UK Defined Benefit Pension Schemes : TPR Funding Consultation 2020
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A. **Introduction** Having previously advised trustees and employers about funding defined benefits pension schemes from within private sector actuarial consultancies for 17 years, I was employed by GAD for 28 years until May 2018. Presented entirely personally, my views below may well differ from those held by other actuaries, within GAD or elsewhere, including those currently advising TPR 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. Nevertheless, I believe it is important that, where supported by the evidence available, a variety of opinions should be presented on such an important matter. In this submission, I am not 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.

C. **Structure Of Submission** With some explanatory background, the purpose of this submission is to describe why I believe the proposed solutions are inappropriate, especially how the "***fast track and bespoke***" funding options are specified. As explained more fully below, I regret needing to state that the current valuation approach is totally unfit for purpose; TPR's current proposals would make a bad situation even worse. This opinion stems from the evidence available and from having worried for over 30 years about the application of short-termism to funding long-term pension arrangements (my first article was published in 1983[a]). The key points are summarised under the following headings:

(1)	the consultation questions addressed	{paragraph [D]}
(2)	twin track ([01])	{paragraph [E]}
(3)	journey plan ([11])	{paragraph [F]}
(4)	long-term objective ([07], [08] and [09])	{paragraph [G]}
(5)	low dependency ([21] through [25])	{paragraph [H]}
(6)	investments ([12] and [13])	{paragraph [I]}
(7)	risk taking ([10])	{paragraph [J]}
(8)	equitability ([43])	{paragraph [K]}
(9)	evidence (accompanying GAD report)	{paragraph [L]}
(10)	conclusions drawn and recommendations	{paragraph {M]}
(11)	why alternative views are held	{paragraphs [N] through [X]}

D. **The Consultation Questions Addressed** Albeit in a different order, and not necessarily always specified, the consultation paper questions considered below are those numbered [01], [07], [08], [09], [10], [11], [12], [13], [21], [22], [23], [24], [25] and [43]. The accompanying GAD report to the TPR consultation is also considered.

[a] https://www.longequityreturns.com/original_papers.htm

E. **Twin Track : Personal Response To Question [01]** The proposals have not been backed by any evidence. Rather, TPR wants to be able to restrict the number of cases that they need to consider in detail (blog 25 August 2020[b]). The use of the term "objective" is questionable because the future simply cannot be defined in that sense (see {V} below). It seems that this desire may be unrequited. Innovation will be heavily discouraged, sponsors' costs will be hugely increased and members' benefits will not be better protected.

F. **Journey Plan : Personal Response To Question [11]** Also considered in "*long-term objective*" below {G}, aiming to fund for self-sufficiency is an extremely narrow approach, again with no evidence advanced to justify it as appropriate. However, there is no good reason for all of the finance to 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.

G. **Long-Term Objective : Personal Response To Questions [07], [08] and [09]** As currently drafted (09 August 2020), the Pension Schemes Bill 2020 will introduce a requirement for trustees to set a "*funding and investment strategy*". Although TPR are using "*long-term objective* (or "*LTO*")" in their consultation, their approach is not actually required by the primary legislation. Hence, it is entirely reasonable to suggest an alternative approach. As explained above, the discounting process using a mark-to-market approach is actively misleading for long-term financial entities. Hence, for TPR to assume that a line to self-sufficiency can be accurately assessed using a discount rate is unfounded and inappropriate. Indeed, the GAD report dated 14 February 2020 (see {L} below) actually shows that it does not work well. Instead, an alternative LTO alternative could be to target an increasing likelihood of being able to cover future benefit payments as they arise over the next 25 years, aiming at a minimum of, say 80%, to be reviewed every 3 years, using robust stochastic processes.

H. **Low Dependency : Personal Response To Questions [21] Through [25]** At present, especially during Covid 19, financial conditions are far from benign. This is also true for most sponsors, already recognised by TPR by way of permitting delayed deficit repair contribution payments. Hard times do not last forever and there is a severe danger of exposing sponsors to undue financial burdens which will only fund trapped surpluses. Over the 9¾ years from April 2009 until December 2018, using ONS MQ5 figures (since discontinued), I have estimated that UK private sector sponsors paid at least £100 b too much[c]. This essentially misallocated financial burden could partially explain the low productivity during that period.

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[b] https://blog.thepensionsregulator.gov.uk/2020/08/25/fast-track-or-bespoke-the-future-of-db-valuations/
[c] https://www.discrate.com/penal_pension_burden.htm

I. **Investments : Personal Response To Questions [12] and [13]** My answer to both questions is "yes". Given that investment returns matter {V(5)}, the funding requirements should reflect what is realistically attainable over long periods. While I believe that the discount paradigm is inappropriate for long-term financial entities, using bond-related discount rates which ignore reality is even worse. The use of the word "risk" in question [13] is problematic because the potential reward appears to be ignored; this is unbalanced.

J. **Risk Taking : Personal Response To Question [10]** Subject to two points, I believe it is entirely reasonable for a less mature scheme to assume relatively more investment risk than a more mature scheme. However, for any scheme, regardless of maturity level, risk needs to be balanced against reward. Further, it is by no means the case that more mature schemes need to avoid holding real assets, with each scheme's stakeholders needing to take account of their own positions.

K. **Equitability : Personal Response To Question [43]** Apart from protecting the PPF, TPR's function is to protect members' benefits. However, those benefits have become increasingly guaranteed, which the sponsors almost certainly never intended to offer when the schemes were originally set up. Any funding regime definitely needs to take account of the sponsor's financial position, more so than has been the case in recent years. More important, that needs to be tackled by first deriving realistic best estimates rather than excessive prudence. Under that scenario, I would be content if dividend payments were limited to deficit repair contributions.

L. **Evidence (Accompanying GAD Report) : Personal Views** Having already commented that no evidence has been presented to support TPR's suggested solutions but that needs to be amplified. As part of the consultation, a report dated 14 February 2020 from GAD was tabled. As a former member of staff of GAD for 28 years, I regret having to write that the report simply does not support TPR's views. Originally published in April 2020[d], slightly amended, my reasons are as follows.

(1) **Representative Scheme (1)** The report is based upon a "representative large mature closed scheme" [2.2], with around "10,000+" members (Appendix A), all of whom are pensioners (current or deferred). No future accrual has been included so that this is already not representative of many different private sector pension schemes. Further, using one undisclosed age/service combination is also unrepresentative. No statistics are provided about benefits (amounts or pension age). Using such a simple unspecified dataset to project results for many widely varying UK pension schemes as a whole is too simplistic.

(2) **Representative Scheme (2)** It is now understood that the report is based upon starting where TPR thinks they would like to be, with no account taken of where UK schemes actually are. Not only would the latter have been a better starting point but also the report indicates that the structure proposed by TPR is actually not that stable.

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[d] https://henrytapper.com/2020/04/21/procrustean-pensions-jon-spain-challenges-tprs-modelling

(3) **Modelling Methodology** That a stochastic process has been adopted is good but 1,000 simulations seem on the low side. How correlations were handled has not been explained. The results published are limited and it would have been helpful if variability had been shown in all tables, together with an indication of how often the funding would have exceeded the target. Showing results as sterling amounts, for example £47 m and £38 m in the top line of table 6, is not helpful without somewhat more context than that the initial central low dependency for this membership was £634 m. Varying the initial central low dependency could have been informative.

(4) **Current Market Conditions** In [2.12], it is stated that current market conditions imply that UK interest rates, presumably those in 2018, will stay low for decades; can that really be inferred?

(5) **Liability Assessments** Extracted from Appendix A, the assumptions are hard to discern transparently. The scenarios are stated to have been based upon Moody's "Best Views" calibration adjusted such that the path of interest rates more closely match market yields. It is not made clear whether those market yields were those as at 31 March 2018 or at some other time and the adjustments make it hard to understand what has been done. It is surprising that RPI is assessed from gilt curves, presumably from yield comparisons, because this has been shown not to work at all well[e]. When the report was issued, it was already known that there would shortly be a consultation (since launched) on how the RPI might be modified, which would appear to be highly relevant. That CPI has been assumed to increase at 1.1 % pa lower than RPI is also surprising because there is little objective evidence for that.

(6) **Asset Assumptions** For the core portfolio, it is assumed that 80 % would be held in gilts or LDI securities but the gilts have not been specified as either conventional or index-linked. The return seeking assets are divided between 10 % in global equities, with around 3 % in each of US High Yield Bonds, Hedge Funds and UK Property. One must wonder whence such an assets distribution was derived because it is very far from common and out of line with figures 7.2 and 7.3 of the Purple Book (2018 or 2019). Although I had expected to see the asset returns, the presentation format does not permit the reader to identify the assumed risk premia.

(7) **Summary** While the report seems designed to support TPR's preferred outcome, I suggest that, as presented, it does not actually achieve that objective.

M. Conclusions Drawn And Recommendations Essentially the same recommendations were previously submitted to the DWP DB Consultation in May 2017[f].

(1) The current UK DB funding regime needs wholesale reform from scratch.
(2) Market prices have no predictive power for investment returns.
(3) Prudence can only be identified from knowledge of best estimates. Indeed, low discount rates can be imprudent (such as when assets are being sold).

[e] https://www.ukrpi.com/
[f] https://www.jonspain.com/DWP_greenpaper_2017/dwp_greenpaper_2017.htm

(4) **Recommendation (1)** 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.

(5) **Recommendation (2)** For forward budgeting purposes for periods of time of, say, at least 10 years, the UK DB regime should be amended in three ways.

- The requirement that assets be taken at market value should be removed.
- Where the trustees and sponsors agree to use robustly based stochastic cashflow projections, the requirement to show a discounted capital value of future benefit cashflows should be removed.
- 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).

N. **Why Alternative Views Are Held** This opinion stems from the evidence available and from having worried for over 30 years about the application of short-termism to funding long-term pension arrangements (my first article was published in 1983). The key points for my alternative views are summarised under the following headings:

- brief UK DB funding history {paragraph [P]}
- the 2003 EU Pensions Directive {paragraph [Q]}
- impact of financial economics upon pension funding {paragraph [R]}
- long-term nature of pension arrangements {paragraph [S]}
- possible DB funding objectives {paragraph [T]}
- making assumptions about uncertain future {paragraph [U]}
- actuarial approaches need evidence base {paragraph [V]}
- one possible approach to setting discount rates {paragraph [W]}
- reasonable funding inferences {paragraph [X]}

O. Other things being the same, it must be recognised that, so far as they can confidently be anticipated, higher investment returns will reduce costs.

(1) 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.

(2) Because risk quantification is very poorly captured by single numbers, using discounted capital scalar values hides very much more than it reveals.

(3) Avoiding losses is equivalent to avoiding profits (Redington, 1952), so that derisking is not cost-free (most exercises are quite expensive!).

(4) Since around 2000, when the FRS17[g] 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.

(5) To quote Confucius (among many others), the best can be the enemy of the good and long-term pension funding is a prime example.

(6) Finally, there appears to be a general impression that all of the required 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.

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

(1) Until the 1960s, most schemes had previously been 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).

(2) 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 increase guarantees, annuities (current and deferred) were affordable, the discontinuance position normally not seen as a severe problem.

(3) Further, corporate pension accounting standards were less stringent than now and the main funding target focus was the required employer's contribution.

(4) 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 had not been widely recognised.

(5) 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.

[g] https://www.frs17.com/

(6) From 1987 until 2006, pension scheme assets were subject to an "excessive surplus" test using prescribed assumptions[h]. This led to some employers taking contribution holidays, which has been blamed by some commentators for the funding problems. In fact, those problems were more due to the switch to financial economics from around 2000 (see (9) below), by when few excessive surpluses still existed.

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

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

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

(10) 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.

(11) The 2003 EU Pensions Directive led to UK legislation, followed by a very long period of very low interest rates. Being continually told that defined benefit pensions were unaffordable cannot have been helpful in deciding to continue such schemes.

(12) Finally, the amendments to tax relief on pension contributions from 2006 led to higher tax for higher paid staff. It seems likely that this discouraged directors from continuing to fund pension arrangements which they could not also enjoy. In addition, they must have been further discouraged by the heavy reductions brought in during 2010-2015.

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

(1) As 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.

(2) How the actuarial methodology was designed, and by whom, is far from clear.

(3) 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).

(4) 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.

[h] Originally Finance Act 1986 (schedule 12), updated in ICTA 1988 (schedule 22)

(5) 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.

R. **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.

(1) The theoretical academic evidence related to perfect markets but real markets are not efficient (Shiller {Nobel Prize} & others), and perfect information is not provided. For examples, see Robert Haugen ("The Wolf On Wall Street") and Benoit Mandelbrot ("The (Mis)behavior of Markets").

(2) Market prices have no predictive return power (Eugene Fama ("Random Walks In Stock Market Prices"), 1965).

(3) Typically, volatility is treated as risk but the FE underlying assumption ("today forever") is that there is no future volatility, an inherent illogical contradiction.

(4) 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 we should use an abstract "risk-free" discount rate, it is empirically unobservable and it wouldn't make the cashflows risk-free.

(5) 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.

(6) This approach has been utterly unsuccessful for long-term pension funding.

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

(1) Funded by contributions and investment returns, it is right to question whether a sponsor will be around for so long. Depending upon the sponsor's circumstances, there are private predators (competition) and public predators (regulators).

(2) 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.

(3) For the avoidance of doubt, mark-to-market is accepted as absolutely right for transactions.

T. **Possible DB Funding Objectives** 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.

(1) 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.

(2) It is suggested that the principal purpose must be to cover benefits as they arise, over time, rather than all at once.

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

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

(5) 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.

U. **Making Assumptions About Uncertain Future** Essentially, we are trying to capture long-term dynamics of financial markets, which have at least two specific weaknesses. Not only are they prone to herding (following trends for too long) but also there is a widespread inability to price tail risk (or even to perceive it).

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

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

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

V. **Actuarial Approaches Need Evidence Base** While there is one uniquely correct view of the future, we don't know what it is, which is why assumptions are needed. Specifically, we don't know how conditions will change (when? which way? how far? for how long?).

(1) Actuaries need to interpret evidence as experts.

(2) Interpretation is subjective, not objective.

(3) There is nothing wrong with subjectivity, so long as independence is demonstrated (not merely rooted in groupthink), AND all of the evidence available is taken into account AND fully cogent explanations are provided.

(4) 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 for the liabilities.

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

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

(7) 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)).

W. Alternative Approach To Setting Discount Rates As mentioned above ({D(3)}, making decisions about the long-term future is not best informed by comparing two scalars.

(1) 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.

(2) 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.

(3) 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 when the approach was still normal UK practice before around 2000.

(4) Using a Monte Carlo process, details of which are set out in greater detail at www.discrate.com (to be updated during 2020), 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.

(5) Previously presented to several groups of actuaries, the results are startling. So long as there is sufficient time ahead, off-market estimates appear to be far more efficient.

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[i] https://www.longequityreturns.com/risk_premia.htm

(6) 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.

(7) Again, it is imperative to understand that prudence can only be assessed relative to best estimate. Other things being the same, a discount rate of 5% pa is less prudent than 2% pa. If, however, the best estimate is 1% pa, then 2% pa is NOT prudent (5% pa even less so).

(8) There are three crucial points. First, in order to avoid building in systematic bias, a best estimate discount rate should be precisely the same as the best estimate investment return. Second, this must be based upon robust evidence. Third, the view that a prudent approach dictates discounting by reference to bond yields is not supported by any evidence.

(9) Again, crucially, prudence cannot even be defined without knowing the best estimate.

(10) Using off-market estimates tends to lead to outcomes which are significantly closer to reality than on-market estimates (see www.discrate.com).

(11) Other actuaries may suggest other equally valid approaches - and so may I when I have more evidence.

X. **Reasonable Funding Inferences** Smoothing can still be relevant because most finance directors want to be able to budget; indeed, even investment analysts seem to smooth earnings forecasts.

(1) DB pension scheme trustees can and should form their 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.

(2) 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.

(3) 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.

(4) If, as appears to be the case, we can't get simple things right, why should we think we can tackle complex stuff successfully?

Jon Spain

Jon Spain 31 August 2020