

Good practice when choosing assumptions for defined benefit pension schemes with a special focus on mortality

Consultation report

September 2008

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1 Introduction

1.1 On 18 February 2008 the Pensions Regulator issued a consultation document entitled 'Good practice when choosing assumptions for defined benefit pension schemes with a special focus on mortality'. The consultation proposed guidance for trustees choosing mortality assumptions for funding purposes and a modified regulatory approach when assessing schemes' funding plans. Both proposals were informed by significant recent developments in our knowledge of current trends in mortality.

1.2 The period for the submission of responses ended on 12 May 2008. We received 80 responses in total, from representative bodies, regulated insurers, pension professionals, scheme trustees and employers, and from some individual trustees as set out in the table below.

Representative bodies	12
Consultancies	21
Scheme trustees	15
Employers	12
Insurance companies	9
Trade Unions	3
Individual trustees	3
Others	5
Total	80

2 Our proposals

2.1 The consultation was issued against a background of previous projections underestimating life expectancy. The actuarial profession did not put forward any 'official' projections when, in 2007, it published its latest standard mortality tables which could be expected to form the basis of assumptions recommended by actuaries to many of their pension scheme clients.

Guidance to trustees

2.2 The proposed guidance for trustees made the following main points.

- Good practice requires all funding assumptions to be:

- evidence based; and
- clearly and transparently described.
- Trustees should adopt the terminology recommended by the Continuous Mortality Investigation of the actuarial profession (CMI) to aid transparency and understanding.
- Trustees should note that there have been significant recent developments in current trends in mortality, with some projections which have been in common use no longer likely to be considered reasonable assumptions.
- There are two separate decisions for trustees on mortality assumptions:
 - the baseline table for the current rates of mortality; and
 - the allowance for future improvements.
- While the baseline assumption may be scheme specific, individual schemes will not normally have the evidence to make a scheme specific allowance for future improvements and will need to base their choice on broader data.
- An adjustment made to the discount rate as a proxy for future improvements in mortality does not meet the statutory requirement to adopt a prudent mortality assumption, or achieve clarity.

2.3 The guidance included an annex with background material on evidence and developments in mortality. The annex was essentially a brief history of developments in published research into mortality rates and their improvement and was intended to put mortality decision-making into context for trustees and others.

Regulatory approach

2.4 We proposed to build on our current approach when scrutinising mortality assumptions. Funding plans based on valuations with effective dates from March 2007, whose mortality improvement assumption appears to be weaker than the long cohort projection, would attract further scrutiny and dialogue with the trustees where appropriate. Furthermore, projections of future mortality, which assume that the annual rate of improvement tends towards zero, and do not have some form of underpin, would also attract further scrutiny.

3 Responses to the consultation

The guidance on deciding mortality assumptions in an actuarial valuation

3.1 There was considerable support for guidance to help trustees, with the great majority in broad agreement, and only a few clearly against, though several

respondents pointed out that there was little guidance on anything other than mortality. There was a view strongly held by some that it should be left to actuaries to explain mortality issues to trustees while others pointed out that any guidance would need keeping up to date and to be consistent with any actuarial standards issued by the Board for Actuarial Standards (BAS). Many helpful suggestions for expansion and improvement were provided.

- 3.2 Support for encouraging trustees to adopt the CMI's notation when documenting mortality assumptions was mixed. The consistency of a standard notation was clearly seen as desirable, but its technical nature and incompleteness were widely regarded as significant drawbacks.
- 3.3 When illustrating mortality assumptions, life expectancy received wide support, though using an equivalent reduction to the discount rate to illustrate expected improvements was advocated by several respondents.
- 3.4 As far as the background material in the Annex was concerned, the great majority of those who commented on it felt it to be useful, but the weight of feeling was that it would be better as a separate product.

The Pensions Regulator's response

- 3.5 We have decided to go ahead with trustee guidance incorporating many of the suggestions provided by respondents, but with the following modifications.
 - We have focussed the guidance more squarely on mortality issues.
 - We accept the validity of some of the criticisms of the CMI notation and now are emphasising transparency and consistency with that notation as far as practicable.
 - Rather than including the background material within the guidance we are instead signposting original sources of information.

The timing of the introduction of the new trigger

- 3.6 Almost no respondents supported the introduction of the proposed regulatory approach for valuations from March 2007, arguing that it would be disruptive and contrary to good regulatory principles.

The Pensions Regulator's response

- 3.7 We have decided to introduce the new regulatory approach from the start of the next valuation cycle, which means valuations with effective dates from 22 September 2008 onwards and hence the generality of recovery plans submitted from about December 2009 will be affected (though some will undoubtedly arrive earlier). We announced this on 21 July 2008.

The new regulatory approach to mortality assumptions

- 3.8 The proposed approach was for a new trigger on the mortality improvement assumption, which would be a stand-alone trigger in addition to the other triggers. Some respondents welcomed what they perceived to be a tough stance on improvements. Many more, however, were critical. The criticism was directed at two main aspects: the fact that the trigger would operate regardless of the overall level of technical provisions, and the level at which the trigger was set.

The separate trigger

- 3.9 Respondents critical of a separate trigger for one assumption saw it as a departure from the previous focus on the overall level of technical provisions. They pointed out that schemes might choose to avoid regulatory attention by ensuring that the improvement assumption exceeded our trigger but might be tempted to squeeze other assumptions to compensate. This, they argued, would eventually force the Pensions Regulator to adopt triggers for other key assumptions which would end up looking very much like a new minimum funding standard, something the 2004 Act sought to move away from. Others argued that schemes, which were already adequately prudent overall (by having margins in other assumptions), would be forced into super-prudence if they adopted an improvement assumption in line with our trigger.

The trigger level

- 3.10 While a few respondents felt that the long cohort with an underpin was about the right strength for a prudent improvement rate, the great majority thought it too strong. The main specific arguments advanced against the proposed trigger level were:
- that actual improvements observed in the cohort generation have not been as high as any of the cohort projections predicted, though it is accepted that short and medium may be reducing improvements too fast;
 - many insurance company assumptions for the calculation of their reserves (equivalent to technical provisions) at the end of 2006 were not as strong as the proposed level;
 - improvement rates at higher ages have not been appropriately considered and the adoption of a single underpin at all ages is of doubtful validity;
 - there is too much uncertainty, as acknowledged by the BAS, to justify such a strong trigger; and
 - the use of such an explicit trigger will encourage blind adoption by trustees and discourage other appropriate approaches.

- 3.11 There was more widespread acceptance that an underpin, or long-term rate of improvement higher than zero, is appropriate. We note that the principal national population projections prepared by the Office for National Statistics (ONS) incorporate a mortality improvement assumption of 1% pa after 25 years, based largely on the average observed rate across all ages over the previous century.
- 3.12 Not all critical respondents offered alternatives, but of those who did the most commonly suggested were:
- medium cohort with an underpin, perhaps set quite high or age dependent; and
 - a trigger definition which by its nature cannot be directly adopted as the chosen assumption. For example, defined in terms of its effect on technical provisions, annuity rates, or life expectancies. This particular suggestion was put forward by several respondents, including some leading actuarial consultancies.

The Pensions Regulator's response

- 3.13 The Pensions Regulator welcomes the considered responses to its consultation on mortality. It continues to believe that there is a consensus that rising longevity is an important strategic issue to which all affected must respond. Not doing so stores up an increasing risk to the protection of members' benefits and the Pension Protection Fund. Moreover it gives false comfort to sponsors genuinely trying to fund pension schemes. So the Pensions Regulator remains firmly convinced that its risk-based approach demands that longevity is an issue on which to focus.
- 3.14 The original consultation made clear that the use of the language of long cohort and underpins was to highlight the size or 'shape' to the issue of rising longevity, on which it was important that trustees focussed in determining their assumptions. We take seriously the concerns raised that mentioning one approach as an example of the problem could lead to unnecessary and inappropriate herding behaviour.
- 3.15 The regulator's statement 'How the Pensions Regulator will regulate the funding of defined benefits' in 2006 set out how the regulator would adopt a risk-based approach to selecting recovery plans for further review using, for example, the four primary triggers and a number of other risk factors. Scrutiny of mortality will operate as a 'secondary trigger', ie only after one of these existing factors had escalated a case for further scrutiny (rather than operating as an additional primary trigger). The new approach will be introduced for second valuation cycles starting in September 2008, with recovery plans due for submission by December 2009.

3.16 In assessing the secondary trigger the regulator will take note of the following points.

- Concerns, as expressed by the Faculty and Institute of Actuaries, that the 'short' and 'medium' cohort projections imply a rapid tail-off in future rates of improvement in mortality and show a very different pattern from the recent data published by the CMI and the ONS
- The latest data from the CMI and the ONS, and the ONS's central projection which has an underpin of 1%. This takes into account the fact that the rate of improvement has been above 1% on average over 72, 42 and 22 years respectively, and that current rates of improvement are significantly higher, whether one ascribes this to a cohort effect or not
- Practice, for example in the insurance industry, to address the inherent uncertainty in forecasting mortality improvements by effectively having a stronger underpin rather than using cohort approaches at all. The reserving bases of Legal and General and Prudential (two large insurers with significant annuity portfolios) at the end of 2007 were both based on the medium cohort projection with strong underpins (basically 2% and 2.25% pa for men, 1.5% and 1.25% pa for women respectively, but tapering from age 90 onwards). Over time this constant rate assumption is a stronger assumption than long cohort, since all cohort assumptions tend to zero over the coming decades. Clearly, the higher the underpin over the longer term, the greater the impact, and hence the lower the current rates of improvement must be to be equivalent to one of the rapidly falling profiles. Finally some leading projection methodologies produce very much higher prospective rates for mortality improvements than the long cohort and the Pensions Regulator is in no way saying that these approaches should not be followed
- A lot of very interesting work done on the causes of the cohort effect and whether this will persist, but we also note that this work does not question the current high rates of improvement, and that these have been maintained for a number of years.
- Hence, though long cohort with some form of underpin will be used when looking at the secondary trigger, a medium cohort assumption with a stronger underpin would clearly be equivalent, as would no cohort assumption with an appropriate underpin – which it should be noted can quickly become stronger than any of the cohort assumptions.

3,17 We consider that the impact of these assumptions needs to be clearly demonstrated, so we will be looking for the impact to be shown in a range of ways, for example by showing the impact on technical provisions or the impact on life expectancy, but will not be prescriptive in terms of exactly how this is shown.

- 3.18 This new approach reiterates the Pensions Regulator's view that addressing longevity is a key strategic risk. It tries to prevent the potential herding round a particular assumption, by setting out in more detail the evidence and implications around assuming different mortality assumptions that we will use in our risk assessment processes.
- 3.19 We reiterate that recovery plans should be reasonably affordable. The Pensions Regulator is not expecting increased payments in the next valuation cycle to arise from greater clarity on assumptions if a recovery plan was already at the maximum that was reasonably affordable. We consider that the consultation is about clarity and about recognising the cost of liabilities already accrued: it explicitly is not about the identification of new costs or the imposition of new duties in addition to those already faced. If payments were at the maximum reasonably affordable then any changes could lead to a longer recovery plan where appropriate.
- 3.20 Returning to the issue of the trigger level, we intend to frame the trigger in terms of its effect on life expectancy.
- 3.21 We will be requesting schemes to provide the following data on life expectancies (for each sex separately) when submitting recovery plans to us and when completing scheme returns:
- life expectancy for a 65-year-old at the valuation date according to the base (period) mortality table adopted (ie with no allowance for future reductions in mortality rates)
 - life expectancy for a 65-year-old at the valuation date according to the mortality table adopted with full allowance (in accordance with the chosen assumptions) for future reductions in mortality rates (ie cohort life expectancy); and
 - life expectancy at 65 for a 45-year-old at the valuation date according to the mortality table adopted with full allowance (in accordance with the chosen assumptions) for future reductions in mortality rates (ie cohort life expectancy).

This will enable us, when a scheme triggers on its technical provisions, to look more closely at the mortality improvement assumptions adopted by the scheme by looking at how much the:

- cohort life expectancy at 65 of a current 65-year-old is higher than the period life expectancy of a 65-year-old; and
- cohort life expectancy at 65 of a current 45-year-old is higher than the period life expectancy of a 65-year-old.

- 3.22 The judgement we place on this information will depend on the circumstances, and we would expect our operational practices to evolve over time in parallel with developments in industry practice and the evidence base.
- 3.23 `Where the secondary trigger applies we will normally ask trustees to justify their assumptions in the light of the advice they have obtained.
- 3.24 We will amend our statement: 'How the Pensions Regulator will regulate the funding of defined benefits', published May 2006, accordingly.

Appendix 1

Responses in detail to the specific questions posed in the consultation

Question 1: Do you agree that we should issue guidance on this subject?

Issues/suggestions	The Pensions Regulator's response
Needs to be framed to be understandable and helpful to trustees. As currently drafted it still assumes too much in the way of knowledge and experience of actuarial matters on the part of trustees.	We agree that the guidance must be helpful and capable of being understood and we have reviewed the text, incorporating many of the useful suggestions made by respondents, to achieve this in the final draft.
Should be principles-based and not appear to be prescriptive.	We agree.
Your guidance cannot be complete unless you state your minimum requirement.	It is not appropriate for the Pensions Regulator to set a standard and certainly not at a minimum level.
Will need keeping up to date.	This is true of much guidance, though it is probably more relevant to the technical background document than the actual guidance.
Needs to recognise issues faced by small schemes.	This is accepted. We have always recognised that different approaches may be appropriate for small schemes.
Should be wider than just mortality (title currently misleading) as some other assumptions just as critical.	We have now directed the guidance squarely at mortality, while making the point that some of the principles enunciated have wider application.
Should encourage trustees to follow robust process for choosing assumptions.	This is a valid point of wide application in choosing assumptions and one which we have incorporated into the final guidance.
Should be consistent with guidance to actuaries and the technical detail left to the latter.	We keep in close contact with BAS as they publish a series of papers on mortality and will continue to do so. It is not clear yet if BAS will release actuarial standards on this subject. Since we first published our draft guidance, the BAS has published papers meaning that our technical annex is no longer needed.

Issues/suggestions	The Pensions Regulator's response
<p>New guidance should be incorporated into the code of practice or the Pensions Regulator's Statement regarding the funding of defined benefits as appropriate.</p>	<p>We will need to ensure the guidance is in the appropriate place alongside other guidance statements. The code is not updated each time new guidance is issued, for practical reasons.</p>
<p>Assumptions are matters for the trustees to decide in consultation with their actuary. Actuaries have access to the relevant technical material.</p>	<p>This is undoubtedly true, and we don't believe we are saying anything which contradicts this. Nevertheless, guidance from the Pensions Regulator is perfectly appropriate to help trustees manage their relationship with the scheme actuary.</p> <p>We accept that actuaries have access to the material, but that does not seem to be a good reason not to provide trustees with information designed to familiarise them with issues which may be new to many of them.</p>
<p>The Pensions Regulator does not have the necessary expertise.</p>	<p>We don't accept that we are pretending to take the place of the actuary. Nevertheless, we are able to recognise the key issues and bring them to the attention of trustees, which is all we are setting out to do.</p>
<p>We consider that actuarial assumptions are something for the actuarial professional bodies to give guidance on and to monitor.</p>	<p>The actuarial profession no longer sets technical standards for actuaries: that is now the role of the BAS. The Pensions Regulator is not attempting to provide guidance to actuaries. Our aim is to help trustees to have a sensible dialogue with their actuary and gain the most from it, and then go on to make the difficult decisions on assumptions. We are not trying to usurp the actuary's role. We work closely with the BAS on this and other matters.</p>

Question 2: Have we identified the appropriate principles to apply when choosing prudent funding assumptions?

Issues/suggestions	The Pensions Regulator's response
Size of scheme and concentration of risk need addressing.	These are valid points now incorporated into the guidance.
Evidence only up to a point, still a need for judgement. Best estimate future mortality not known.	This is a valid point of course, but trustees do have to make decisions.
Guidance should address the consistent application of prudence in succeeding valuations.	We think this is addressed by the legislative requirement for each scheme to have in place a statement of funding principles.
Should recognise that no accepted stochastic models exist for projecting mortality.	This is a fast developing area and it is reasonable to expect models to be developed and become accepted. But decisions still have to be made.
More clarity needed around what is a prudent margin.	This not something we can address in our guidance as it is a clear trustee responsibility in the light of each scheme's individual circumstances. See paragraph 84 of our 'Code of practice 03: Funding defined benefits'.
Approaches other than stochastic modelling should be recognised as it is too expensive for many schemes.	This is already recognised in the code of practice but we have revised the guidance to ensure this and other messages relevant to small schemes are covered.
Sensitivity analysis only necessary for key assumptions.	In fact we only say that sensitivity should be discussed with the actuary. This was not intended to mean that detailed calculations are needed in each case, rather that the actuary can identify, from his own experience and general reasoning, those assumptions to which the valuation will be most sensitive. However, the trustees must themselves understand which these key assumptions are. We have revised the text to make this clearer.
More recognition of income level as a rating factor (not just scheme pension).	While a valid point, it is unlikely that trustees will have this information available.

Issues/suggestions	The Pensions Regulator's response
Best estimate base table together with a prudent improvement assumption is an equally valid approach. Broadly the best estimate basis with prudence concentrated in a few independent variables is a valid and accepted approach.	We are not convinced that adopting the best estimate for any major assumption satisfies the legislation. Nevertheless, the primary focus of trustees should be on the overall level of prudence in the technical provisions.
There is no mention of 'linking' of the base table to the valuation date.	We deliberately omitted the projection from the base date of standard tables to the valuation date from the drafting. We regarded it as a technical detail which the actuary could be expected to cover. However, we have now incorporated the point into the revised text.
Discount rate assumption more critical than mortality.	We accept that the discount rate assumption is a key assumption to which the technical provisions are especially sensitive. However, our initial analysis of recovery plans indicated that schemes were not taking current evidence into account, so that it was important to draw attention to mortality assumptions.
Danger of over-prudence as a whole if each is prudent separately. Overall prudence should be the aim.	See paragraph 84 of the code of practice. However, an acceptable overall level of prudence needs to be informed by knowledge of how each individual component may vary.
Should recognise that there is a range of acceptable prudent assumptions.	We certainly recognise that there cannot be a single right answer to prudence and that judgement plays a part. We do not believe that anything in the guidance contradicts this.
How should the strength of employer covenant impact on mortality assumptions?	Our general stance is that the technical provisions, taken together with the employer's covenant, support the pension promise. Hence the weaker an employer's covenant appears to be, the stronger the technical provisions need to be. We address this in relation to investment returns in our code of practice at paragraph 92. Trustees need to take care not to double count a covenant by weakening too many assumptions.

Issues/suggestions	The Pensions Regulator's response
<p>What real world scenarios would lead to particular levels of improvement?</p>	<p>This is an interesting though challenging idea. We are not sure that the expertise currently exists to make this a viable suggestion unless tackled by the CMI or other researchers.</p>
<p>Arriving at scheme specific mortality assumptions can be by any one of: solely own experience, own experience used to adjust a standard table, or an understanding of scheme characteristics applied to wider research.</p>	<p>This is accepted and is reflected in the revised text.</p>
<p>Current drafting downplays the uncertainty in mortality trends.</p>	<p>We do not accept this criticism. Nevertheless, trustees must make a decision and our guidance aims to help with this.</p>
<p>Allowance for future improvements should be explicit and illustrated by suitable metrics (the actuarial profession is currently researching this) and clearly disclosed to the Pensions Regulator.</p>	<p>Agreed, and we are considering how to collect the relevant information.</p>
<p>There is no role for the Pensions Regulator.</p>	<p>We do not accept this. It is not our intention to undermine the actuary's role (as appears to lie behind this comment) and we do not believe our guidance has this effect. Rather, we believe it will help trustees make the interaction more informative and useful.</p>

Question 3: Have we identified the appropriate matters for trustees to discuss with their actuary?

Issues/suggestions	The Pensions Regulator's response
Socio-economic grouping and smoking, drinking and lifestyle habits are relevant and worth discussing.	Valid point in principle, but likely to be swept up in a more general view of relative mortality of a whole group.
Consider supplementing with a lay person's guide.	We consider the guidance to be appropriate for both the lay and the professional trustee, particularly, given the presence of actuarial advisers to explain points of detail.
Uncertainty and the widely differing views of experts should be made clear.	This was a widely expressed point. We accept that there is uncertainty and that there are different views, nevertheless trustees have to make a prudent choice.
Some annuity portfolios do not exhibit any cohort effect.	This is an interesting point. One would need to know more about the particular portfolios before drawing any conclusions as to why this is so. For most pension schemes there will not be enough data to construct in-house mortality tables so an adjusted standard table will be the usual solution. Since the population as a whole does exhibit cohort effects, it is reasonable to assume they will be seen in sub-populations. Unless and until characteristics of sub-populations are identified which can be used as indicators of cohort effects, most experts are likely to advise schemes to assume that their populations will exhibit the effect. However, the key issue is the current high rates of improvement and the lack of evidence that rates will fall to '0'.

Issues/suggestions	The Pensions Regulator's response
Actuaries should be required to illustrate mortality assumptions with life expectancies for a range of current ages. They should also provide blended average life expectancy forecasts to allow trustees to better assess prudence corresponding to a particular scenario.	Life expectancies seem likely to be commonly used to illustrate mortality choices and we support that. Comparing life expectancies at a range of current ages with and without improvements is a transparent way to illustrate the effects of improvements. The use of blended average forecasts may also be helpful and it is not our place to be prescriptive. The BAS may, however, address illustrations in any future standard for actuaries.
Consider assumptions for ill-health retirees.	This is a valid point, and addressed in the revised guidance.
The importance of the relationship between trustees and employer needs development in the guidance. The employer can provide valuable input to assumptions.	As with all assumptions, in most schemes employer agreement is needed. Where it is not, the employer must in any case be consulted, so that its input may be taken into account.
Important to consider how general factors may be reflected in adjustments to a standard table.	We think this is now addressed in an expanded section on adjustments to standard tables.
Random fluctuation in longevity for small schemes can be significant.	We have addressed this valid point in the final guidance.
Validity of own experience for smaller schemes?	Clearly the statistical validity of a small sample is something to consider. With small schemes, methods involving selection of and adjustments to a standard table in the light of the characteristics of the membership are likely to be the most apt and these points are now included.
Two rating factors might apply but care needed over interaction.	Accepted; we have amended the text accordingly.
More appropriate to think in terms of a long run rate of improvement in mortality rather than an underpin and it aids understanding. Same underpin at all ages in all calendar years may be inappropriate.	Both are valid points and are now included in the final guidance.

Issues/suggestions	The Pensions Regulator's response
Concept of underpins is a new and as yet untested approach.	This is true, but we note that approaches assuming that improvements tail off have been tested and found wanting.
Consider full postcode.	We take the view that this is a level of detail best left for discussion between trustees and the actuary.
Reported increases in life expectancy are not being shared equally across UK. Significant variation with socio-economic group and location.	This is accepted and is being monitored by experts. Any emerging evidence can, of course, be incorporated into assumptions.
Taking a margin over best estimate doesn't really work with the improvement rate because we can't determine a best estimate.	We consider that assumptions have to be made, and are made whenever recovery plans are submitted. Assumptions can be distilled from a variety of sources on improvement rates.
May be possible to develop group specific projections, perhaps relating to rate they are giving up smoking.	This may indeed be possible, though we do not believe that the relationship between mortality improvement and the rate of giving up smoking is well enough understood for this currently to be viable. Such an approach would still require assumptions about rates of giving up smoking, which are likely to pose their own problems.
Need balance as currently emphasis is on not underestimating longevity.	That is because trustees need to be prudent, but it is true that in being prudent trustees ought to be appropriately prudent and that means not being over-prudent. Our stance here is to encourage trustees to look to the most up-to-date available data on trends and projections.
Will need keeping up to date.	Accepted, though we believe that guidance based on principles rather than rules will need less updating.
Whether there are clear occupational or other groupings.	This has now been included.
Discussion of variety of approaches to improvements	The guidance has now been expanded and we believe this point is covered.

Issues/suggestions	The Pensions Regulator's response
There should be a discussion as to whether an allowance for future improvements is in fact needed.	This is implicit in the text and we are not convinced that it needs an explicit reference.
BAS is the appropriate route for providing advice on sensitivity of assumptions.	BAS provides standards for actuaries. We believe it is appropriate for us to make the point to trustees about the relationship of sensitivity to importance of an assumption.

Question 4: Have you any other suggestions for the effective illustration of the impact of mortality choices?

Suggestions	The Pensions Regulator’s response
Expectations of life are likely to become the norm.	We agree.
Leave to trustees as actuarial fees are high.	There is bound to be a need for actuarial involvement and it should not give rise to excessive cost as suitable illustrations can easily be derived by the actuary.
Show both period and cohort expectations to illustrate effect of improvements.	This is a sensible idea and one we have mentioned in the guidance.
Risk sensitivity could be illustrated by the effect of a 10% reduction in all mortality rates.	A sensible suggestion that people can take up.
Take care over using curtate expectations of life, as they do not take account of part years, which can be material at advanced ages.	A technical point. We are not convinced it needs addressing in this level of guidance.
The effect on the technical provisions is the most important.	This could be achieved by showing the technical provisions with and without the allowance for improvements and we have included a reference to this in the final guidance.
Calculate discount rate shift which is equivalent to the mortality improvements adopted. Helps explain relative significance.	We agree that it is a useful means of illustrating the effect of mortality improvements in a familiar “currency” and we have inserted a reference in the final guidance.
Fan charts of probability distribution of future funding levels based on initial funding, future contributions, investment strategy, mortality assumptions derived from a stochastic model.	This is a sophisticated approach which may have its place, though it is unlikely to be suitable for the smaller end of the market. We have made reference to it in the final guidance.
Show effects at selected ages.	Showing life expectancy at NPA (or actual age if higher) for a range of current ages seems sensible and easy to understand and we have included it in the final guidance.

Suggestions	The Pensions Regulator's response
Costs of illustrations should be proportional to size of scheme.	Accepted, but it should not represent a significant cost even for a small scheme.
Show average pace of improvements over different time periods, compare long-run rates with historic averages.	Sounds reasonable, though not all that transparent in terms of its effect.
Scenarios implied by different projections, eg reductions in death rates from major causes, consistent with the projections to test plausibility.	This relies on assumptions about the mortality of persons who no longer die of a particular cause. It won't be easily accessible to most actuaries.
Concentration risk should be illustrated.	This is a valid point for small schemes in particular. Perhaps best dealt with by scenario illustration (eg by supposing those with the highest liability survive five (say) extra years)
Show scheme membership developing over time under different assumptions.	More complicated than some other approaches but it is clearly scheme specific.
Annuity values helpful.	Perhaps by show annuities representing scheme benefits on the funding basis with and without improvements. We have included a reference in the final guidance.
Consider views of BAS.	We work closely with BAS on our guidance. We will always wish to have regard to any relevant BAS standards.
Should not necessarily be limited to just one way of illustrating.	Accepted.
Show proportions expected to reach certain ages, eg 80, 85, 90.	This would be useful as additional information for comparisons, but probably not adequate on its own.

Question 5: Are we right to discourage allowance for the effect of one factor by way of adjustment to another assumption?

Issues/suggestions/comments	The Pensions Regulator's response
Hard to gauge strength of indirect allowance. Also, varies by age (an example provided of equivalent interest rate change for a one year age rating at each of ages 60, 65 and 70 which range from 0.25% to 0.65%).	We agree, but note that an age rating (eg adding or subtracting one or more years of age to a person's actual age before entering the table) is not the same as allowing for improvements.
Agree in respect of unrelated assumptions (mortality and discount rate), but may be acceptable between related assumptions.	Noted.
Relevant factors should be projected accurately and independently.	This generally supports our position.
Technology may not allow each assumption to be modelled accurately, so some flexibility desirable.	We agree that trustees and actuaries are constrained by the methodologies available to them.
Would be unsound in principle and hard to understand. However, helpful in analysing the effect of a change in mortality assumptions.	Agreed.
Agree it might lack clarity, but if it's explicitly stated, then it could be argued to meet the requirements of legislation.	This is an oft-stated view. It seems to us that, apart from the lack of clarity, which is acknowledged, the difficulty is explaining why the allowance is deemed to be prudent.
It was too widespread a fudge.	Noted, and it may have been the case with some schemes, but we take the view that the majority of those adopting the approach were well intentioned and it was reasonable to do so at the time.
Not entirely consistent with aiming for prudence overall.	We take the view that it is only possible to judge whether the technical provisions are prudent overall by considering the separate assumptions adopted and their individual prudence.

Issues/suggestions/comments	The Pensions Regulator's response
Arbitrary and causes confusion with trustees.	Those who adopted the approach would probably argue that it was no more arbitrary than an explicit allowance for improvements, but we agree that it is not likely to be transparent.
Trustees should have the freedom to adopt assumptions with a varying degree of prudence so long as the technical provisions are prudent overall. This was a very commonly made point.	We agree that overall prudence of technical provisions is the desired endpoint, but we contend that one can't be prudent overall if one doesn't know what is prudent in each assumption.
Agree the Pensions Regulator should discourage, but not prohibit. It is easier to quantify prudence if applied to the key assumptions.	We agree up to a point, but regard the mortality improvement rates as a key assumption.
Increasing longevity can be equated to a quite modest reduction in investment return.	It would be necessary to explain why the allowance was appropriately prudent which would require some comparative assumption about longevity improvement in the first place. It seems to us this rather undermines the argument.
Flexibility aids agreement with the employer.	We agree up to a point. Absolute rigidity is inappropriate in any matter where judgement has to be exercised, but we are not convinced this should extend to allowing prudence in one assumption to be allowed for within another.
Dealing with inherent uncertainty in various insignificant factors by an adjustment in one or more key assumptions actually aids understanding as long as properly explained.	We accept up to a point. Trustees would need to be clear on the sensitivity of technical provisions to the non-key assumptions and to be comfortable that the potential variation from assumptions in those non-key factors was adequately incorporated in the prudent allowances made in the key factors.
May be substituting one imprecise adjustment for another.	We take the view that it makes trustees face up to the uncertainties in each assumption and evaluate potential effects of variations, which otherwise might be lost in a global prudent margin.

Issues/suggestions/comments	The Pensions Regulator's response
<p>Research on the CMI's '92' tables suggested that the financial effect on liabilities could be modelled well by adjusting the discount rate. Has the advantage that it does not assume a tailing-off to zero. Financial effect is transparent. Can lead to more prudent technical provisions than an apparently more correct approach. Hence sees no strong reason to discourage. The BAS has suggested this is a useful form of illustration.</p>	<p>It is unlikely to be able to allow appropriately for cohort effects. Explicit underpins can ensure that improvements don't tail off to zero.</p> <p>We accept that it is useful for illustration purposes.</p>

Question 6: Are we right to encourage adoption of the CMI's recommended notation for describing mortality assumptions?

Issues/suggestions/comments	The Pensions Regulator's response
Ensure actuary signs optional statement in example document 2 (recovery plan)	We are not clear that this would ensure that the trustees had adopted the CMI notation as the respondent appears to be implying.
Standard notation not suitable for member communications.	This is accepted, and we don't advocate it for that purpose.
Good starting point, but don't make it a requirement. The Pensions Regulator should not be prescriptive. CMI terminology will not always be complete or up to date.	We accept that the notation is designed for actuaries, is not fully comprehensive and is confined to those improvement rates appearing in the library. For those reasons we have modified our guidance accordingly.
Descriptions of the more complex versions such as P-Spline will mean little to anyone other than a highly sophisticated reader.	This is accepted. Nevertheless, we remain of the opinion that a common notation is a worthwhile goal and we are encouraging trustees to adopt an approach consistent with the CMI's, though with the flexibility to enable actuaries to add relevant explanations as they deem appropriate.
Expect the BAS to produce guidance on this too.	We have worked closely with the BAS on their and our work on mortality.
Consider schemes who build their own tables.	We are not intending to be prescriptive. In these exceptional cases we will rely on the trustees in consultation with their actuary to provide a sensible descriptor.
Important because of the many variables involved in specifying mortality assumptions.	We agree.
Standard has been accepted across the industry and it will minimise confusion.	Noted.
But note that the CMI notation in their library is confined to improvements, with no standard description for base tables.	This is accepted, see above.

Issues/suggestions/comments	The Pensions Regulator's response
The CMI notation sprawling and confusing.	We accept that it's not particularly layman friendly and hence have modified our guidance.
Focus should be on developing materials and notation intelligible to the trustees.	It won't be easy to do that in a concise format, though we are open to suggestions.
Definitely not. Requirement should just be that trustees adopt something that will aid transparency or understanding.	We believe our modified stance is a sensible compromise.
Strongly disagree. It's far from transparent, too mathematical. It's also incomplete and lacks clarity.	We believe our modified stance is a sensible compromise.
Useful to consider the various uses and communication separately. Actuary to trustee, in valuation report, in the Statement of Funding Principles, communications with the Pensions Regulator.	Certainly it is relevant to consider the user of the information, though too many different formats are unlikely to be useful.

Question 7: Is the background material helpful? Have you anything further you would like to see included?

Comments/suggested additions	The Pensions Regulator's response
<p>Generally useful, but attempt to summarise detailed materials oversimplifies the subject for actuaries while being too complicated for majority of trustees.</p>	<p>It wasn't designed for actuaries, though we acknowledge that they would be likely to read it.</p> <p>We accept that many trustees will find the material challenging but they do need to come to terms with much of it.</p> <p>The detailed points are all valid and will be addressed by our signposting proposals.</p>
<p>Further information on SAPS tables would be helpful once available.</p>	<p>This will be addressed by our signposting proposals once the SAPS tables are available.</p>
<p>Very helpful. Two types of additional information:</p> <ul style="list-style-type: none"> • Pension Protection Fund's best estimate of the prudential margin within their assumption of long cohort with 1.5%/1.0% underpins • estimates of impact on specific generic schemes. 	<p>This will be addressed by our signposting proposals.</p>
<p>Useful summary. Suggested additions:</p> <ul style="list-style-type: none"> • show graph of the cohort projection improvement rates in respect of younger generations • correct the impression that P-Spline and Lee Carter are the only projections applied to the 00 tables • care over portrayal of Self Administered Pension Scheme (SAPS) data in terms of mix of data and exposure of sectors • explain which category of projection P-Spline and Lee-Carter fall into • make reference to the s179 basis • include in annuity rate table a representative of a typical (younger) deferred member. 	<p>Detailed points all valid and will be addressed by our signposting proposals.</p>

Comments/suggested additions	The Pensions Regulator's response
Will need frequent updating.	This can be replaced by the BAS papers available since original publications from the Pensions Regulator.
Material helpful but unbalanced. No mention of negative factors nor any debate as to how long improvements may continue. No mention of obesity, sedentary lifestyles, increases of drug abuse, drug resistant strains of infection etc. They find trustees are doubtful that observed trends will continue.	This comment is probably more appropriate as a criticism of the guidance in general rather than this background material. While it is accepted that there are such negative influences, trustees are nevertheless obliged to be prudent.
Annuity rates quoted are misleading (single life at 5%). Actual effect in any given scheme may be greater.	Actual effect may be greater but we retained 5% to be consistent with a table that had appeared in the Purple Book and which had in turn been taken from the CMI library to aid comparability.
Helpful, but mention postcode analysis, concentration of risk, income levels. See examples in the Richards and Willets 2004 Staple Inn Actuarial Society paper. Early medical statistics already showing effect of smoking ban in Scotland.	These are all sound suggestions and we have incorporated them in the guidance. They should also be addressed by our signposting proposals.
P-Spline and Lee Carter have significant problems in practice. Cairns Blake Dowd not yet in library which may deter adoption. SAPS table may not be appropriate for smaller schemes, s179/s143 basis should be included, use lower discount rate in illustrative annuities.	Fair points, and they will be addressed by our signposting proposals.
Care not to endorse any particular projection.	This is accepted.
Acknowledge heterogeneity in scheme populations and the nature of the population can affect projections (think of ex-miners on incapacity benefits).	There will always be special cases and we are not advocating any particular standard approach. The heterogeneity point is already accepted.

Comments/suggested additions	The Pensions Regulator's response
<p>Emphasis that the guidance is not a substitute for trustees ensuring that their actuary puts matters into context for their scheme. Other points:</p> <ul style="list-style-type: none"> • CMI's cohort effect relates to insurance company data only and may not be seen in the SAPS experience • cohort effect illustrated by graph is less dramatic for other cohorts, implication from the Pensions Regulator's recovery plan analysis unclear • incorrect in 1.47 to say that no view of the future is being taken • little substance to comment on the Pensions Regulator's view of prudence in 1.50 • cumulative figures in 1.51 criticised as misleading • mention s179 assumptions in 1.52 (and cross reference to 2.4); and • annuity values in 1.54 should be on more representative interest rate and include younger ages. 	<p>Agreed. The specific points are all worth valid and will be addressed by our signposting proposals.</p>
<p>Provide in a separate document. Too technical for majority of trustees.</p>	<p>This material is not included in the final guidance.</p>
<p>In many cases unlikely that actuary can have a meaningful discussion with trustees on projection methodologies and whether reliance on past data alone is appropriate for projecting future trends.</p>	<p>We don't accept this contention. While the issues may be challenging, trustees need to engage with them and actuaries need to adopt an appropriate approach depending on the current state of knowledge of trustees in any particular case.</p>
<p>Background information should be reviewed and signed off by the actuarial profession.</p>	<p>Material now superseded by a new BAS publication.</p>

Comments/suggested additions	The Pensions Regulator's response
Deficient in respect of: <ul style="list-style-type: none"> • SAPS material from CMI working papers 31 and 32 • flat rates of improvement at some ages • stochastic models of mortality and • cause of death research. 	All valid criticisms which will be addressed by our signposting proposals.
It's all common sense and already discussed with the actuary.	We are not sure most trustees will agree that it's all common sense, though we entirely concur that the trustees will be discussing much of the material with their actuary. Nevertheless, we believe many trustees will feel more comfortable having that discussion once they are more familiar with the issues and the facts.
Most material can be obtained from the CMI library so no need to repeat.	Important for guidance and questions for advisers.
Could have the effect of reducing the confidence level of trustees.	This may be true of some trustees, but it might boost the confidence of others.
Too much focus on CMI research. No mention of medical, demographic or sociological research.	Medical research is not in a form which will allow trustees to make aggregate mortality projections. We are unclear what demographic research is meant (we do cover the ONS projections and academic research).
It's selective, not always accurate, and too technical for trustees.	The annex is superseded by a new BAS publication but don't accept it as selective as it presents the key facts, though there have been some helpful technical comments.

Question 8: Do you agree that a focus on mortality improvement assumptions is appropriate?

Issues/suggestions/comments	The Pensions Regulator's response
Up to a point. It's the totality of demographic assumptions which should be looked at.	Certainly the desired outcome is sufficiently prudent technical provisions. However, how can one judge what is sufficiently prudent unless one has formed a view as to how mortality might unfold?
Choosing the wrong base table can have greater financial effect.	We accept that base tables are important and we don't ignore them in our guidance. Nevertheless, we believe trustees are more comfortable with this aspect than in making allowance for future improvements.
Why is the focus on schemes who have a recovery plan? Any test of prudence should be applied to all schemes.	All schemes have duties to undertake prudent valuations.
No, mortality is one of the lower risk elements compared to inflation and investment return.	Evidence from our analyses of submitted recovery plans indicates that investment and inflation risks are better understood and allowed for.
Changes take place gradually and adjustments can be made at each triennial valuation.	The recovery plans were not taking on board improvement in mortality issues, so the need for change is well established.
Trustees will be more relaxed about the mortality assumption where employer has a natural longevity hedge within its business (eg BUPA).	There is some validity to this comment but such a situation will be rare.
Focus on the mortality improvement factor is a cause for concern. Very concerned if this focus were to extend to other assumptions too. This would overturn the current requirement that trustees make decisions on a scheme specific basis. Focussing on a single assumption will not identify schemes posing a risk to the Pensions Regulator's objectives.	These concerns have validity and consideration of them has led us to modify our regulatory approach.

Issues/suggestions/comments	The Pensions Regulator's response
Not appropriate to assume improvements are inevitable and unending.	Most of the available evidence suggests that it is not prudent to assume very rapidly declining improvement in respect of the current membership of defined benefit schemes.
Focussing on mortality underplays the significance of other assumptions.	Focus on mortality now is because the evidence of the recovery plans showed this assumption was the most problem.
Sharpness of focus will be blurred by the uncertainty in this area.	This is undoubtedly the most significant issue for all concerned. But a decision still has to be made.

Question 9: Do you agree that our proposal for a separate mortality improvement trigger offers the best way for the Pensions Regulator to identify mortality improvement assumption risks?

Issues/suggestions/comments	The Pensions Regulator's response
Trigger level likely to prove over-prudent.	This is a matter of opinion of course and remains to be seen.
Moving to rule based regulation and away from principles.	Triggers are not targets. On the other hand, we acknowledge that triggers are also likely to influence behaviour and the danger of herding is one reason why we have decided to modify our approach.
Underpins inappropriate across a range of ages.	Age-related underpins might be perfectly acceptable.
Trigger on an individual assumption sets a worrying precedent. Fundamental change from current approach. Will next step be to have a trigger on the discount rate?	We accept that there is some validity to these concerns and have modified our approach so that mortality improvements will generally only be scrutinised if technical provisions have triggered.
Future improvements so uncertain that trigger is inappropriate.	Uncertainty is acknowledged, but trustees are still obliged to make a prudent decision.
If schemes adopt trigger, it will lead to a significant ratcheting up of liabilities.	The Pensions Regulator is not creating the underlying liability. We are simply seeking to ensure that these increased liabilities are properly calculated and properly funded. It is in no one's interest to hide the timescale of liabilities.
Cohort improvement factors only ever an arbitrary assumption. Not aware of any evidence that the experience of the SAPS investigation is close to the long cohort to date.	We accept that the cohort improvement factors have some flaws, but no convenient and widely accepted alternative has yet been put forward. But equally most schemes submitting recovery plans use cohort language.
Schemes clustering round an arbitrary assumption is contrary to the principle of scheme specific funding.	We have modified our approach to reduce the risk of herding while noting that rates of improvement are not usually scheme specific.

Issues/suggestions/comments	The Pensions Regulator's response
<p>Not necessary as there is evidence assumptions are being strengthened without intervention from the Pensions Regulator. Internal client data provided supporting this.</p>	<p>The Pensions Regulator has only recently begun to see evidence of this in recovery plans filed, though they are still lagging behind current practice because of the 15-month deadline. But if practice achieves the aim anyway there shouldn't be any difficulties as some have claimed.</p>
<p>One of the current technical provisions triggers (s179) has already been strengthened in respect of mortality (mc with 1% u/pin).</p>	<p>The net effect of s179 revision was to reduce its value.</p>
<p>The consultative document says no good cause to take the improvement assumption to be scheme specific, hence no good reason for a scheme to adopt anything other than the trigger.</p>	<p>The potential lack of scheme specificity does not mean that trustees should not determine the assumption that is right in their assessment of the evidence.</p>
<p>Not clear that long cohort is required for prudence. It's stronger than a number of insurers adopt. All but Norwich Union's reserving bases would have triggered (table provided by respondent). At the end of 2007, life companies typically seem to have adopted mc or an average of medium cohort and long cohort with a floor but 75% of this for females. Having a trigger tougher than this seems excessively prudent. Inconsistency with Pension Protection Fund's 179/143 basis. These assumptions are ahead of the current norm and could constitute an inappropriate and unnecessary level of prudence for some schemes, undermining their viability.</p>	<p>Long cohort with an underpin will be weaker than medium cohort with a sufficiently stronger cohort.</p> <p>Recently insurance companies have adopted approaches with very significant underpins.</p>
<p>Majority of schemes will currently trigger so won't filter out the worst cases.</p>	<p>We are also trying to change behaviour but we have modified our approach, and assumptions are strengthening, eg see recent evidence presented by KPMG.</p>

Issues/suggestions/comments	The Pensions Regulator's response
It's the overall mortality assumption that matters (base plus improvements).	Accepted, but we take the view that actuaries and trustees are better able to settle on the base table assumption; it's the improvement allowance that's less familiar. Being scheme specific, a base table is less susceptible to a trigger approach.
Recognise that the Pensions Regulator has a duty to protect the Pension Protection Fund, but this is not a proportionate response to the issue of mortality.	Clearly this is a matter of judgement. Evidence suggests that trustees have not been projecting mortality improvements robustly enough. It is also not the case that we are solely concerned with Pension Protection Fund protection. Adequate funding is primarily for member benefit protection.
Not appropriate to publish an explicit mortality trigger. Another hurdle to be crossed rather than considering the merits of different assumptions and their implications.	We accept that there is more danger that an individual assumption trigger will lead to herding than an overall trigger on technical provisions. This is one reason why we have decided to modify our approach.
Trigger implies no ultimate limit to life expectancy.	Whether or not human life expectancy is limited is the subject of debate amongst experts. But the key period to come is being discussed not the infinite future.
Not aware of any evidence suggesting current high rates will continue for 30 years rather than ten. We understand current rates are lower than rates implied by the Pensions Regulator's trigger. Evidence from the CMI's assured lives experience does not support the long cohort projection (graph provided by respondent and detailed reasons advanced).	The overall 'size and shape' of the improvements are the key factor. We are reacting to a range of facts such as emerging evidence from the CMI does not appear to support the rapid tail-off implied by the short or medium cohort projections.
The Pensions Regulator's views are inconsistent with the wider market.	The market is moving and may end up in much the same place.
The Pensions Regulator will struggle to determine improvement risks sensibly if schemes adopt other approaches, eg flat improvements or P-Spline.	Data collection should mitigate this – but dialogue already occurs to clarify assumptions.

Issues/suggestions/comments	The Pensions Regulator's response
Not justified theoretically. Improvement rates at higher ages not appropriately considered. Single underpins at all ages of doubtful validity.	We have no problem with schemes adopting more sophisticated underpins. Guidance is about the overall impact and a specific projection.
Concern that trigger could lead to technical provisions higher than in Europe or USA thereby leading to loss of competitiveness.	We do not believe it is sensible for employers not to face up to the fact that if people are living longer, pensions will cost more and they will have to make the payments.
<p>Effective disclosure appropriate but assumption of long cohort could be subject to substantial criticism:</p> <ul style="list-style-type: none"> • the BAS acknowledges uncertainty • Humble and Wilson paper casts doubt on cohort effect and continued high rates of improvement • CMI cause of death investigation may throw more light on best practice thinking 	<p>We agree that disclosure is helpful and also that there is significant uncertainty. The Humble and Wilson paper is an interesting contribution but we are aware of expert debate on the validity of their conclusions. But all agree rates of improvement are high, whether it is a cohort effect or not. The CMI cause of death investigation is in its infancy but certainly we are open to all helpful sources of information.</p> <p>In the meantime, trustees have to make decisions.</p>
One of our schemes, which is mainly invested in gilts, would have technical provisions higher than buyout if the trigger adopted.	If actually true, this could be interpreted as a good time to buyout. Competition has certainly driven down buyout cost recently but it may not last.
Would prefer an index of overall prudence, which would be illustrative to trustees and employers.	Prudence has to be seen in context and the employer's covenant is key. The suggestion would appear to require a standard basis to be adopted so could be seen as setting a funding standard.
May discourage use of P-Spline or other approaches.	It is not our intention to discourage valid approaches and we make this point.
Will lead to pressure to weaken other assumptions.	Trustees need to set all assumptions in accordance with the guidance.
Would support such statements in trustee guidance, but not as a trigger. As a principle, prescription does not encourage trustees to take responsibility and meet the requirements of legislation.	We agree that prescription is inappropriate.

Issues/suggestions/comments	The Pensions Regulator's response
<p>If a scheme which has already completed a valuation on weaker mortality than the trigger, but adequately prudent overall, adopted the trigger next time it could not weaken other assumptions to achieve the appropriate overall level of prudence because of Regulation 5(4)(d). Compare a scheme which had strong mortality but weaker assumptions elsewhere.</p>	<p>The new proposals look at mortality if the plan triggers on existing triggers.</p>
<p>How applicable to females?</p>	<p>We would not challenge separate underpins for men and women.</p>
<p>Our own research suggests cohort projections apply to wrong generations at wrong strength.</p>	<p>Size and shape of improvement is the key. Other approaches may be perfectly acceptable.</p>
<p>Change from the Pensions Regulator's previous stance and has two drawbacks:</p> <ul style="list-style-type: none"> • adds an additional element of complication to the valuation process in that it is a new matter on which trustees must obtain advice and • trigger becomes a de facto minimum given the difficulty of proving that any particular improvement projection is wrong. 	<p>We are not convinced that our having a mortality trigger should add any complication to the valuation process. We accept that there was a danger that the trigger could have been treated as a target and this was one reason why we have modified our regulatory approach.</p>
<p>Businesses are addressing through FRS17 assumptions anyway so no need for the Pensions Regulator to take drastic action (table provided by one respondent).</p>	<p>We expect FRS17 assumptions to gradually strengthen. Thus, all other things being equal, the overall technical provisions trigger will strengthen too.</p>

Issues/suggestions/comments	The Pensions Regulator's response
<p>In the light of the new power for the Pensions Regulator to be able to set assumptions in cases where the technical provisions appear to be imprudent, it would seem that it will need to be invoked very frequently in all those cases where the mortality improvement assumptions falls below the new minimum funding requirement being prescribed.</p>	<p>We do not expect to have to make use of our formal powers 'very frequently'. This is not a new MFR. Scrutiny is if the scheme triggers on existing triggers.</p>
<p>Trustees should be left to address with their advisers.</p>	<p>We are not suggesting anything to the contrary.</p>
<p>We agree with the proposal up to a point. Having improvements rapidly tail off to zero as in medium cohort is imprudent. But use of underpin seems divorced from what projections mean in terms of average life expectancy. Modest underpins will take today's 45-year-olds to over 90. This is taking prudence too far. No evidence that maximum lifespan is increasing.</p>	<p>We believe that there is little evidence that a zero long-term improvement rate is appropriate, even as a best estimate. Different approaches to address maximum average lifespan are obviously appropriate.</p>
<p>Medium cohort with no floor may prove insufficiently prudent.</p>	<p>We agree that an underpin is appropriate.</p>
<p>Long cohort can easily be criticised (based on data up to 1999, doesn't precisely reflect current experience) but in practice, of all the projections in the CMI library, the interim cohort projections are the most widely used in practice. Hence sensible to express trigger in most widely used currency. Own (buyout insurer) projection is, in aggregate, stronger than long cohort. Underpins are a relatively crude mechanism for ensuring long-run improvements are not too low. Other approaches also appropriate.</p>	<p>We broadly agree with these views.</p>

Issues/suggestions/comments	The Pensions Regulator's response
Reasonable proposal, but there is a lot of uncertainty as to how future longevity improvements can be predicted and whether the improvements will be uniform across the UK.	Indeed, but decisions must be made. As and when more information and or projection methodologies become available, we will adapt our approach.
Trigger will focus minds on an important assumption. Has confidence the Pensions Regulator will be pragmatic when trigger breached.	That was our view.
Triggers should be subject to review and sign off by actuarial profession.	Certainly any trigger would be kept under review. We will naturally consult the actuarial profession and other relevant experts but cannot accept that any one body can effectively have a veto on our approach.
Should not lead to new Minimum Funding Requirement.	It was certainly not our intention to create a new minimum funding standard.
Will encourage trustees and sponsors to give increased consideration to mortality assumptions, but not convinced trigger at proposed level is appropriate.	The trigger level was a matter of judgement but in any case we have modified our approach.

Question 10: If your answer to question 9 is no, what other approach would you prefer and why?

Suggestions/comments	The Pensions Regulator's response
More sophisticated approach needed, perhaps looking at the assumed rates of increases in expected lifetimes over time.	Balance between sophistication and complexity is important to strike.
Recognise that advice on prudent assumptions is a role for the scheme actuary. Regulator should confine itself to the overall prudence of technical provisions. Prefer the Pensions Regulator to ask a few standard questions and to have unpublished rules.	We entirely accept that advice is the role of the actuary and our guidance supports this. Our approaches will be to look at mortality if recovery plan already triggers.
Medium cohort better and age-dependent underpins more appropriate. If a trigger is required, should be closer to current norm.	Appropriate age-dependent underpins are perfectly acceptable.
We prefer education of trustees combined with effective disclosure. However, if there is to be a trigger, we support one which can't be adopted as an assumption. For example, define trigger in terms of the mortality improvement assumption's effect on technical provisions but require assumption to be expressed as the explicit effect on the mortality rates.	There is certainly scope for trustees showing effect of mortality in a range of ways.
The Pensions Regulator should scrutinise technical provisions whose improvement assumptions don't project average life expectancy of a 45 year old to exceed 90.	Deceptively simple, but appears to combine the base mortality table and the improvement factors.

Suggestions/comments	The Pensions Regulator's response
<p>Suggest a range of tests, for example:</p> <ul style="list-style-type: none"> • base table • adjustments to base table • improvements • equity risk premium versus D&B score • discount rate post retirement <p>leading to a scorecard to determine overall strength of basis. Would support the Pensions Regulator not publishing the details of the individual tests.</p>	<p>This is an obvious checklist for more detailed scrutiny.</p>
<p>Test composite annuity factors (to be provided on valuation summary form)</p>	<p>Annuities combine the effect of base table and improvement factors. However, it is possible that selected annuity factors could be used to illustrate the effect of improvement assumptions by showing the same factors with and without the improvements.</p>
<p>The Pensions Regulator should promote the importance of an holistic approach to prudence.</p>	<p>We accept that overall prudence of technical provisions is the key concern, but what is prudent can only be judged through a knowledge of the individual factors.</p>
<p>Encourage transparent disclosure and the provision of comparative information from all schemes.</p>	<p>We will be asking for disclosure in our summary valuation form and scheme returns and we do compare in our recovery plan analysis. However, we are not convinced that on its own it will be enough to ensure sound behaviour.</p>
<p>The Pensions Regulator should accommodate its mortality concerns within the current Pension Protection Fund limb of its overall technical provisions trigger. If necessary, by setting it at a slightly higher level, e.g. 105% or 110% of the s179 figure. Range of uncertainty far outstrips difference between long cohort and medium cohort.</p>	<p>We are retaining our focus on the overall strength of technical provisions. Since both limbs of that trigger, FRS17/IAS19 and the Pension Protection Fund's s179 valuations, will reflect mortality improvements themselves, to a large extent they are self adjusting. However, we keep our triggers under review and modifications such as those suggested could potentially be appropriate.</p>

Suggestions/comments	The Pensions Regulator's response
<p>What will happen to schemes who don't pass the new trigger? Will they be able to convince the Pensions Regulator that they have gone through a reasonable process?</p>	<p>Though we are not now pursuing a separate trigger, whenever we do scrutinise technical provisions we will certainly looking to see that a reasonable process was followed, though the emphasis will be on the outcome.</p>
<p>Supports the Pensions Regulator encouraging trustees to follow a robust process.</p>	<p>Following a robust process is likely to be half the battle, though a sound outcome must always be the ultimate objective.</p>
<p>Simply trigger schemes without any allowance for future improvements.</p>	<p>This would only tease out the most extreme cases and would be unlikely to influence behaviour sufficiently.</p>
<p>Trigger should not be one of the many possible methods of projecting mortality. Prefer a table of percentage increases in life expectancy (now, in twenty years, and in forty years) all compared with that on current period rates. The Pensions Regulator could request the metrics, which are easy to generate. Approach would be more resilient to future developments. Easier to compare different methods. Would also emphasise the allowance for future long-term improvements. (Illustrative table provided by this respondent). This should be backed up by effective disclosure (tables provided to illustrate).</p>	<p>This is an interesting idea but need to be sure it would be operationally straight forward for all schemes.</p>

Further points raised by respondents

Suggestions/comments	The Pensions Regulator's response
The statement that trustees should never accept an improvement assumption tailing off to zero is very strong and cannot be evidence based.	This is based on experience over the twentieth century and on medical and other advances in the pipeline.
Keep regulation light else we'll end up with gold plated public sector pensions with the rest rubbish.	As a risk focussed regulator, we adapt our approach to the risks posed and are light touch where that is warranted.
<p>Backdating will be disruptive and contrary to sound regulatory principles. SAPS tables will be reliable starting point and it would be sensible to delay introduction of trigger until these have been fully considered.</p> <p>Most appropriate timing would be as from next valuation.</p> <p>Should be implemented as from effective dates from March 2008 onwards. There were many variations on this general theme, most pretty strongly expressed.</p>	We have addressed these concerns by deferring our regulatory changes until the next valuation cycle with effective dates from 22 September 2008 onwards.
Emphasis should be on greater understanding by trustees	The guidance is designed to do just that.
It is possible that some schemes with weak technical provisions will escape the Pensions Regulator's radar because they don't need a recovery plan.	Risk-based approach will focus on areas of greatest concerns.
<p>There are a number of initiatives on scheme funding and the Pensions Regulator needs to be consistent, eg:</p> <ul style="list-style-type: none"> • the BAS's consultation • the Accounting Standards Board's consultation on changes to accounting assumptions • Pension Protection Fund's changes to s179/143 bases 	We agree that consistency is desirable and we will be watching all relevant developments closely.

Suggestions/comments	The Pensions Regulator's response
Challenge to view that improvements are inevitable.	While we accept that improvements are not inevitable, the weight of expert opinion is currently that further improvements are more likely than not, and trustees must be prudent over the next period in question.
Smaller schemes or those looking to buyout will be driven by costs in the annuity market rather than a regulator's trigger.	We are unlikely to wish to pursue any scheme who is targeting buyout.
Do not believe the evidence supporting long cohort is so conclusive as to justify the proposed trigger. Even BAS in their consultation paper describes the uncertainties as 'immense'. An educative emphasis, which has met with success so far, is more appropriate.	We also believe that a focus on mortality improvements in our regulatory approach has a part to play in influencing behaviour; and have very commonly used terminology to illustrate the size and shape of the problem.
<p>Guidance gives false impression of expertise. Should list questions to be answered, viz:</p> <ul style="list-style-type: none"> • what impacts on longevity? • what are the characteristics of my scheme? • how do I set a base table? • what are the trends in longevity? • how might these trends be applied to my scheme? • what might I assume about future longevity and why? • what needs to happen to justify certain levels of improvement? • to what longevity risks is my scheme exposed? <p>Case studies should be included.</p>	There was no intention to claim expertise but we have a legitimate role to play in alerting trustees to the issues. We agree that these questions are the appropriate ones for trustees to ask and we believe the final guidance covers them. We did not feel it appropriate to include case studies, however.
It has been observed that different socio-economic groups have experienced different improvement rates over the past 30 years. Schemes should be able to take account of their specific membership profile in both base tables and projections.	We accept these comments and believe our final guidance to be compatible with them.

Suggestions/comments	The Pensions Regulator's response
Concern over trapped surplus if assumptions turn out to have been over-prudent.	The law governing payments to the employer is currently an issue being considered by the DWP.

Appendix 2 - List of respondents to the consultation paper

Aegon
ABI
ACA
Actuarial Profession
Adare
AIG
Alan Martin
Alexander Forbes
Aon Consulting
APL
Association of Chartered Certified Accountants
Association of Corporate Treasurers
AstraZeneca
Axa
Barclays Pension Fund Trustees Ltd
Barnett Waddingham
BECTU
Brian Wilson & Richard Humble
BT Group plc
BT Pension Scheme
Canada Life
CBI
Church of England Pensions Board
Corporate client of Punter Southall Transactions
Deloitte
EB Consultants
Electricity Supply Pension Scheme
E.ON UK plc
Evonik Industries
First Actuarial
GMB
HBOS Financial Services
HBOS Scheme Trustees
Hewitt
HSBC Actuarial Consultants
Hymans Robertson
IBM UK Pensions Trust
Inchcape PLC
Independent Trustee Services
Invensys Pension Scheme
JLT
KPMG
LCP
Legal & General

Lloyds TSB
Mercer
NAPF
National Grid plc
Norwich Union
Nottingham University Business School
Occupational Pensioners' Alliance
Paternoster
PMI
Punter Southall
PwC
Reckitt Benckiser Pension Fund
Roy Fairchild
Royal Mail Pensions Trustees Ltd
Richard Hawkes
Richards Consulting
Royal Bank of Scotland
Scottish Life
Scottish & Newcastle Pension Plan
Scottish Widows
Sean Duxbury
Shell Pensions Trust
Shepherd Group
SPC
Staff/Union observer to the Clwyd Pension Fund
The Hundred Group
The Pensions Trust
Thomson Dickson Consulting
Towers Perrin
Trustees of the British Energy Generation Group of the Electricity Supply Pension Scheme
TUC
Unite
USS
Vision Capital
Watson Wyatt
Xafinity Consulting