

How to calculate a scheme's levy

Established by the Pensions Act 2004, the Pension Protection Fund pays compensation to members of eligible occupational defined benefit pension schemes when there is a qualifying insolvency event in relation to the employer, and where there are insufficient assets in the pension scheme to cover Pension Protection Fund levels of compensation.

Compensation payments will be funded in part by an annual levy raised from eligible pension schemes.

For 2007/08, the pension protection levy will again be made up of two parts:

- **Scheme based levy (20%)** – based on the level of a scheme's Pension Protection Fund liabilities;
- **Risk based levy (80%)** – based on scheme underfunding risk, and the insolvency risk of the sponsoring employer(s).

The total levy is therefore the sum of the scheme based levy and the risk based levy.

The scheme based levy is equal to Pension Protection Fund liabilities multiplied by a factor which has been set at 0.00016 for the 2007/08 levy year.

The risk based levy is equal to underfunding risk x insolvency risk x 80% x levy scaling factor. The levy scaling factor has been set at 2.47 for the 2007/08 levy year.

The underfunding risk is $1.05 \times \text{liabilities} - \text{assets}$, except where the assets exceed 104% of the Pension Protection Fund liabilities, when the formula is different. The assets include allowance for any contingent assets and special contributions paid to the scheme since the last valuation.

For the 2007/08 levy year a scheme's Pension Protection Fund assets and liabilities will be calculated as at 31 October 2006 and insolvency risk determined as at 30 March 2007.

The risk based levy will be capped at **1.25%** of a scheme's Pension Protection Fund liabilities. This will protect weaker schemes, and strikes an appropriate balance between the principles of fairness and proportionality.

No risk based levy will be payable for schemes that are more than 125% funded on a Pension Protection Fund basis (either the section 179 or adapted MFR basis).

For the 2007/08 calculation the following two amendments have been made to the 2006/07 specification.

The formula for determining the underfunding risk factor has been updated. The update takes into account the revised way in which Type A contingent assets (group company guarantees) are considered in the risk based levy calculation for schemes funded over 104% of section 179 liabilities.

The insolvency risk factor for multi-employer schemes has been updated to reflect the revised approach whereby a weighted average probability of insolvency will be calculated in all cases. The average will no longer be compared to the probability of insolvency of the employer with the most members.

The following examples illustrate how to calculate a scheme's levy. They are very similar to the examples provided with the 2006/07 pension protection levy documents updated where applicable for the changes highlighted above.

Example (a)

Scheme A has one participating employer, with a D&B failure score of 95, which corresponds to an insolvency risk of 0.3033%. It has Pension Protection Fund liabilities of £100 million and assets of £80 million, and so a Pension Protection Fund funding level of 80%.

The **scheme based levy** = liabilities x 0.016%
 = £100m x 0.016%
 = £16,000

Underfunding risk = 1.05 x liabilities – assets
 = 1.05 x £100m – £80m
 = £25m

The **risk based levy** = underfunding risk x insolvency risk x 80% x scaling factor
 = £25m x 0.3033% x 80% x 2.47
 = £149,830

The risk based levy is subject to a cap of 1.25% of the Pension Protection Fund liabilities, i.e. £1,250,000. So the cap does not bite in this example.

The total levy is then the sum of the scheme based levy and the risk based levy
 = £16,000 + £149,830 = £165,830

Example (b)

Scheme B has one participating employer with a D&B failure score of 87, which corresponds to an insolvency risk of 0.6370%. It has Pension Protection Fund liabilities of £150 million and assets of £130 million. The employer has paid deficit reduction contributions of £10 million to the scheme and provided a contingent asset in the form of security over real estate valued at £14 million.

The **scheme based levy** = liabilities x 0.016%
 = £150m x 0.016%
 = £24,000

Assets = scheme assets + special contributions + contingent assets
 = £130m + £10m + £14
 = £154m

Funding level = assets / liabilities x 100%
 = £154m / £150m x 100%
 = 102.7%

The scheme's funding level is less than 104%, so the underfunding risk is calculated as:

Underfunding risk = 1.05 x liabilities – assets
 = 1.05 x £150m – £154m
 = £3.5m

The **risk based levy** = underfunding risk x insolvency risk x 80% x scaling factor
 = £3.5m x 0.6370% x 80% x 2.47
 = £44,055

The risk based levy cap of 1.25% of liabilities, i.e. £1,875,000, does not bite in this example.

Total levy = scheme based levy + risk based levy
 = £24,000 + £44,055
 = £68,055

Example (c)

Scheme C has one participating employer. This employer has a D&B failure score of 22, corresponding to an insolvency risk of 2.5844%. The scheme has a guarantee from a UK parent company for the shortfall in the scheme relative to 105% of the Pension Protection Fund liability on a Section 179 basis. This parent company has a D&B failure score of 100, which corresponds to an insolvency risk of 0.0740%. The scheme has Pension Protection Fund liabilities of £100 million and assets of £80 million, so the parent company is guaranteeing £25 million.

The **scheme based levy** = liabilities x 0.016%
= £100m x 0.016%
= £16,000

The scheme has liabilities of £100m and assets of £80m. So the underfunding risk is $1.05 \times £100m - £80m = £25m$. However, the parent company guarantees £25m. The risk based levy is therefore calculated using an underfunding risk which has been reduced by the parent guarantee of £25m. Hence we adjust the underfunding risk by a factor of:
 $(1 - \text{insolvency risk of guarantor} / \text{insolvency risk of participating employer}) \times £25m$.

The **risk based levy** = underfunding risk x insolvency risk x 80% x scaling factor
= $(1.05 \times £100m - £80m - ((1 - 0.0740\% / 2.5844\%) \times £25m))$
x 2.5844% x 80% x 2.47
= $(£25m - (1 - 0.0286333) \times £25m) \times 2.5844\% \times 80\% \times 2.47$
= $(£25m - £24.2842m) \times 2.5844\% \times 80\% \times 2.47$
= £36,554

The risk based levy cap of 1.25% of liabilities, i.e. £1,250,000, does not bite in this example.

Total levy = scheme based levy + risk based levy
= £16,000 + £36,554
= £52,554

Example (d)

Scheme D has three participating employers, all part of the same company group. The scheme cannot be partially wound up on the insolvency of any one employer – it is an associated last man standing scheme which is not sectionalised. The scheme has provided information to the Pension Protection Fund on the structure of the multi-employer arrangement to be taken into consideration when calculating the insolvency risk for the scheme. The scheme has Pension Protection Fund liabilities of £150 million and assets of £140 million.

The **scheme based levy** = liabilities x 0.016%
 = £150m x 0.016%
 = £24,000

The scheme has a funding level of £140m / £150m x 100% = 93.33%, so the underfunding risk is 1.05 x £150m – £140m = £17.5m.

The information available for the three participating employers is as follows:

- Employer 1 is the largest employer in terms of the number of active, deferred and pensioner members with 250 members. It has a failure score of 80 which corresponds to an assumed insolvency probability of 0.9047% (q_1).
- Employer 2 has a failure score of 95 which corresponds to an assumed insolvency probability of 0.3033% (q_2) and has 100 members.
- Employer 3 has a failure score of 85 which corresponds to an assumed insolvency probability of 0.7241% (q_3) and has 50 members.

Total number of members = 250 + 100 + 50 = 400

To determine the levy payable we need to calculate the weighted average insolvency risk.

This calculation takes the insolvency probability of each participating employer, labelled q_1 , q_2 and q_3 , above, and calculates the weighted average insolvency risk for the scheme.

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The weights used are the ratios of members for each participating employer divided by the total number of members. These weights are calculated as follows:

$$\text{Weight for Employer 1} = w_1 = 250 / 400 = 0.625$$

$$\text{Weight for Employer 2} = w_2 = 100 / 400 = 0.25$$

$$\text{Weight for Employer 3} = w_3 = 50 / 400 = 0.125$$

The weighted average insolvency risk is then:

$$\begin{aligned} w_1 \times q_1 + w_2 \times q_2 + w_3 \times q_3 &= 0.625 \times 0.9047\% + 0.25 \times 0.3033\% + 0.125 \times 0.7241\% \\ &= 0.7318\% \end{aligned}$$

Once we have calculated the weighted average insolvency risk, we multiply this number by a factor which reflects the reduced insolvency risk for a particular type of multi-employer arrangement. For this example the scheme is an associated last man standing scheme and so the factor is 0.9. The calculation becomes $0.7318\% \times 0.9 = 0.6586\%$.

$$\begin{aligned} \text{The risk based levy} &= \text{underfunding risk} \times \text{insolvency risk} \times 80\% \times \text{levy scaling factor} \\ &= \text{£}17.5\text{m} \times 0.6586\% \times 80\% \times 2.47 \\ &= \text{£}227,744 \end{aligned}$$

The risk based levy cap of 1.25% of liabilities, i.e. £1,250,000, does not bite in this example.

$$\begin{aligned} \text{Total levy} &= \text{scheme based levy} + \text{risk based levy} \\ &= \text{£}24,000 + \text{£}227,744 \\ &= \text{£}251,744. \end{aligned}$$

For further information please contact:

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