Financial Conduct Authority

Analysis and recommendations for the impact of RPI reform on the redress approach and guidance

March 2021

Purpose

This report has been prepared for the Financial Conduct Authority ("the FCA") in accordance with the terms of our Framework Agreement for Consultancy Services & Skilled Person Services dated 2 April 2013 and the Contract dated 5 March 2021.

The purpose of this report is consider the redress guidance in light of the proposed changes to RPI inflation expected to come into effect in February 2030 and recommend which, if any, assumptions the FCA should consider changing in light of these developments. These updates will be in relation to the FG17/9 guidance (referred to throughout as "the guidance" or "the current guidance") published in October 2017 based on our 2017 advice which can be found here (referred to as "our original advice").

The scope of our work, and limitations, were based on instructions from the FCA and are summarised on page 7.

This report has been prepared in the knowledge that the FCA will review and analyse our recommendation and consider whether it is necessary to make any changes to the current methodology. We understand that our recommendation may be accepted or rejected by the FCA, in whole or in part.

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Technical Actuarial Standards

This document complies with the relevant Technical Actuarial Standards ("TAS") issued by The Board for Actuarial Standards in so far as we consider them to be proportionate and relevant. The relevant standards are TAS 100: Principles for Technical Actuarial Work and TAS:300 Pensions.

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Executive summary

Executive summary

On 25 November 2020, HM Treasury and the UK Statistics Authority (UKSA) released their joint response to the consultation on the 'Reform to RPI methodology', and specifically the proposal to align RPI with CPIH (CPI including owner occupiers' housing costs) from 2030. In their response, the Chancellor stated that they are unable to consent to a change in methodology before 2030 due to the negative impact on 'relevant' index-linked gilts and the UKSA confirmed that they therefore plan to make the change to RPI from February 2030.

Many pension benefits are linked to a measure of inflation (typically RPI or CPI) in some way, and hence the changes to RPI are expected to affect the level of future benefits that some people may receive. In addition, assumptions for future levels of CPI inflation are typically set based on market expectations of RPI inflation and as such the proposed changes are likely to impact how future CPI assumptions are set.

We have been asked to consider the redress guidance in light of the proposed changes to RPI inflation expected to come into effect in February 2030 and recommend which, if any, assumptions in the redress guidance the FCA should consider changing in light of these developments.

In light of the proposed changes, our recommendations include:

- The Consumer Price Index (CPI) inflation assumption should be changed from a deduction of 1% p.a. from the Retail Price Index (RPI) inflation assumption to a deduction of 1% pre-2030, 0.5% in 2030 and 0% post-2030;
- There should be separate RPI-CPI differential assumptions for pre- and post-retirement;
- Reflecting the above and to simplify the calculations, there should be a matrix based on the assumed retirement age and term to retirement and setting out the RPI-CPI differential that should apply based on these; and
- There should be no changes to any other assumptions.

We note that there is a range of interpretations as to how RPI reform has affected the markets and, in particular, how robust previously accepted market measures of inflation continue to be. Our above recommendations are based on the view that the market information used in the redress methodology remains the most appropriate source of information and that it would not be appropriate to make subjective adjustments to this information within the methodology.

As noted in our original advice on the redress methodology, we acknowledge that this approach is unlikely to be suitable in all circumstances, for example, if the consumer's previous defined benefit pension scheme has now entered the Pension Protection Fund; however, we would expect that it would be possible to apply the principles of our recommendation to different scenarios if necessary.

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Scope of our review

Scope of our review

Scope of our report

We have been asked by the FCA to consider the redress guidance in light of the proposed changes to RPI inflation expected to come into effect in February 2030 and recommend which, if any, assumptions the FCA should consider changing in light of these developments.

We were instructed to:

- Provide suggested options and a recommendation for changes to assumptions where we feel changes should be considered. Our assumptions will take into account the objectives for developing the guidance considered as part of our original advice.
- Focus on the methodology for setting the CPI inflation assumption. This assumption will have to reflect differences between individuals, including the benefits they are due, their age and how these interact with key dates that did not previously affect the setting of a CPI inflation assumption.
- Provide examples of the impact of any changes on a small number of sample consumers to demonstrate how the proposed changes in methodology would impact the amount of redress consumers would have received based on the current version of the guidance.
- Provide rationale for why we will not propose to amend the pre-retirement discount rate.
- Summarise our findings in a short publishable report.

Limitations on scope

1. We will not provide any comments on assumptions that are not affected by the changes in RPI inflation.
2. We will not consider how the assumptions should be amended going forwards as the time to 2030 reduces. We understand that the FCA will be performing a full review of the redress methodology later this year, following their review timetable, that will consider the wider methodology including how the CPI assumptions may evolve over time.
3. We have not performed a full cost-benefit analysis of our recommendation.
4. Our recommendation is based on market conditions and circumstances at the time the report is written and may subsequently have to be reviewed and revised again in the future.

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Review of the current approach and assumptions

Review of the current approach

Overview of the current approach

The current guidance, entitled *FG17/9 Guidance for firms on how to calculate redress for unsuitable defined benefit pension transfers*, was released in October 2017. The guidance includes financial and demographic assumptions to be used in redress calculations. The approach to setting these assumptions was based on general market conditions and circumstances in 2017 and did not anticipate the current reform to RPI.

Our review has focused on the specific impact of RPI reform on the assumptions set out in the guidance. As per the agreed scope, we have not provided any comments on the suitability or otherwise of other aspects of the methodology at the current date. We understand that the FCA is due to review the wider redress methodology this year, in line with the timetable set out in the summary of feedback for FG17/9.

Implications of the RPI reform announcement in November 2020

On 25 November 2020, HM Treasury and the UK Statistics Authority (UKSA) released their joint response to the consultation on the 'Reform to RPI methodology', and specifically the proposal to align RPI with CPIH (CPI including owner occupiers' housing costs) from 2030. In their response, the Chancellor stated that they are unable to consent to a change in methodology before 2030 due to the negative impact on 'relevant' index-linked gilts and the UKSA confirmed that they therefore plan to make the change to RPI from February 2030.

The consultation response was clear that the change in 2030 is going ahead and that there will be no compensation for index-linked gilt holders or pension scheme members.

Theoretically, the Treasury or the UKSA could reverse these decisions before 2030. In particular, it has been reported that the trustees of three major pension schemes are considering a joint application for a judicial review of the government's decision and have until 7 April 2021 to do so. Clearly, there are a number of uncertainties regarding any such application and the likely outcome. Therefore, the general consensus between actuarial firms and other market commentators is that the possibility that the decision is reversed is small and, for this reason, we have not considered the possibility further in our recommendation.

As such, it is now expected that RPI inflation will be aligned with CPIH inflation post-2030. Therefore, post-2030 the expected RPI-CPI gap is expected to be smaller than previously thought, as the difference between CPI and CPIH has typically been in the range -0.1% p.a. to 0.1% p.a. since the indices have been published from 1989, this is illustrated on page 16.

Review of the current approach

Our review of the current approach

We have undertaken a review of the approach and each of the assumptions set out in the current guidance. It is clear that some of these assumptions are not affected by RPI reform, for instance mortality and other demographic assumptions and the post-retirement discount rate assumption that refers to nominal gilt yields.

We consider that the assumptions that are potentially affected by the reform are those with a linkage to inflation, namely:

- RPI inflation (pre- and post-retirement);
- CPI inflation (pre- and post-retirement);
- pension increases in payment and deferment;
- the pre-retirement discount rate.

Over the following pages we will consider each of these assumptions further. For the avoidance of doubt, we consider these to be the only assumptions that need to be reviewed as a result of RPI reform.

Throughout our review of the current guidance and assumptions, and within the recommendations that we have provided in this report, we have considered the same factors and constraints as noted in our original advice on the redress methodology (to the extent that they remain relevant). These factors include:

1. The overall objective is to put a consumer back into the position they would have been in;
2. Minimise the risk that the amount of redress calculated can be gamed;
3. Realistically reflect current practices for taking benefits from pension schemes;
4. Allow the calculations to be completed quickly to avoid delays in completing complaints;
5. The redress calculation should be easy to understand and apply in practice; and
6. The redress calculation should reflect the risks that the consumer would have been exposed to in the defined benefit pension scheme compared to the risks that they are exposed to in the defined contribution pension arrangement.

Review of the current approach

RPI inflation assumption (pre- and post-retirement)

The current guidance sets out that the RPI inflation assumption is derived using the Bank of England implied inflation curve at a term appropriate for the profile of the consumer's benefits. This assumption is then used in the derivation of rates of deferred revaluation and pension increases in payment.

Our view is that this approach remains appropriate as the Bank of England data remains a generally available and widely used market-implied measure of inflation. We discuss this further on page 17.

In our original advice we considered whether it would be appropriate to deduct an inflation risk premium from the assumption.

We noted that: "*An inflation risk premium is used to reflect market related forces, due to the scarcity of some securities by comparison with the demand for them, which are typically expected to overstate the rate of implied inflation.*"

As any adjustment for an inflation risk premium would be subjective and as if the rate of inflation is understated in the assumptions consumers' benefits would not be protected against inflation, we did not recommend the use of an inflation risk premium, and no inflation risk premium was adopted by the FCA in the guidance.

It is the opinion of some commentators that inflation risk premiums should increase following the RPI reform announcement in order to allow for:

- increased market distortions following the RPI consultation response; or
- supply and demand distortions in the gilt market (i.e. certain institutional investors being forced to hold index-linked gilts).

In our view, the reasoning for not including an inflation risk premium from our original advice continues to apply; the application of an inflation risk premium remains subjective and could result in consumers not being fully protected against inflation.

Therefore, we consider it appropriate to maintain the current RPI inflation methodology of not including an inflation risk premium. We note that allowing for an inflation risk premium would reduce the RPI assumption and hence the redress amount received, all else being equal.

As such, it is our recommendation that no changes should be made to the approach for the RPI inflation assumption.

Review of the current approach

CPI inflation assumption (pre- and post-retirement)

In the current guidance, the CPI inflation assumption is derived by a deduction of 1.0% p.a. from the RPI inflation assumption.

In our original advice, we noted that there is no method to derive a CPI assumption directly from the market and we recommended that this be set relative to the RPI inflation assumption. We consider that it remains appropriate to derive a CPI inflation assumption with reference to the RPI inflation assumption for the same reason.

However, following the reforms to RPI it is our view that the current 1.0% p.a. margin is likely to be understating assumptions for future CPI inflation in the period from 2030 onwards and so potentially understating the amount of redress required. The impact of this for individual consumers would vary significantly depending on individual circumstances.

As such, to reflect the fact that from 2030 RPI inflation will be aligned with CPIH, we recommend that it is now appropriate to use a separate assumption pre-2030 and post-2030.

- The pre-2030 assumption should reflect the expected gap between RPI and CPI inflation.
- The post-2030 assumption should reflect the gap between CPIH (which RPI will be aligned with) and CPI inflation.

The derivation of the CPI inflation assumption is further complicated by the profile of the consumer's benefits relative to the change to RPI due in 2030. In deriving the CPI assumption, it is necessary to consider the profile of each consumer and the proportion of their deferred revaluation and pension increases that apply pre- and post-2030.

As such, we consider that it is necessary to update the approach to deriving the CPI inflation assumption in a manner that reflects the profile of each consumer.

Our detailed recommendations for the updates to this assumption are set out in section 4.

Review of the current approach

Pre-retirement discount rate assumption

In the current guidance, the pre-retirement discount rate assumption reflects half of the expected return on equity assets. We do not believe that there is any reason to change this approach as the reasons for adopting it are still valid.

The expected return on equity is derived with reference to the RPI spot inflation rate assumption for the relevant term, along with the dividend yield on equity assets and the expected growth of dividends. Again, we believe that the premise that equity returns can be estimated using a measure of inflation and assumptions around dividend yields remains valid and should be maintained, but we note that this element of the calculation will be affected by the changes to the derivation of RPI inflation.

However, on balance we do not believe that it is necessary to make any changes to this assumption. The reform to RPI is in part due to there being better measures of actual inflation experienced by individuals. As such, we believe that this remains the most appropriate measure for estimating the expected equity returns post-2030.

Further, as we note later in this report, the shape of the Bank of England implied inflation curve has not changed significantly in light of RPI reform so the impact on the assumed equity returns and pre-retirement discount rate assumption is small. Any downward movements in the RPI curve, e.g. due to supply/demand distortions adjusting or uncertainty reducing, would be favourable to consumers.

As such, it is our recommendation that no changes should be made to the approach for the pre-retirement discount rate assumption at this stage. Although we do recommend that this is considered at the point that the full guidance is reviewed later this year.

Review of the current approach

Pension Increases and Deferred Revaluation

The current guidance contains information on how to use the derived RPI and CPI assumptions (pre- or post-retirement as appropriate) to set assumptions for pension increase and deferred revaluation assumptions.

Fundamentally, we see no reason to change the current guidance in this area. We would expect the impact of RPI reform to be captured in the headline inflation assumptions and for these to be applied in the same way as previously for setting increase assumptions.

However, we do note that technically there can be situations where a more detailed calculation may lead to a more technically correct result than that proposed. This is because the interaction between individual caps and floors, underlying inflation and the 2030 transition date can affect the weighting applied to different portions of the inflation curve (for example a cap on CPI increases may only bite post-2030 and hence reduce expected increases for this period only). Such instances will be specific to the individual and their benefits, the calculation date and underlying market conditions and hence difficult to allow for in the guidance without prescribing detailed calculations.

We note that this simplification exists within the spot rate approach already set out in the current guidance. We also do not expect the impact on redress amount of not allowing for this to be significant. As such we do not recommend making an allowance for this.

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Recommendations for redress guidance

Recommended approach

Inflation differentials

We consider that it is now appropriate to use separate assumptions for the pre-2030, during 2030 and post-2030 RPI-CPI differentials. This reflects the fact that from February 2030, RPI inflation will be aligned with CPIH over the course of a one-year transitional period. The pre-2030 assumption should reflect the expected gap between RPI and CPI inflation, the 2030 differential should reflect the transitional arrangement and the post-2030 gap should reflect the expected gap between CPIH (which RPI will be aligned with) and CPI inflation.

For the pre-2030 RPI-CPI differential, we recommend that this should be maintained at 1.00% p.a., as in the current guidance. The RPI reform has not resulted in any changes to inflation expectations pre-2030, so we consider that there is no justification to change the gap between RPI and CPI inflation pre-2030 from that set out in the current guidance.

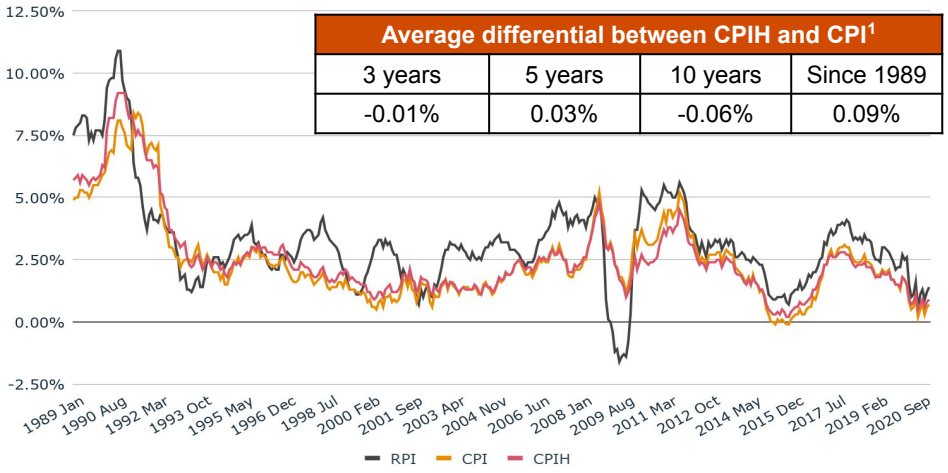
For the post-2030 RPI-CPI differential, we recommend that this should be 0.00% p.a. The average gap between CPI and CPIH has varied between -0.10% p.a. and 0.10% p.a. over the past 30 years and has been close to 0.00% in recent years. This is illustrated in the chart below. Therefore, we consider 0.00% to be an appropriate best estimate of the long-term differential between CPI and CPIH.

For the differential that applies during 2030, we recommend that this should be 0.50% p.a. reflecting the mid-point of the pre-2030 and post-2030 differentials. There is a transitional arrangement over a one-year period whereby monthly rates of RPI will be aligned with CPIH immediately, such that annual rates will converge after the first year. As such, pension increases and deferred revaluation that are granted based on inflation during this transitional year will consist of, on average, half of the monthly increases in RPI (under the UKSA's current formula) and half of the monthly increases in CPIH.

The chart[1] shows the progression of RPI, CPI and CPIH since 1989 (when the Office for National Statistics began to publish all three indices).

The chart illustrates that CPIH has largely followed CPI. On average, CPIH has been c. 0.1% higher than CPI over the entirety of the period. However, there have been periods where CPI has been higher than CPIH, for example if the period taken is only the last 10 years.

Average differential between CPIH and CPI[1]			
3 years	5 years	10 years	Since 1989
-0.01%	0.03%	-0.06%	0.09%



1. Source: Office for National Statistics published annual rates of inflation. Chart and averages illustrated based on published data to the period up to January 2021.

Recommended approach

Bank of England implied inflation curve

The current RPI inflation assumption refers to the Bank of England implied inflation curve and, as noted on page 11, we consider that this remains appropriate. However, some market commentators hold a view that this curve does not fully reflect the changes resulting from the reform.

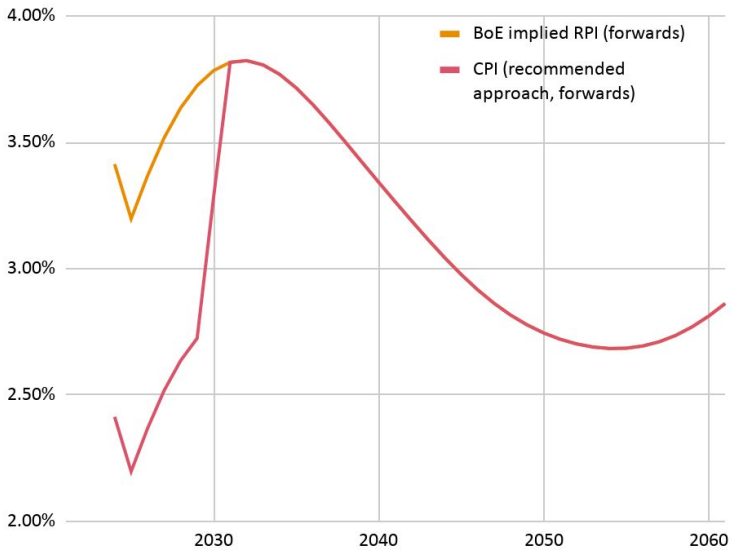
Market reaction on the date of the response on RPI reform (25 November 2020) was for implied RPI inflation forward rates (as measured by the Bank of England) to increase by 0.05% to 0.10% pa across all terms. This may seem counterintuitive, but there are various views as to why this increase occurred:

- One view is that this was due to the market having already priced in the change from 2030, and having also previously priced in a risk it could happen earlier (as early as 2025) which was then reversed out.
- An alternative view is that that supply and demand distortions in the gilt market (i.e. certain institutional investors being forced to hold index-linked gilts and therefore being price insensitive) have meant that the expected fall in the price of index-linked gilts maturing post-2030 (which would cause a fall in implied RPI inflation expectations) has not occurred.
- Other Spending Review announcements may have had an impact on future inflation expectations.

Additionally the shape of the Bank of England curve does not illustrate a downwards step-change in forward rates from 2030 which might be expected given the intention to align with the CPIH thereafter.

However, in line with the argument to make no adjustment for an inflation risk premium, which we discuss on page 11, any adjustment to the level or shape of the implied RPI curve in order to "correct" the above points would be subjective and, if the rate of inflation is understated in the assumptions, consumers' benefits would not be protected against inflation.

We note that this means our recommended approach results in some CPI assumptions in excess of 3% p.a. in future based on current market conditions, considerably higher than the Bank of England's 2% p.a. target. This is illustrated further in our worked examples in the appendix and the chart[1]. However, in the absence of other market indicators and the risk that a different approach would mean that consumers' benefits did not keep pace with inflation we are comfortable that this approach remains acceptable.



1. Source: Bank of England implied inflation forward curve as at 26 February 2021, the most recent month-end date.

Recommended approach

Approach to reflect profile of benefits

The most accurate way to reflect the impact of the changes would be to ask users of the guidance to perform their calculations using full inflation curves. The RPI forward curve could be derived from the same sources as currently used and a “margin curve” subtracted from this which represents the expected margin between RPI and CPI in each future year, as discussed on page 16, to derive a CPI assumption curve. Expected pension increases and deferred revaluation would then be derived from these curves with different assumptions for each being applied in each future year. However, this would be a significant change to the guidance and we note that curve based valuation approaches were rejected as an option for the current guidance as they are complicated calculations that users may not have access to.

We therefore recommend deriving assumptions for the margin between RPI and CPI with reference to the term to retirement and the mean term of post-retirement benefits for individual consumers. This is to ensure consistency with the derivation of the RPI assumption, which is a key component of the approach, and leads to “average” margins in buckets to be applied to the consumers based on their term to retirement and post-retirement discounted mean term.

The term to retirement is a function of the consumer’s age and expected retirement date and helps to determine the relevant weight that should be given to the pre- and post-2030 assumed margins across both the pre- and post-retirement assumptions for CPI inflation.

We suggest that these margins are provided as part of the guidance so that users may choose the appropriate margin based on the characteristics of the individuals they are performing calculations for. We have calculated example margins on this basis which are included on page 22. In deriving these assumptions we have used the approach recommended on the previous pages and assumed that the weighting applied to each future year remains constant.

Example of how the term affects the impact of reform

Take a consumer with a term to retirement of 5 years at the current date. They will have 4 years of pre-2030 post-retirement pension increases. If this consumer has a retirement age of 75, they are assumed to have a mean term of post-retirement benefits of 11 years (based on the current guidance) and so they would have 7 years of post-2030 pension increases. Whereas, if this consumer had retirement age of 60, they would have a mean term of post-retirement benefits of 20 years and so would have 16 years of post-2030 pension increases.

The single equivalent RPI-CPI differential used within the derivation of the pension increase assumption of the consumer with a mean term of 20 years will be much lower than the consumer with a mean term of 11 years due to having more years of post-2030 pension increases when the RPI-CPI differential is assumed to be 0%.

Therefore, the term to retirement can have a significant impact on both the deferred revaluation and pension increases assumptions.

Recommended approach

Approach for using CPI inflation assumptions pre- and post-retirement

The current guidance notes that CPI inflation should be derived as RPI less 1.00% p.a. with allowance for any caps or collars in the derivation of the deferred revaluation or pension increase assumptions.

However, in light of RPI reform, we recommend that a separate differential is applied in the derivation of CPI for pre- and post-retirement benefits. The reason for this is that deferred revaluation will come before pension increases and therefore will apply during some or all of the pre-2030 period. This will result in the gap between RPI and CPI inflation being higher for deferred revaluation than for pension increases and so using the same assumption for both, by taking an average or otherwise, could result in significant impact in the redress values calculated for individuals.

In the table on page 22 we have set out indicative margins for the pre- and post-retirement assumptions split by the term to retirement.

Presentation of assumptions

Based on the suggestions above, we recommend illustrating the assumptions by preparing a table of RPI-CPI differentials from which the user of the guidance will be able to select the appropriate assumption based on profile of the customer's benefits.

To prevent the table from becoming overly large and to keep the guidance concise, we recommend using a number of 'buckets' to group assumptions by their term to retirement. The buckets we have suggested are grouped by terms where the assumptions are the same (after rounding to 0.05%), so there is no impact on the assumption that would be used in the redress calculation for any consumer.

However, if the FCA decides to simplify the table further (i.e. into fewer buckets) this would mean that for some consumers the redress amount is lower than it would if their actual term to retirement were used, and for others it will be higher.

We also recommend setting the table out based on retirement ages from 55-75, in 5 year increments, which is consistent with how the discounted mean term is presented in the current guidance.

We have presented on page 22 a table of the assumptions we have derived using what we consider to be sensible 'buckets' but the FCA may wish to consider either condensing this further or giving users more detail. The full table, with each term to retirement shown, is included Appendix 1.

We discuss on the following page methods of interpolation and extrapolation that could be used where a consumer's assumed retirement age is not equal to one of the 5 year increments.

Recommended approach

Presentation of assumptions - interpolation and extrapolation method

Where the assumed retirement age of any consumer is not equal to any of those 5 year increments, we recommend the following approaches could be taken by users of the guidance:

- Where the assumed retirement age falls in the age range 55 to 75: We consider linear interpolation would be a suitable approach to take and this is consistent with the approach set out in paragraph 30 of the current guidance.

- Where the assumed retirement age is either greater than 75 or less than 55: We consider that a method of extrapolation would be necessary in this instance. We note that it would be more unusual for assumed retirement ages to fall outside of this range and note that this possibility is not considered in the current guidance where discounted mean terms are provided in paragraph 29.

  Similar to the interpolation approach, we suggest that linear extrapolation would be the most appropriate extrapolation method given its simplicity for users of the guidance. We note that there are more accurate methods of extrapolation, such as curve plotting techniques, but we consider that this should be a secondary priority to the simplicity of the guidance for the users, particularly as any extrapolation is likely to be carried out over a small number of years (e.g. to age 50) so any loss of accuracy will be minimal.

Implementation for users of the guidance

We understand that users of redress calculation software will need to make updates to their models to reflect the changes proposed to the calculations as a result of RPI reform and that they are already expecting this following the announcement from the FCA on 3 March.

We would expect many user's models to be relatively straightforward to adapt to follow the recommendations in this report. Although we do note that some users may find this more difficult than others, depending on the sophistication of their modelling tools and flexibility of the software that they use to make changes.

Recommended approach

Changes over time

We note that as time passes and redress calculation dates get closer to the RPI reform transition in 2030 the margins set out on page 22 would need to be recalculated. We would expect that margins will reduce with the passing of time, as the “post-2030” scenario will have an increased weighting as time to 2030 reduces.

Given a review of the full guidance is expected this year, we have not explored this point further nor set out recommendations for how the margins that we have provided on page 22 could be applied in future years. We consider that the margins that we have proposed and set out will remain appropriate for 2021. During this time we would expect the review of the full guidance to have been undertaken and completed.

The table below illustrates the impact of the passing of time on the margins for two illustrative consumers. We have assumed that the characteristics of these consumers remain constant in each future year (i.e. such that age remains constant and the effective years of birth are one year later in each future calculation year):

- Consumer 1: 11 year term to their assumed retirement age of 55
- Consumer 2: 9 year term to assumed retirement age of 65

Redress calculation date		31/12/2020	31/12/2021	31/12/2022	31/12/2023
Consumer 1	Pre-retirement margin	0.85%	0.75%	0.70%	0.60%
	Post-retirement margin	0.00%	0.00%	0.00%	0.00%
Consumer 2	Pre-retirement margin	1.00%	0.95%	0.85%	0.70%
	Post-retirement margin	0.05%	0.00%	0.00%	0.00%

The impact of a 0.1% change in the pre-retirement CPI assumption would change the value placed on the benefits given up by c.1% for each of the illustrative consumers. The impact of a 0.1% change in the post-retirement CPI assumption would change the value placed on the benefits given up by 2.3% and 1.6% for Consumer 1 and 2 respectively (noting their differing post-retirement discounted mean terms), assuming all benefits are linked to CPI inflation.

Using an approach that would better withstand the passing of time could require a formulaic approach requiring users of the guidance to carry out calculations of the appropriate margins. Given our understanding that a key priority is that this guidance is simple and easy to use by third parties, we consider that a formulaic approach would add to the complexity for users and their calculation tools, albeit this could be considered further when the full methodology is reviewed later this year.

Recommended assumptions

Term to retirement (x, years)	RPI-CPI gap for pre-retirement inflation (deferred revaluation)	RPI-CPI gap for post-retirement inflation (pension increases in payment), by assumed retirement age				
		55	60	65	70	75
0 ≤ x < 1	n/a	0.35%	0.45%	0.60%	0.75%	0.85%
1 ≤ x < 2	1.00%	0.35%	0.40%	0.55%	0.65%	0.75%
2 ≤ x < 3	1.00%	0.30%	0.35%	0.45%	0.60%	0.70%
3 ≤ x < 4	1.00%	0.25%	0.30%	0.40%	0.50%	0.60%
4 ≤ x < 5	1.00%	0.20%	0.25%	0.35%	0.40%	0.50%
5 ≤ x < 6	1.00%	0.15%	0.20%	0.30%	0.35%	0.40%
6 ≤ x < 7	1.00%	0.15%	0.15%	0.20%	0.25%	0.30%
7 ≤ x < 8	1.00%	0.10%	0.10%	0.15%	0.20%	0.25%
8 ≤ x < 9	1.00%	0.05%	0.05%	0.10%	0.10%	0.15%
9 ≤ x < 10	1.00%	0.00%	0.00%	0.05%	0.05%	0.05%
10 ≤ x < 11	0.95%	0.00%	0.00%	0.00%	0.00%	0.00%
11 ≤ x < 12	0.85%	0.00%	0.00%	0.00%	0.00%	0.00%
12 ≤ x < 13	0.80%	0.00%	0.00%	0.00%	0.00%	0.00%
13 ≤ x < 14	0.75%	0.00%	0.00%	0.00%	0.00%	0.00%
14 ≤ x < 15	0.70%	0.00%	0.00%	0.00%	0.00%	0.00%
15 ≤ x < 16	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%
16 ≤ x < 17	0.60%	0.00%	0.00%	0.00%	0.00%	0.00%
17 ≤ x < 19	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%
19 ≤ x < 20	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%
20 ≤ x < 23	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%
23 ≤ x < 26	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%
26 ≤ x < 30	0.35%	0.00%	0.00%	0.00%	0.00%	0.00%
30 ≤ x < 35	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%
35 ≤ x < 40	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%

Assumptions for pension increases for an assumed retirement age that is not listed above should be derived using linear interpolation (where their age is 55 to 75) or linear extrapolation (where their age is outside of the range 55 to 75) - see page 20 for further details.

These assumptions are derived as at 31 December 2020, such that the change to align RPI with CPIH takes place in year 10.

Challenges to our recommended approach

There are a number of potential challenges to our recommend assumptions which we have considered below.

Challenge: the current approach should be maintained

We do not consider it appropriate to maintain the current assumption as it has been confirmed that the change to RPI will happen in 2030. The CPI inflation assumption in the current guidance was set based on long-term expectations of the gap between RPI and CPI inflation in 2017. As expectations have changed, we consider it appropriate to update the assumption.

Theoretically, the Treasury or the UKSA could reverse these decisions before 2030 and we discuss this in further detail on page 9. However, the possibility of this is low given that the UKSA have stated their intentions, and therefore we have not considered this further in our recommendation.

Challenge: the matrix of assumptions should be provided at each term to retirement rather than grouped

We have suggested grouping the assumptions into 'buckets' for presentational purposes, for terms to retirement where the assumptions are the same (after rounding to 0.05%). This is purely a presentational simplification and does not impact on the redress calculation for any consumer. If the FCA decides to further group these assumptions (e.g. to reduce the size of the matrix for the guidance), there could be an impact on the redress for some individuals.

Challenge: the matrix of assumptions should be provided at each retirement age rather than grouped

We note that it would be a more accurate approach to derive and present an assumption for each possible retirement age. However, we were instructed to make the assumptions clear and easy to use, as well as being fair to consumers and representing circumstances as best as possible. We consider it reasonable to make some simplifying assumptions to make the presentation more concise.

Further, the retirement ages we have used are consistent with the discounted mean term set out in the current guidance. For retirement ages in between those stated in our table, we propose that linear interpolation can be used, similar to the approach stated in paragraph 30 of the current guidance, which we consider will provide a reasonable approximation.

Appendices

Appendix I - full table of RPI-CPI differentials

Term to retirement (x, years)	RPI-CPI gap for pre-retirement inflation (deferred revaluation)	RPI-CPI gap for post-retirement inflation (pension increases in payment), by assumed retirement age				
		55	60	65	70	75
0 ≤ x < 1	n/a	0.35%	0.45%	0.60%	0.75%	0.85%
1 ≤ x < 2	1.00%	0.35%	0.40%	0.55%	0.65%	0.75%
2 ≤ x < 3	1.00%	0.30%	0.35%	0.45%	0.60%	0.70%
3 ≤ x < 4	1.00%	0.25%	0.30%	0.40%	0.50%	0.60%
4 ≤ x < 5	1.00%	0.20%	0.25%	0.35%	0.40%	0.50%
5 ≤ x < 6	1.00%	0.15%	0.20%	0.30%	0.35%	0.40%
6 ≤ x < 7	1.00%	0.15%	0.15%	0.20%	0.25%	0.30%
7 ≤ x < 8	1.00%	0.10%	0.10%	0.15%	0.20%	0.25%
8 ≤ x < 9	1.00%	0.05%	0.05%	0.10%	0.10%	0.15%
9 ≤ x < 10	1.00%	0.00%	0.00%	0.05%	0.05%	0.05%
10 ≤ x < 11	0.95%	0.00%	0.00%	0.00%	0.00%	0.00%
11 ≤ x < 12	0.85%	0.00%	0.00%	0.00%	0.00%	0.00%
12 ≤ x < 13	0.80%	0.00%	0.00%	0.00%	0.00%	0.00%
13 ≤ x < 14	0.75%	0.00%	0.00%	0.00%	0.00%	0.00%
14 ≤ x < 15	0.70%	0.00%	0.00%	0.00%	0.00%	0.00%
15 ≤ x < 16	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%
16 ≤ x < 17	0.60%	0.00%	0.00%	0.00%	0.00%	0.00%
17 ≤ x < 18	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%
18 ≤ x < 19	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%
19 ≤ x < 20	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%
20 ≤ x < 21	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%
21 ≤ x < 22	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%
22 ≤ x < 23	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%
23 ≤ x < 24	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%
24 ≤ x < 25	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%
25 ≤ x < 26	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%
26 ≤ x < 27	0.35%	0.00%	0.00%	0.00%	0.00%	0.00%
27 ≤ x < 28	0.35%	0.00%	0.00%	0.00%	0.00%	0.00%
28 ≤ x < 29	0.35%	0.00%	0.00%	0.00%	0.00%	0.00%
29 ≤ x < 30	0.35%	0.00%	0.00%	0.00%	0.00%	0.00%
30 ≤ x < 31	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%
31 ≤ x < 32	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%
32 ≤ x < 33	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%
33 ≤ x < 34	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%
34 ≤ x < 35	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%
35 ≤ x < 36	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%
36 ≤ x < 37	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%
37 ≤ x < 38	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%
38 ≤ x < 39	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%
39 ≤ x < 40	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%

Assumptions for pension increases for an assumed retirement age that is not listed above should be derived using linear interpolation (where their age is 55 to 75) or linear extrapolation (where their age is outside of the range 55 to 75) - see page 20 for further details.

These assumptions are derived as at 31 December 2020, such that the change to align RPI with CPIH takes place in year 10.

Appendix II - worked examples

We have included some worked examples on the following page to demonstrate the impact of our recommendations on some illustrative consumers and the value of the DB benefits given up that is required for the redress calculations. These examples illustrate the impact on the calculation of the value attributed to the benefits given up by consumers with different terms in pre- and post-retirement and different exposure to RPI and CPI through their deferred revaluation and pension increase benefits.

To be clear, we have not performed a full redress calculation for these illustrative consumers. We have assumed that all else is equal in each calculation, such that the only element of the redress calculation that will be changed is the assumptions and approaches that we have recommended in this report. As such, the impact is limited to the changes in assumptions for the RPI-CPI differential and the effect on pre-retirement inflation (deferred revaluation) and post-retirement inflation (pension increases in payment) where the benefits are CPI linked.

We have calculated the impact on the value of the benefits given up from switching the assumption under the current guidance to the assumption resulting from our recommendations, considering the relevant term for each member. This approach is agnostic to the size of the underlying benefits, the value of the consumer's current benefits (after charges) or member specific factors such as gender.

We have made the following assumptions:

- Deferred revaluation is linked to CPI and pension increases are inflation-linked (RPI or CPI) in all cases. The impact on the redress calculation would be lower if a consumer had some benefits with fixed or RPI linked increases.
- We have not considered the assumptions that do not affect the inflation assumptions or terms used in our calculations. For instance, this includes any assumptions regarding the demographic features of the illustrative consumer such as their gender and details of any spouse.
- However, the consumer's age and assumed retirement age are important in our calculations as they define the timing of future expected benefits and as such a range of these are set out in the table.

The impacts have been illustrated in percentage terms rather than monetary terms in order that readers of this report can understand the scale of the impact on a range of consumers, without the need for further assumptions to be made regarding the size of the original DB benefit entitlement.

The ultimate impact on the redress amounts will depend on some of the other factors mentioned above but, as these are not directly affected by the reform, we would not expect these elements to change. So, as an example, if a consumer previously had a value attributed to the benefits given up of £100k and our examples show that this could be expected to increase by 10% then the value attributed to the benefits given up would increase by £10k. However, the percentage change in the redress amount would depend on the value of the consumer's personal pension (after any appropriate adjustments).

Appendix II - worked examples

Illustrative examples	Age	Retirement age	Term to retirement	Post-retirement term	Benefit structure		Assumptions (current guidance)		Assumptions (recommended approach)		Uplift to value attributed to benefits given up
					Pre-retirement inflation (Deferred revaluation)	Post-retirement inflation (Pension increases)	Pre-retirement inflation (Deferred revaluation)	Post-retirement inflation (Pension increases)	Pre-retirement inflation (Deferred revaluation)	Post-retirement inflation (Pension increases)	
Retiring now	59	60	1	20	CPI	RPI max 2.5%	2.05%	2.50%	2.05%	2.50%	0%
	59	60	1	20	CPI	CPI max 2.5%	2.05%	2.35%	2.05%	2.50%	3%
	59	60	1	20	CPI	RPI max 5%	2.05%	3.35%	2.05%	3.35%	0%
	59	60	1	20	CPI	CPI max 5%	2.05%	2.35%	2.05%	2.95%	12%
Retiring in 5 years	50	55	5	23	CPI	RPI max 3%	2.05%	3.00%	2.05%	3.00%	0%
	50	55	5	23	CPI	CPI max 3%	2.05%	2.20%	2.05%	3.00%	20%
	70	75	5	11	CPI	RPI max 3%	2.05%	3.00%	2.05%	3.00%	0%
	70	75	5	11	CPI	CPI max 3%	2.05%	2.55%	2.05%	3.00%	5%
Retiring in 11 years	54	65	11	16	CPI	RPI max 5%	2.30%	3.15%	2.45%	3.15%	2%
	54	65	11	16	CPI	CPI max 5%	2.30%	2.15%	2.45%	3.15%	19%
	54	65	11	16	CPI	RPI max 2.5%	2.30%	2.50%	2.45%	2.50%	2%
	54	65	11	16	CPI	CPI max 2.5%	2.30%	2.15%	2.45%	2.50%	7%
Retiring in 15 years	45	60	15	20	CPI	RPI max 3%	2.40%	2.65%	2.75%	2.65%	5%
	45	60	15	20	CPI	CPI max 3%	2.40%	1.65%	2.75%	2.65%	28%
Retiring in 25 years	40	65	25	16	CPI	RPI max 3%	2.25%	2.30%	2.85%	2.30%	16%
	40	65	25	16	CPI	CPI max 3%	2.25%	1.30%	2.85%	2.30%	35%

Worked examples carried out based on the Bank of England implied inflation curve as at 31 December 2020, the most recent quarter end.