

Pensions Bulletin

Fact Sheet 6

Spring 2008 Issue 1

The Pension Regulator's Purple Book

- 1.1 The Pensions Regulator published its second Purple Book in December 2007.
- 1.2 The book provides an updated snapshot of the UK's defined benefit (DB) universe. It pulls together areas such as funding levels, employer insolvency rates and claims on the Pension Protection Fund (PPF). The first Purple Book was published in 2006.

2 Scheme Demographics

- 2.1 In terms of the distribution of schemes, by scheme size (number of members), the figures for the Purple 2007 dataset are similar to those for the Purple 2006 set.

Number of Members	Fewer than 100	100-999	1,000-4,999	5,000-9,999	10,000+	Total Schemes
Purple 2007 Dataset	1,858	2,877	802	160	195	5,892

- 2.2 The same can be said in respect of distribution of PPF liabilities (£bn).

Number of Members	Fewer than 100	100-999	1,000-4,999	5,000-9,999	10,000+	Total Schemes
Purple 2007 Dataset	7.6	69.7	113.2	72.2	448.1	710.8

3 Scheme Funding

- 3.1 Overall funding levels as at 30 March 2007 are shown in the chart below.

	Total Schemes	Total Assets £bn	Total Liabilities £bn	Total Balance £bn	Balance (schemes in deficit) £bn	Balance (schemes in surplus) £bn
PPF	5,892	725.0	672.1	52.9	-34.4	87.3
FRS17	5,892	725.0	811.3	-86.3	-111.9	25.6
Full Buy-out	5,892	725.0	1,125.5	-400.6	-402.4	1.8

3.2 The tendency is for larger schemes to have higher PPF (also called 'section 179') funding levels. This is also shown in the weighted average funding levels (calculated as the total value of assets divided by the total value of liabilities), which fall from 113% for schemes with more than 10,000 members to 101% for schemes with fewer than 100 members. Tables can be found in the Purple Book, including a breakdown of s179 funding levels by size of scheme membership. There are also figures in respect of buy-out funding levels, and analysis of pension schemes by scheme maturity, scheme status and employer industry. The Purple Book observes that:

- Larger schemes, by membership, tend to be better funded on a s179 basis than smaller schemes. This holds for both 2006 and 2007.
- Immature schemes (where less than 25% of liabilities are pensions in payment) are, on average, in deficit on a s179 basis, and s179 funding improves with maturity.
- The s179 funding position has improved across all industrial sectors from 2006 to 2007.
- On a buy-out basis, weighted average funding levels (total funding as a percentage of total liabilities) are 67% for schemes with more than 10,000 members; 56% for schemes with between 100 and 999 members; and 59% for schemes with fewer than 100 members.

3.3 The Purple Book points out that the analysis of funding set out above provide a snapshot at a point or points in time. In practice, funding levels are inherently volatile and susceptible to changes in line with:

- changes in asset values;
- changes in the discount rate used to value liabilities;
- employers making deficit correction payments;
- changes in benefits; and
- changes in assumptions of expected mortality.

3.4 Chapter 5 of the Purple Book describes this volatility and sets out various sensitivities. In summary:

- Changes in estimated market conditions since December 2002 have caused the aggregate funding position of pension schemes measured on a s179 basis to vary by around £220bn (largest deficit, of £113bn, in early 2003 and largest surplus, of £107bn in June 2007).
- The number of schemes in deficit on a s179 basis peaked in early 2003 at around 5,300 and troughed in June 2007 at around 3,000.
- Each year added to the longevity assumption used in the s179 valuation would add around 3% (£20-25bn) to pension scheme liabilities.

3.5 With regard to deficit reduction payments, schemes in the Purple 2007 dataset had certified approximately £9bn of special contributions to reduce deficits by 4 April 2007.

4 Insolvency Risk

4.1 For the Purple 2007 dataset, there has been a small fall in the Dun & Bradstreet (D&B) estimate of average one-year ahead insolvency probability from March 2006 to March 2007. The weighted average insolvency probability (weighted by s179 liabilities) fell to 0.31% in March 2007 from 0.38% in March 2006, while the unweighted average fell to 0.76% in March 2007 from 0.88% in March 2006. (It should be noted that there were significant downward adjustments to the D&B scores for March 2006 from the levels in Purple 2006, reflecting the fact that D&B obtained better data on some companies. The

weighted average insolvency probability in Purple 2006 (as at 31 March 2006) was 0.7%, while on an unweighted basis it was 1.2%).

- 4.2 Larger schemes (by members and liabilities) tend to have sponsors with lower insolvency probabilities compared to smaller schemes. Better funded schemes also tend to have lower insolvency risk.
- 4.3 The Purple Book includes insolvency probability by industry. Comparing 2006 and 2007 insolvency probabilities, deterioration in the retail trade, agricultural production, mining and construction can be seen. Small improvements can be seen in the other industry types.
- 4.4 Corporate insolvencies in the UK continued to trend lower in 2006 and 2007. However, corporate debt and income gearing have risen in recent years.

5 Asset Allocation

- 5.1 This section of the Purple Book shows how asset allocation varies with scheme size, maturity, insolvency probability and funding level. It also uses data from the Office of National Statistics (ONS) to set out longer-term trends in asset allocation.
- 5.2 As for the original Purple 2006 dataset, there is a tendency for the proportion of assets held in gilts and fixed interest to increase as the size of the scheme (measured by s179 assets) increases while less is invested in insurance policies. Apart from the very small schemes (assets of less than £5m) the equity share is fairly constant across the size groups, at around 60%.
- 5.3 As with Purple 2006, there is a clear tendency for the proportion of assets held in gilts and fixed interest to rise as scheme maturity increases. Additionally, there is a greater preference for fixed income assets among larger and well funded schemes. There seems to be no clear relationship, however, between asset allocation of schemes in the Purple 2007 dataset and their sponsor's insolvency probability using D&B insolvency scores.
- 5.4 In relation to trends, Purple 2007 shows only a small change in scheme asset allocation since the publication of last year's Purple Book. As highlighted in Purple 2006, a marked shift is apparent over the longer-term, particularly in the proportion of assets held in equities by DB schemes.
- 5.5 It is difficult to draw conclusions about schemes' investment behaviour from this data because the value of individual asset classes as a proportion of total scheme assets can vary from year to year depending on market conditions. However, data shows that schemes continued to disinvest from equities in 2006, although the share of equities in scheme portfolios has risen due to strong market performance during that year. Meanwhile, schemes continued to invest in fixed income and other asset classes.
- 5.6 The Purple Book makes reference to growing interest in liability driven investment, but essentially just relies on other studies (NAPF and JP Morgan surveys). The Purple Book concludes that 'While LDI is a growing issue of interest, the low rate of take-up of LDI revealed by these surveys may reflect the trade-off between cost and volatility in implementing an LDI strategy'.

6 Risk Concentration

- 6.1 This information may be interesting, but it's more about how the PPF wants to construct its levy policy rather than giving information about schemes in 2007. Therefore, the information set out below is simply the executive summary from Purple 2007.

- 6.2 In deciding on the total levy to be collected, the PPF's main focus is on long-term risk, and its key tool is the Long-Term Risk Model. The Pensions Regulator is also concerned about the broader health of schemes and closure of deficits in the long-term as well as the short term.
- 6.3 The output of the Long-Term Risk Model is a probability distribution of the level of claims on the PPF over various time periods ranging from 5 to 20 years, based on thousands of possible credit risk and economic scenarios. The distribution of the claims is heavily skewed with a significant impact on the average claim from claims at the higher end of the distribution. Another noteworthy feature, particularly compared with short-term risk, is that a significant proportion of the risk - especially for more adverse scenarios - is related to large, currently stable businesses.
- 6.4 The distribution of the levy amongst schemes is currently based on short-term risk - the recent funding position and the one-year ahead insolvency probability of its corporate sponsor. The PPF consulted on using long-term risk to determine the distribution of the levy earlier this year. Such a move would lead to a fairer levy, where the distribution of the levy between schemes was a better fit with the distribution of long-term risk.
- 6.5 Multiplying each scheme's s179 deficit by the probability of the sponsoring company becoming insolvent over the next 12 months showed that a high proportion of the short-term risk to the PPF as at 30 March 2007 arose from schemes with weak sponsors. For instance, some 25% of the combined risk arose from 2% of schemes whose sponsors had an average insolvency probability of 11%.
- 6.6 By industry, the largest short-term risk concentrations were in manufacturing, finance and services.
- 6.7 The total combined risk on a one-year horizon for the Purple 2007 dataset was £158m on a s179 basis as at 30 March 2007, down from £258m at 31 March 2006. The improvement reflected both lower insolvency probabilities and lower deficits. These figures exclude schemes in the PPF's assessment process at those dates.

7 Levy Payments to the PPF 2006-2007

- 7.1 This levy payments section of the Purple Book looks at the 2006/07 levy payments of 7,601 private sector DB schemes that had been invoiced by September 2007. It describes how levy payments vary with scheme size, insolvency probability and funding level. Key points are:
- For 2006/07, the levy quantum was set at £575m. However, for a number of reasons, only £271m is expected to be collected. 60% of the total levy to be collected is risk-based (£162m), and 40% scheme-based (£108m). This differs from the target ratio (80:20), due to the reduction in risk between December 2005 and March 2006.
 - Large schemes with more than 1,000 members paid three-quarters of the 2006/07 levy while making up 18% of total schemes. Very large schemes with more than 10,000 members paid 44% while making up just 3% of total schemes. Schemes with fewer than 100 members paid 3% of the total levy. The Purple Book also shows levy payments by insolvency group and funding level, and information is included on schemes paying no risk based levy, the levy paid by the largest levy payers, schemes where the risk based levy was capped and levy paid by industry category. In a little more detail:
 - o Schemes with sponsors in the best three insolvency groups paid a levy equivalent to 0.02% of their assets, while schemes in the worst insolvency group paid equivalent to over 0.5% of their assets.

- o Levy per member in the best three insolvency groups averaged £12 compared to over £200 in the worst.
- o 476 schemes paid no risk-based levy in 2006-07 (representing 6% of the total number of schemes and 7% of total liabilities) because they were better than 125% funded on a s179 basis.
- o The proportion of the levy that is risk-based is smaller for better funded schemes and those with lower insolvency risk.
- o The top 100 paying schemes paid 39% of the total levy, with the top ten contributing 15%.
- o For 2006/07 the risk-based levy was capped at 0.5% of s179 liabilities. 310 schemes were subject to the cap.
- o By industry, manufacturing contributed most towards the total levy payments (33%), while agricultural production paid the highest levy per member.

8 Schemes in PPF Assessment

- 8.1 This is another new section (i.e. not part of Purple 2006), which looks at schemes that are in the PPF assessment period. As at end of March 2007, there were 179 such schemes. In aggregate, these schemes have assets of £3.98bn and liabilities of £4.70bn on a s179 basis, with average assets of £22m per scheme and average liabilities of £26m.
- 8.2 By end March 2007, nine schemes had passed through the assessment period and entered the PPF, which was paying 1,457 pensioners compensation at an annual rate of £6,572,000 (at December 2007, the figure for number of schemes was 15).
- 8.3 In relation to membership, the majority of schemes in assessment are medium sized - with 94 schemes (or 53%) having between 100 and 999 members. Of that 94, 70 schemes had fewer than 500 members and 24 had more than 500 members. There are only four schemes with more than 3,000 members. The total membership of schemes in assessment as at March 2007 was 115,000.
- 8.4 Larger schemes are associated with slightly greater maturity. Schemes with fewer than 50 members have around 20% of scheme members who are pensioners in payment compared to schemes with more than 3,000 members who have roughly double that proportion. This may be a reflection of the different insurance practices of such schemes, in particular annuity purchase compared to self-insurance of pensions in payment.
- 8.5 Schemes in assessment have total assets of £3.98 billion and total liabilities of £4.70bn.
- 8.6 When looked at as a whole, the schemes in assessment are largely invested in equities, followed by gilts and fixed interest. The main differences between the asset allocation of the 179 schemes in assessment and the Purple 2007 dataset is the lower percentage of assets held in equities by the schemes in assessment (53% compared with 60%) and the higher percentage held in insurance policies (10% compared with 1%).
- 8.7 Out of the 179 schemes in assessment, 92 schemes (51%) have sponsors in manufacturing industry. This is 17 percentage points higher than the proportion of schemes in the Purple 2007 dataset with sponsors in the manufacturing sector (34%). 28 schemes have sponsors in services while 26 schemes have sponsors in finance, insurance and real estate.

Both Purple Books are available to download at www.thepensionsregulator.gov.uk

While every effort has been made to ensure the accuracy of the information contained in this fact sheet, it should not be treated or relied upon as a statement of law. Readers should contact their regular Account Manager at The Pensions Trust in relation to their own circumstances and/or refer to the original source material as appropriate. This material was adapted from a Research Report from HSBC Actuaries & Consultants Ltd and is reproduced with their kind permission.

