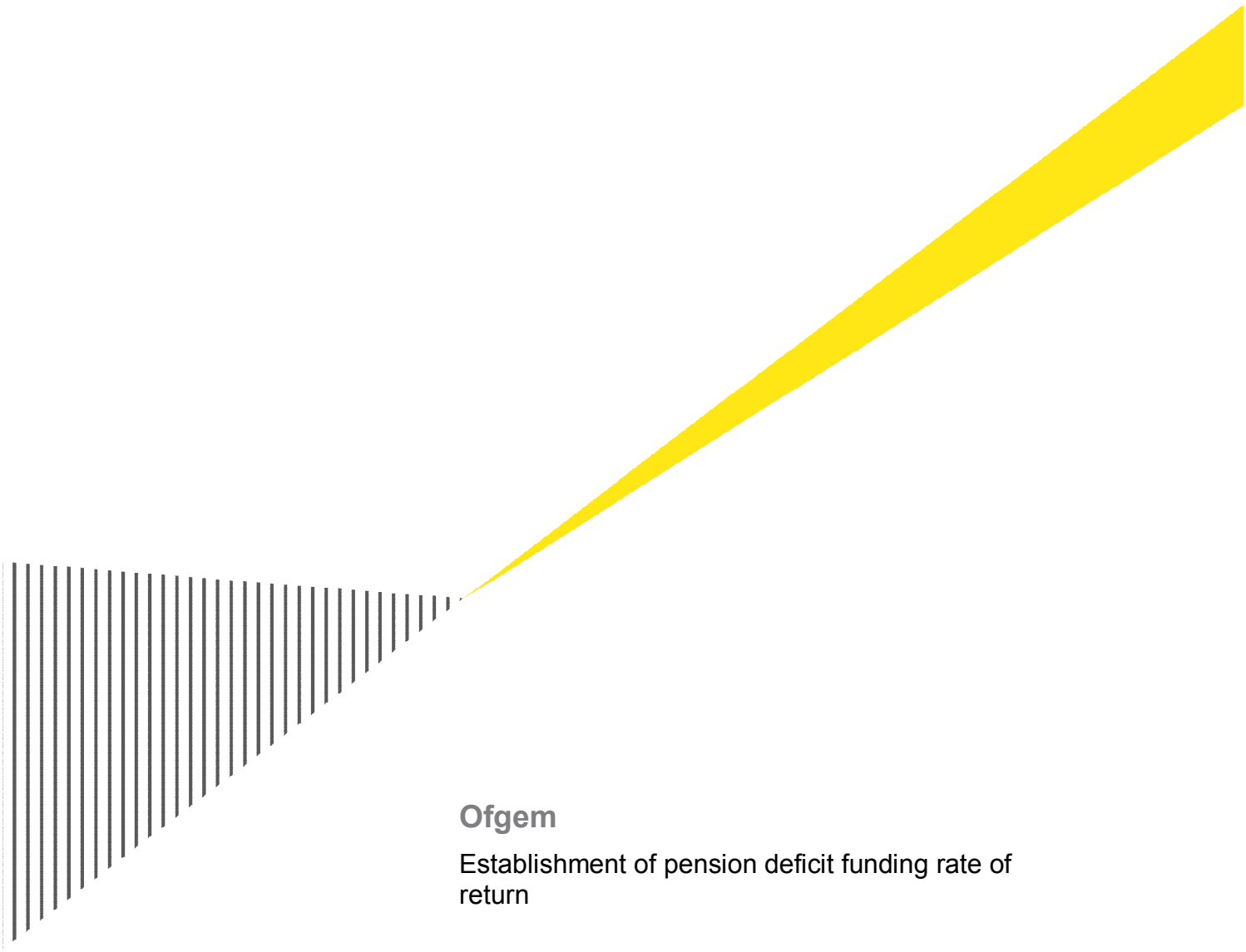

Ofgem

Establishment of pension deficit funding rate of return

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1. Background

Ofgem uses the pension deficit funding rate of return to determine the annual deficit allowance that it grants to each NWO within its pricing methodology.

Prior to DPCR5, Ofgem set the pension deficit funding rate of rate of return based on NWOs' weighted average cost of capital (WACC). However, at DPCR5, Ofgem considered that WACC was no longer appropriate for this purpose.

At DPCR5, Ofgem instead decided to set the pension deficit funding rate of return after benchmarking the pre-retirement discount rates used in the most recent actuarial valuation of DNOs' pension schemes. This benchmarking process revealed that the range of pre-retirement discount rates ranged from 1.0% pa to 2.6% pa in excess of inflation, with an average of 1.9% pa in excess of inflation. After consideration, Ofgem decided to set the rate at 2.6% pa, which matched the highest pre-retirement discount rate used in any of the NWO's pension valuations. At DPCR5 deficits were spread over a notional deficit recovery period of 15 years.

The size of the funding deficit allowance is sensitive to the choice of the pension deficit funding rate of return. The following table shows the impact on the deficit allowance that would have been granted at DPCR5 if the pension deficit funding rate of return was selected to be the average or lower end of the benchmarked range. We have considered a hypothetical NWO scheme with a £100m deficit.

Pension deficit funding rate of return	**Deficit allowance for £100m deficit (over 15 years)**
2.6% pa real (highest)	£8.1m pa rising annually with RPI
1.9% pa real (average)	£7.7m pa rising annually with RPI (5% lower)
1.0% pa real (lowest)	£7.2m pa rising annually with RPI (11% lower)

2. Task

Ofgem has asked us to examine and advise on:

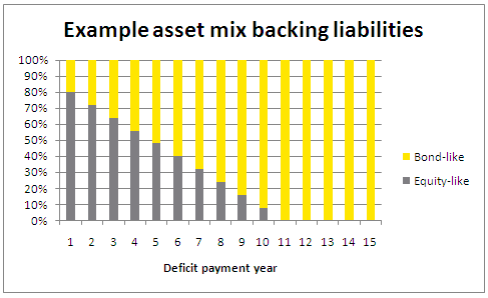
- What is an appropriate basis for determining the rate of return to be applied to the allowances for pension deficit funding; and
- Whether the rates would vary if the notional period is other than 15 years.

3. Actuarial calculation of pension deficit funding rate of return

As the example in section 1 showed, the amount of the deficit allowance is sensitive to the pension deficit funding rate of return that is used. In this section we consider the approaches commonly used by pension actuaries to determine deficit contributions to a pension scheme.

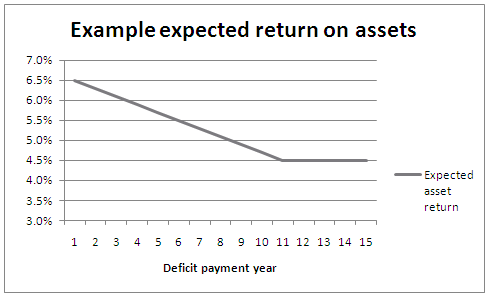
3.1 Weighted average approach

Some actuaries determine the pension deficit funding rate of return to be the weighted average rate of expected return on the pension scheme assets over the deficit recovery period (e.g., 15 years in this case). The rationale for this approach is set out below.



A scheme's liabilities will relate to a mixture of liabilities for active, deferred and pensioner members. Over time, as more and more active and deferred members reach retirement, the percentage of pensioner liabilities will increase (i.e., the scheme will mature). The exception to this would be a scheme that is open to new entrants, although these are less common (almost all NWOs have closed their scheme to new entrants).

Schemes tend to back the liabilities for pensioners with bond-like assets but often use more risky asset classes such as equities and property to back liabilities for active and deferred members. Therefore, as a scheme matures, the percentage of assets in bond-like investments is expected to increase[1].



Over the long term, bond-like investments are expected to produce lower returns than more risky asset classes, such as equities. On this basis, for a maturing pension scheme, the expected return on a scheme's assets could be expected to decrease over time[2].

Under this approach, the pension deficit funding rate of return would be a weighted average of the expected rates of return on the scheme assets during the deficit recovery period (ie, a weighted average of the rates of return in the bottom graph).

It is worth noting that:

- The pension deficit funding rate of return at DPCR5 was set equal to the highest pre-retirement discount rate of the NWOs' pension schemes. In general, for a mature or maturing scheme, the pre-retirement discount rate will exceed the weighted average expected rate of return over any recovery period (e.g., 5, 10 or 15 years).

- Lengthening the deficit recovery period would be expected to result in a lower weighted average expected rate of return.

[1] See top graph which is an example of a scheme that currently has 80% of its liabilities in respect of non-pensioner members (backed by equity-like investments) and 20% of its liabilities in respect of pensioners (backed by bond-like investments). By year 10 it is assumed that all of the non-pensioner members have retired and hence 100% of the liabilities are pensioners with 100% of the assets in bond-like investments. This graph is exaggerated in the sense that the scheme is maturing extremely rapidly. In practice this is not the case as even closed schemes tend to mature slowly.

[2] See bottom graph.

3.2 Pre-retirement discount rate approach

Another common approach is to just set the pension deficit funding rate of return equal to the pre-retirement discount rate (i.e., this is the same approach as Ofgem used at DPCR5).

The thinking behind this approach is that the existing deficit can be considered to be attributable to non-pensioner members so additional contributions to address the deficit would be invested in higher returning asset classes that back the non-pensioner liabilities – hence the use of the pre-retirement discount rate. As noted in 3.1, this approach will result in a higher pension deficit funding rate of return (and therefore larger deficit allowances) than the weighted average approach.

This approach is more common than the weighted average approach, especially for shorter recovery periods. However, for long recovery periods the weighted average approach is more common and arguably more appropriate.

3.3 Asset outperformance during the recovery period

Another approach is to assume that, during the recovery period, the return on the pension scheme assets will be higher than that implied by the pre/post-retirement discount rates. The rationale for this approach is that the pre/post-retirement discount rate assumptions used to value the liabilities are conservative estimates (i.e., they contain margins of prudence). For the purposes of determining deficit allowances, these margins of prudence can be removed. This approach is less common – statistics from the Pension Regulator suggest that only a minority of schemes in deficit use this approach. This approach can, in theory, result in a pension deficit funding rate of return that exceeds the pre-retirement discount rate.

Given the above, there are a range of different bases that Ofgem can consider using to set the pension deficit funding rate of return at future reviews. These are considered in the next section.

4. Options to consider

Below, we describe five potential mechanisms that Ofgem could use to determine the pension deficit funding rate of return at future reviews and outline their relative advantages and disadvantages.

4.1 Continue benchmarking on pre-retirement discount rates

Ofgem could continue to derive the pension deficit funding rate of return by benchmarking the pre-retirement discount rates reported by NWOs. This basis provides flexibility to choose any rate from within this range and the required information can be collected and processed quickly and easily. Further, this basis is transparent, would be consistent with DPCR5 and would likely match industry expectations. If Ofgem continues to set the pension deficit funding rate of return equal to the highest benchmarked rate this will produce the largest deficit funding allowances for a given recovery period length (see table on in section 6).

4.2 Benchmark to develop a weighted average rate

As noted in section 3, many actuaries would determine the pension deficit funding rate to be the weighted average of the pre and post retirement discount rates over the term of the recovery period. Ofgem could also employ a weighted average approach using benchmarked data.

In particular, Ofgem could refine its methodology to benchmark separately the pre and post-retirement discount rates and set the pension deficit funding rate of return equal to a weighted average of the chosen pre and post-retirement discount rates over the notional 15 year recovery period. The weighting could be based on the average maturity of the NWOs pension schemes and a view of how this maturity was expected to change during the notional recovery period.

Whilst this approach would be a refinement of the existing methodology, it would introduce additional complexity and judgement into the calculations.

Under this approach the resulting pension deficit funding rate of return would be lower than the current methodology and therefore will produce lower deficit allowances.

4.3 Derive a rate independently of the discount rates used in the NWOs actuarial valuations

Another approach would be to set the pension deficit funding rate of return independently of the discount rates chosen by the NWOs in their actuarial valuations.

To do this, Ofgem would need to set a rate that, based on the prevailing economic conditions, represented its reasonable forward-looking view of future investment returns over the next 15 years (or whatever notional recovery period was chosen) on a “typical” NWO pension fund taking into account some assumed mix of equity and bond-like assets.

This approach would provide Ofgem with ultimate freedom over the rate to choose. However, it would be open to criticism as NWOs could argue that Ofgem is implicitly suggesting what investment policy it feels is appropriate for NWOs to follow. Moreover, the selected rate may be very different to the discount rates underpinning NWOs’ deficit calculations, and it may therefore be difficult to counter criticism that the rate may be unrealistic and that the approach lacks credibility.

4.4 Continue to use a 2.6% pa real discount rate for future price reviews

Although simple, the use of a constant rate from price review to price review is inconsistent with setting rates to match prevailing financial conditions and would appear to be inconsistent with Pension Principle 4 that pension costs should be assessed on the basis of reasonable (and up-to-date) assumptions.

4.5 Use a scheme-specific rate

Another approach would be to use a scheme-specific pension deficit funding rate of return. This rate could be based on the weighted average approach appropriate to each scheme's circumstances, could be simply each scheme's pre-retirement discount rate or could be the actual rate used to determine that scheme's deficit contributions.

This approach is clearly more complex than the current approach. Indeed, if a weighted average rate were to be used for each scheme this would require detailed information at each review date that may result in additional costs to NWOs (or require additional effort from Ofgem to estimate).

A scheme specific rate would almost certainly produce smaller deficit funding allowances than the current methodology.

5. Recommendation

In our opinion, we believe that it would be most appropriate for Ofgem to continue with its current methodology of setting the pension deficit funding rate of return from the range of benchmarked pre-retirement discount rates. On balance, we believe a continuation of the current methodology is preferable as it is a consistent approach to prior periods, and because it is simpler than a scheme-specific approach.

6. Impact of changes in length of notional recovery period

As noted in section 3.1, as the notional recovery period increases, the weighted average investment return decreases. Therefore, if the notional recovery period is increased from 15 years there could be an argument for using a lower pension deficit funding rate of return.

If the recovery period is shortened, the weighted average investment return will increase (although not below the rate of return derived using Ofgem's current methodology). However, as the table below shows, the amount of deficit allowance is less sensitive to the deficit funding rate of return as the notional recovery period decreases.

Pension deficit funding rate of return	**Deficit allowance (rising with RPI) for £100m deficit spread over**			
	5 years	**10 years**	**15 years**	**20 years**
2.6% pa real	£21.6m	£11.5m	£8.1m	£6.5m
1.9% pa real	£21.2m (2% lower)	£11.1m (3% lower)	£7.7m (5% lower)	£6.1m (6% lower)
1.0% pa real	£20.6m (5% lower)	£10.6m (8% lower)	£7.2m (11% lower)	£5.5m (15% lower)

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