Pension
Protection
Fund

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Dear Louise

Re: BAS Modelling Consultation Paper.

I am grateful for the opportunity to comment on the above paper. I do so in a personal capacity as both a user of model outputs and as an executive whose responsibility includes the development and application of financial models. The response has not been through a formal process of discussion within the Pension Protection Fund and therefore the views expressed must be considered as my own.

The consultation is paper is both timely and comprehensive and the BAS is to be complimented on its production. It has dealt thoroughly with all aspects of the use and composition of models.

Before dealing with the specific questions that were posed in the consultation paper I would like to make a couple of general observations. The first is that I would welcome an acknowledgment of the value of models in understanding the nature of complex financial problems, albeit in the context of a rigorous approach to, for example, data, parameters, model design and the interpretation of outputs as is envisaged in the paper. It is interesting that a number of respondents to the recent PPF consultation on the future of the PPF levy quoted directly from the BAS paper (generally the introduction or executive summary!) when wishing to make a point about the limitations of models. I would suggest that it is as easy to be beguiled by the illusion of accuracy created by a supporting model as it is to dismiss a model as inherently flawed without a proper appreciation of the issues dealt with in this paper. The second point is the corollary; even when a modelling exercise has followed standards as envisaged in the consultation paper, there is still no absolute guarantee of appropriateness but hopefully a greater understanding of the limitations of applicability. Decision makers will, as always, have to exercise judgement based on the information they have available at the time.

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1. Will the proposed purpose of the modelling TAS as set out in paragraph 2.9 help to ensure that users of actuarial information can place a high degree of reliance on its relevance, transparency of assumptions, completeness and comprehensibility?

Yes with two provisos. The first is my general comment above that we should be careful about how the profession and regulators "brand" models and secondly we should also consider the positioning of an actuarial standard that implies an unduly large overhead of governance compared to other professions as this may be self-defeating. I should say that I do not believe the current consultation goes as far as this but I do believe there is a line to be drawn, and further prescription could render the TAS an unattainable target.

2. Will the definition of a model given in paragraph 2.13 encompass the full range of models that contribute to actuarial information?

I believe so.

3. Do respondents have any comments on the proposals in section 3, especially those in paragraphs 3.15, 3.22 and 3.27?

These seem perfectly reasonable.

4. Do respondents have any views on the definition of materiality that is proposed in paragraph 3.5?

I agree that an "issue" is material if it might potentially affect the decision that is being made. However the definition in paragraph 3.5 appears to contemplate only departures from the TAS as being material. Throughout the paper, reference is made to assumptions being "material" which are not covered by the definition in 3.5. It would therefore be more helpful to have a definition that covered all areas of judgement, including departures from the TAS.

5. Should the modelling TAS include principles concerning the need for documentation as discussed in paragraphs 3.9 to 3.18?

I agree that the need for documentation should be included in the TAS. Whilst I also agree that documentation should be appropriate to the target audience and the principle in 3.15 indeed states the documentation should be suited to the needs of the readership which is to be defined it then adds the "technically competent" person test as well. The demands of a "technically competent" person employed to review the model will be significantly different from those of a user of the model outputs for which the documentation is as relevant. I believe the principle could be clearer.

6. Do respondents have any comments on the proposals concerning relevance and parsimony that are presented in section 4, especially those in paragraphs 4.12 and 4.17?

Paragraph 4.12 appears to be too demanding. An unknown feature could have a material effect. I wonder if it might be preferable to insert the word "aim" in this principle.

7. Do respondents have any comments on the proposals concerning inputs and outputs that are presented in section 5, especially those in paragraphs 5.17, 5.28, 5.29, 5.35, 5.42 and 5.51?

Paragraph 5.17 appears sensible. It does not describe the lengths that should be gone to ensure that the data are complete, accurate and relevant. Is this consistent with the embryo BAS data standard? Paragraphs 5 .28 and 5.29 rightly deal with the effect of grouping data. In my view it is appropriate to require that this be documented but not to require commentary on its effect except where this might be material. I can find no fault with the principle of consistency in paragraph 5.35 other than to wonder why this should be singled out as a particular feature rather than the general one of making assumptions appropriate for the purpose for which the model is required. Paragraph 5.42 appears reasonable.

I had a little difficulty with the relevance of paragraph 5.51; I have often used a model to evaluate the implications of a range of assumptions, one of which I would describe as "central". In this case the definition of the central assumption is one that is highly relevant to the purpose for which the model is required. It is rare that these assumptions would be set completely independent from the model outcomes. Part of the development would be the testing of sensitivities of assumptions to understand the effect that changes in assumptions have on the outcomes.

8. Should the modelling TAS include:
a) any requirements relating to the disclosure of known or suspected shortcomings in data, over and above those expected to be included in the reporting TAS?

No

b) requirements to provide an estimate of the effects of any data shortcomings, and that any compensating adjustments should avoid bias?

Only where material

9. Should the modelling TAS include a requirement that, if data is grouped, the effects of the grouping should be quantified?

Only where material

10. Do respondents agree that best estimates (and other similar estimates) should be independent of the use to which they will be put?

I am not sure I have fully understood this point - see above.

11. Do respondents have any views on:
a) whether biased estimates such as those concerning prudence depend on context?

As a general principle it should be clear to a user of information the extent to which underlying assumptions or the interpretation of outputs contains margins of prudence and, if so, that these are quantified.

b) the practicality or otherwise of requiring that the equivalent best estimate be presented alongside every prudent estimate, and the benefits to users of actuarial information of doing so?

In principle, this seems appropriate.

12. Do respondents have any views on the practicality or otherwise of requiring the use of a range in conjunction with every single point estimate?

I believe this should be required as a matter of principle. For example Treasury forecasts of economic growth are displayed in fan chart form. Whilst headline writers concentrate on the median forecast, educated users will be able to judge the extent, for example, of the potential downside to the median forecast.

13. Do respondents have any comments on the proposals concerning the fitness for purpose of models that are presented in section 6, especially those in paragraphs 6.8, 6.12, 6.20, 6.28 and 6.33?

Not specifically. I have mentioned above that any data requirements should be consistent with the data standard. Treatment of data outliers is already covered by other areas of the standard eg assumptions, documentation and materiality.

14. Are there any types of model that cannot be implemented in such a way that they exhibit reproducibility?

I cannot think of one.

15. Should the modelling TAS include a principle concerning back testing?
a) Are there any models for which back testing is impossible?
b) Are there any practical difficulties that might arise if back testing were to be a requirement?

I can see cases where models are to be used for completely new situations with no back testing or to explore extreme events that have not been seen before. I would suggest that back testing is included as a general principle, with the requirement to either back test or explain why it is not appropriate.

16. Would it be desirable and practical for users of external models to document the judgements they make, the checks that they perform and other relevant matters, and include explanations of the inputs, outputs and limitations in the same way as they would for models that they themselves have developed? Respondents who believe that this would not be practical should suggest alternative ways in which the objective set out in paragraph 2.9 could be met by users of external models.

Yes. In fact this should be standard documentation from suppliers of those models.

17. Do respondents agree that requirements for robustness and reasonableness would not be enforceable and could have undesirable consequences?

I tend to agree and would point to my general comments that counselled against a too prescriptive approach. The requirement to state assumptions, measure sensitivity and explain material impacts would seem to suffice.

18. Do respondents have any comments on the proposals concerning the limitations of models that are presented in section 7, especially those in paragraphs 7.29 and 7.41?

No

19. Does the discussion in paragraphs 7.7 to 7.24 include all the major sources of limitations in models?

In my opinion it does.

20. Do respondents have any comments on the advantages and disadvantages of the options set out in paragraphs 7.38 to 7.42?

I support the option proposed in the paper. With an appropriate definition of materiality (see earlier) and a requirement to document the model and the assumptions and to test those sensitivities that are material, I believe the users of the model will have a practical feel for its usefulness without any further elaboration.

21. Should the modelling TAS identify specific types of limitation that should be explained in actuarial information?

No, I would rely on disclosure and analysis of all material issues. The alternative would be to potentially engage with the users of the information in a philosophical debate about the applicability of the model.

Yours sincerely,

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