

Pension  
Protection  
Fund

# The 2007/08 Pension Protection Levy Estimate Consultation Document December 2006



**Contents**

**Foreword.....5**

**Chapter 1 – Introduction and executive summary ..... 7**

1.1 Introduction to the pension protection levy ..... 7

1.2 Summary of responses to the 2007/08 Pension Protection Levy Consultation Document ..... 8

1.3 The 2007/08 Pension Protection Levy Estimate Consultation Document. 9

1.4 The Board’s Determination under section 175(5) of the Pensions Act 2004..... 10

1.5 The 2007/08 voluntary certificates..... 10

**Chapter 2 – Pension scheme analysis – data used in the calculation of the 2007/08 levy estimate ..... 11**

2.1 Introduction..... 11

2.2 Annual Scheme Returns ..... 11

2.3 The voluntary form process..... 12

2.4 Insolvency information..... 12

2.5 Pension fund deficits..... 13

**Chapter 3 – The Board’s modelling work supporting the levy estimate consultation ..... 15**

3.1 Introduction..... 15

3.2 The Long-Term Risk Model..... 16

**Chapter 4 – Deciding the levy estimate.....21**

4.1 Policy framework for the risk based levy ..... 21

4.2 Considerations in respect of the 2007/08 levy ..... 23

**Chapter 5 – The risk based levy cap, the risk based levy scaling factor and the scheme based levy multiplier..... 25**

5.1 Introduction..... 25

5.2 The risk based levy cap..... 26

5.3 The risk based levy scaling factor and scheme based levy multiplier.... 27

5.4 Sensitivity of the amount of levy collected to changes in underfunding and insolvency risk..... 28

<b>5.5</b>	<b>The risk based levy scaling factor for the 2007/08 levy year .....</b>	<b>29</b>
<b>5.6</b>	<b>The scheme based levy multiplier for the 2007/08 levy year .....</b>	<b>32</b>
	<b>Chapter 6 – Appealing the Pension Protection Levy .....</b>	<b>35</b>
	<b>Chapter 7 – The consultation process .....</b>	<b>39</b>
	<b>Annex A – Levy formula .....</b>	<b>41</b>

## Foreword

The Board of the Pension Protection Fund would like to thank all of our stakeholders who continue to engage in open debate with us. We are aware of how important the responses we receive to each consultation exercise are in ensuring that the pension protection levy we design and implement is supported by the pensions industry and underpinned by our own principles of fairness, simplicity and proportionality.

Once again we were encouraged by the responses to the 2007/08 Pension Protection Levy Consultation Document which supported our intention to make only minor changes to the way the total levy is distributed between all eligible schemes. As indicated in that document, we have considered again our approach to insolvency risk and the Dun & Bradstreet (D&B) Failure Score. We can now announce that we have asked D&B to implement an additional rule in respect of County Court Judgments for the 2007/08 levy year.

This second publication sets out the total amount that the Board estimates it will need to collect for 2007/08 (£675m), the level at which the risk based levy cap will be set (1.25% of Pension Protection Fund liabilities), and the revised approach that will be taken to the date at which we calculate scheme underfunding and the calculation of the levy scaling factor. The Board will adjust the total amount to be collected reflecting the impact of new deficit reduction contributions and contingent assets certified in the 12 months prior to 30 March 2007. In 2006/07 this reduced the levy collected by £60m. The changes to the scaling factor will neutralise the effects of any other new information on the amount the Board collects.

These steps will help us to reduce the Pension Protection Fund's current deficit and ensure that the total amount collected more accurately reflects our exposure to long-term risk. We will also be able to ensure public confidence in the financial security of the Pension Protection Fund which is more vital than ever now we have started to pay compensation to scheme members.

Alongside this Levy Estimate Consultation Document we are also publishing in draft the Board's Determination under section 175(5) of the Pensions Act 2004 in respect of the 2007/08 levy year. The Determination sets out the rules for levy calculation (and will act as a useful tool for schemes and advisers seeking to understand the way the levy calculation is applied to each individual scheme).

Our proposals for the distribution of the levy across schemes are now finalised, and, taken together with the levy estimate, we believe that schemes and their sponsoring employers have the information required to set about designing and implementing risk reduction plans with confidence, safe in the knowledge that steps towards risk reduction will be reflected in lower individual levies.

We look forward to receiving your responses to this consultation and to working closely with all stakeholders in the lead up to the start of the 2007/08 levy year.

**Partha Dasgupta, Chief Executive  
Board of the Pension Protection Fund**



## **Chapter 1 – Introduction and executive summary**

### **1.1 Introduction to the pension protection levy**

- 1.1.1 The Board of the Pension Protection Fund was set up as a statutory corporation under the provisions of the Pensions Act 2004, and became operational on 6 April 2005. The Pension Protection Fund has been established to pay compensation to members of occupational defined benefit and hybrid pension schemes, following an insolvency event of the sponsoring employer where there are insufficient scheme assets to pay a Pension Protection Fund level of compensation.
- 1.1.2 Compensation payments are funded by the assets transferred from schemes for which the Pension Protection Fund has assumed responsibility, and partly by an annual levy raised from eligible pension schemes. The initial levy for 2005/06 was based on scheme membership numbers only.
- 1.1.3 The Board of the Pension Protection Fund introduced the first pension protection levy for the 2006/07 levy year. This levy is made up of two parts: a scheme based levy and a levy based on the risk posed by the scheme to the Pension Protection Fund.
- 1.1.4 The Board consulted on its proposals for calculating the 2006/07 pension protection levy on two occasions over a total of 17 weeks between July 2005 and January 2006. This open approach to consultation was driven by the Board's principles of fairness, simplicity and proportionality. The Board was encouraged by the positive way in which the consultation documents were received.
- 1.1.5 The Board's final response to the 2006/07 levy consultation exercise was published in February 2006, accompanied by the Board's Determination under section 175(5) of the Pensions Act 2004 which set out the rules for levy calculation.
- 1.1.6 The 2007/08 levy year will be the second year in which a pension protection levy will be calculated for all eligible schemes.
- 1.1.7 The 2007/08 Pension Protection Levy Consultation Document was published on 11 September 2006 and set out the Board's proposals as to how the total 2007/08 levy would be distributed between all eligible schemes. A four week period of consultation followed the publication of that consultation document.

## **1.2 Summary of responses to the 2007/08 Pension Protection Levy Consultation Document**

- 1.2.1 The Board wishes to thank all those who responded to the first 2007/08 levy consultation. Fewer responses were received in respect of that consultation than for the 2006/07 levy proposals. We received around 20 responses as opposed to a total of 270 received in respect of the two 2006/07 consultation exercises. However, this was not unexpected, given that the Board only proposed minor changes to the way in which a scheme's levy is calculated i.e. how the total levy amount is distributed between all eligible schemes, for the 2007/08 levy year.
- 1.2.2 The responses that were received broadly welcomed the amendments made for 2007/08, particularly in respect of the Board's approach to contingent assets.
- 1.2.3 In conjunction with Dun & Bradstreet (D&B), the Board has given further consideration to the way in which insolvency risk is calculated to help ensure that the approach taken for the 2007/08 levy year best suits the universe under consideration. The Board has now taken the decision to implement one additional rule in respect of the approach to County Court Judgments (CCJs) within the Failure Score methodology for 2007/08. This rule is set out in detail in the 2007/08 Board's Determination under Section 175(5) of the Pensions Act 2004, a draft version of which is published with this document.
- 1.2.4 This change will mean that in some cases, a company's standard Failure Score will not be the same as the score that will be used for the purpose of the pension protection levy calculation. Employers will, however, be able to monitor their Pension Protection Fund score on a weekly basis from 2 January 2007 by emailing D&B at [customerhelp@dnb.com](mailto:customerhelp@dnb.com), or by calling the dedicated D&B helpline for pension protection levy related queries on 0870 850 6209.
- 1.2.5 The Board has considered all the responses received and, apart from this amendment to the insolvency risk calculation, has taken the decision not to make any further changes to the proposals for levy calculation as set out in the September consultation document. Each of the responses received will, however, be given due consideration as part of a full review of the levy calculation for the 2008/09 levy year. As noted in the September consultation document, we intend to publish the 2008/09 Pension Protection Levy Consultation Document in early 2007.

### **1.3 The 2007/08 Pension Protection Levy Estimate Consultation Document**

- 1.3.1 This consultation document contains the Board's annual estimate of the amount of pension protection levy it expects to collect, which the Pensions Act 2004 requires the Board to make before the start of the financial year to which the estimate relates.
- 1.3.2 The Board proposes that the pension protection levy estimate for the financial year 2007/08 should be £675m, to be made up of a total risk based element of £540m and a total scheme based element of £135m.
- 1.3.3 Chapter 2 summarises the main sources of data used in the Board's models and focuses on one key area for setting the levy estimate: pension fund deficits.
- 1.3.4 Chapter 3 provides an explanation of the modelling approach used by the Board to support setting the levy estimate. We currently intend to publish further details of our approach to stochastic modelling in 2007.
- 1.3.5 Chapter 4 outlines how the Board uses the Long-Term Risk Model, together with the emerging evidence from the Fund's own experience to date, to arrive at an appropriate levy estimate for 2007/08.
- 1.3.6 Chapter 5 of this consultation document sets out how and why the risk based levy cap will be amended to 1.25% of liabilities for the 2007/08 levy year and the Board's revised approach to calculation of the risk based levy scaling factor and the scheme based levy multiplier, as well as noting the Board's intention to increase certainty for levy payers by fixing the date at which scheme assets and liabilities are calculated at 31 October 2006.
- 1.3.7 The Board will use the formulae set out in chapter 5 to calculate the levy scaling factor and scheme based levy multiplier. These will be based on the level of underfunding risk using market information available on 31 October 2006, and D&B Failure Scores and assumed probabilities of insolvency as at 30 March 2007 and final figures will be published before the end of April 2007. This will allow the Board to make the most reasonable and timely assessment of the overall risk exposure. Indicative figures for the risk based levy scaling factor and the scheme based levy multiplier based on underfunding, insolvency risk and scheme structure information available to the Board as at 31 October 2006 are included in chapter 5.
- 1.3.8 The publication of this Consultation Document will be followed by a six week consultation period. All responses received by 2 February 2007 will be considered by the Board.
- 1.3.9 A summary of those responses will be published at the beginning of March 2007.

## **1.4 The Board's Determination under section 175(5) of the Pensions Act 2004**

- 1.4.1 A draft version of the Board's Determination under section 175(5) of the Pensions Act 2004 for the 2007/08 levy year is published together with this consultation document<sup>1</sup>. This Determination sets out the 2007/08 levy formulae, the risk factors for the risk based levy, the time at which the risk factors will be assessed and the time when the levy becomes payable.
- 1.4.2 The Determination forms part of this consultation process, and the Board would welcome any comments on this draft version.
- 1.4.3 The final version of the Board's Determination will be published at the beginning of March 2007.
- 1.4.4 The final Determination will be a definitive statement of the rules for levy calculation for the 2007/08 levy year. Under section 181(3) (b) of the Pensions Act 2004, the Board must apply the Determination to the relevant facts pertaining to a particular scheme when calculating the amount of pension protection levy payable. Once the Determination is made, the Board does not have any discretion to depart from the Determination in calculating the pension protection levies for any particular scheme.

## **1.5 The 2007/08 voluntary certificates**

- 1.5.1 Images of the 2007/08 versions of the following voluntary certificates were made available on the Pension Protection Fund website from 11 September 2006:
- Section 179 Valuation Certificate;
  - The Actuarial Certificate of Deficit Reduction Contributions;
  - Contingent Asset Certificates.
- 1.5.2 These voluntary certificates are now available to be downloaded from the Pension Protection Fund website. They should be submitted to the Board prior to 5.00pm on 30 March 2007 (5 April 2007 in respect of the Actuarial Certificate of Deficit Reduction Contributions) for inclusion in the 2007/08 levy calculation.
- 1.5.3 Forms for re-certification of existing contingent assets will be issued shortly to all schemes that certified such arrangements to the Board for inclusion in the 2006/07 levy calculation.

---

<sup>1</sup> The draft version of this Determination can be accessed on the Pension Protection Fund website at the following link [www.pensionprotectionfund.org.uk/levy\\_determination\\_0708.pdf](http://www.pensionprotectionfund.org.uk/levy_determination_0708.pdf).

## **Chapter 2 – Pension scheme analysis – data used in the calculation of the 2007/08 levy estimate**

This chapter provides a summary of the data used in the calculation of the Board's levy estimate, levy scaling factor and the scheme based levy multiplier as well as an indication of the sources from which that data is derived.

### **2.1 Introduction**

2.1.1 When calculating the 2007/08 levy estimate, the Board took into account information held on around 5800 defined benefit pension schemes. This sample is estimated to cover more than half of all eligible schemes in the UK and over 85% of pension scheme liabilities.

2.1.2 The data is taken from the following primary sources:

- The annual Scheme Return provided to the Pensions Regulator;
- Voluntary information submitted to the Board of the Pension Protection Fund for inclusion in the 2006/07 levy calculation;
- Insolvency information provided by Dun & Bradstreet (D&B);
- Moody's KMV correlations and transition matrices.

### **2.2 Annual Scheme Returns**

2.2.1 The majority of the information used in the calculation of the levy estimate is taken from the annual Scheme Returns issued by the Pensions Regulator. These provide information on scheme assets and liabilities, scheme asset allocation, information on the sponsoring employers, the type and status of the scheme, membership breakdown, and information on the scheme trustees and their advisers.

2.2.2 Table 1 provides a breakdown of all the schemes included in this data sample. 90% of schemes with over 5000 members are included, 80% of schemes with between 500 and 4999 members and 30% of schemes with under 100 members. The percentage of the total liabilities represented by the sample is estimated based on the total number of eligible schemes that were invoiced for the 2005/06 initial levy.

**Table 1**

Size of scheme (number of members)	Under 100	100- 999	1000- 4999	5000- 9999	Over 9999	Total
Number of schemes	1840	2829	765	178	231	5843
2005 Universe	5900	3500	950	200	250	10800
Schemes as a percentage of 2005 Universe (%)	31.2	80.8	80.5	89.0	92.4	54.1

## 2.3 The voluntary form process

2.3.1 The information collected through the annual Scheme Return is supplemented for the purpose of calculating the Board's levy estimate by data taken from the voluntary forms submitted in respect of the 2006/07 levy calculation. The following electronic forms were available on the Pension Protection Fund website in the lead up to 31 March 2006:

- Section 179 Valuation Certificate
- Actuarial Certificate of Deficit Reduction Contributions
- Contingent Asset Certificates
- The Declaration of Scheme Structure and Participating Employers Forms
- Sectionalised Scheme Forms
- Block Transfer Certificates

## 2.4 Insolvency information

2.4.1 The insolvency risk element of the risk based levy for 2007/08 will be calculated using the Failure Scores and associated probabilities of insolvency assigned to the sponsoring employer(s) of the pension scheme by Dun & Bradstreet (D&B). For the 2007/08 levy year an additional rule in respect of the weighting given to County Court Judgments (CCJs) will be applied to the D&B Failure Score for the purpose of levy calculation.

2.4.2 The D&B Failure Score is designed to predict the likelihood that the company will cease operations without paying all creditors in the next 12 months.

2.4.3 The Failure Score is created using a statistical modelling technique that interrogates D&B's databases to determine which data characteristics are common to failing companies and successful companies and then uses this

knowledge to build a scoring algorithm. The score is the pure statistical output from the scoring model. It is available as:

- The D&B Raw Score - a granular measure of risk used in global scoring systems. The score spectrum ranges from 1001 to 1745;
- The D&B Failure Score (percentile score) - a relative measure of risk, where 1 represents businesses that have the highest probability of failure and 100 the lowest.

2.4.4 The data used by D&B to populate its model includes demographic information such as parent company information and years in business, trade payment information such as PAYDEX<sup>2</sup> data, and financial information such as profit margins and cash flow data. D&B also provided a mapping of Failure Scores to a probability of failure, which the Board uses as an input into the risk based levy calculation.

2.4.5 The Board supplemented the information provided by D&B with additional information from Moody's KMV which allowed the Board to estimate the impact of future changes in sponsor strength, taking into account empirical evidence and the latest credit modelling techniques.

## **2.5 Pension fund deficits**

2.5.1 The Board stores valuation information and an assessment of the funding position of schemes in our database on one or more actuarial basis.

2.5.2 For the majority of schemes, we hold MFR (Minimum Funding Requirement) valuations from a variety of dates, which have been provided in the annual Scheme Return. Approximately 10% of schemes (representing approximately £400bn of liabilities) have also provided section 179 valuations by 31 March 2006, based on market values at various points on or after 1 November 2004. In respect of this 10%, the Government Actuary's Department (GAD) has rolled the assets and liabilities forward to a consistent section 179 valuation basis as at 31 March 2006, the date relevant for the Pension Protection Fund's levy calculations for the 2006/07 levy year. In addition, for those schemes that have not provided section 179 valuations, GAD has used a formula to convert the estimates on an MFR basis to a section 179 basis as at 31 March 2006. The GAD estimates then formed the basis for the 2006/07 levy invoices.

2.5.3 For the 2007/08 pension protection levy estimate, the Pension Protection Fund rolls forward the GAD estimates of assets and liabilities to a 31 October 2006 valuation date. Subject to Regulations coming into force in March 2007, all schemes will be required to submit their first section 179 valuation by 31 March 2008. From the 2008/9 levy year onwards, therefore, the Pension

---

<sup>2</sup> PAYDEX stands for "Payment Index" which is based on past payment behaviour as reported to D&B

Protection Fund will have section 179 valuations for the whole universe, and will then be able to dispense with MFR roll-forwards.

## Chapter 3 – The Board’s modelling work supporting the levy estimate consultation

This chapter provides a high level overview of the Pension Protection Fund’s Long-Term Risk Model and its constituent parts.

### 3.1 Introduction

- 3.1.1 The Board finances its obligation to pay compensation by investing the scheme assets received from schemes that transfer into the fund (including recoveries from sponsoring employers) and the levy raised from all eligible schemes.
- 3.1.2 The Board published its Statement of Investment Principles in October 2006 which set out its long term investment strategy<sup>3</sup>. This bespoke dynamic liability driven investment strategy aims to balance the security of beneficiaries with the interests of levy payers by seeking to outperform the liabilities. The strategy sought to minimise the correlation between the returns on the Pension Protection Fund’s portfolio and the movement in aggregate UK defined benefit pension scheme deficits. In addition, the Board limits its exposure to credit assets given the nature of risk it faces. By adopting such an approach the Board looks to use the capital provided by levy payers in an efficient manner.
- 3.1.3 In order to manage its balance sheet, the Board estimates the likelihood of future claims under different economic scenarios projecting financial asset returns, insolvencies, bond yields and inflation. It also takes into account sensitivities to changes in behavioural factors, such as scheme funding, scheme closure and changing asset allocation, and demographic factors, such as improving longevity.
- 3.1.4 The risk profile of the Pension Protection Fund is formed from the confluence of the insolvency risk and the heterogeneous distribution of both size of scheme and level of underfunding. It is subject to the unique interplay of economic factors that influence both the probability of a claim on the Pension Protection Fund and, through the sensitivity of assets and liabilities, the size of claim faced. Economic factors also impact on the Pension Protection Fund’s own solvency levels.
- 3.1.5 In view of this profile and the exposure of the Fund to unexpected events, risks such as the effect of a particular industry or region experiencing a shock downturn, or a macro shock such as a deep recession, or a single large claim that has a low likelihood but a high impact, it is considered that stochastic

---

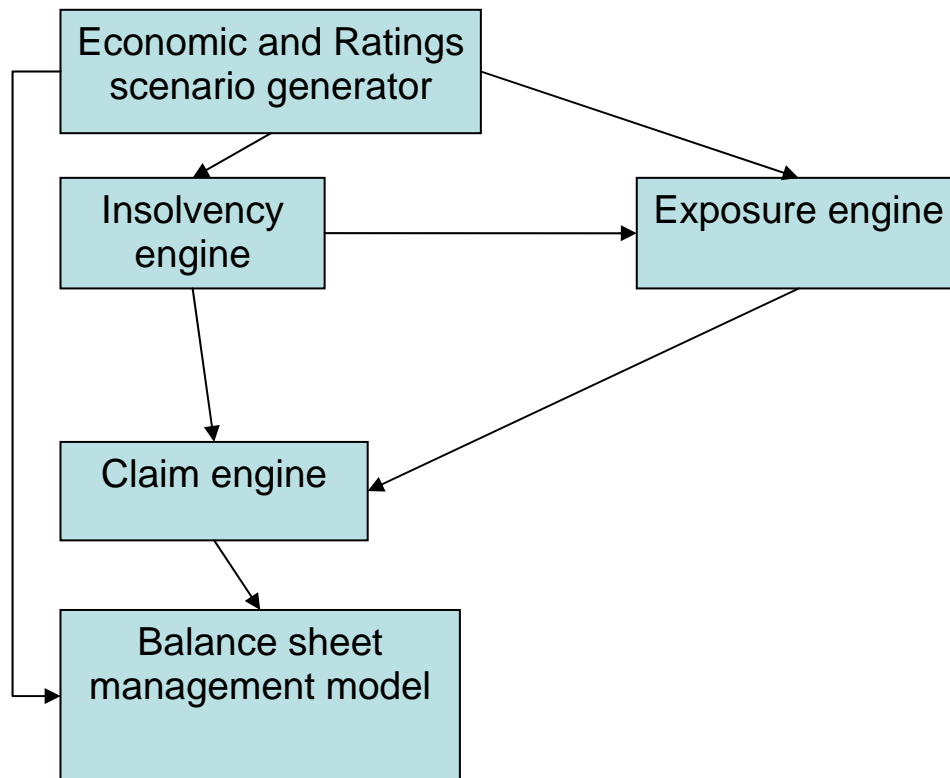
<sup>3</sup> This document is available from the Pension Protection Fund website.

projections capable of capturing and analysing a broad spectrum of possible future scenarios provide a better framework for decision making on the levy.

## **3.2 The Long-Term Risk Model**

- 3.2.1 The Long-Term Risk Model (LTRM) developed by the Pension Protection Fund forecasts its future claims and projects the future assets and liabilities of the Fund. By projecting its balance sheet, the Board is able to consider the inter-relationships of investment and levy strategies on the future actuarial funding ratio of the Fund.
- 3.2.2 During 2006, many enhancements have been made to the model in order to further refine the approach to modelling insolvency events. The objectives of these new developments were first to model the credit migration of pension schemes' sponsors over time (reflecting the empirical evidence from financial markets), secondly to capture the effect of industry concentrations and thirdly to model the simultaneous effects of economic environment on insolvency rates and asset returns. This extra level of sophistication has required 6 months development work including valuable input from external partners. The Board has worked together with Moody's KMV to develop an approach to insolvency using transition and correlation matrices that have been estimated using 15 years (between 1990 and 2005) of monthly Moody's KMV Distance to Default for 20,000 companies, both public and private.
- 3.2.3 Figure 1 illustrates how the model components are combined to generate a statistical distribution of future claims and of future assets and liabilities.

**Figure 1**



3.2.4 The modules have been developed jointly by the Pension Protection Fund's own financial modelling experts and by external providers to create a bespoke model that is designed to quantify the unique and specific risks assumed by Pension Protection Fund. Additional external quality assurance has been provided in both the design of and choice of parameters for the exposure engine, and the model has also been reviewed from a "fit for purpose" perspective.

3.2.5 The **Economic Scenario Generator (ESG)** has been provided by Barrie and Hibbert and sits at the top of the model structure, producing inputs for the exposure and insolvency engines and the balance sheet management model. It generates more than 2000 stochastic scenarios of economic and financial variables (real and nominal interest rates, inflation rates and equity returns) and insolvency risk factors. Financial variables are then used to project assets and liabilities of pension schemes under each economic scenario. Insolvency risk factor scenarios ensure consistency between credit events simulated by the insolvency engine and economic scenarios.

3.2.6 The ESG has been calibrated so as to produce expected values of financial variables consistent with consensus expectations. An equity risk premium of 3% pa is assumed and the interest rates processes have been calibrated so that real interest rates converge towards 2% pa (the Treasury estimate of real growth rate) and nominal rates towards 5% pa implying an RPI inflation rate of 3% pa, which corresponds to the market long-term, expected rate.

- 3.2.7 The **Exposure Engine** has been developed in conjunction with Hewitt Bacon & Woodrow to roll forward assets and liabilities of pension schemes subject to the economic conditions simulated by the ESG. The model estimates the likely level of deficits for each scheme using the financial assumptions and asset market returns generated by the ESG for each year that is being projected.
- 3.2.8 The exposure engine projects forward the demographic profile of the pension scheme and, at each future period over the projected time horizon, values that profile in accordance with the Pension Protection Fund valuation basis and compares it with a projection of the scheme assets that is consistent with the appropriate economic scenario. By projecting the benefits through time rather than the liabilities, a more accurate representation of the split between different types of pension is produced and the increasing maturity of closed schemes is more accurately reflected.
- 3.2.9 To calculate the starting pension schemes' assets and liabilities values, MFR valuations collected from the scheme return have been rolled forward using a methodology developed by the Government Actuary's Department. This methodology transforms the valuation to estimate the s179 value of liabilities. This approach is identical to the approach used to roll forward assets and liabilities for levy invoicing purposes<sup>4</sup>. The approach also takes into account the impact of future contributions, depending on whether the scheme is open or closed to members and the impact of scheme specific funding recovery plans. The Board is likely to refine its approach once recovery plan data has been submitted to the Pensions Regulator.
- 3.2.10 The Board's funding calculations use the same mortality assumptions for all schemes, namely the PA92 "medium cohort" assumptions. The medium cohort assumptions take into account the observation that the biggest improvements in mortality in recent years have occurred for those born in the mid-1930s. This assumes that the average age at death for a 65 year old male is 87. The Board also consider the effect of using a more prudent basis of mortality improvements in its sensitivity analysis, assuming a 10% improvement in mortality over the projected horizon of the model.
- 3.2.11 The **Insolvency Engine** simulates the rating migration of employers depending on economic conditions reflected by the insolvency risk factors produced by the ESG and the industries in which sponsors operate. The approach chosen explicitly models the transition of employers' credit ratings using a matrix of transition probabilities to estimate the probability of a scheme moving between credit rating levels over each 12 month period in the projection. The transition matrices are adjusted by risk factors generated by the ESG.
- 3.2.12 The transition matrices hold the probability of a company moving between different levels of credit worthiness each year and the probability at each level of entering insolvency. The matrices are used to project forward the Pension

---

<sup>4</sup> The roll forward methodology is published on the Pension Protection Fund website.

Protection Fund population of DB scheme sponsors to build a future credit profile of the population and thereby project future insolvency events.

3.2.13 The **Claim Engine** translates insolvency events into claims on the Pension Protection Fund taking into account contingent assets held by pension schemes and recoveries of section 75 debts from the scheme's sponsoring employer. It then combines this piece of information with the rolled forward assets and liabilities to derive claim values measured by the accumulated deficit valued on the Board's financial accounting basis of schemes that make a claim on the Pension Protection Fund. The end result of this process is the distribution of future claims over the period chosen in the simulation.

3.2.14 The **Balance Sheet Management Model** combines information taken from the claim engine with the economic scenarios to produce the distribution of Pension Protection Fund assets and liabilities. It uses similar techniques as in the exposure engine to roll forward the liabilities of the Pension Protection Fund and the assets taking into account the investment strategy. This component enables the Board to examine the impact of a levy policy and/or of an investment strategy on the Pension Protection Fund actuarial funding level.



## Chapter 4 – Deciding the levy estimate

This chapter outlines how the Board used the outputs from the Long-Term Risk Model, together with the emerging evidence from the Board's own experience to date and other considerations, to arrive at a levy estimate for 2007/08.

### 4.1 Policy framework for the risk based levy

4.1.1 **Reduce long term risk** - The Board believes that the aggregate amount of long term risk retained within DB schemes is too high and needs to reduce. Since the levy is ultimately determined by aggregate risk to the Pension Protection Fund, levy payers can influence the amount and distribution of risk. The Board aims to align the Pension Protection Fund's and levy payers' objectives to reduce long term risk.

4.1.2 **Principles** -The Board believes that a risk based levy should be fair, simple and proportionate. Its long term objective is to maximise the percentage of the pension protection levy that is risk based. The Board has an obligation to protect all eligible schemes under the Pensions Act 2004 and, unlike a commercial insurer therefore, is unable to select which risks it wishes to "insure".

4.1.3 **Confidence** - The Board should balance the interests of levy payers and beneficiaries. In this regard the size of the Pension Protection Fund deficit, in absolute terms, is a confidence indicator. By adopting an investment strategy that seeks to outperform the liabilities, we actively take levy payers' interests into account.

4.1.4 **Risk measurement** - The Board has a preference to measure long term risk using stochastic modelling to reflect uncertainty in future claims, insolvencies and financial markets. We will interpret the model results and reach decisions using the policy framework.

4.1.5 **Solvency** -The Board regards the Pension Protection Fund solvency ratio and absolute amount of deficit as key long term measures and, in the latter case, a prominent public indicator of the Pension Protection Fund's capacity to cover its liabilities.

4.1.6 **Assumptions and sensitivities** - The Board recognises that the long-term risk model results are dependent on assumptions. It seeks to understand the impact of different outcomes on the model results. Alternative scenarios explicitly considered included:

- Further improved longevity
- Accelerated deficit reduction (scheme funding)
- Closure to new entrants/accruals

- Change in economic scenarios
- Different time horizons

4.1.7 **Consistency** - The Board has chosen the ongoing actuarial basis to value liabilities. This is consistent with the approach used in the financial statements and the investment benchmark set for fund managers.

4.1.8 **Incentives** - The Board favours the use of incentives that encourage the reduction of long term risk and intends to design mechanisms and influence policy to achieve this.

4.1.9 **Affordability** -The Board has a duty to consider the interests of levy payers when setting the levy. The Board will cap an individual scheme's levy (e.g. there will be a cap for the assumed probability of insolvency). The levels of caps will be reviewed annually. The risk based levy cap should benefit 5% of eligible schemes.

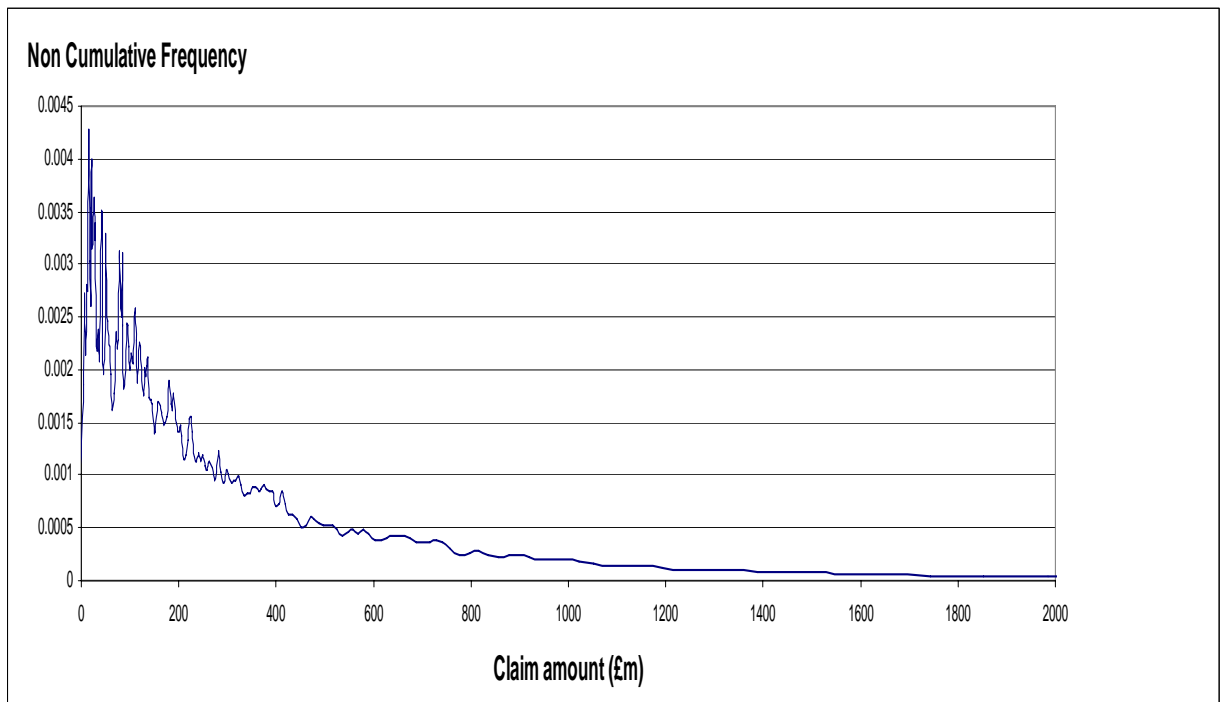
4.1.10 **Economic context** - The Board will take the economic environment into account when determining the levy quantum to be charged and the percentage of the true rate for risk that should be charged.

4.1.11 **Impact analysis** – The Board will review and consider the impact analysis of the quantum in terms of distributional impact to ensure that its proposals are fair to different groups of levy payers.

4.1.12 **External quality assurance** – The long term risk model will be subject to external scrutiny in the form of an external audit whenever significant change is made, conducted by a third party independent from the Board of the Pension Protection Fund and by organisations not associated with the model development.

4.1.13 **Hedging** - The risk from the tail of the claims distribution could be reduced through the use of financial instruments. In the medium term, the Board will evaluate the costs and benefits from re-insurance and hedging to increase the size of claims that could be covered. We also encourage the use by levy payers of hedging and other techniques to manage risk as a positive contribution to reduce their risk contribution.

**Figure 2**



## **4.2 Considerations in respect of the 2007/08 levy**

- 4.2.1 The 2005/06 Pension Protection Fund financial statements reported an actuarial deficit at 31 March 2006 of £343m. Our latest estimate of the levy to be collected is between £300m and £320m compared to our original levy estimate of £575m.
- 4.2.2 The distribution of possible outcomes is extremely skewed with a considerable quantum of risk lying in the tail of the distribution (see figure 2). The Board, in making its levy determination, must balance its need to provide for the possible impact of a long tail event and the need to consider the interests of its levy payers who ultimately bear the cost of the risks faced by the Pension Protection Fund.

4.2.3 The Board has taken the following specific factors into account when determining the 2007/08 levy quantum:

- The level of long term risk;
- The need to take prudent action to reduce the balance sheet deficit, and to recoup part of the 2006/07 under collection;
- The aim of managing its solvency position over the medium term to provide confidence to beneficiaries and levy payers by demonstrating financial robustness;
- The current economic context, to manage the financial impact of the levy over the economic cycle.

4.2.4 These considerations have led the Board to the conclusion that it needs to increase the amount of levy for 2007/08 to £675m, as well as taking measures described elsewhere in this Consultation, to ensure that the amount required by the Pension Protection Fund is actually collected during 2007/08.

## Chapter 5 – The risk based levy cap, the risk based levy scaling factor and the scheme based levy multiplier

This chapter provides a summary of how the risk based levy scaling factor and the scheme based levy multiplier will be calculated and how the risk based levy cap will be amended for the 2007/08 levy year. This chapter also notes that the Board intends to change the date at which we determine the underfunding risk element of the risk based levy calculation to increase certainty and stability for levy payers.

### 5.1 Introduction

5.1.1 The pension protection levy is made up of two parts: a scheme based levy, and a levy based on the risk posed by the scheme to the Pension Protection Fund (the risk based levy). These two parts are calculated as:

Scheme-based levy = estimated liabilities on section 179 basis x multiplier

Risk-based levy = underfunding risk factor x insolvency risk factor x percentage risk based x levy scaling factor

5.1.2 The risk based levy calculation takes into account the level of scheme underfunding (after adjusting for contingent assets and deficit reduction contributions) and the probability of insolvency of the sponsoring employer(s), including the scheme structure and the insolvency risk of any guarantor(s) of type A contingent assets. Annex A sets out the details of the calculations of the risk factors used in the levy calculation.

5.1.3 The 2007/08 Pension Protection Levy Consultation Document, published in September 2006, set out the Board's proposed changes to the way in which the risk factors are calculated and, as such, how the total levy amount would be distributed between eligible pension schemes. This document sets out how the total amount of pension protection levy that the Board considers should be collected (the levy estimate) has been calculated for 2007/08 and how the 2007/08 levy scaling factor and the scheme based levy multiplier will be calculated to ensure that the total levy collected closely matches the Board's levy estimate.

5.1.4 This chapter also sets out our revised approach to the risk based levy cap for 2007/08 and our intention to change the date at which we calculate the underfunding risk element of the risk based levy calculation. We now intend to determine the level of scheme assets and liabilities using market assumptions as at 31 October 2006, although we will still take account of all section 179 valuations, deficit reduction contributions and Type B and C contingent assets

correctly certified to us by the 30 March 2007<sup>5</sup> (5 April 2007 in the case of the Actuarial Certificate of Deficit Reduction Contributions).

## 5.2 The risk based levy cap

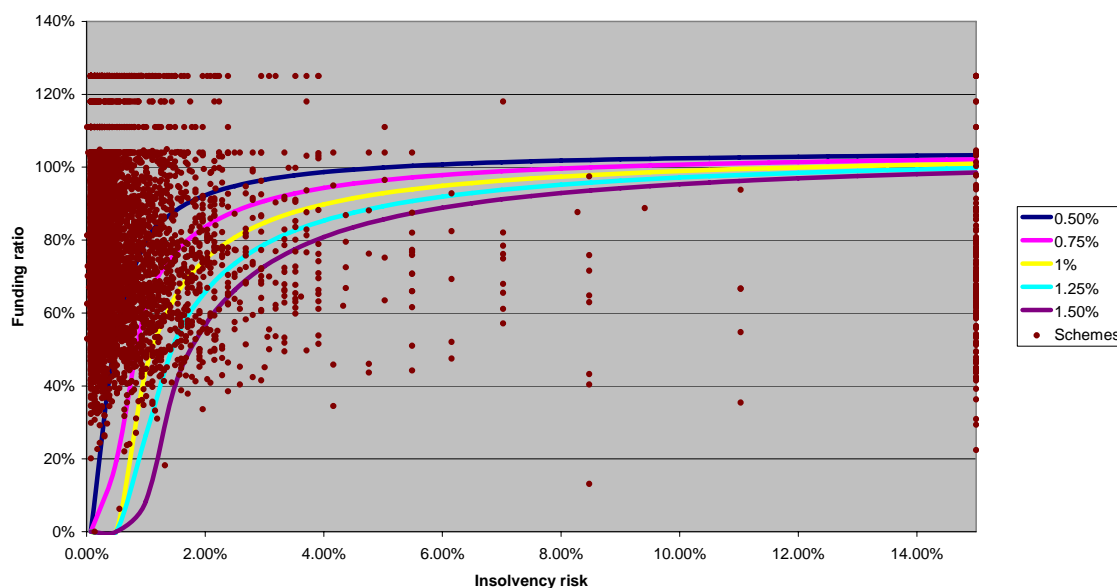
- 5.2.1 The Board has a duty to consider the interests of levy payers and take them into account in financial matters. This is reflected in the Board's policy framework. The Board takes the interests of the weakest 5% of levy payers into account by imposing a cap on their levy. The Board takes the interests of the strongest levy payers into account by charging them no risk based levy. The Board estimates that over 200 schemes benefited from this in 2006/07 and that between 400 and 500 schemes will benefit in 2007/08. The Board takes the interest of the remaining levy payers into account by limiting the amount of levy that is redistributed so that it does not impose an unfair financial burden.
- 5.2.2 For the 2006/07 levy year, the Board took the decision to cap the amount of risk based levy payable by 5% of schemes. It was considered that a risk based levy cap which benefited 5% of schemes struck the right balance between affordability, fairness and proportionality. This decision meant that no scheme paid a risk based levy of more than 0.5% of liabilities on a section 179 basis as at 31 March 2006.
- 5.2.3 Our modelling work has estimated that a cap of 0.5% of section 179 liabilities for the 2007/08 levy year would benefit approximately 20% of all eligible schemes. This would have a disproportionate impact on the remaining 80% of levy payers.
- 5.2.4 The chart below plots the risk factors (funding ratio and insolvency risk) for eligible schemes<sup>6</sup> as at 30 October 2006. Each data point represents an individual scheme and is a combination of a funding ratio and insolvency risk. Each solid curve represents a different level for the levy cap varying between 0.5% and 1.5% in 0.25% increments. Each scheme (data point) lying below the solid line benefits from the cap at that level. The chart illustrates the heavy concentration of schemes benefiting from the cap at 0.5%.

---

<sup>5</sup> We will also take account of Type A contingent assets correctly certified to the Board; however, although these assets are also technically recognised as part of the underfunding calculation, they indirectly affect the insolvency risk element of the risk based levy calculation

<sup>6</sup> 5395 schemes

Distribution of risk factors at 30 Oct 2006



5.2.5 For the 2007/08 levy year the risk based levy cap will therefore be amended to 1.25% of liabilities on a section 179 basis. This is based on targeting approximately 5% of schemes to benefit from the application of the cap, thereby ensuring that the balance between affordability, fairness and proportionality is maintained. The increase in the cap from 0.5% in 2006/07 to 1.25% in 2007/08 matches the increase in the risk based levy to be collected.

### 5.3 The risk based levy scaling factor and scheme based levy multiplier

5.3.1 For 2006/07, the risk based levy scaling factor was the ratio of 80% of the pension protection levy estimate to the overall risk exposure. It was applied to the product of the underfunding and insolvency risk factors and the percentage risk based levy ( $U \times P \times 0.8$ ) to help ensure that the aggregate amount of levy expected to be collected closely matched the amount that the Board considered should be collected. For the 2006/07 levy year the levy scaling factor was fixed at 0.53.

5.3.2 The scheme based levy is calculated by applying a “multiplier” to a scheme’s estimated liabilities on a section 179 basis as at a consistent date. Again, this multiplier is designed to ensure that the total amount of scheme based levy raised closely matches the Board’s levy estimate. For the 2006/07 levy year, the multiplier was set at 0.00014.

5.3.3 The calculation of the levy scaling factor and the multiplier for the 2006/07 levy year used the data (funding and insolvency information) for 1,035 eligible schemes as at 31 October 2005. This information was scaled up to estimate the funding and insolvency data for the total population of eligible schemes. The overall risk exposure was estimated using this information and the

formulae above (excluding the scaling factors). The levy scaling factors were then determined by comparing the overall risk exposure with the amount that the Board considered appropriate for collection (the levy estimate).

5.3.4 The Board's levy estimate for the 2006/07 levy year was £575 million. As the Board recently announced, it now expects that between £300 and £320 million will be collected during the 2006/07 levy year, with the scheme based levy contributing approximately £100 million of this total amount. A number of different factors have been identified to explain the difference between these two amounts which are set out in 5.4.1 below.

## **5.4 Sensitivity of the amount of levy collected to changes in underfunding and insolvency risk**

5.4.1 The differences between these two estimates are attributable to several factors:

- market movements in the value of scheme assets and section 179 liabilities;
- the effect of our incentives package in terms of deficit reduction contributions and contingent assets certified to the Board;
- improved data provided by schemes – multi-employer scheme structure information;
- updated D&B failure scores.

5.4.2 The Board does not expect to see the same effect from changes in insolvency risk information in the 2007/08 levy year. This is because the Board has calculated the levy estimate based on a larger and more representative sample of scheme information. The divergence in insolvency risk information is expected to be less significant as schemes have already engaged with D&B, and sought to ensure the Failure Scores provided to the Board are based on the most accurate information available.

5.4.3 However, we remain concerned by the effect that changes to market conditions could have in 2007/08 and in future levy years. This is because underfunding is highly geared, and measured as the difference between two large numbers (total assets and total liabilities), so small changes in either number can lead to large changes in the underfunding amount. Such movements could still prompt divergence from the levy estimate if the same approach to calculation of the risk based levy scaling factor and the scheme based levy multiplier was to be adopted for the 2007/08 levy year as was the case for 2006/07.

5.4.4 The Board has therefore taken the decision to ensure a greater degree of stability and certainty for levy payers by fixing the date at which the level of scheme underfunding is calculated, prior to the end of the levy year. For 2007/08 we will calculate the level of scheme underfunding using market

assumptions as at 31 October 2006. Any s179 valuations received with a valuation date after 1 April 2006 will be rolled forward or back to this date, depending on the effective date of the valuation.

- 5.4.5 The Board will continue to accept section 179 valuation certificates submitted up until 5pm on 30 March 2007, but will use the methodology for determining assets and liabilities on a section 179 basis as at a consistent date to roll back those calculations to 31 October 2006. This methodology is published alongside this 2007/08 Levy Estimate Consultation document.
- 5.4.6 The Board will also take account of deficit reduction contributions and Type B and C contingent assets<sup>7</sup> certified prior to the relevant deadline in the calculation of scheme underfunding risk.

## **5.5 The risk based levy scaling factor for the 2007/08 levy year**

- 5.5.1 In 2006/07 the Board determined a specific figure for the levy scaling factor prior to the point at which all scheme information became available. The Board fixed the scaling factor at 0.53 using risk factors calculated in October 2005. The risk factors used to bill the levy were measured on 31 March 2006. The fixing of the scaling factor resulted in a levy to be collected below the Board's levy estimate due to schemes providing the Board with new information and changes in the risk factors between October 2005 and March 2006.
- 5.5.2 In order to mitigate the risks to over or under-collection of the appropriate amount of levy for 2007/08, the Board has taken the decision to amend the way in which the levy scaling factor and scheme based multiplier are calculated.
- 5.5.3 For the 2007/08 levy year, the Board will set out the formulae for calculating the levy scaling factor and scheme based levy multiplier in this document, and will include indicative results based on information available on 31 October 2006 (the date at which the levy estimate was calculated) but will not publish the final risk based levy scaling factor and the scheme based levy multiplier until the end of April 2007. This will enable the Board to ensure as much scheme specific information as possible is collected and included in the calculation of the levy scaling factor and scheme based levy multiplier. The Board does not intend to publish any further indicative estimates before the end of April 2007. The Board has sought to neutralise the impact of controllable factors on the levy scaling factor formula as far as possible.

---

<sup>7</sup> We will also take account of Type A contingent assets correctly certified to the Board; however, although these assets are also technically recognised as part of the underfunding calculation, they indirectly affect the insolvency risk element of the risk based levy calculation

5.5.4 The 2007/08 risk based levy scaling factor will be calculated using the formula:

$$\sum_{i=1}^T \min(U_i \times P_i \times R \times c, K \times L_i) = Q \times R$$

Where,

$T$  = number of Pension Protection Fund eligible schemes/sections

$U_i$  = underfunding risk factor (including contingent assets) of the  $i$ th eligible scheme/section

$P_i$  = insolvency risk factor for the  $i$ th eligible scheme/section

$L_i$  = estimated s179 liabilities of  $i$ th eligible scheme/section

$Q$  = pension protection levy estimate

$R$  = percentage of the pension protection levy that is risk based

$K$  = levy cap expressed as a decimal

The levy scaling factor is the solution,  $c$ , to the non-linear equation shown above<sup>8</sup>.

5.5.5 For the 2007/08 levy year the percentage of the pension protection levy that will be made up by the risk based element ( $R$ ) remains unchanged at 80% and the levy cap ( $K$ ) will be 1.25% to benefit 5% of schemes. The Board will continue to charge no risk based levy to schemes that are 125% or more funded on a s179 valuation basis. This is likely to benefit approximately 5% of schemes.

5.5.6 The risk based levy quantum ( $R \times Q$ ) is the Board's estimate of the amount of risk based levy that should be collected for the 2007/08 levy year. As set out in chapter 4 of this document, that has been calculated as £540million.

5.5.7 The total risk exposure will be the sum of the product of underfunding risk as at 31 October 2006, insolvency risk as at 30 March 2007 and percentage risk based, subject to the levy cap, for all schemes.

5.5.8 Scheme assets and liabilities for the purpose of the underfunding risk calculation will be determined using market information available as at close of

---

<sup>8</sup> Note that the formula in 5.5.4 is slightly simplified and does not take account of, among other things, the need to scale up for schemes in respect of which the Board does not have adequate data when it is calculating the scaling factor and multiplier. The detailed formulae are set out in the draft Determination.

business on 31 October 2006. Insolvency risk will be calculated using 30 March 2007 Failure Scores for the known universe of sponsoring employers. The scaling factor calculation will not, however, take account of contingent assets certified to the Board between 1 April 2006 and 30 March 2007 and deficit contributions certified between 8 April 2006 and 5 April 2007.

5.5.9 The Board wishes to encourage schemes and sponsoring employers to take such steps towards risk reduction and to recognise that behaviour by reducing the amount of levy payable, both by the individual scheme and in aggregate across all schemes. If a significant number of schemes take up the Board's incentives package the Board may collect a lower total amount than the levy estimate of £675million, but the Board considers this to be appropriate if resulting from a significant level of activity to mitigate risk in the system.<sup>9</sup> In 2006/07 the reduction to the amount collected as a result of deficit reduction contributions and contingent assets amounted to £60m.

5.5.10 When this formula is applied to the insolvency and underfunding information available for the known universe of eligible schemes and sponsoring employers as at 31 October 2006, the indicative risk based levy scaling factor is 2.02. The actual scaling factor will be determined in accordance with the formula set out in the final Determination and is likely to differ from this indicative figure. Only the finally calculated and published figure will be definitive.

### Reconciliation of the indicative scaling factor: 2006/07 to 2007/08

5.5.11 The change in levy scaling factor between 2006/07 and 2007/08 can be attributed to a change in risk factors between October 2005 and October 2006, a change in quantum from £575m to £675m and a change in the levy cap from 0.5% to 1.25%.

Description	LSF
Levy scaling factor in 2006/07 based on collecting £575m and 0.5% cap using risk factors in October 2005	0.53
Impact of change in risk factors between October 2005 and March 2006 based on collecting £575m and cap 0.5%	+0.78
Impact of change in risk factors between March 2006 and October 2006	+0.70
Impact of change in levy estimate from £575m to £675m	+0.47
Impact of change in cap from 0.5% to 1.25%	-0.46
<b>Levy scaling factor in 2007/08 based on collecting £675m and 1.25% cap using risk factors in October 2006<sup>10</sup></b>	<b>2.02</b>

<sup>9</sup> The levy scaling factor formula for 2007/08 is designed to neutralise the effects of all other new information on the amount to be collected (other than deficit reduction contributions and contingent assets).

<sup>10</sup> Excludes schemes in assessment

## 5.6 The scheme based levy multiplier for the 2007/08 levy year

5.6.1 The 2007/08 scheme based multiplier is calculated using the formula:

$$h \sum_{i=1}^T L_i = (1 - R) \times Q$$

$$h = \frac{(1 - R) \times Q}{\sum_{i=1}^T L_i}$$

Where,

T = number of Pension Protection Fund eligible schemes/sections

$\sum_{i=1}^T L_i$  = sum of s179 liabilities over all eligible schemes

Q = pension protection levy estimate

R = percentage of the pension protection levy that is risk based; hence (1-R) is the percentage that is scheme based

The scheme based multiplier is the solution, h, to the linear equation shown above<sup>11</sup>.

5.6.2 For the 2007/08 levy year the percentage of the pension protection levy that will be made up by the scheme based element (1- R) remains unchanged at 20%.

5.6.3 The scheme based levy estimate is the Board's estimate of the total amount of scheme based levy that should be collected for the 2007/08 levy year. Again, as described in chapter 4, that has been calculated as £135million.

5.6.4 The total liabilities are the same as are used to determine total underfunding risk for the risk based levy scaling factor calculation. When the above formula is applied to estimated s179 liability information available for the known universe of eligible schemes and sponsoring employers as at the 31 October 2006, the indicative scheme based levy multiplier is 0.0195%. The actual multiplier will be determined in accordance with the formula set out in the final

---

<sup>11</sup> Note that the formula in 5.6.1 is slightly simplified and does not take account of, among other things, the need to scale up for schemes in respect of which the Board does not have adequate data when it is calculating the scaling factor and multiplier. The detailed formulae are set out in the draft Determination.

Determination and is likely to differ from this indicative figure. Only the finally calculated and published figure will be definitive.



## Chapter 6 – Appealing the Pension Protection Levy

This chapter sets out the process by which a scheme can seek a review of a levy invoice. It also discusses the means by which an appeal can be made against a company's D&B failure score.

### 6.1 Introduction

- 6.1.1 The Board of the Pension Protection Fund believes it to be essential that a robust, consistent, transparent process is in place for schemes to query the information used in the levy calculation.
- 6.1.2 If a scheme receives an invoice for the 2007/08 pension protection levy and believes that the calculation is incorrect (in terms of incorrect data used to determine a scheme's underfunding risk or erroneous calculations on the part of the Pension Protection Fund), it may seek a review of the amount of its levy as a "reviewable matter" under section 206 and schedule 9 of the Pensions Act 2004. Information on reviews is contained in section 6.2 below.
- 6.1.3 If an employer wishes to appeal against its failure score, the employer should approach D&B, whose appeals process is set out in section 6.3. An employer's failure score is not a "reviewable matter".

### 6.2 Seeking a review of the levy amount

- 6.2.1 Most levy invoice queries, except those specifically querying a D&B Failure Score, can be dealt with quickly and efficiently by contacting the Stakeholder Support Team at the Pension Protection Fund on 0845 600 2541 or at [levyinvoice@ppf.gsi.gov.uk](mailto:levyinvoice@ppf.gsi.gov.uk).
- 6.2.2 However, if you then wish to raise a formal review, as set out above, the amount of the levy is a reviewable matter, defined in Schedule 9 of the Pensions Act 2004. Information on how to ask for a review of a levy invoice can be found in the booklet which will be included with all levy invoices, and in "How we deal with your concerns", which can be found in the guidance section of the Pension Protection Fund website.
- 6.2.3 It should be noted that under section 181(3) (b) of the Pensions Act 2004, the Board must apply the Determination when calculating the amount of pension protection levy payable by a particular scheme. The Board does not have any discretion to depart from the Determination.
- 6.2.4 A request for a review of the calculation of the pension protection levies can only be made by a trustee or manager of an eligible pension scheme or their representative formally appointed for the purpose. The party requesting a review must do so within 28 days of the date at which the Board issues the invoice.

- 6.2.5 Once a request for a review has been received, the Pension Protection Fund will review the information used to calculate the levy. If a factual error is identified, a revised levy invoice will be issued. In every instance the Pension Protection Fund will aim to make a decision within 28 days.
- 6.2.6 If the response received from the Pension Protection Fund does not satisfy the concern, the issue can be raised with the Pension Protection Fund Reconsideration Committee.
- 6.2.7 If the response of the Pension Protection Fund Reconsideration Committee is deemed unsatisfactory, the issue may be considered by the Pension Protection Fund Ombudsman.

### **6.3 Appealing the D&B Failure Score**

- 6.3.1 The Board would encourage employers to obtain their D&B failure scores in advance of 30 March 2007. However, whenever an employer obtains its failure score, it may query it, up to 28 days after issue of a levy invoice, by contacting the dedicated D&B helpline for Pension Protection Fund related queries on 0870 850 6209 or by emailing [customerhelp@dnb.com](mailto:customerhelp@dnb.com).
- 6.3.2 Typical grounds for appeal of the D&B Failure Score would include where the scheme considers that the data used by D&B was out of date or inaccurate as at 30 March 2007 or where the employer has taken steps to amend their Failure Score such as filing new accounts with Companies House prior to 30 March 2007 and there has been a delay in processing of that information through Companies House or D&B.
- 6.3.3 D&B will then undertake a robust appeals process in every case which encompasses the following stages:

#### Stage 1: Data validation

The customer service team will check that the data in the D&B report (on which the failure score is based) is accurate and up-to-date. If the data is found to be incorrect, additional information will be requested from the most appropriate source. If the data is correct, but the company still disagrees with the score, the query moves to stage 2.

#### Stage 2 - Score explanation

The customer service team will then provide a generic explanation of how the score is calculated based on the data included in the D&B report and the key components of the scoring algorithm.

#### Stage 3 – Escalation process

Customer service manager review

If a company still wishes to appeal against its failure score following a discussion of how that score is calculated, its appeal will be escalated to the customer service manager. The customer service manager will then review the failure score and speak to the customer service team involved to ascertain that the correct process has been followed, and to ensure all the relevant information has been provided. Once this review is complete, the customer service manager will call the customer back to talk through the score again and discuss any specific concerns still remaining.

#### Scoring specialist review

If concerns are still apparent, the appeal will be escalated to a scoring specialist who will review the technical aspects of the score, and will be able to discuss those aspects in greater detail.

#### D&B director review

The final stage in the process is for the appeal to be passed to a D&B director for review. The director will gather all the relevant information, speak to the parties involved, and confirm that the processes have been followed correctly.

The director will then respond in writing.

- 6.3.4 The validation of data should take no longer than 28 days in the case of UK failure score queries. Where an overseas failure score is queried, D&B UK Customer Services would aim to complete the validation of data within 28 days. In all cases, a regular update will be provided to parties concerned.
- 6.3.5 The final outcome of the appeal will be communicated to all the relevant parties, including the Pension Protection Fund.
- 6.3.6 At all stages of appeal, D&B will keep all parties informed and, if a call back or response in writing is required, will provide an indication of when a response should be expected.
- 6.3.7 If the appeal results in an adjustment to the failure score, the Pension Protection Fund will recalculate the levies and re-invoice as appropriate.



## Chapter 7 – The consultation process

### 7.1 Responding to the consultation

- 7.1.1 The Board of the Pension Protection Fund welcomes your views on the firm proposals contained in this Consultation Document.

### 7.2 Arrangements for written submissions

- 7.2.1 The consultation period begins on 21 December 2006 and will end on 2 February 2007. Please ensure that your response reaches us by that date. If you would like further copies of this Consultation Document it can be found on our website at [www.pensionprotectionfund.org.uk](http://www.pensionprotectionfund.org.uk). Please send all consultation responses to:

Sara Protheroe  
Director of Levy and Policy  
Board of the Pension Protection Fund  
Knollys House  
17 Addiscombe Road  
Croydon  
CR0 6SR

Tel: 020 8633 4900  
Email: [consultation@ppf.gsi.gov.uk](mailto:consultation@ppf.gsi.gov.uk)

- 7.2.2 When responding, please state whether you are responding as an individual or representing the views of an organisation. If responding on behalf of an organisation please make it clear who the organisation represents and, where applicable, how the views of members were assembled. If responding on behalf of a pension scheme, please include your Pension Schemes Registry number.
- 7.2.3 The requirements of the Freedom of Information Act (2000) state all information contained in the response, including personal information, may be subject to publication or disclosure. By providing personal information for the purposes of the public consultation exercise, it is understood that a respondent consents to its disclosure and publication. If this is not the case, the respondent should limit any personal information which is provided or remove it completely. If a respondent requests that the information given in response to the consultation be kept confidential, this will only be possible if it is consistent with Freedom of Information Act obligations and general law on this issue. Queries should be sent to Paul Reynolds. Further information about the Freedom of Information Act can be found on the website of the Department for Constitutional Affairs – <http://www.dca.gov.uk/foi/guidance/exguide/index.htm>.

### **7.3 Publishing a summary of responses**

- 7.3.1 The Board will aim to publish a summary of responses at [www.pensionprotectionfund.org.uk](http://www.pensionprotectionfund.org.uk), by 1 March 2007, alongside the final version of the Levy Determination.
- 7.3.2 This consultation is being conducted in line with the Code of Practice on Consultation. The code can be accessed at:  
<http://www.cabinetoffice.gov.uk/regulation/Consultation/Code.htm>
- 7.3.3 The Board would value any feedback on the effectiveness of this consultation process. If you have any comments then please contact:

Paul Reynolds  
Director of Communications  
Board of the Pension Protection Fund  
Knollys House  
17 Addiscombe Road  
Croydon  
CR0 6SR

Tel: 020 8633 4968  
E-mail: [paul.reynolds@ppf.gsi.gov.uk](mailto:paul.reynolds@ppf.gsi.gov.uk)

## Annex A – Levy formula

### A.1. Calculation of insolvency risk factor (P)

$$P = M \times \sum_{i=1}^K w_i P_i$$

$$w_i = \frac{E_i}{E}$$

$$E = \sum_{i=1}^K E_i$$

$K$  = number of sponsoring employers in the scheme/section

$E_i$  = number of members of the  $i$ th sponsoring employer in the scheme section

$E$  = total number of members for all sponsoring employers in the scheme/section

$w_i$  = weighting applied to the insolvency probability of the  $i$ th sponsoring employer in the scheme/section

$F_i$  = failure score of  $i$ th sponsoring employer in the scheme/section

$p_i$  = implied probability of insolvency for  $i$ th employer corresponding to failure score

$F_i$  based on 2007/8 levy determination mapping table from failure scores to probabilities capping at 0.15

$M$  = factor dependent on type of multi-employer scheme

$E_L$  = number of members for employer  $L$  with the largest number of scheme/section members

$P$  = insolvency risk factor used in levy calculation for scheme/section

Multi-employer type	Factor ( $M$ )
Option/requirement to segregate upon cessation of participation of an employer	1
ALMS	0.9
NALMS	$\frac{E_L}{E}$

ALMS = Associated Last Man Standing

NALMS = Non-associated last man standing

## A.2. Calculation of underfunding risk factor including contingent assets (U)

$$A' = S + C + N_b + N_c$$

$S$  = estimated scheme assets at levy calculation date

$C$  = deficit reduction contributions between date of last valuation and levy calculation date

$N_b$  = type B contingent assets

$N_c$  = type C contingent assets

$L$  = estimated s179 liabilities at levy calculation date

$$f = \frac{A'}{L} = \text{funding level taking into account type B and type C contingent assets}$$

$N_a$  = type A contingent assets

$$z = 1 - \frac{P_g}{P}$$

$P_g$  = implied probability of insolvency for guarantor corresponding to failure score based on 2007/8 levy determination country mapping table from failure scores to probabilities

$P$  = insolvency risk factor calculation

$$U = \lambda L - \alpha z$$

$$\lambda = \begin{cases} 1.05 - f & f \leq 104\% \\ 0.0075 & 104\% < f \leq 111\% \\ 0.005 & 111\% < f \leq 118\% \\ 0.0025 & 118\% < f \leq 125\% \\ 0 & f > 125\% \end{cases}$$

$$\alpha = \begin{cases} \min(N_a, \max((1.05 - f)L, 0)) & f \leq 104\% \\ \min(N_a, 0.0075L) & 104\% < f \leq 111\% \\ \min(N_a, 0.005L) & 111\% < f \leq 118\% \\ \min(N_a, 0.0025L) & 118\% < f \leq 125\% \\ 0 & f > 125\% \end{cases}$$

### A.3 Risk based Levy formula

A.3.1 The risk based levy charged to a scheme/section is calculated using the formula, based on R% of the levy being risk based

$$RBL = \min(U \times P \times R \times c, K \times L)$$

$U$  = underfunding risk factor (including contingent assets)

$P$  = insolvency risk factor

$L$  = estimated s179 liabilities

$c$  = levy scaling factor

$R$  = Percentage of the pension protection levy that is risk based

$K$  = risk based levy cap, expressed as a decimal

### A.4 Scheme based levy formula

A.4.1 The scheme based levy charged to a scheme/section is calculated using the formula, based on (1-R)% of the levy being scheme based

$$SBL = hL$$

$h$  = scheme based levy multiplier

$L$  = estimated s179 liabilities

### A.5 Levy scaling factor

$T$  = number of eligible schemes/sections

$\sum_{i=1}^T \min(U_i \times P_i \times R \times c, K \times L_i)$  is the total risk exposure

$U_i$  = underfunding risk factor (excluding contingent assets and deficit-reduction contributions) of the  $i$ th scheme/section

$P_i$  = insolvency risk factor for the  $i$ th scheme/section

$L_i$  = estimated s179 liabilities of  $i$ th scheme/section

$Q$  = pension protection levy estimate

$K$  = levy cap, expressed as a decimal

The levy scaling factor is the solution,  $c$ , to the non-linear equation

$$\sum_{i=1}^T \min(U_i \times P_i \times R \times c, K \times L_i) = Q \times R$$

#### A.6 Scheme based multiplier

$T$  = number of eligible schemes/sections

$R$  = Percentage of the pension protection levy that is risk based

$Q$  = pension protection levy estimate

$L_i$  = estimated s179 liabilities of  $i$ th scheme/section

$$\sum_{i=1}^T L_i = \text{sum of estimated s179 liabilities over all eligible scheme}$$

The scheme based multiplier is the solution,  $h$ , to the linear equation

$$h \sum_{i=1}^T L_i = (1 - R) \times Q$$

$$h = \frac{(1 - R) \times Q}{\sum_{i=1}^T L_i}$$

Note that the formulae in A.5 and A.6 are slightly simplified and do not take account of, among other things, the need to scale up for schemes in respect of which the Board does not have adequate data when it is calculating the scaling factor and multiplier. The detailed formulae are set out in the draft Determination.



# Pension Protection Fund

If you would like more copies of this document,  
you can order these by phone or email.

Please quote reference PPF0607.

Telephone: 020 8867 3297

Email: [pensionprotectionfund@ecgroup.uk.com](mailto:pensionprotectionfund@ecgroup.uk.com)

**[www.pensionprotectionfund.org.uk](http://www.pensionprotectionfund.org.uk)**