

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 2021, which is based on version A9 of the s179 assumptions⁶. Funding information supplied in scheme returns submitted to 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.

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 2021	31 March 2020
Net s179 funding position (£bn)	46.9 surplus	90.7 deficit
s179 liabilities (£bn)	1,673.8	1,791.3
Assets (£bn)	1,720.7	1,700.6
Funding ratio:		
s179 basis	102.8%	94.9%
Estimated full buy-out basis	73.7%	71.8%

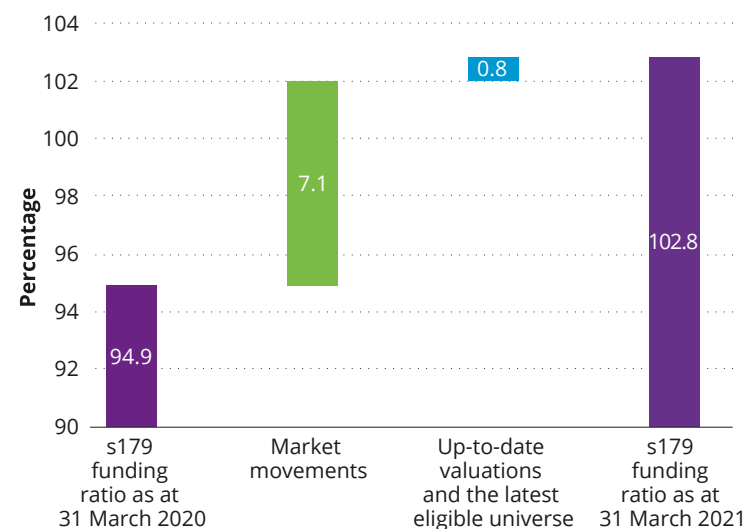
The following table sets out how some of the market indicators used to assess and roll forward pension scheme assets and s179 liabilities have changed over the year:

Market indicator	Change over the year to 31 March 2021
10-year fixed interest gilt yield	0.53pp
15-year fixed interest gilt yield	0.53pp
20-year fixed interest gilt yield	0.54pp
5-15-year index-linked gilt yield	-0.09pp
FTSE All-Share Index (TR)	26.71%
FTSE All-World Ex-UK Index (TR)	40.40%

pp = percentage point(s)
TR = Total Return

⁶ Version A9 of the s179 assumptions guidance is available on the PPF website at the link below. A new version of the s179 assumptions guidance became available after 31 March 2021, which is version A10 that is effective from 1 May 2021 onwards.

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



Source: PPF

- The 7.9 percentage point increase in the s179 funding ratio over the year to 31 March 2021 can be broken down as follows:
 - The impact of market movements has resulted in a 7.1 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.
 - Additionally, an increase of 0.8 percentage points in the s179 funding ratio was observed from adopting the new *Purple Book 2021* dataset, which includes more up-to-date scheme valuations.
- The s179 funding ratio at 31 March 2021 is around six 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 115 per cent and 300 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 10 years, the proportion of liabilities that relates to pensioner members has remained relatively stable at around 40 per cent, whereas the proportion relating to active members has reduced by nine percentage points to 19 per cent.

Overall funding

Figure 4.1 | Key funding statistics as at 31 March 2021

The net s179 funding position of the schemes in *The Purple Book 2021* dataset at 31 March 2021 was a surplus of £46.9 billion, corresponding to a funding ratio of 102.8 per cent.

	s179	Estimated full buy-out
Total number of schemes	5,215	5,215
Total assets (£bn)	1,720.7	1,720.7
Total liabilities (£bn)	1,673.8	2,335.9
Net funding position (£bn)	46.9	-615.3
Aggregate funding ratio	102.8%	73.7%
Number of schemes in deficit	2,575	4,786
Number of schemes in surplus	2,640	429
Net funding position for schemes in deficit (£bn)	-128.5	-622.0
Net funding position for schemes in surplus (£bn)	175.3	6.8

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

Source: PPF

Scheme funding continued

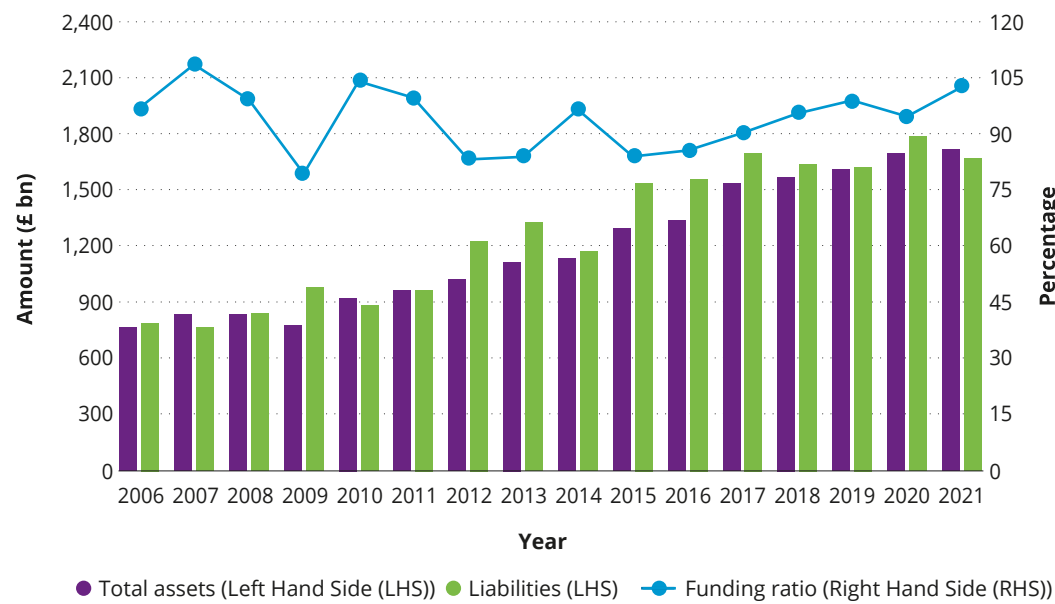
Figure 4.2 | Current and historical funding figures on an s179 basis

The aggregate s179 funding ratio improved by 7.9 percentage points over the year to 31 March 2021 and is higher than 100 per cent for the first time since 31 March 2010. The deficit of schemes in deficit improved from £229.1 billion to £128.5 billion over the year to 31 March 2021.

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
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

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

The aggregate s179 funding ratio at 31 March 2021 is around six percentage points higher than at 31 March 2006. In that time, liability values have increased by around £900 billion and assets have increased by a similar amount.



Source: PPF

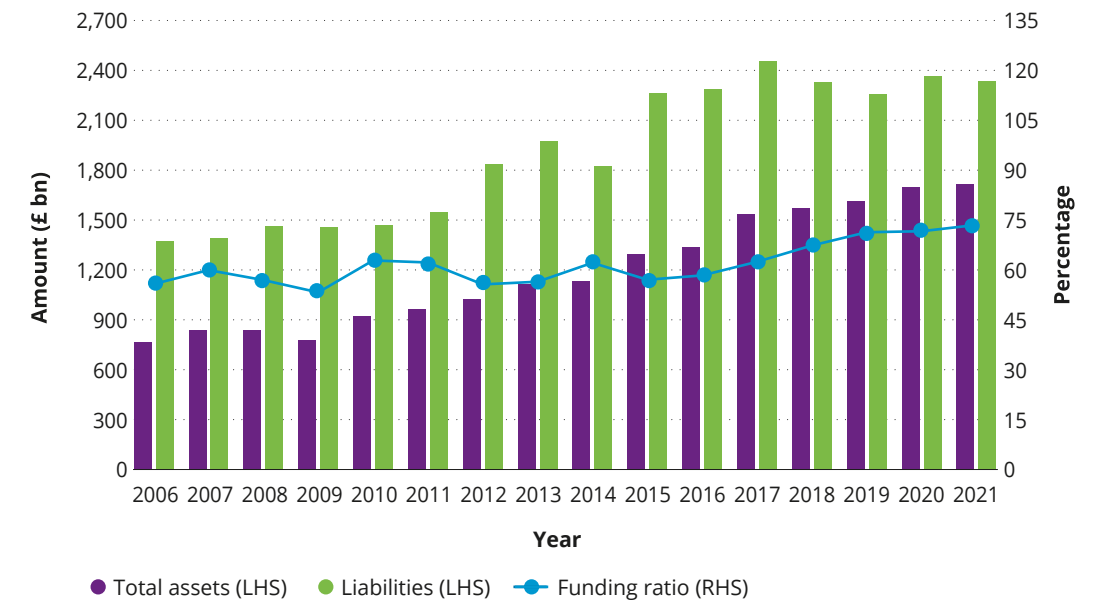
Figure 4.3 | Current and historical funding figures on an estimated full buy-out basis

The aggregate full buy-out funding ratio increased from 71.8 per cent to 73.7 per cent over the year to 31 March 2021, 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 (£bn)	Estimated full buy-out			Aggregate funding ratio
		Liabilities (£bn)	Net funding position (£bn)		
2006	769.5	1,376.7	-607.2	55.9%	
2007	837.7	1,393.7	-556.0	60.1%	
2008	837.2	1,465.8	-628.6	57.1%	
2009	780.4	1,461.1	-680.7	53.4%	
2010	926.2	1,469.3	-543.1	63.0%	
2011	968.5	1,551.8	-583.3	62.4%	
2012	1,026.8	1,840.5	-813.7	55.8%	
2013	1,118.5	1,974.7	-856.2	56.6%	
2014	1,137.5	1,827.2	-689.7	62.3%	
2015	1,298.3	2,269.2	-970.9	57.2%	
2016	1,341.4	2,293.1	-951.7	58.5%	
2017	1,541.1	2,461.7	-920.6	62.6%	
2018	1,573.3	2,332.0	-758.7	67.5%	
2019	1,615.3	2,260.3	-644.9	71.5%	
2020	1,700.6	2,369.1	-668.5	71.8%	
2021	1,720.7	2,335.9	-615.3	73.7%	

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 73.7 per cent at 31 March 2021.



The s179 funding ratio has fluctuated over time, from 97.1 per cent at 31 March 2006 to 102.8 per cent at 31 March 2021. Over the same period, the estimated full buy-out funding ratio has increased significantly, from 55.9 per cent to 73.7 per cent.

Source: PPF

Analysis of funding by scheme membership size

Figure 4.4 | s179 funding ratios by size of scheme membership as at 31 March 2021

The best funded schemes were the smallest, with an aggregate s179 funding ratio of 109.7 per cent for schemes with fewer than 100 members.

Scheme size (members)	Number of schemes	Total assets (£bn)	Liabilities (£bn)	Net funding position (£bn)	Aggregate funding ratio	Simple average funding ratio*
2 to 99	1,873	16.9	15.4	1.5	109.7%	106.7%
100 to 999	2,280	152.2	149.9	2.3	101.5%	99.0%
1,000 to 4,999	717	280.8	279.9	0.9	100.3%	98.8%
5,000 to 9,999	159	211.2	207.8	3.4	101.6%	100.9%
10,000 and over	186	1,059.6	1,020.9	38.8	103.8%	106.0%
Total	5,215	1,720.7	1,673.8	46.9	102.8%	102.1%

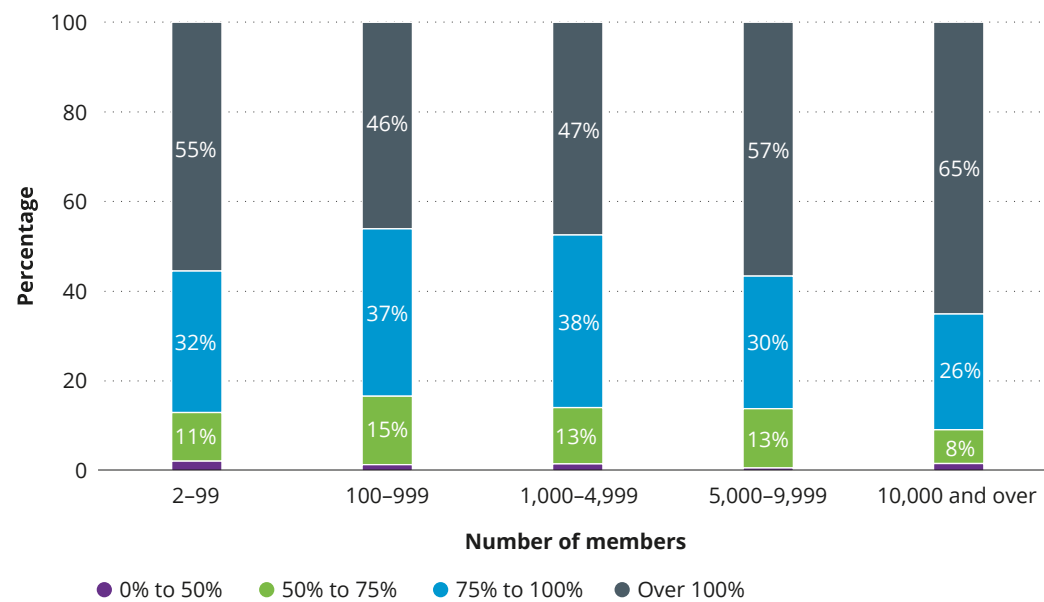
Note: the component figures may not sum to the total because of rounding.

* 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 10 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.

Source: PPF

Figure 4.5 | Distribution of s179 funding ratios by size of scheme membership as at 31 March 2021

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



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

Source: PPF

Figure 4.6 | Estimated full buy-out levels by size of scheme membership as at 31 March 2021

In aggregate the best funded schemes on a full buy-out measure were the smallest and largest schemes.

Members (number)	Number of schemes	Total assets (£bn)	Liabilities (£bn)	Net funding position (£bn)	Aggregate funding ratio	Simple average funding ratio*
2 to 99	1,873	16.9	21.5	-4.7	78.4%	77.9%
100 to 999	2,280	152.2	209.5	-57.3	72.6%	71.7%
1,000 to 4,999	717	280.8	385.0	-104.1	72.9%	72.6%
5,000 to 9,999	159	211.2	286.6	-75.5	73.7%	72.4%
10,000 and over	186	1,059.6	1,433.3	-373.7	73.9%	75.0%
Total	5,215	1,720.7	2,335.9	-615.3	73.7%	74.2%

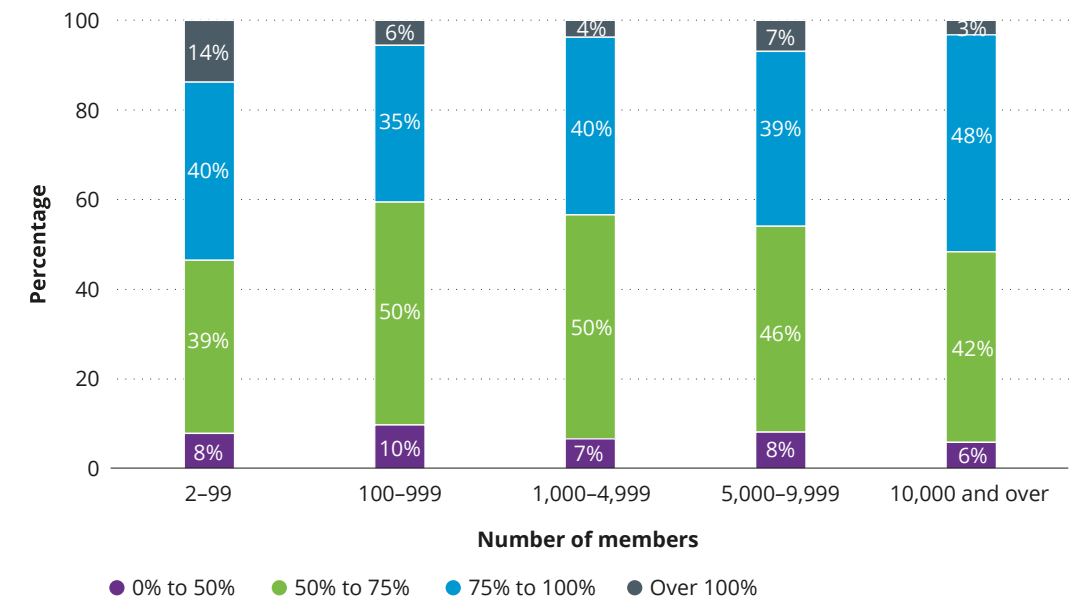
Note: the components may not sum to the totals because of rounding. Also the ratios of the components may not equal the aggregate ratios because of rounding.

* 10 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.

Source: PPF

Figure 4.7 | Distribution of estimated full buy-out funding ratios by size of scheme membership as at 31 March 2021

The majority of schemes had buy-out funding ratios between 50 and 100 per cent.



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

Source: PPF

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 2021

The most mature schemes have an aggregate s179 funding ratio that is around 50 percentage points higher than the least mature schemes.

Proportion of s179 liabilities relating to pensioners	Number of schemes	Total assets (£bn)	Liabilities (£bn)	Net funding position (£bn)	Aggregate funding ratio	Simple average funding ratio*
25% and less	1,102	199.8	234.6	-34.7	85.2%	88.4%
Between 25% and 50%	2,557	980.1	978.0	2.1	100.2%	98.5%
Between 50% and 75%	1,277	496.3	428.1	68.3	116.0%	114.7%
Between 75% and 100%	279	44.4	33.2	11.2	133.8%	131.7%
Total	5,215	1,720.7	1,673.8	46.9	102.8%	102.1%

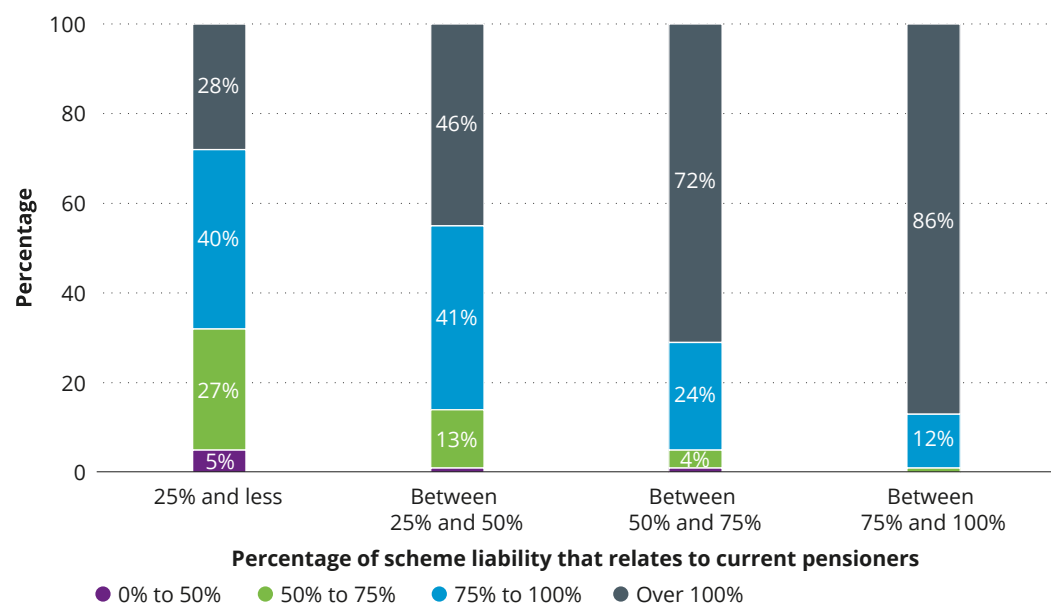
Note: the components may not sum to the totals because of rounding. Also the ratios of the components may not equal the aggregate ratios because of rounding.

* 10 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.

Source: PPF

Figure 4.9 | Distribution of funding ratios on an s179 basis by scheme maturity as at 31 March 2021

Funding ratios improve with scheme maturity, with 86 per cent of the most mature schemes being overfunded on an s179 basis.



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

Source: PPF

Figure 4.10 | Analysis of s179 funding ratios by scheme status as at 31 March 2021

Open schemes are around 15 percentage points worse funded than closed schemes, as measured by the aggregate s179 funding ratio.

Status	Number of schemes	Total assets (£bn)	Liabilities (£bn)	Net funding position (£bn)	Aggregate funding ratio	Simple average funding ratio*
Open	560	341.8	380.8	-39.0	89.7%	95.5%
Closed to new members	2,037	892.0	826.5	65.5	107.9%	103.7%
Closed to future accrual	2,524	472.8	454.1	18.8	104.1%	101.8%
Winding up	94	14.0	12.4	1.6	112.9%	112.1%
Total	5,215	1,720.7	1,673.8	46.9	102.8%	102.1%

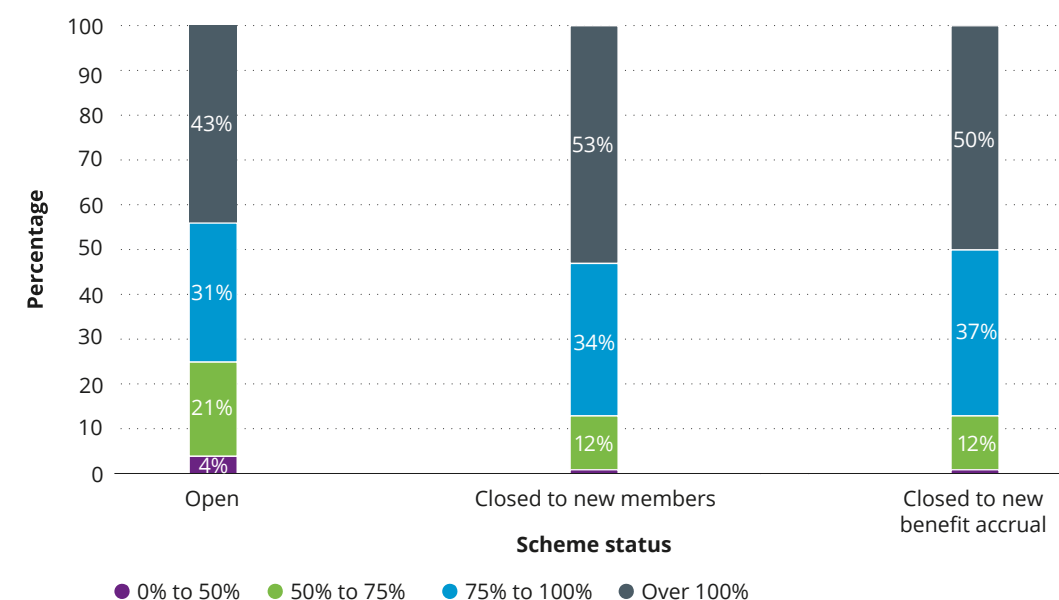
Note: the components may not sum to the totals because of rounding. Also the ratios of the components may not equal the aggregate ratios because of rounding.

* 10 schemes with funding ratios more than 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.

Source: PPF

Figure 4.11 | Distribution of schemes by s179 funding ratios within scheme status groups as at 31 March 2021

More than half of all open schemes have an s179 funding ratio below 100 per cent.



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

Source: PPF

Scheme funding continued

Figure 4.12 | Analysis of estimated full buy-out funding ratios by scheme status as at 31 March 2021

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 (£bn)	Liabilities (£bn)	Net funding position (£bn)	Aggregate funding ratio	Simple average funding ratio*
Open	560	341.8	512.8	-171.1	66.6%	71.7%
Closed to new members	2,037	892.0	1,176.7	-284.7	75.8%	75.2%
Closed to future accrual	2,524	472.8	628.7	-155.8	75.2%	73.7%
Winding-up	94	14.0	17.7	-3.7	79.3%	83.3%
Total	5,215	1,720.7	2,335.9	-615.3	73.7%	74.2%

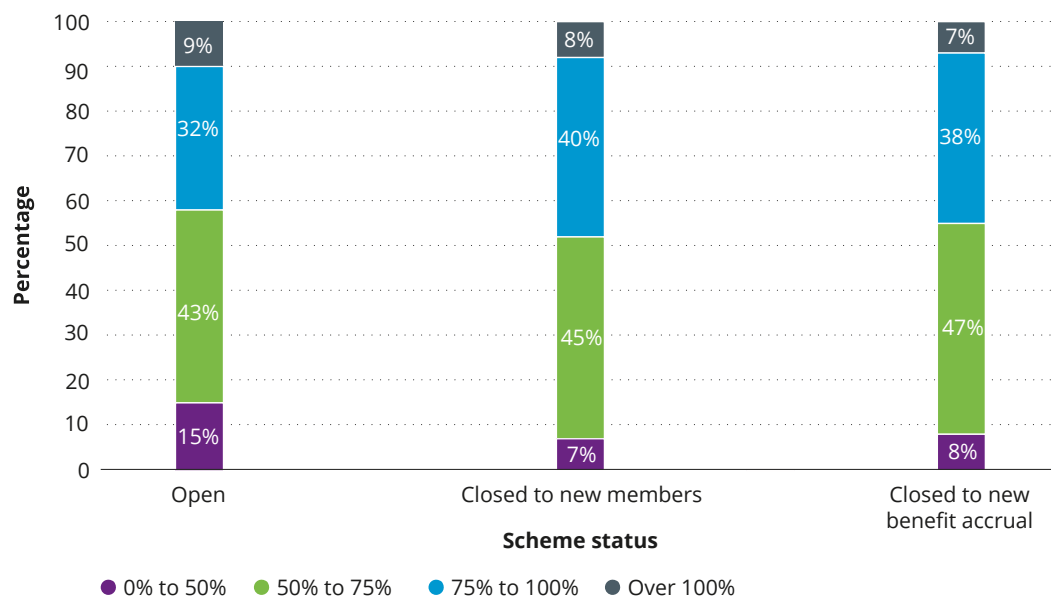
Note: the components may not sum to the totals because of rounding. Also the ratios of the components may not equal the aggregate ratios because of rounding.

* 10 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.

Source: PPF

Figure 4.13 | Distribution of schemes by estimated full buy-out funding ratios within scheme status groups as at 31 March 2021

Around 60 per cent of open schemes have an estimated full buy-out funding ratio of less than 75 per cent.

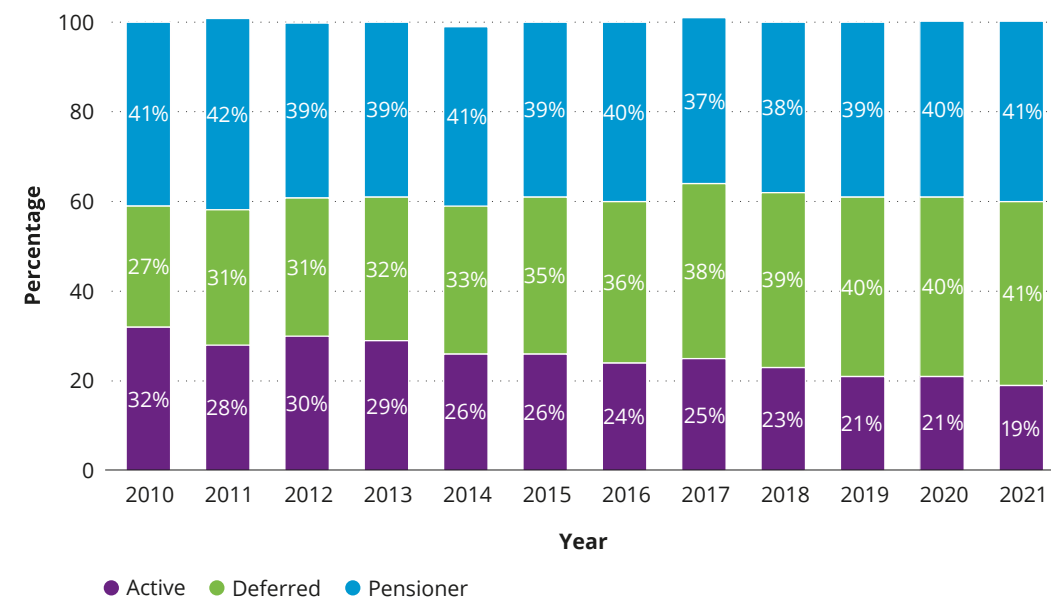


Note: the percentages in each column may not sum to 100 per cent because of rounding.

Source: PPF

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

The proportion of liabilities that relates to actives has reduced by nine percentage points over the last 10 years.



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

Source: PPF