335.9	-615.3	73.7%
2013	1,118.5	1,974.7	-856.2	56.6%	2022	1,666.9	2,105.3	-438.4	79.2%
2014	1,137.5	1,827.2	-689.7	62.3%					

Note: the component figures may not sum to the total because of rounding.

Since 2006, there has been a significant increase in the aggregate full buy-out funding ratio, from 55.9 per cent to 79.2 per cent at 31 March 2022.



The s179 funding ratio has increased significantly over time due to improvements in the last two years, from 97.1 per cent at 31 March 2006 to 113.1 per cent at 31 March 2022. The estimated full buy-out funding ratio has also increased significantly over the same period mainly due to improvements in the last seven years, from 55.9 per cent at 31 March 2006 to 79.2 per cent at 31 March 2022.

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Analysis of funding by scheme membership size

Figure 4.4 | s179 funding ratios by size of scheme membership as at 31 March 2022

The best funded schemes were the smallest, with an aggregate s179 funding ratio of 119.2 per cent for schemes with fewer than 100 members.

Scheme size (members)	Number of schemes	Total assets (Ebn)	Liabilities (Ebn)	Net funding position (Ebn)	Aggregate funding ratio	Simple average funding ratio*
2 to 99	1,836	174	14.6	2.8	119.2%	114.8%
100 to 999	2,248	145.6	131.3	14.4	110.9%	108.5%
1,000 to 4,999	706	265.9	244.3	21.6	108.8%	107.7%
5,000 to 9,999	159	208.8	187.3	21.4	111.4%	110.4%
10,000 and over	182	1,029.3	896.4	132.8	114.8%	115.4%
Total	5,131	1,666.9	1,473.9	193.0	113.1%	110.9%

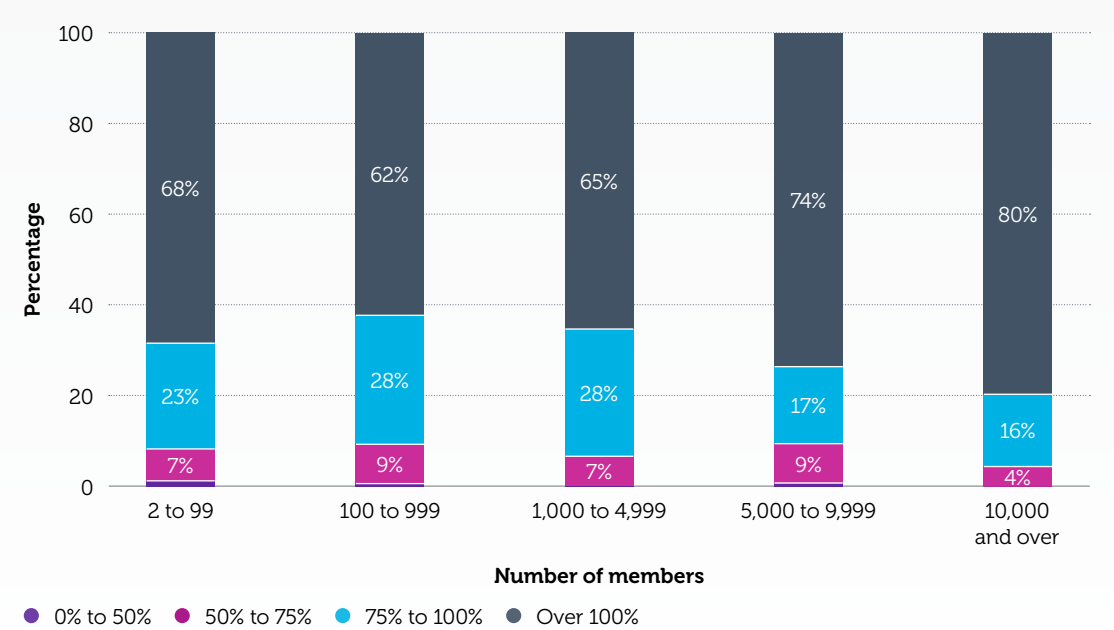
Source: PPF

Note: the component figures may not sum to the total because of rounding.

* Whereas aggregate funding ratios are determined by comparing the total assets and liabilities for all schemes, the simple average funding ratio is the average of all of the schemes’ individual funding ratios. Note that 12 schemes with funding ratios over 200 per cent (on an estimated full buy-out measure) were excluded from the simple averages to avoid distortions. All of these schemes were small, with total assets of £0.1 billion.

Figure 4.5 | Distribution of s179 funding ratios by size of scheme membership as at 31 March 2022

Schemes with at least 5,000 members are the most well funded on an s179 basis.



Source: PPF

Note: the percentages in each column may not sum to 100 per cent because of rounding.

Figure 4.6 | Estimated full buy-out levels by size of scheme membership as at 31 March 2022

The smallest schemes are the most well funded on a full buy-out measure.

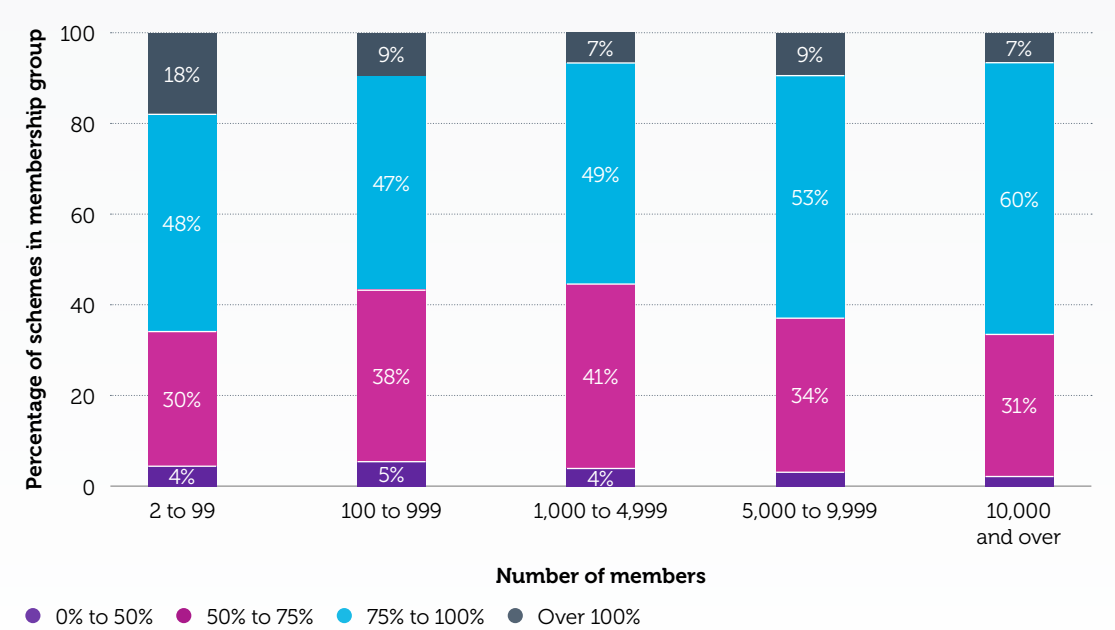
Members (number)	Number of schemes	Total assets (Ebn)	Liabilities (Ebn)	Net funding position (Ebn)	Aggregate funding ratio	Simple average funding ratio*
2 to 99	1,836	174	20.6	-3.2	84.6%	83.3%
100 to 999	2,248	145.6	186.2	-40.5	78.2%	77.7%
1,000 to 4,999	706	265.9	342.1	-76.2	77.7%	77.7%
5,000 to 9,999	159	208.8	264.7	-55.9	78.9%	79.5%
10,000 and over	182	1,029.3	1,291.8	-262.5	79.7%	79.8%
Total	5,131	1,666.9	2,105.3	-438.4	79.2%	79.8%

Source: PPF

* 12 schemes with funding ratios over 200 per cent (on an estimated full buy-out measure) were excluded from the simple averages to avoid distortions. All of these schemes were small, with total assets of £0.1 billion.

Figure 4.7 | Distribution of estimated full buy-out funding ratios by size of scheme membership as at 31 March 2022

95 per cent or more of all scheme sizes have an estimated full buy-out funding ratio higher than 50 per cent.



Source: PPF

Note: the percentages in each column may not sum to 100 per cent because of rounding.

Analysis of funding by scheme maturity

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

Figure 4.8 | Analysis of s179 funding ratios by scheme maturity as at 31 March 2022

The most mature schemes have an aggregate s179 funding ratio that is around 40 percentage points higher than the least mature schemes.

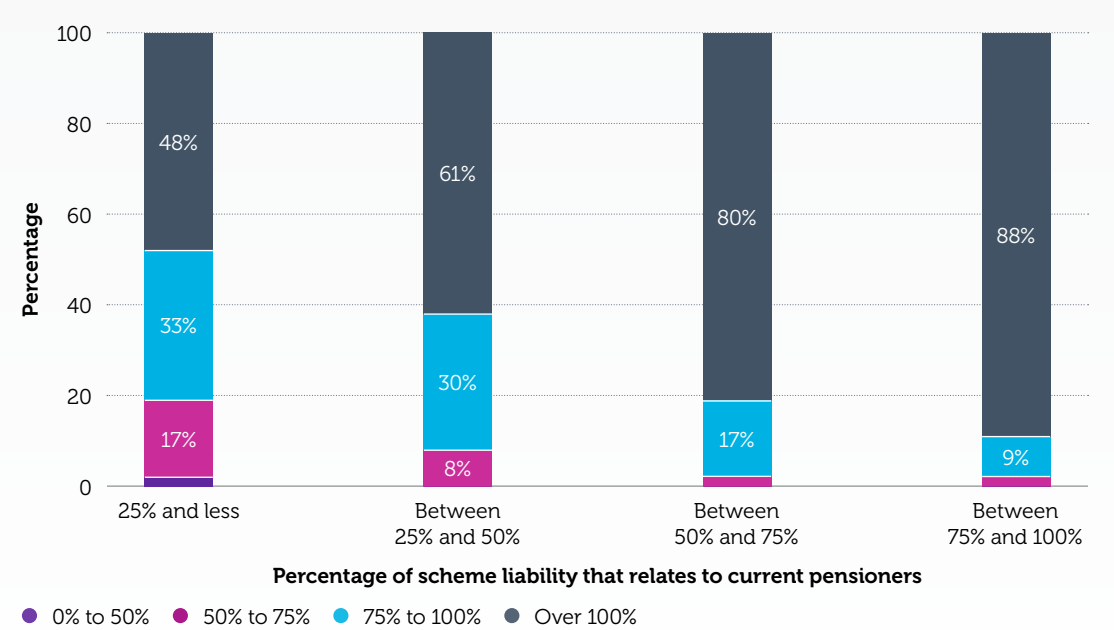
Proportion of s179 liabilities relating to pensioners	Number of schemes	Total assets (Ebn)	Liabilities (Ebn)	Net funding position (Ebn)	Aggregate funding ratio	Simple average funding ratio*
25% and less	879	141.8	145.3	-3.4	97.6%	100.2%
Between 25% and 50%	2,468	908.3	838.8	69.5	108.3%	106.4%
Between 50% and 75%	1,457	569.1	454.7	114.5	125.2%	120.0%
Between 75% and 100%	327	47.7	35.2	12.5	135.7%	134.0%
Total	5,131	1,666.9	1,473.9	193.0	113.1%	110.9%

Source: PPF

* 12 schemes with funding ratios over 200 per cent (on an estimated full buy-out measure) were excluded from the simple averages to avoid distortions. All of these schemes were small, with total assets of £0.1 billion.

Figure 4.9 | Distribution of funding ratios on an s179 basis by scheme maturity as at 31 March 2022

Funding ratios improve with scheme maturity, with 88 per cent of the most mature schemes being overfunded on an s179 basis.



Source: PPF

Note: the percentages in each column may not sum to 100 per cent because of rounding.

Scheme funding continued

Analysis of funding by scheme status

Figure 4.10 | Analysis of s179 funding ratios by scheme status as at 31 March 2022

Open schemes are around 20 percentage points worse funded than closed schemes, as measured by the aggregate s179 funding ratio.

Status	Number of schemes	Total assets (Ebn)	Liabilities (Ebn)	Net funding position (Ebn)	Aggregate funding ratio	Simple average funding ratio*
Open	488	3079	315.3	-7.4	97.6%	105.8%
Closed to new members	1,949	818.9	690.8	128.1	118.5%	112.9%
Closed to new benefit accrual	2,604	533.0	462.1	70.9	115.4%	110.1%
Winding up	90	71	5.7	1.4	125.4%	119.3%
Total	5,131	1,666.9	1,473.9	193.0	113.1%	110.9%

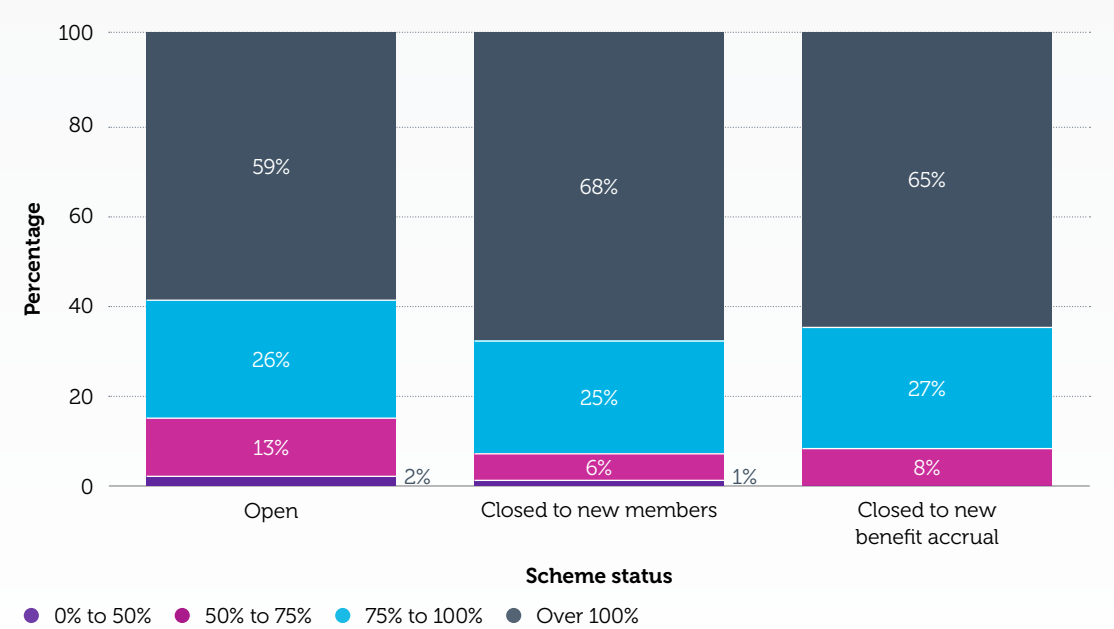
Source: PPF

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

* 12 schemes with funding ratios over 200 per cent (on an estimated full buy-out measure) were excluded from the simple averages to avoid distortions. All of these schemes were small, with total assets of £0.1 billion.

Figure 4.11 | Distribution of schemes by s179 funding ratios within scheme status groups as at 31 March 2022

Although on average open schemes are less well funded than schemes of other statuses, almost 60 per cent of open schemes are more than 100 per cent funded on an s179 basis.



Source: PPF

Note: the percentages may not sum to 100 per cent because of rounding.

Figure 4.12 | Analysis of estimated full buy-out funding ratios by scheme status as at 31 March 2022

Open schemes are around 10 percentage points worse funded than closed schemes, as measured by the aggregate buy-out funding ratio.

Status	Number of schemes	Total assets (Ebn)	Liabilities (Ebn)	Net funding position (Ebn)	Aggregate funding ratio	Simple average funding ratio*
Open	488	3079	434.3	-126.5	70.9%	78.0%
Closed to new members	1,949	818.9	1,010.2	-191.4	81.1%	80.8%
Closed to new benefit accrual	2,604	533.0	652.7	-119.7	81.7%	79.1%
Winding up	90	71	8.0	-0.9	89.2%	88.7%
Total	5,131	1,666.9	2,105.3	-438.4	79.2%	79.8%

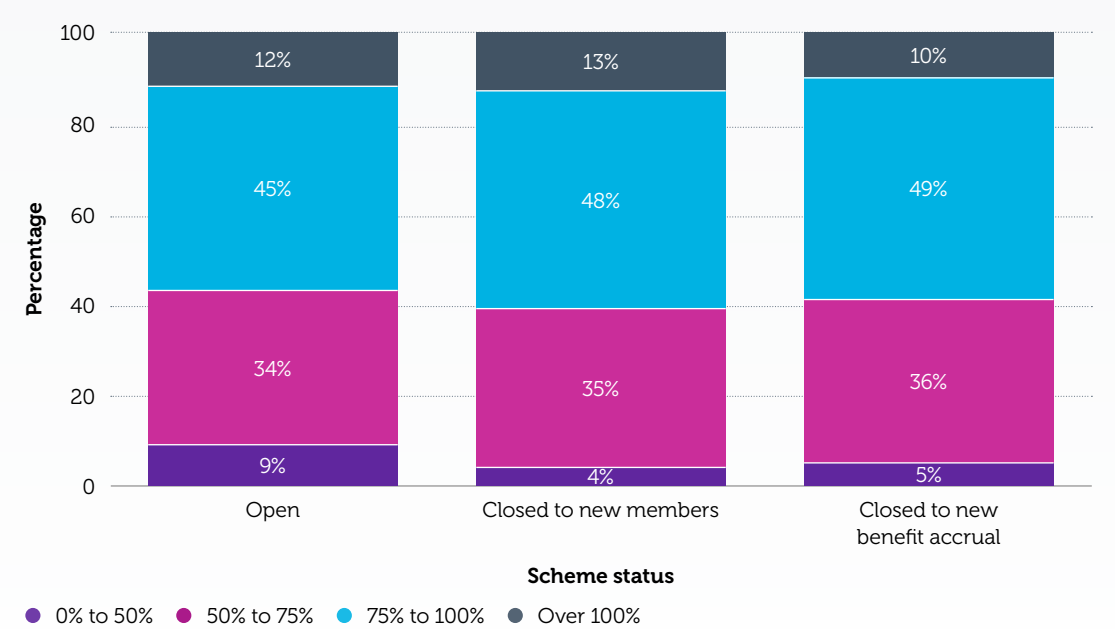
Source: PPF

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

* 12 schemes with funding ratios over 200 per cent (on a full buy-out measure) were excluded from the simple averages to avoid distortions. All of these schemes were small, with total assets of £0.1 billion.

Figure 4.13 | Distribution of schemes by estimated full buy-out funding ratios within scheme status groups as at 31 March 2022

The proportion of open schemes that are more than 100 per cent funded on an estimated full buy-out basis is similar to schemes of other statuses.



Source: PPF

Note: the percentages may not sum to 100 per cent because of rounding.

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

