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Private & Confidential

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Dear Steve

Response to GAD's consultation on the differential between RPI and LPI assumptions

The ACA Public Sector Outsourcing Committee welcomes GAD's consultation on the differential between the RPI and LPI assumptions used for broad comparability assessments. This letter provides our response to GAD's questions.

Members of the ACA provide advice to thousands of pension schemes, including most of the country's largest schemes. Members of the Association are all qualified actuaries and are subject to the Actuaries' Code, published by the Actuarial Profession. Advice given to clients is independent and impartial. ACA members include the scheme actuaries to schemes covering the majority of members of defined benefit pension schemes. Our members act as advisers to many sponsors and trustees of schemes subject to broad comparability assessments.

The ACA is the organisation representing consulting actuaries in the UK, whilst the Faculty and Institute of Actuaries are the professional bodies.

Questions

1) For each of the four differentials above, what is your view of a "best estimate" assumption (or range of assumptions) over the typical time horizons when these increases will apply?

The size of the differentials between RPI and LPI should depend to an extent on the long-term RPI assumption (the higher the RPI assumption, the higher the differentials). The implied RPI assumption adopted by GAD is 2.9% pa, and at this level the resulting LPI max 5% pa ("LPI5") and LPI max 2.5% pa ("LPI2.5") in payment assumptions are 2.15% pa and

1.15% pa respectively. We believe these assumptions are unduly low (even allowing for a margin for prudence) and are extremely unlikely to be borne out in practice.

In order to calculate such differentials it is possible to use the Black Scholes model, which requires an assumption for the volatility of future inflation. Although other methodologies may be used, we believe that the Black Scholes model is commonly used by actuaries for similar purposes, and so has the advantage of being accessible and well understood by users.

The long-term MFR assumption for LPI5 of RPI less 0.5% pa was consistent with the Black Scholes model with a volatility assumption of 2.3%. Since then, particularly following the decision to give the Bank of England power to set interest rates and the inflation objective, actuaries have tended to adopt lower volatility assumptions, typically around 1% or slightly higher.

We have considered inflation experience over the last few years and given recent volatility, and the uncertainty surrounding future inflation at the current time, we believe that a “best estimate” volatility assumption of 1.5% to 2% is appropriate.

Assuming long-term inflation of 3.5% pa, the rate broadly implied by the market at present, a volatility assumption of 2% gives a differential of 0.25% pa between RPI and LPI5 in payment. For this assumption GAD uses a differential of 0.75% pa based on an inflation assumption of 2.9% pa. As this would require a volatility assumption of over 35% in order to be valid based on this model, we believe that the differential is too high, even allowing for a margin for prudence. Indeed, even if GAD increased its inflation assumption to 3.5% pa, allowing for a differential of 0.75% pa would give an implied volatility assumption of over 6%.

The following tables provide our best estimate views for the differentials for pension increases in payment, based on different long-term RPI and volatility assumptions. We have included GAD’s inflation assumption of 2.9% pa for reference.

Differentials between RPI and LPI5

	Future RPI assumption				
Volatility in future RPI	2.50%	2.90%	3.50%	4.50%	5.00%
1.00%	0.00%	0.01%	0.03%	0.21%	0.42%
1.50%	0.00%	0.05%	0.14%	0.41%	0.63%
2.00%	0.01%	0.10%	0.25%	0.60%	0.83%
2.50%	0.02%	0.15%	0.36%	0.77%	1.02%
Range of implied increase assumption	2.48% to 2.50%	2.75% to 2.89%	3.14% to 3.47%	3.73% to 4.29%	3.98% to 4.58%

Differentials between RPI and LPI2.5

	Future RPI assumption				
Volatility in future RPI	2.50%	2.90%	3.50%	4.50%	5.00%
1.00%	0.41%	0.64%	1.09%	2.01%	2.50%
1.50%	0.58%	0.82%	1.24%	2.07%	2.54%
2.00%	0.71%	0.97%	1.38%	2.17%	2.61%
2.50%	0.81%	1.08%	1.51%	2.29%	2.71%
Range of implied increase assumption	1.69% to 2.09%	1.82% to 2.26%	1.99% to 2.41%	2.21% to 2.49%	2.29% to 2.50%

It is therefore difficult to express the differential as a single figure, but based on an inflation assumption of 3.5% pa and volatility of 1.5% to 2% the following “best estimate” differentials would appear appropriate:

Differential (in payment) between:	Assumption
- RPI and LPI5	0.15% to 0.25% pa
- RPI and LPI2.5	1.25% to 1.40% pa

The above suggested differential for LPI5 is consistent with our experience of what is typically acceptable to auditors for the purposes of FRS17 and similar “best estimate” accounting purposes. Indeed, in our experience, it would be very difficult to justify a differential of more than 0.25% pa to a firm of auditors.

The differential for increases in deferment, compared to in payment, will be less since increases in deferment are not capped on an annual basis. Furthermore, if the underlying RPI assumption is significantly less than 5.0% pa (as is the implied current market expectation and the assumption adopted by GAD), then we believe that there should be no material differential in respect of LPI5 in deferment. This is because assuming the average term to retirement is sufficiently long, we would not expect the overall increase in deferment to fall short of RPI.

Where the inflation assumption is above the cap we would expect the long term increase assumption to be equal to the cap. This would lead to the following figures, based on GAD’s inflation assumption of 2.9% pa:

Differential (in deferment) between	Assumption
- RPI and LPI5	0.0% pa
- RPI and LPI2.5	0.4% pa

In practice, we expect that few broadly comparable schemes are likely to be set up with LPI2.5 increases in payment or in deferment in future, so this assumption is less important than that for LPI5. However, given the current inflation outlook we do not believe that a differential approach is appropriate for LPI2.5 in deferment – a fixed assumption of 2.5% pa would be preferable.

Whilst it would be possible for GAD to adopt differentials that vary according to the market expectation of future RPI, in practice this is unlikely to be desirable. Instead, our view is that GAD should set differentials that are fixed from time to time, but should disclose its underlying methodology and revise the differentials as and when market conditions change significantly.

Finally, while we have as requested provided our views on best estimate assumptions for the differential between RPI and LPI5 and LPI2.5, we note that you have stated that the question of any margin for prudence to reflect uncertainty for members is outside the scope of the consultation. If, however, such a margin is to be included by GAD in the assumptions used for assessing broad comparability going forward, we would request that this is separately identified in GAD's revised explanatory note, together with the rationale for including such a margin and its level.

2) Do you have views on any other assumptions used for assessing broad comparability (economic or demographic)?

We would like to take this opportunity to provide our views on the "mortality of pensioners" assumption used for broad comparability assessments, since we consider it to be out of date for a variety of reasons. We appreciate that this assumption is likely to have less of an effect on broad comparability assessments, as it will affect the value of both the benefits being tested and the public sector scheme benefits. However, we do believe that GAD should identify what it regards as a "best estimate" of future public sector pensioner mortality, and then apply this consistently for all relevant purposes where GAD has a role. These include, for example, actuarial valuations for SCAPE purposes, resource accounts, bulk transfer values and actuarial option factors.

We understand that for broad comparability purposes GAD currently adopt the PMA92/PFA92 tables, projected with the "92 series" to calendar year 2045, for use in respect of former scheme members who have retired in normal health. This produces a life expectancy of 21.2 years for males at age 65. (We also understand that GAD apply a one year age rating for non-manual employees and that other Scheme specific adjustments may be made to align with experience analysis.)

While this might have been a fairly widely used assumption in 2005, there have been considerable developments in mortality analysis and expectations since this time. These include the release of the '00 base tables and the self administered pension schemes' base tables ("SAPS tables"), the common use of an underpin with the interim cohort projections and most recently, the release of the Continuous Mortality Investigation's new mortality projections model ("CMI_2009").

We do not believe that GAD should be seen to be lagging behind the rest of the profession and think that the use of the '92 tables might be detrimental to GAD's image. This is partly due to the fact that, as 1992 was nearly twenty years ago, these tables may appear even more out of date to lay people. Furthermore, the underlying future mortality improvements are now generally considered to be inappropriate, since they trail to zero. General opinion is that improvements in mortality are very unlikely to ever fall to zero in the future.

We note that GAD have stated that they "take account of recent information such as the latest (2008-based) national population projections", ("2008 ONS projections"). However the use of the calendar year 2045 tables is inconsistent with these projections, since the 2008 ONS mortality improvements include an underpin on future mortality improvements.

The most recent base table and future projections model (namely the S1PA table with the CMI_2009 core projections), with a long term improvement rate of 1% pa, produces a life expectancy of 23.5 years for a man retiring at age 65 in 25 years time.

A fairly common mortality table in use at present by pension schemes would be PCA00 with medium cohort projections and a 1% floor. This table would imply a life expectancy of 24.6 years for a man retiring at age 65 in 25 years time.

In summary there is a range of reasonable mortality assumptions and for this reason we do not propose any particular assumption, but on balance our view is that the current mortality assumption is not within that reasonable range and so should be updated. Whatever assumption is adopted, it should recognise that life expectancy varies according to year of birth, and that future mortality improvements are very unlikely to tail off to much below 1% pa. More importantly, we believe that there should be a high degree of consistency between the mortality assumptions adopted for various purposes by GAD in relation to public sector schemes.

We hope these comments are of assistance to you. If you have any queries please let me know.

Yours sincerely

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On behalf of the ACA Public Sector Outsourcing Committee