UK Defined Benefit Pension Schemes : Security & Sustainability
Personal Submission By Jon Spain BSC, FIA, ASA, FCIArb

A. **Introduction** Having previously advised trustees and employers about funding defined benefits pension schemes from within private sector actuarial consultancies, I have been employed by GAD for 27 years. Presented entirely personally, my views may well differ from those held by other actuaries within GAD, including those currently advising DWP in relation to this consultation. Nor do my views appear to be widely held by the actuaries officially representing the UK actuarial profession, at least not yet. Having borrowed or stolen from many others, who may also not agree with me, I am grateful to all of them.

B. Having said that, I believe it is important that, where supported by the evidence available, a variety of opinions should be presented on such an important matter. As outlined below, in the section headed "The 2003 EU Pensions Directive", it is important to note that the main DB funding problems currently faced do not stem from HM Government's policy choices or deeds. Nor am I criticising either scheme actuaries or the pensions regulator but the framework within which they are forced to operate is fractured and needs to be fully rebuilt. This can be found at http://www.jonspain.com/greenpaper2017_db_dwp.

C. **Structure Of Submission** Apart from commenting briefly on question 2 (***members' understanding***), I have otherwise confined myself to question 1 (***valuation measures***). A fuller explanation of the problems and solutions is set out in the accompanying PPTX file, which I shall be very pleased to present formally, and at the URL above. The key points are summarised under the following paragraph headings:

(a) executive summary
(b) brief UK DB funding history
(c) the 2003 EU Pensions Directive
(d) impact of financial economics upon pension funding
(e) long-term nature of pension arrangements
(f) possible DB funding objectives
(g) making assumptions about uncertain future
(h) actuarial approaches need to be evidence based
(i) one possible approach to setting discount rates
(j) long-term discount rates : an off-market approach
(k) reasonable funding inferences
(l) conclusions drawn and recommendations

D. **Executive Summary** In relation to question 2, following Einstein, any statement should be as simple as, but no simpler than, can reasonably be delivered. Hence, however authoritarian this may be thought to be, given that the underlying issues are so complex, there appears to be no point in linking the funding requirements to what most members can be expected to understand. On question 1, as explained more fully below, I regret needing to state that the current valuation approach is totally unfit for purpose. This opinion stems from the evidence available and from having worried for over 30 years about the application of short-termism to funding pension arrangements, with my first article published in 1983 (http://www.longequityreturns.com/original_papers.htm).

(a) Other things being the same, it must be recognised that, so far as they can confidently be anticipated, higher investment returns will reduce costs.
(b) This is inconsistent with what has been the normal application in this sphere of "financial economics", for which there is absolutely no evidence anywhere of its relevance to long-term planning.
(c) Because risk quantification is very poorly captured by single numbers, using discounted capital scalar values hides very much more than it reveals.
(d) Avoiding losses is equivalent to avoiding profits (Frank Redington, 1952), so that derisking is not cost-free (most exercises are quite expensive!).
(e) Since around 2000, when the FRS17 accounting standard for company accounts was finally promulgated, there has been a huge concentration on risk without reward recognition, leading to severe bias in funding requirement estimates.
(f) To quote Confucius (among many others), the best can be the enemy of the good and long-term pension funding is a prime example.
(g) Finally, there appears to be a general impression that all of the finance should be placed within the pension scheme, as opposed to being partly within the sponsor's control. Should the investment climate return to a more reasonable position, which seems more likely than not, trapped surpluses would arise. This would have stemmed from disproportionate unnecessarily harsh demands for guarantees, leading to a grossly inefficient allocation of scarce resources.

E. **Brief UK DB Funding History** Employers were first granted tax relief on contributions in 1921, since when there have been many substantial changes.

(a) Until the 1960s, most schemes were insured, with a general switch to directly invested pension arrangements via managed funds. From the 1960s, there was a huge increase in scheme numbers from 1960s, especially from 1978 (in order to allow contracting-out under SSPA 1975).
(b) Past service was relatively short, to be financed over a long period, with relatively insignificant benefit guarantees. During a period of much higher interest rates, without pension increases, annuities (current and deferred) were affordable, the discontinuance position normally not seen as a severe problem.
(c) Further, corporate pension accounting standards were less stringent than now and the main funding target focus was the required employer's contribution.

(d) Following two highly influential papers presented to the UK actuarial profession by four actuaries from Duncan C Fraser (Heywood & Lander in 1961 and Day & McKelvey in 1963), the value of the assets was also smoothed, a practice which was unknown elsewhere. A previous paper by Puckridge (1947) had touched on the concept but was not widely recognised.

(e) From the 1980s, benefits guarantees became significant, with revaluation extended to preserved benefits in excess of the GMP (1985), cash equivalent transfer rights conferred (1986) and guaranteed post-retirement pension increases (1997). Guarantees are intrinsically expensive and too often misunderstood, with large amounts of capital needing to be held.

(f) Advanced corporation tax relief was removed from dividends (1993 and 1997).

(g) More stringent corporate pension accounting standards were introduced as FRS17 (published in November 2000), followed by IAS19 (published in June 2002).

(h) The early 2000s saw equity markets plunge, at the same time as some UK actuaries advocating a switch to valuing assets at market. US actuaries had always used market values as standard.

(i) It should be noted that using the smoothing, or off-market, approach had been aimed at long-term funding objectives, as opposed to earlier wind-ups. Hence wind-up failure was an unfair original criticism of the smoothing approach.

(j) Finally, the 2003 EU Pensions Directive led to UK legislation, followed by a very long period of very low interest rates.

F. **The 2003 EU Pensions Directive** As it was a Directive, the UK government had no choice but to introduce relevant legislation, applied with effect from December 2006.

(a) Given that the UK had the greatest concentration of funded defined benefit pension schemes in the whole of the EU, it was affected very much more than any other EU member.

(b) One of the specific requirements was for the assets to be taken at market value, with the liabilities discount rate to be assessed either in relation to appropriate bond yields or in relation to the expected return on the assets held (see Article 15[4](b) of Directive 2003/41/EC translated into 5(4)(b)(i) of SI2005/3377).

(c) For whatever reasons, far more attention has been paid to bond yields than to expected returns, leading to potential benefit cashflows being discounted at excessively low rates, leading directly to excessively high "liability" capital amounts, not matched by the assets at market value.

(d) The highly volatile apparently enormous deficits have been widely published as problematic. It is fair to question whether any useful information can be gleaned from time series which have no stability whatsoever and which compare amounts which are not related to one another.

G. **Impact Of Financial Economics Upon Pension Funding** The funding approach required under the EU 2003 Pensions Directive stems from "financial economics" (or "FE"). Unfortunately, this approach doesn't help us, with zero evidence being available anywhere that it can provide any useful assistance for long-term entities.

(a) The theoretical academic evidence related to perfect markets but real markets are not efficient (Shiller {Nobel Prize} & others), and perfect information is not provided (see Robert Haugen ("The Wolf On Wall Street") and Benoit Mandelbrot ("The (Mis)behavior of Markets")).
(b) Market prices have no predictive return power (Eugene Fama ("Random Walks In Stock Market Prices"), 1965).
(c) Typically, volatility is treated as risk but the FE underlying assumption ("today forever") is that there is no future volatility, an inherent illogical contradiction.
(d) FE is mainly concerned with the analysis of assets, with liabilities only considered as negative assets. In the real world, liability cashflows have their own properties, which are ignored. Even if we thought that we should use an abstract "risk-free" discount rate, it is empirically unobservable and wouldn't make the cashflows risk-free.
(e) It is interesting to note that accountants and actuaries have been advocating mark-to-market for long-term finance purposes despite the lack of relevant evidence.
(f) This approach has been utterly unsuccessful for long-term pension funding.

H. **Long-Term Nature Of Pension Arrangements** Being payable after retirement for as long as 40 years, perhaps longer, pensions certainly are long-term items.

(a) Funded by contributions and investment returns, it is right to question whether a sponsor will be around for such a long period. While that depends upon the sponsor's circumstances, there are private predators (competition) and public predators (regulators).
(b) How much confidence can there be for trustees, members and sponsors? It is essential for such issues to be discussed in depth, with the trustees and sponsor entitled to take their own views and act accordingly. It is crucial that agreed approaches are fully documented and it would be appropriate to consider whether the Statements of Investment Principles and Funding Principles cover long-term issues adequately.
(c) For the avoidance of doubt, mark-to-market is accepted as absolutely right for transactions.

I. **Possible DB Funding Objectives**

(a) It is generally accepted that providing security for members, by separating pensions loss from possible jobs loss, is a good policy aim, which I do not question.
(b) Security for sponsors is also worth seeking, both from an M&A perspective and from not requiring unduly high pension contributions at the expense of other possible corporate investments.
(c) It is suggested that the principal purpose must be to cover benefits as they arise, over time, rather than all at once.

(d) A realistic account should be taken of investment returns serving to reduce costs.

(e) Prudence on its own should not be seen as the whole aim. Indeed, it cannot even be identified without awareness of the best estimate.

(f) Crystallising a huge financial burden should not be seen as essential. In whatever form is used, wind-up is very expensive, being based upon insurance reserves plus profits. This is equivalent to placing an obstacle in the path of the blind.

J. Making Assumptions About Uncertain Future

(a) Essentially, we are trying to capture long-term dynamics of financial markets, which have at least two specific weaknesses.
- ♦ They are prone to herding (following trends for too long).
- ♦ There is a widespread inability to price tail risk (or even to perceive it).

(b) It should be obvious that single numbers cannot be appropriate results for representing many future uncertainties, especially when we don't even say what that single number is.

(c) It might represent the mean, the median, the mode or some specified percentile; no guidance is known to have ever been offered.

(d) We should be looking at multi-dimensional results with confidence intervals, which cannot be achieved with a deterministic approach.

(e) The actuarial profession's unique selling point might, perhaps, be "***looking beyond***", rather than merely "***looking at***".

K. Actuarial Approaches Need To Be Evidence Based

(a) There are three "actuarial laws", all the rest being merely commentary:
- ♦ there is one uniquely correct view of future
  - ➢ BUT we don't know it (so assumptions needed)
- ♦ when, which way, how far, how long;
- ♦ there is no such thing as a free lunch over time.

(b) Actuaries need to interpret evidence as experts.

(c) Interpretation is subjective, not objective

(d) There is nothing wrong with subjectivity, so long as …
- ♦ independence is demonstrated (not merely rooted in groupthink);
- ♦ the evidence available is taken into account;
- ♦ full, cogent explanations are provided.

(e) Discounting future uncertain payments and receipts at interest rates derived from bonds might make sense if the assets were all bonds of the corresponding types and durations assumed.

(f) Contrary to what appears to be a central FE mantra, higher investment returns from real assets are not merely necessarily solely compensation for additional risks being undertaken.

(g) In order to reduce long-term costs, subject to the nature of the potential benefit cashflows, it is logical for the assets to include real assets and for the additional expected return to be reflected within the discount rate.

(h) As mentioned above, even if not commonly adopted, it is directly permitted by the EU Pensions Directive (Article 15 [4] (b) of 2003/41/EC), reflected in the UK regulations (SI 2005/3377, 5 (4) (b) (i)).

L. Alternative Approach To Setting Discount Rates As mentioned above, making decisions about the long-term future is not best informed by comparing two scalars.

(a) In my view, where justified by the scale of the funding investigation, stochastic cashflow projections are very much better at indicating how well funded, or otherwise, the benefits are likely to be backed by the assets available, which can include future contributions. For example, an assessment that there is a 5 % probability that the assets will be insufficient over the next 20 years is useful information and mitigation can be planned.

(b) However, such exercises are still relatively expensive and not always proportionate. Hence, we will still need to set discount rates for some cases, preferably taking account of the best estimate investment returns.

(c) Using a Monte Carlo process, details of which are set out in greater detail in the accompanying PPTX file, I have tried to consider the extent to which mark-to-market tends to overstate the funding requirements, in that the discount rate is understated.

(d) Previously presented to three groups of actuaries, the results are startling. So long as there is sufficient time ahead, using off-market estimates appears to be much more efficient.

(e) The intention is to guide the trustees and sponsors towards understanding the realistic costs, in relation to which some controlled degree of prudence can be agreed and implemented.

M. Long-Term Discount Rates : An Off-Market Approach

(a) The attached PPTX file describes my currently preferred approach to assessing potential returns on particular asset portfolios.

(b) The term “off-market” merely means assessing the assets in a systematic manner, based upon reflection of the evidence. The result may be lower or higher than the published market value. Albeit not at the same time, both were frequently met in practice while the approach was still normal before 2000.

(c) Other actuaries may suggest other equally valid approaches - and so may I when I have more evidence. There are three crucial points.

- In order to avoid building in systematic bias, a best estimate discount rate should be precisely the same as the best estimate investment return.
- This must be based upon robust evidence. The view that a prudent approach dictates discounting by reference to bond yields, is not supported by any evidence.
- Prudence cannot even be defined without knowing the best estimate.

(d) Using off-market estimates tends to lead to outcomes which are significantly closer to reality than on-market estimates.

N. Reasonable Funding Inferences

(a) Smoothing can still be relevant because most finance directors want to be able to budget; even investment analysts seem to smooth earnings forecasts.
(b) DB pension scheme trustees can and should form own views, with an off-market approach sometimes, but not always, appropriate and rational. Sponsors should also be recognised as entitled to their views; they may differ from the trustees.
(c) The trustees and sponsor(s) should agree a timeframe which is both scheme-specific and sponsor-specific, with real asset returns taken into account for that agreed timeframe.
(d) Although people have been living far longer than used to be the case, the financial assumptions are generally far more significant than the demographic assumptions.
(e) If, as appears to be the case, we can't get simple things right, why should we think we can tackle complex stuff successfully?

O. Conclusions Drawn And Recommendations

(a) The current UK DB funding regime needs wholesale reform from scratch.
(b) Market prices have no predictive power for investment returns.
(c) Prudence can only be identified from knowledge of best estimates. Indeed, low discount rates can be imprudent (such as when assets are being sold).
(d) The Statements of Funding Principles and Investment Principles should require the sponsors and trustees to record their views on the long-term nature of the funding arrangements and how that is to be recognised.

P. Personal Response To Question 1 For forward budgeting purposes for periods of time of, say, at least 10 years, the UK DB regime should be amended in three ways.
(a) The requirement that assets be taken at market value should be removed.
(b) Where the trustees and sponsors agree to use stochastic cashflow projections, the requirement to show a discounted capital value of future benefit cashflows should be removed.
(c) Where discounting is to be used, it should be made more explicit that linking the discount rate to bonds needs to be specifically justified as appropriate. Any discount rates should be realistically based upon assets (as already permitted).

Q. Personal Response To Question 2 Funding defined benefits is a highly complex issue. There is no point in linking the funding requirements to what most members can be expected to understand because that will lead to too much simplification.

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