



Government
Actuary's
Department

Cost control mechanism

Government Actuary's review

Final report

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Executive Summary

Background

1. At the request of HM Treasury I have, in my role as Government Actuary, carried out a review of the cost control mechanism in the reformed public service pension schemes.
2. The cost control mechanism assesses certain elements of the costs of the schemes. If the assessed cost has decreased/increased by more than 2% of pensionable pay compared to their original level then member benefits are increased/reduced to bring the assessed costs back to the original level. Appendix B sets out in detail how the cost control mechanism currently operates, including what costs are included and excluded from the mechanism.
3. The Terms of Reference, which are included in full in Appendix A, set out that the objectives of my review are:
 1. To assess whether – and to what extent - the mechanism is working in line with original policy objectives for the mechanism. These objectives are:
 - To protect taxpayers from unforeseen costs
 - To maintain the value of pension schemes to the members
 - To provide stability and certainty to benefit levels – the mechanism should only be triggered by 'extraordinary, unpredictable events'
 2. To make recommendations as to any changes to the mechanism that could be made to ensure it is working in line with these original objectives.
4. The Terms of Reference also set out that the review may also consider the following points, which I have assessed alongside the above objectives of the review:
 - the effect of the mechanism on intergenerational unfairness; and
 - the interaction between the mechanism and the ability of government to respond to future relevant developments.
5. I further consider and describe my understanding and interpretation of the objectives in more detail in Chapter 2, in order to develop an objective criterion against which to carry out my assessments. In doing so, I note that there are conflicts between these objectives such that it will not be possible to design a single mechanism that achieves all of the objectives in all of the circumstances.

Assessment of the current mechanism

6. The cost control element of the 2016 valuations was paused following the judgment in the McCloud case in December 2018 and results allowing for the McCloud judgment are not yet available. However, the preliminary results of the 2016 valuations which were calculated prior to the pause for the McCloud judgement, the first at which the cost control mechanism was assessed, showed a breach of the cost cap floor in all schemes for which results were assessed. That is, costs were deemed to have decreased by more than 2% of pensionable pay and therefore member benefits would have been amended to increase commensurately. A summary of the main reasons for the preliminary results showing floor breaches, averaged across the six of the largest unfunded schemes¹, are set out in the table below. Changes in costs are expressed as a percentage of pensionable pay.

	Past service	Accrual cost	Commentary
Change in short-term financial assumptions	↓ -1.1%	n/a	Reduction in the assumed level of future salary increases, leading to reduced cost of past service in the legacy schemes. No impact on accrual cost as benefits accrue on CARE structure in reformed schemes.
Change in mortality assumptions	↓ -0.9%	↓ -0.9%	Reduction in assumed life expectancy between 2012 and 2016 arising from a change in ONS future projections, leading to reduced costs.
Changes in demographic assumptions	↓ -0.1%	↓ -0.3%	Changes in other demographic assumptions, such as retirement, commutation and promotional salary increases
Other changes	↓ -0.2%	↓ -0.3%	Change in average age, average State Pension age, experience gains
Total Change in cost cap cost of the scheme (past service/accrual cost)	↓ -2.3%	↓ -1.5%	The past service change in costs was the larger element. In isolation, the change in accrual cost was within the 2% floor.
Change in cost cap cost of the scheme	↓ -3.8%		A 3.8% reduction in costs, which exceeded the 2% floor.

7. The key reasons for the preliminary results showing a breach were a reduction in the assumed future pay increases and a reduction in assumed life expectancy. The cost control mechanism therefore performed in line with how it was constructed, with lower pay increases and reduced life expectancy assumptions suppressing the member element of the costs, leading to breaches of the cost cap floor.
8. However, when considering this outcome against the objectives of the cost control mechanism, the context of the recent reforms and the wider economic environment this could be considered to be a somewhat perverse outcome.
9. As can be seen in the table above, 60% of the cost reduction leading to the breach arose in the legacy schemes (which account for nearly all the past service as at 2016), yet the cost control mechanism can only amend benefits in the reformed schemes. Whilst one might ordinarily expect a degree of solidarity across generations, the cost reductions in past service benefits arise disproportionately in respect of older and longer serving

¹ NHS (England and Wales), Teachers (England and Wales), Civil Service (Great Britain), Armed Forces (UK), Police (England and Wales) and Fire (England)

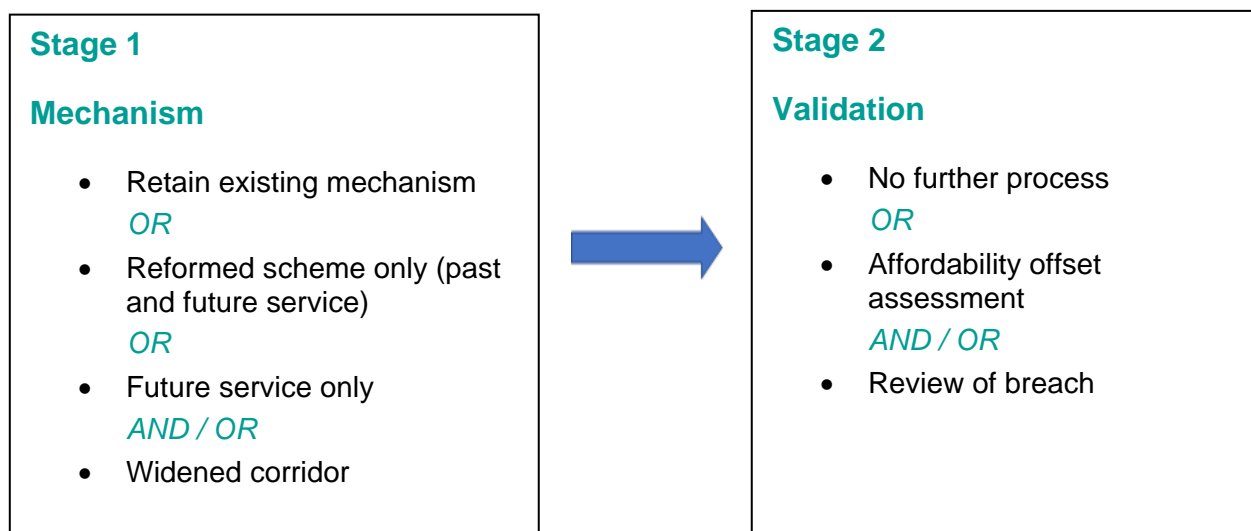
members whilst the implementation of any future benefit improvements would benefit disproportionately the younger and newer members. This disproportionality in the application of benefit change would seem to be tending towards intergenerational unfairness.

10. Furthermore, these costs relate to risks that have largely been mitigated in the reformed schemes. First, salary risk is mitigated by the fundamental CARE design of the schemes and, secondly, several workforces² have longevity risk mitigated by the linkage between the age at which benefits can be taken unreduced and the State Pension Age. Indeed, the reformed schemes were introduced partly because of the inability of legacy schemes to control these risks. So it is not clear to me why these residual risks in the legacy schemes should continue to influence the level of benefits in the reformed schemes.
11. At the 2016 valuation, employer contribution rates increased by up to 9% of pensionable pay before the impact of the cost control mechanism. But the preliminary cost cap results for all schemes showed a floor breach which would further increase the employer contribution rates and cost to the taxpayer. It is hard to reconcile such an outcome with the stated objective of protecting taxpayers. The cause of this apparently perverse outcome is the exclusion from the cost control mechanism of the primary reason for the increase in employer contributions in the unfunded schemes, being the change in the SCAPE discount rate, because this is not considered to be a “member cost”.
12. Based on this experience, it does not seem possible for the mechanism to be able to protect taxpayers unless it takes into account more of the factors affecting the actual cost of providing a pension. Furthermore, in the circumstances it might be considered generous for members to be immunised against all the long-term financial downside risks whilst being able to benefit from the upside of other risks. Whilst comparison with private sector pension schemes is not an objective of the cost control mechanism, I note that many employer sponsors of such schemes faced with similarly rising costs have felt the need to limit the value of the schemes to members.

Recommendations for changes to the mechanism

13. In principle the concept of a risk sharing arrangement such as the cost control mechanism is a good one. It can set out how pension scheme risks are to be managed and can therefore provide a greater degree of security and certainty around costs that might otherwise be lacking. Difficulties arise however in the precise choice of components of the mechanism and the balance of these elements can lead to consequences that might be considered unintended or inequitable.
14. The alternative would be a system of review without a firm mathematical prescription that would be open to periodic interpretation, influence and potentially dispute that would offer less security and certainty. On balance, I conclude that some form of mechanism is preferable, but there is scope to improve the current one.
15. As set out below I have considered my recommendations as part of a two-stage framework: changes that could be made to the core mechanism and elements of validation that could be introduced to moderate the effects of the core mechanism. As well as considering all proposals in isolation, thought should also be given to various combinations of mechanism and validation proposals where appropriate.

² NHS, Teachers, Civil Service, Local Government and Judges



16. The potential changes can be summarised as follows:

17. **Reformed scheme only**

- Proposal: Remove any allowance for legacy schemes, so the mechanism solely considers the reformed schemes (both past and future service).
- Rationale: To ensure consistency between the set of benefits that can be adjusted by the mechanism with those that are assessed by the mechanism. The legacy schemes have been superseded because they were deemed to be unfair and unsustainable, yet due to the nature of accrued rights they will continue to have a bearing on costs. Given the legacy schemes will be closed as far as is deemed appropriate from 2022 I do not see why any residual legacy scheme risks, that cannot be directly controlled, should be considered in the mechanism.
- High level considerations: This change will improve short to medium term stability and intergenerational fairness of the mechanism. However, it will mean that fewer costs are captured by the mechanism, and that the government (and ultimately the taxpayer) take on all the risk (both upside and downside) associated with the legacy schemes.

18. **Future service only**

- Proposal: The mechanism only considers the cost of future service accrual in the reformed schemes.
- Rationale: Given the mechanism can only adjust future benefits it would be reasonable for it to only consider the cost of those future benefits in its assessment.
- High level considerations: Many of the pros and cons of the reformed scheme only proposal remain relevant here but in many ways are magnified. Considering future service only will further increase stability and intergenerational fairness as well as producing a much more simple and easier to understand mechanism. However, it will also reduce the strength of the cost control, with no effective risk management of any past service costs, for both the reformed and legacy schemes, other than those inherent in the benefit design.

19. Widened corridor

- **Proposal:** The current corridor of +/-2% of pensionable pay for all schemes is widened to reduce the frequency of breaches. Especially if no other changes are made to the mechanism, widening the corridor to say +/-3% would reduce the volatility of the mechanism. And even with changes to the mechanism, consideration might still be given to widening the corridor according to the relative appetite for stability of benefits compared to the responsiveness of cost control. It would also be reasonable to consider wider corridors for schemes with a higher cost (as a percentage of pay).
- **Rationale:** The size of the corridor is directly proportional to the likelihood of a breach arising. I believe that the mechanism is too volatile and that breaches will continue to happen without an “extraordinary, unpredictable event” occurring. A simple solution would be to increase the size of the corridor.
- **High level considerations:** Whilst improving the stability and certainty of benefit levels, increasing the size of the corridor would mean larger changes in costs can occur without any remedial action. This would reduce the ability to protect the taxpayer or maintain value to members though it would also allow time to even out the effect of those causes of cost variation that are more prone to periodic fluctuations. It would also lead to larger changes in benefits and/or member contributions when breaches do emerge, as well as exacerbating the impact of the “cliff edge” nature of the cost control outcomes. To assist with consideration of this proposal, Chapter 4 contains analysis on the impact various changes have on the mechanism as well as some plausible scenarios which would result in breaches occurring for a +/-2% corridor.

20. Affordability offset assessment

- **Proposal:** An affordability check would be included. This could be in a form whereby a breach of the mechanism would only be implemented if it would still have occurred had the long-term economic assumptions (such as the SCAPE discount rate) been considered within the mechanism. In practice this would mean that the impact of a change to the long-term economic assumptions would be able to offset any ceiling or floor breaches that would otherwise occur, but in itself it would not be able to cause, or increase the size of, a breach.
- **Rationale:** It does not seem possible for the mechanism to be able to protect taxpayers unless it considers more of the factors affecting the actual cost of providing a pension. However, including SCAPE fully in the mechanism would likely create significant instability in the mechanism and could be reasonably viewed as an overly technical assessment for determining an exact change in member benefits. This proposal attempts to strike a pragmatic balance. It largely mitigates the perverse outcome of benefit improvements (or reductions) being implemented via the cost control mechanism at the same time as employer contributions are increasing (or decreasing), whilst actually reducing volatility and without introducing a dominating yet technical factor directly into the mechanism.
- **High level considerations:** This would increase the stability of the mechanism and improve the protection afforded to taxpayers. However, without fully allowing for the impact of the SCAPE discount rate then costs to taxpayers could still increase without any corresponding reduction in benefits. I also note that this change would involve introducing financial/technical elements into the mechanism, which were not originally designated “member” costs, albeit in a limited way.

21. Review of breach

- **Proposal:** An additional layer of qualitative review is put in place which allows for reasoned judgement to be used to determine whether or not to apply the results of the cost cap valuation.
- **Rationale:** This is in acknowledgement that any single mechanistic cost control will not be able to meet all of the objectives and indeed any revised mechanism will still remain imperfect and could result in undesirable outcomes. A layer of judgement could then work as a backstop to provide a reality check that it is appropriate for the level of benefits to be amended.
- **High level considerations:** This layer of review could take different formats, varying from an independent specialist panel to solely the government making the decision. An independent panel would be more objective but would create various practical complexities. Whilst a government based decision is a more significant change to the current operation, there are precedents in this area such as the process around the State Pension age review.

Other considerations - longevity

22. Changes in life expectancy can have a substantial bearing on the cost cap mechanism although they do not affect the amount of pension payable to a member. As noted in the table in paragraph 6, changes in life expectancy accounted for half of the total cost cap cost variation in the provisional results of the 2016 valuation. Furthermore, longevity risk is already mitigated in those schemes with a linkage between the age at which benefits can be taken unreduced and the State Pension Age (SPa). As such, having another layer of longevity mitigation within the mechanism for these schemes would appear to have a disproportionate impact, which is further exacerbated by fluctuations in longevity assumptions.
23. Consideration could be given to removing the impact of changing longevity and SPa from the mechanism for the relevant schemes, given they already have mitigation in place. Although I note that there are likely to be significant technical and data related challenges from such an approach, unless it is in conjunction with a future service only mechanism. Alternatively, consideration could be given to the smoothing of longevity assumptions given their potentially disproportionate impact on the mechanism and the likelihood for such assumptions to fluctuate.



Martin Clarke

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17 May 2021

1. Introduction

This chapter outlines the background to the cost control mechanism, the terms of reference for my review, sets out scheme specific considerations and acknowledges stakeholder input.

- 1.1 The Chief Secretary to the Treasury has asked the Government Actuary to conduct a review of the cost control mechanism that was established in the reformed public service pension schemes. This reflected a concern that the mechanism may not be operating in line with its original objectives; in particular, the intention that it would only be triggered by 'extraordinary, unpredictable events'.
- 1.2 This report has been prepared by GAD at the request of HM Treasury. Accordingly, GAD has no liability to any person or third party for any action taken on the basis of this report. Please refer to Appendix F of this report for more information on the limitations on the use of this report.

The cost control mechanism

- 1.3 The cost control mechanism is a form of a risk-sharing arrangement that seeks to maintain the level of employer support for the public service Defined Benefit (DB) pension schemes. It assesses certain elements of the costs of the schemes and if they have decreased/increased by more than 2% of pensionable pay compared to their original level then member benefits are increased/reduced to bring the assessed costs back to the original level.
- 1.4 It currently aims to control those costs associated with the provision of pensions under the reformed schemes and in respect of active members with service in legacy schemes. Costs associated with pensioners and deferred members of the legacy schemes are excluded and only costs relating to members are included. The risks associated with those elements excluded from the cost cap cost are borne wholly by the employers who are largely taxpayer funded.
- 1.5 Risk-sharing occurs to different extents in most forms of pension provision. Within DB schemes traditionally more of the risk sits with employers, although Career Averaged Revalued Earnings (CARE) schemes largely pass on salary risk to members, whilst some DB schemes are funded as shared cost arrangements where members and employers each contribute a fixed proportion of the total cost (for example employers cover 2/3 of total costs with members covering the remaining amount). Defined Contribution (DC or money purchase) arrangements are where individual members take all of the risk, with Collective DC schemes an attempt to bridge the gap between DB and DC arrangements. It is clear that there is no single method that is suited to all purposes and therefore it is helpful to have clear objectives about the sharing of risks and costs.
- 1.6 Most public service pension schemes had a valuation at 31 March 2016³, which was the first assessment of the cost control mechanism. Preliminary results revealed that the costs measured by the cost control mechanism had fallen to more than 2 percentage points below the cap for all schemes assessed at that stage, which led to schemes considering how members' future service benefits would be improved and / or member contributions reduced.

³ Some schemes had their valuation as at 31 March 2017, but for ease of reference I will describe these valuations collectively as the 2016 valuations in my report.

However, following the Court of Appeal judgment on 20 December 2018 in favour of claims of age discrimination in relation to the transitional protection element of the public service pension reform (McCloud and Sargeant case, referred to as “McCloud”) the Chief Secretary to the Treasury announced⁴ that there would be a pause to the cost control process.

- 1.7 In July 2020 HM Treasury consulted on changes to the transitional arrangements to the 2015 schemes as a result of the McCloud judgment and, at the same time, an update on the Cost Control Element of the 2016 valuations was published. In this update, the government announced that the pause should be lifted and the cost control element of the 2016 valuations could be completed. The update also set out that the costs of the McCloud changes would fall into the ‘member cost’ category of the cost control element of the valuations process. HM Treasury is due to set out in the Directions how these costs should be taken into account and at this stage, these directions have not been published.
- 1.8 My review therefore primarily considers the operation of the cost control mechanism for the initial 2016 valuation results, which showed that schemes would have breached the floor of the cost control mechanism had the valuation not been paused to consider the McCloud judgment. I refer to these results as the preliminary results, although I note that the cost cap work was not completed in these preliminary results and therefore no breaches actually occurred.
- 1.9 The Terms of Reference for this review are set out in Appendix A and Appendix B provides a more detailed overview of the cost control mechanism. I have taken the Terms of Reference to permit me to comment on the wider areas of the cost control mechanism, including primary legislation which governs the mechanism and not just those areas solely relating to the Directions framework which direct the assessment of the mechanism.

Review objectives

- 1.10 The Terms of Reference set out that the objectives of the review are
 1. To assess whether – and to what extent - the mechanism is working in line with original policy objectives for the mechanism. These policy objectives are:
 - To protect taxpayers from unforeseen costs
 - To maintain the value of pension schemes to the members
 - To provide stability and certainty to benefit levels – the mechanism should only be triggered by ‘extraordinary, unpredictable events’
 2. To make recommendations as to any changes to the mechanism that could be made to ensure it is working in line with these original objectives.
- 1.11 The Terms of Reference also set out that the review may also consider the following points, which I assess alongside the above objectives of the review:
 - the effect of the mechanism on intergenerational unfairness; and

⁴ <https://questions-statements.parliament.uk/written-statements/detail/2019-01-30/HCWS1286>

- the interaction between the mechanism and the ability of government to respond to future relevant developments in the public service pensions system, such as changes to the economic and fiscal context and court judgments.

1.12 To carry out my review, I have first considered the current mechanism and its performance in relation to the objectives of the cost control policy. I have then independently considered a range of alternative mechanisms, also assessing these against the objectives and considering their feasibility, robustness and technical coherence. My recommendations reflect those changes which in my view would improve the operation of the mechanism in meeting the policy objectives.

Scheme specific considerations

1.13 The unfunded public service pension schemes operate in a broadly consistent manner although there are some differences between them. Of particular relevance is that the Police, Fire and Armed Forces pension schemes have fixed Normal Pension Ages, whereas the other unfunded schemes (and the LGPS) link their Normal Pension Ages to State Pension age.

1.14 The legacy benefits in the Judicial Pension Scheme were provided through an unregistered pension scheme and the Ministry of Justice has consulted on amending the reformed scheme to provide unregistered benefits from April 2022.

1.15 There are some differences between LGPS and the other public service pension schemes, primarily that the LGPS' are funded pension schemes, with valuations carried out across individual funds.

1.16 The Independent Public Service Pensions Commission acknowledged the differences between LGPS and other unfunded public service pension schemes. However, it suggested that consistency of approach across the schemes would require the cost of pensions accruing within the different schemes to be calculated on a consistent set of assumptions (e.g. by applying the SCAPE discount rate to the LGPS valuations).

1.17 My review will consider all schemes in scope and I will comment on scheme specific issues. My review does not consider the second and separate cost control mechanism for the LGPS (England and Wales) operated by its Scheme Advisory Board

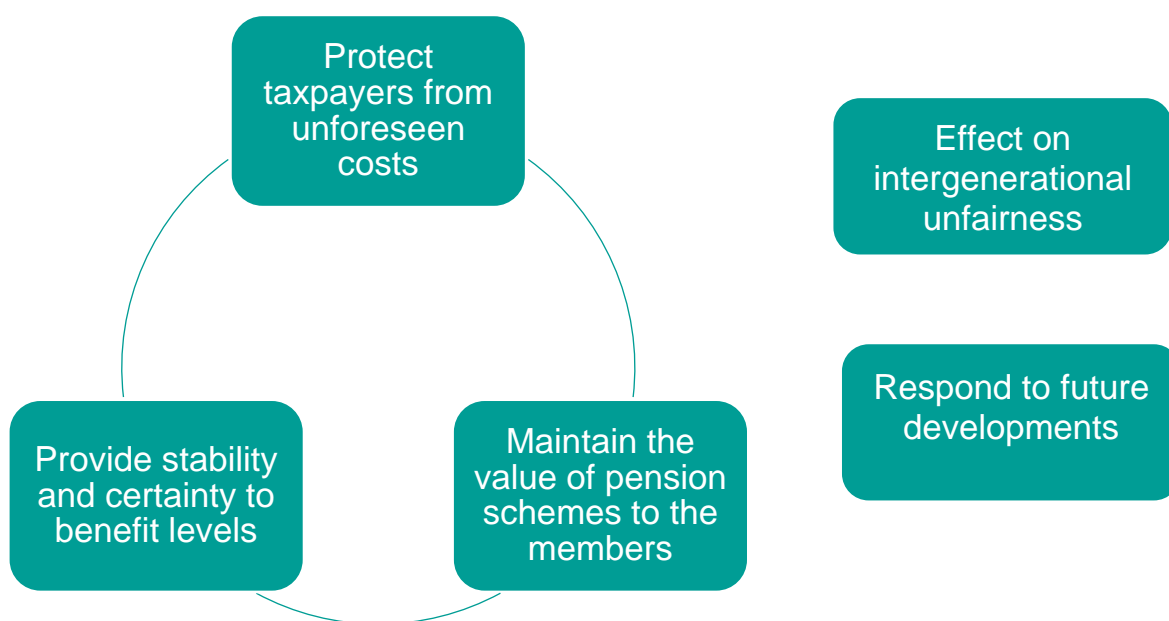
Stakeholder engagement

1.18 To assist me with considering as wide a range of factors as possible, a number of events were arranged to seek input from a variety of stakeholders. I offer my thanks to those who attended these events or separately provided their input to my review. This input has been considered in carrying out my review, although I do not specifically comment on all views in my report.

2. Cost control policy objectives

In this chapter I interpret the cost control policy objectives to provide an objective criterion against which to assess the current mechanism and potential changes.

2.1 The terms of reference for this review set out the following as the original policy objectives of the cost control mechanism. As noted in the scope, the review may also consider the effect of the mechanism on intergenerational unfairness and the interaction between the mechanism and the ability of government to respond to future relevant developments in the public service pensions system. I have therefore considered these five elements when assessing the existing cost control mechanism and making recommendations on potential changes.



Interpreting the objectives

2.2 I note that there are conflicts between these objectives such that it is not possible for a single mechanism to achieve all of them in all circumstances. For example, a mechanism that responds fully to changes in scheme experience may meet the objectives of protecting taxpayers and maintain value to members but may consequently result in frequent cost cap breaches and hence changes to benefit levels.

2.3 Having noted that the achievement of one objective may only be at the expense of the others I also acknowledge that the objectives can be interpreted in different ways. To provide criteria with which to assess the existing and any potential cost control mechanisms I have interpreted the objectives as set out in the following paragraphs.

To protect taxpayers from unforeseen costs

- 2.4 I consider this policy objective as the mechanism being able to respond to changes that increase the Employer costs of the pension schemes since most employers are publicly funded.
- 2.5 Furthermore, I view any change in cost as being 'unforeseen' since any foreseen changes would likely be allowed for in the original assessment of cost. Therefore, I have interpreted this objective most broadly as protecting taxpayers from any increase in costs as represented by the Employer cost of the scheme.

To maintain the value of pension schemes to the members

- 2.6 There are many possible interpretations of this policy objective. Value might be an absolute amount, or it may be a proportion, of salary for example. It may be an annual amount or a total lifetime amount. And if it is the lifetime amount, is it a simple aggregation or one that is discounted to reflect the present value of future payments?
- 2.7 The fact that the current design of the cost control mechanism features a symmetrical corridor within which the cost cap cost can operate suggests that the member value objective is simply the mirror image of the employer/taxpayer cost and that value to members is the economic cost of providing the benefits. However, members' view of value would likely exclude the impact of a change in SCAPE rate given the current operation of the cost cap. Therefore, an economic cost, but excluding the impact of a change in SCAPE rate will be my main interpretation which I will refer to as a "real value". However, I would additionally observe that other definitions of value are possible that depend much less on the economic cost of providing the benefit, but more on the relative level of pension amount at retirement. I will refer to these as a "nominal value".
- 2.8 To illustrate these conceptual ideas, consider the impact of a reduction in assumed life expectancy that causes a breach in the floor of the cost cap mechanism. Under the real value concept, reduced life expectancy would see the mechanism place a lower value on the benefits and so rectification of the breach would require an improvement in member benefits and a higher initial pension on retirement (at least under the default rectification route of improved accrual rate). However, with nominal value the member may target a pension at retirement of perhaps 2/3^{rds} of their final salary. Provided this pension is payable for life and increases with inflation, the period of time for which they receive this pension is not part of the nominal value assessment and therefore changes in assumed life expectancy should not change the amount of pension received.

To provide stability and certainty to benefit levels – the mechanism should only be triggered by 'extraordinary, unpredictable events'

- 2.9 An objective of providing stability and certainty to benefit levels is fairly self-explanatory, but there could be a range of reasonable interpretations of what constitutes an 'extraordinary, unpredictable event', and indeed this was reflected in the views from different stakeholders.
- 2.10 In Chapter 3, I analyse of the effect of historic and ordinary changes in experience and assumptions on the existing cost cap mechanism. This shows how easy it is for a breach to occur and leads me to conclude that whilst the cause and scale of any particular breach is unpredictable, breaches are currently liable to occur with a frequency that is predictably high. Furthermore, in the vast majority of cases, the causes of these breaches are not

extraordinary, but rather the result of normal fluctuations in actuarial assumptions and past experience.

Effect of the mechanism on intergenerational unfairness

- 2.11 Defined benefit schemes by their nature provide a pooling of risks and benefits across their membership, so there will always be a large element of intergenerational cross-subsidy. However, the extent to which there is intergenerational unfairness can vary depending on the design of the mechanism. In particular, the difference in age profile between the membership that cause any breach and the membership that are subsequently affected by the resulting rectification.
- 2.12 I will thus consider the effect of the current and potential cost control mechanisms on the different cohorts of the membership. Although this considers generational fairness only from the perspective of members rather than taxpayers, I would note that the separate objective to control taxpayer costs implicitly covers generational issues concerning the affordability to future taxpayers of pension liabilities building up today.

Ability of government to respond to future relevant developments in the public service pensions system

- 2.13 In order to be able to respond to all future developments a mechanism would need to have sufficient flexibility. A more narrowly defined mechanism, in terms of either features or interpretation of extraordinary, unpredictable events, would mean that fewer factors can result in a breach of the cost control. This may limit the ability to incorporate relevant developments into the mechanism. For example, under a mechanism which excludes past service it may be difficult to respond to changes in overarching pension legislation which impacts past service costs or to respond to court judgements which impact past service, such as the McCloud remedy.

3. Assessment of the current mechanism

I now review the experience of the current mechanism at the preliminary 2016 valuations and assess the mechanism against the objectives.

2016 valuation experience

- 3.1 The cost control element of the 2016 valuations was paused following the judgment in the McCloud case in December 2018 and results allowing for the McCloud judgment are not yet available. However, the preliminary results of 2016 valuations showed a breach of the cost cap floor in all schemes for which results were assessed, that is costs were deemed to have decreased and therefore member benefits would have been amended to increase commensurately.
- 3.2 The table below shows a summary of the main changes between the original employer cost caps (which were set at the 2012 valuations) and the updated costs of the schemes (from the preliminary 2016 valuation results), averaged across six of the largest unfunded schemes⁵.

Table 1: Summary of changes in employer cost at preliminary 2016 valuation, averaged across six of the largest unfunded schemes

	Past service	Accrual cost	Commentary
Change in short-term financial assumptions	↓ -1.1%	n/a	Reduction in the assumed level of future salary increases, leading to reduced cost of past service in the legacy schemes. No impact on accrual cost as benefits accrue on CARE structure in reformed schemes.
Change in mortality assumptions	↓ -0.9%	↓ -0.9%	Reduction in assumed life expectancy between 2012 and 2016 arising from a change in ONS future projections, leading to reduced costs.
Changes in demographic assumptions	↓ -0.1%	↓ -0.3%	Changes in other demographic assumptions, such as retirement, commutation and promotional salary increases
Other changes	↓ -0.2%	↓ -0.3%	Change in average age, average State Pension age, experience gains
Total Change in cost cap cost of the scheme (past service/accrual cost)	↓ -2.3%	↓ -1.5%	The past service change in costs was the larger element. In isolation, the change in accrual cost was within the 2% floor.
Change in cost cap cost of the scheme	↓ -3.8%		A 3.8% reduction in costs, which exceeded the 2% floor.

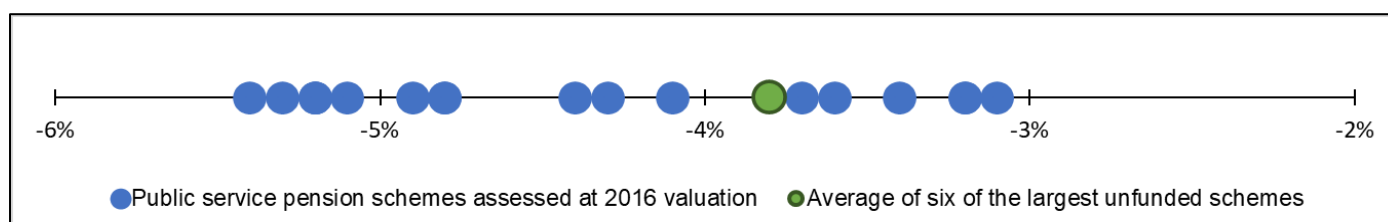
- 3.3 In the above table, **red** figures are those where the impact for that change by itself exceeded the 2% corridor. Figures in **amber** are those where the impact exceeds 0.5% but is insufficient to breach the 2% corridor in isolation. Figures in **black** are the remaining smaller impacts of less than 0.5%. I note that most of the impacts in the table do not directly relate to

⁵ NHS (England and Wales), Teachers (England and Wales), Civil Service (Great Britain), Armed Forces (UK), Police (England and Wales) and Fire (England)

actual experience, but instead are the impacts associated with changing assumptions about future experience (which are heavily influenced by recent experience). This stresses the importance of assumption setting on the cost control mechanism. In particular, the mortality improvement assumptions are based on ONS projections over many years into the future and are therefore inherently uncertain and subject to periodic change.

- 3.4 The chart below illustrates the variability of changes in employer cost at the preliminary 2016 valuations of the schemes which were assessed.

Chart 1: Change in employer costs as a percentage of pay at preliminary 2016 valuation, including average across six of the largest unfunded schemes



Commentary on 2016 valuation experience

- 3.5 I have considered the key drivers of the preliminary results of the 2016 cost cap valuation.

Short-term salary increases

- 3.6 By including short-term salary increase assumptions⁶ as part of the cost control mechanism, it seeks to protect taxpayers against the pension cost effects of wage inflation that exceeds original expectations in the legacy “final salary” schemes. And conversely, it also aims to protect those members from a fall in the expected value of their pension as a result of unanticipated pay restraint. In this case, the public sector pay restraint that was not fully assumed when the original cost cap assumptions were set as part of the 2012 actuarial valuations⁷ has meant that legacy scheme members are now expected to receive lower “final salary” pensions compared to those envisaged when the cost cap was set. However, those who would ultimately gain from a change in benefits are not necessarily those who were adversely affected.
- 3.7 The short-term salary effect appears only in the past service costs because the accrual cost component of the mechanism relates solely to service in the reformed schemes. The reformed schemes base pensions on Career Average Revalued Earnings (CARE) rather than final salary and the future salary risk is largely removed.
- 3.8 Despite this, future service benefits in these reformed CARE schemes are liable to be adjusted on account of any breach resulting in whole or part from salary assumptions made for the valuation of legacy schemes, a risk that does not occur in the reformed schemes. Furthermore, the past service cost effects of changes in salary assumptions fall most heavily in respect of those members with the most past service. Such members are likely to gain the least service in the reformed schemes and therefore will be least affected by any rectification applied in these schemes as a result of a cost cap breach. Thus, whilst this aspect of the cost

⁶ At the 2016 valuations an allowance was made for variations, compared to the long-term expectation, in the annual salary growth assumption up to 2023.

⁷ <https://www.gov.uk/government/publications/public-service-pensions-actuarial-valuations-and-the-employer-cost-cap-mechanism>

control mechanism would protect taxpayers from the effects of a higher than originally expected salary inflation, its remedial protection of member value in the event of lower than expected salary inflation is disproportionately tilted towards members whose experience was less affected. I consider this to be an example of intergenerational unfairness.

- 3.9 It is a moot point as to whether the short-term salary changes leading to the breach were extraordinary or unpredictable. Predictions of short-term salary changes are unlikely to turn out correct and have binary outcomes as a result, where in this instance assessed costs have correctly fallen due to lower expected salary increases. However, I note that public sector pay restraint was introduced as part of wider fiscal controls prior to the cost control mechanism being introduced. Therefore, setting an assumption that effectively suggested pay restraint would be lifted at a certain point in time, meant that member protection was assured for the subsequent years if the restraint continued, counter to government policy. Similar pay restraint has been set out for 2021. Conversely, above inflation pay growth might also be expected to occur in times of economic growth.

Reduction in life expectations

- 3.10 By including life expectancy assumptions as part of the cost control mechanism, it seeks to protect taxpayers against the cost of pensions rising because they are being paid for longer than originally expected. And because the mechanism is symmetrical, it also seeks to compensate members from the effects of reductions in life expectancy that would result in their pensions being paid, on average, for a shorter period.
- 3.11 In the previous section I note that the concept of member value is capable of different interpretations. Increasing the amount of a pension to compensate for reduced life expectancy would preserve the actuarial or economic value of a pension. But if value were to be interpreted as the amount payable in each year of life, no adjustment would be necessary on account of changes in life expectancy.
- 3.12 In several cases (the exceptions being the Police, Fire and Armed Forces) the Normal Pension Age in the reformed schemes are linked to State Pension age (SPa) which is periodically reviewed in light of changing conditions and expectations including life expectancy. Generally speaking this means that an increase in population life expectancy would lead to a future increase in SPa and therefore broadly maintain the cost of pension provision that would otherwise have increased due to the improving life expectancy. Although, in practice, this relationship is far from perfect and so some residual longevity risk remains.
- 3.13 Given many of these reformed schemes already have an element of in-built mitigation against the risk of increases in life expectancy, having another layer of longevity mitigation within the mechanism would appear to have a disproportionate impact, which may then have unwelcome implications. In particular, due to the disconnect in timing between assumed changes in life expectancy and changes to the legislated SPa timetable I could foresee a situation where a change in assumed life expectancy results in a cost cap breach at one valuation, only for a consequent change in SPa not being implemented until a latter valuation which then offsets the prior breach, leading to the rectification of members' benefits in opposite directions at consecutive valuations.
- 3.14 Such an impact is further exacerbated by the nature of the mortality improvement assumption which is based on ONS population projections. Such projections are made for many years into the future reflecting the long-term nature of pension costs. This means they are inherently uncertain, and given their construction are likely to place a reasonable amount of

weight on recent experience. This can result in this assumption being subject to periodic change which can have a material impact on assessed costs, as illustrated in Table 1, and which might not be considered to be extraordinary.

- 3.15 In Chapter 4 I consider possible alternative approaches towards longevity in the mechanism for these schemes.

Changes in demographic assumptions and other changes

- 3.16 Smaller impacts also emerge from a combination of membership experience and revisions to demographic assumptions. It is reasonable that these other impacts are included in the valuation outcome, in this case to help protect value to member and the reverse situation where costs increased due to such other factors would help protect the taxpayer.

SCAPE discount rate

- 3.17 In the current cost cap mechanism, the economic and financial risks associated with the SCAPE discount rate are borne entirely by the employers and in turn by taxpayers. Thus, SCAPE discount rate changes are excluded from the cost control mechanism and members are completely protected from these risks.
- 3.18 In the event, a reduction in the SCAPE discount rate was a key factor in the increase in employer contribution rates at the 2016 valuation. These rates, before any impact of the cost control mechanism, increased by up to 9% of pensionable pay across UK public service pension schemes.
- 3.19 With the preliminary cost cap valuations suggesting widespread breaches of the cost cap floors, employers and taxpayers would then be additionally liable for extra costs as a result of the benefit improvement rectifications that would be applied under the mechanism. Although this potential outcome is entirely feasible within the current design of the cost control mechanism it is nevertheless a perverse one. It is difficult to see the mechanism providing much protection for the taxpayer in this circumstance.
- 3.20 Comparability with private sector pension schemes is not an objective of the cost control mechanism. But I would note that many employer sponsors of such schemes faced with similarly rising costs have felt the need to take action to mitigate these rises through limiting the value of the schemes to members rather than improving them.

2% breach level

- 3.21 Breaches of the cost control mechanism are assessed against the +/-2% level (or corridor) and there is a trade-off in the level of this corridor.
- 3.22 Having a corridor that is narrow means that the mechanism picks up more changes in the value of benefits, which more readily protects the taxpayer against costs and members against a fall in the value of benefits. A narrow corridor means that schemes are more likely to experience a breach, due to events that might not be considered extraordinary, unpredictable events. This could lead to a very unstable mechanism and could lead to more regular benefit changes being required. Furthermore, under the current operation of the mechanism the corridor effectively narrows when the SCAPE rate reduces, increasing the chance of a breach compared to when the +/-2% level was originally set. This is because a lower SCAPE rate will increase the assessed cost, and whilst this direct impact is excluded

from the mechanism, there is a knock on effect for other impacts whose proportional change in costs will now result in a slightly higher absolute change in cost.

3.23 Given the operation of the existing mechanism I would not consider a breach at the 2% level to represent an unusual experience for these pension schemes. As well as the results in Table 1, which show that a breach well beyond the 2% level occurred in practice, I have also considered other changes in assumptions that have occurred over historic inter-valuation periods. For illustration purposes, I have set out a theoretical situation below which would lead to a breach, based on these historic assumption changes; and which I would not consider to be extraordinary at all. This is consistent with previous GAD analysis performed in 2012 which suggested the mechanism could easily be breached if multiple factors move in the same direction.

Table 2: Cost cap breach scenario under existing mechanism (% of pensionable pay)

Existing mechanism	Change in cost cap cost
Life expectancy increase of 1 year	0.90%
Promotional pay (0.5% pa higher promotional pay increases than assumed)	1.00%
Allowance for commutation as directed (reduction of 2.5%)	0.25%
Total impact	2.15%

3.24 Further analysis on the impact certain assumptions have on the change in cost cap cost is included in the next chapter, in order to help HMT consider what an appropriate corridor size might be. This later analysis highlights that even under reformed cost control mechanisms which work to reduce volatility, there is still a high likelihood of frequent breaches under a +/- 2% corridor.

3.25 Finally, I note that all schemes are subject to the same +/-2% corridor, but schemes have different overall Employer costs, meaning that the 2% level represents a different proportion of the benefits for each scheme. This is explored further in Chapter 4.

Assessment against objectives

3.26 In the following I set out brief commentary about how the current mechanism performed against the five objectives, reflecting my above analysis of the preliminary results of the 2016 valuations.

To protect taxpayers from unforeseen costs

3.27 The current mechanism provides protection from costs arising from factors included in the mechanism, including past service costs in the reformed schemes and those relating to active members in the legacy schemes.

3.28 However, the mechanism does not protect taxpayers from the full costs of the pension schemes as it excludes costs deemed to relate to the employer, in particular the SCAPE discount rate. This is in line with the design of the cost control mechanism, but some stakeholders considered this led to a perverse outcome of the 2016 valuation.

To maintain the value of pension schemes to the members

- 3.29 In broad terms, the current mechanism maintains a real value (in terms of the economic cost) to members from the impact of the lower pay increases and reduced life expectancy assumptions emerging from the 2016 valuation by suggesting that improvements in benefits should be made to compensate for these experience features. These improvements would, of course, improve the nominal value of the pension scheme to members under an alternative definition that focused on the level of benefits and not their cost.

To provide stability and certainty to benefit levels – the mechanism should only be triggered by ‘extraordinary, unpredictable events’

- 3.30 As set out above, I consider that a 2% corridor is insufficiently wide to provide such stability and certainty under the existing mechanism.
- 3.31 The main causes of the breach of the cost cap floor in the 2016 valuation preliminary results were lower than expected short-term salary increases and a slowdown of improvements in life expectancy which are based on a relatively limited period of experience. Stakeholders had differing views whether these factors should be considered as extraordinary, unpredictable events that should trigger the cost control mechanism. For example, the impact of changes in public service pay policy on the cost control mechanism can be calculated, so should these be considered as predictable?

Effect of the mechanism on intergenerational unfairness

- 3.32 Legacy scheme past service experience was a key driver of the cost cap breaches in the 2016 valuations, but only future service benefits in the reformed scheme can be amended to rectify the breach. Therefore, it appears that the remedial action is disproportionately tilted towards members whose experience was less affected.
- 3.33 For example, a member who retired before any rectification would have been introduced in 2019 would have missed out on the subsequent improvement in benefits. Conversely a new joiner would immediately benefit from the improvement without having suffered from any negative experience prior to breach.
- 3.34 This issue can be exacerbated due to workforce changes. For example, if a workforce reduces in size, it will become more sensitive to changes in past service costs and more likely to breach because past service deficits and surpluses are spread over future projected payrolls.

Ability of government to respond to future relevant developments in the public service pensions system

- 3.35 The current mechanism provides a reasonable ability for government to respond to future relevant developments. This is shown by the ability to include the past service costs related to legacy schemes arising from the McCloud case. However, those who benefit from the McCloud remedy are not necessarily the same as those who could be affected by reformed scheme benefit changes as a result of any rectification arising from the cost control process.

Conclusion

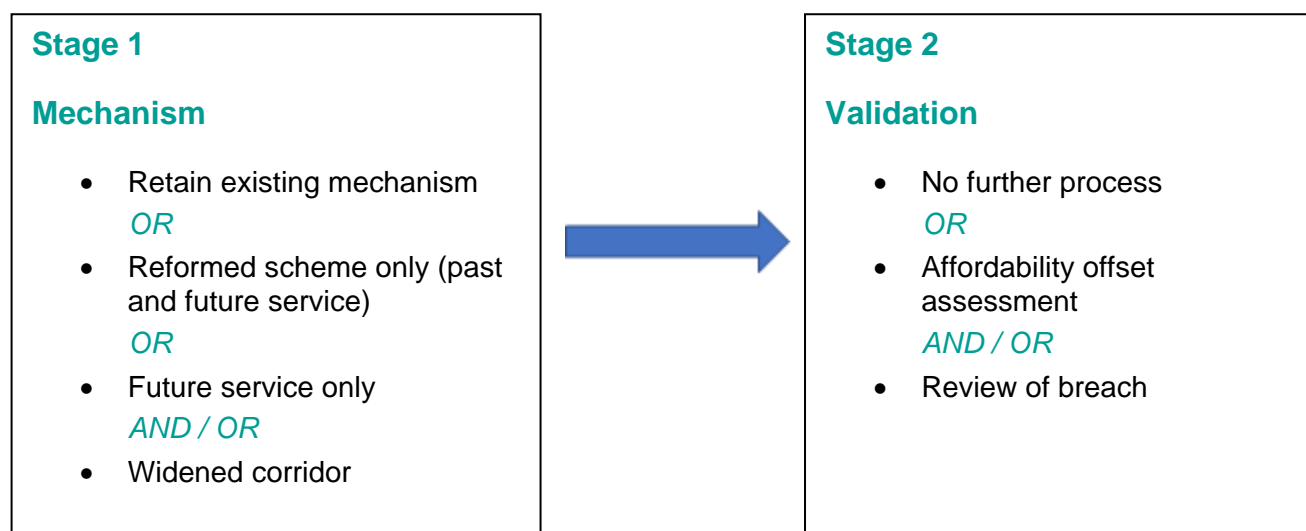
- 3.36 In principle the concept of a risk sharing arrangement such as the cost control mechanism is a good one. It can set out how pension scheme risks are to be managed and can therefore provide a greater degree of security and certainty that might otherwise be lacking. In this case the mechanism seeks to express the limit on the employers' support for the scheme beyond which reduction in benefits would be required. In return for this exposure to cost risks, the members also stand to benefit from the reverse upside in a symmetrical arrangement. In principle this is also sound.
- 3.37 However, I believe that my analysis has shown that difficulties can arise with the precise choice of components of the mechanism and in the interpretation of conflicting objectives:
- 3.37.1 The cost control mechanism worked in line with how it was constructed. The experience effects led to a preliminary floor breach which would require benefit improvements to restore value to the member as measured by the mechanism;
 - 3.37.2 Rather than being an unusual occurrence, I would expect there to be frequent breaches of the cost cap floor or ceiling given the components of the current cost cap mechanism and the comparative narrowness of the "corridor";
 - 3.37.3 In the case of the 2016 preliminary results, the cost cap mechanism would involve improvements in the value of the scheme benefits to members being made at a time when the cost to the taxpayer was already rising as a result of worsening economic expectations;
 - 3.37.4 A major contributing factor in the floor breach is costs associated with past service benefits that are preserved by legislation and which, in this case, are almost wholly in respect of service in legacy schemes and include assumptions about future salary inflation. Any rectification, which would involve improvements in respect of service in the reformed schemes in which the CARE design has already largely removed this salary risk, is arguably inequitable and generationally unfair;
 - 3.37.5 A further significant contributor to the floor breach is the reduction in life expectancy, a risk factor that is already treated (albeit indirectly and partially) in the design of many of the reformed schemes through a linkage between Normal Pension Age and State Pension age.
- 3.38 One alternative to a cost cap mechanism would be a system of review without a mathematical prescription. However, such a review would be open to periodic interpretation, influence and potentially dispute that would offer less security and certainty to members and taxpayers alike.
- 3.39 On balance, I would conclude that some form of mechanism is preferable, but that there is scope to improve the current one and address some of the features that I consider unwelcome.

4. Recommendations for changes to the mechanism

Having considered the operation of the mechanism and assessed the current mechanism with regard to the 2016 valuation experience and against the objectives, I now move on to making recommendations for changes to the cost control mechanism.

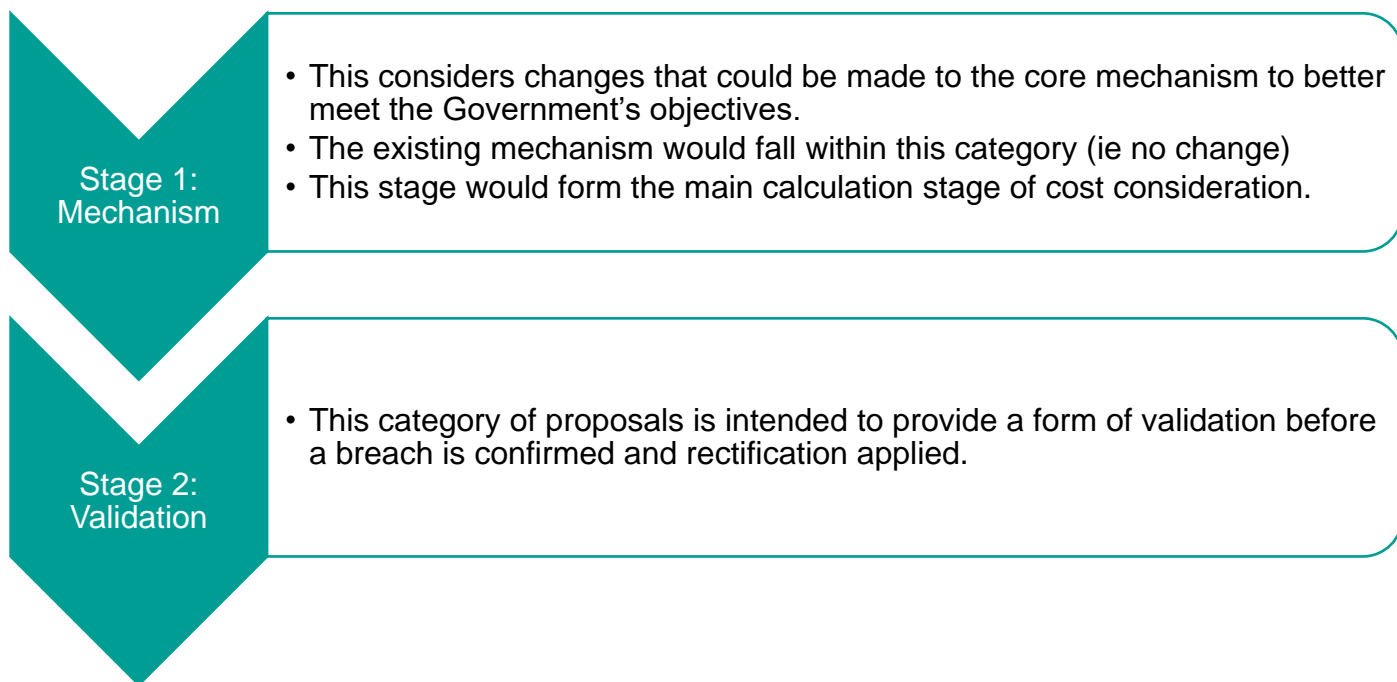
Summary of recommendations

- 4.1 I have noted that the mechanism has worked as it was intended to but that the practical consequences might be considered to be counter-intuitive in that:
- 4.1.1 They would lead to member benefit improvements and increased employers' costs during a period of worsening economic outlook; and
 - 4.1.2 These improvements would have been applied for the benefit of a different cohort of scheme members to those whose past experience significantly contributed to the circumstances that required this rectification.
- 4.2 In view of this conclusion, I set out in this chapter my recommendations for changes that might be considered to be more closely aligned with some of the policy objectives and that might provide more coherent outcomes. The recommendations are framed within a potential two-stage framework with the operation of the mechanism (Stage 1) being supplemented by a validation step (Stage 2). I also provide my comments on the treatment of life expectancy and the mortality improvement assumptions within the mechanism.



Details of recommendations

- 4.3 In this section I work through a range of recommended changes that I believe could be made to improve the mechanism. I have assessed each proposal against the policy objectives and highlighted both the advantages and disadvantages. In my view it is not possible to create a single mechanism which can meet all the objectives fully. My recommendations seek to improve the operation of the mechanism, but it should be noted that it will remain imperfect and that the possibility for undesirable outcomes will remain.
- 4.4 The potential changes that I consider below are drawn from a longer list of options from which I removed those that in my view did not improve the operation of the cost control mechanism sufficiently. For completeness, these are included in Appendix C.



- 4.5 For each potential change, I have included a traffic light summary of whether the proposal might be an **improvement**, **worsening** or **no change** compared to how the current mechanism is assessed against each policy objective.

1. Reformed scheme only

Proposal

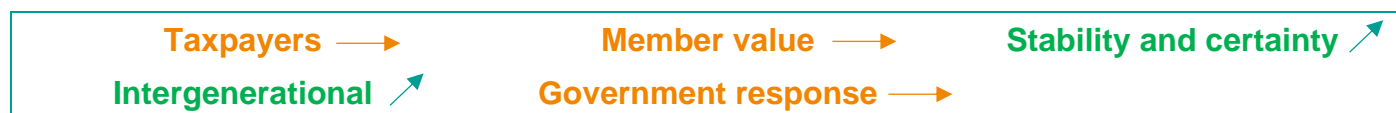
4.6 Remove any allowance for legacy schemes, so the mechanism solely considers the reformed schemes. As is the case now, the past service costs of the reformed schemes would continue to be included in the mechanism and future service costs would be assessed assuming all members accrue reformed scheme benefits⁸. This is a position that would be gradually reached under the existing mechanism as members with legacy scheme benefits move out of active membership.

Rationale

4.7 The reformed schemes were introduced because the Independent Public Service Pensions Commission concluded that the structure of the legacy schemes was unfair and unsustainable. Accrued rights in the legacy schemes will continue to have a bearing on costs as deficits or surpluses emerge in future. But past service rights are protected under law and there is therefore no control mechanism that can directly influence their costs other than the removal of the link to final salary for those legacy schemes which have final salary benefits. Furthermore, we have seen how salary risk can contribute to the cost cap breach solely within this closed and protected element of the pension provision, but that this risk has been eliminated by the CARE design in the reformed schemes.

4.8 Given there is no direct way to control these costs that they arise from legacy pension provision which has now been superseded, and from 2022 there will no longer be any members accruing benefits within these legacy schemes, I believe it would be appropriate to exclude them from the mechanism so that only those benefits that can be adjusted by the mechanism, being those of the reformed schemes, would be considered in the assessment of cost.

Assessment against objectives



4.9 **Taxpayers:** This would reduce the extent of the costs that are being measured by the cost control mechanism, because legacy scheme benefits still currently represent a large proportion of the total costs and remain a risk. The employers and ultimately the taxpayer would carry all of this risk (both upside and downside) and it would remain possible for taxpayer costs from this source to increase without recourse to the mechanism triggering a reduction in benefits but would also mean taxpayers benefit from any savings from the costs decreasing in the legacy schemes.

4.10 **Member value:** Benefits in respect of service in the legacy scheme are already protected in legislation. Because the risks from past service legacy benefits are all taken by the employer there would be neither upside nor downside exposure for members to changes in the value of these benefits assessed by the cost control mechanism. There is no change in respect of service in the reformed schemes other than the removal of legacy scheme experience as a source of risk that could affect future benefit levels. Consequently, the real value of the

⁸ In practice, all members will accrue reformed scheme benefits from 2022 as part of the McCloud remedy.

member benefits might not be preserved as well for those members who have benefits in both the legacy and reformed scheme.

- 4.11 **Stability:** This change will improve the stability of the mechanism over the short to medium term because of the significant reduction in the past service component.
- 4.12 **Intergenerational:** Intergenerational unfairness is reduced, although not eliminated, by these changes because the impact of the legacy scheme on predominantly older members will no longer influence the benefits received in the reformed scheme by relatively younger members.

Analysis

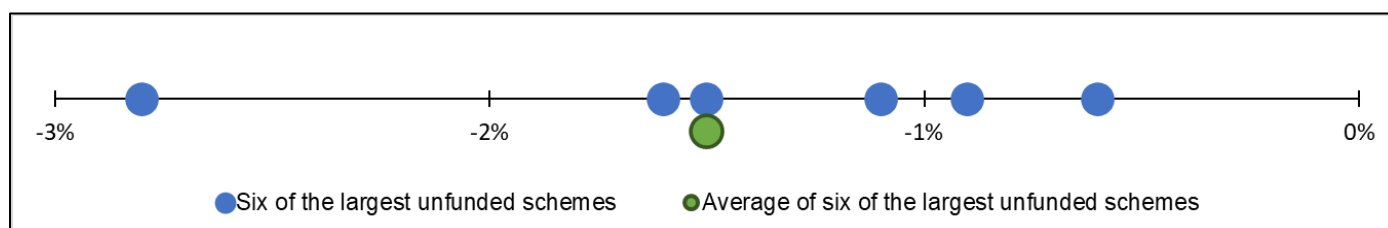
- 4.13 For the 2016 cost cap valuation, there was only one year of benefits built up in the reformed schemes in 2016 and so the past service contribution to the cost cap cost is almost exclusively due to service in the legacy schemes. Thus the effect a reformed scheme only mechanism would have had at the preliminary 2016 valuation can broadly be illustrated by simply considering the accrual cost column from Table 1 which is reproduced in Table 3 below.

Table 3: Summary of changes in accrual only element of the employer cost at the preliminary 2016 valuation, averaged across six of the largest unfunded schemes

	Accrual cost
Change in short-term financial assumptions	n/a
Change in mortality assumptions	↓ -0.9%
Changes in demographic assumptions	↓ -0.3%
Other changes	↓ -0.3%
Change in cost cap cost of the scheme	↓ -1.5%

- 4.14 The change in costs averaged across six of the largest unfunded schemes would thus have been a reduction of 1.5% of pensionable pay. Chart 2, which shows the change in future accrual cost for each of these six unfunded schemes, shows that a breach of the cost control floor would have occurred in just one of the schemes at the 2016 valuation. Indeed, across all of the public service pension schemes, this would have been the only scheme to breach.

Chart 2: Change in accrual only element of the employer cost at 2016 valuation, averaged across six of the largest unfunded schemes



- 4.15 Over time, as more past service in the reformed schemes builds up, I would expect the mechanism to become more susceptible to changes in experience and assumptions. This may also lead to the re-emergence of some inter-generational issues should past service in the reformed schemes drive cost cap breaches that affect future scheme benefits.
- 4.16 However, as past and future service components will both be in the same scheme, there is a stronger case for retaining the past service element of the reformed schemes in the cost cap mechanism. Nevertheless, my next recommendation considers the merits of a future service only mechanism that also excludes the past service elements of the reformed scheme as well as the legacy scheme past service.

Practical considerations

- 4.17 The employer cost cap set out in scheme regulations will still be consistent with a reformed scheme only mechanism because the past service impact was nil at the outset so it wholly related to the future service cost in the reformed scheme. Therefore, the cost cap would not necessarily need to be reset, although there may be a rationale to do so at 2022 when the reformed schemes are re-implemented after the McCloud remedy period.
- 4.18 However, the notional assets that are set out in directions will need to be changed to remove those relating to the legacy scheme. In order to do this, schemes will be required to split out cashflows, in particular contributions paid, between reformed and legacy schemes going back to 2015. This will include identifying the contributions relating to members in and out of scope of McCloud remedy which will go to the legacy and reformed schemes respectively. If this is problematic for schemes, the cost cap mechanism can be reset at 2022, although this would mean that costs between 2016 and 2022 have not been controlled by the mechanism.

Scheme specific considerations - LGPS

- 4.19 There are differences in how the McCloud remedy is intended to be structured in the LGPS compared to the unfunded schemes, owing to differences in the original transitional protection. As I understand it, the McCloud remedy solution will operate in the legacy schemes for the unfunded schemes but the reformed scheme for LGPS. A strict interpretation of considering only the reformed scheme benefits may therefore result in the LGPS having a larger pool of past service liabilities compared to the unfunded schemes and therefore being relatively more sensitive to any emerging actuarial experience or change in assumptions. Depending on the approach adopted for the LGPS, this could lead to some complexities in the calculation of past service liabilities in the LGPS which again could be mitigated by resetting the mechanism from 2022.

Legislative considerations

4.20 12(4)(c) of the Public Service Pensions Act (PSPA) 2013 states that “*Treasury directions may in particular specify the extent to which costs or changes in the costs of any statutory pension scheme which is connected with a scheme under section 1 are to be taken into account...*”. Legal advice should be sought to determine whether the extent to which the costs are taken into account can be zero and this change can be implemented in directions, or whether changes to this primary legislation are required.

2. Future service only

Proposal

4.21 The mechanism considers only the cost of future service accrual in the reformed schemes.

Rationale

4.22 Given the mechanism can adjust only future benefits it would be reasonable for it to consider only the cost of those future benefits in its assessment.

4.23 Many of the pros and cons of the reformed scheme only proposal remain relevant here but in many ways are magnified. Considering future service only will further increase stability and intergenerational fairness as well producing a much more simple and easier to understand mechanism. However, it will also reduce the strength of the cost control, with no effective risk management of past service costs other than those inherent in the benefit design.

Assessment against objectives



4.24 **Taxpayers:** With no allowance for past service costs this proposal does produce a weaker control of costs. The only changes in cost to be considered will be those that arise from a change of assumptions, with any impact on past service costs due to emerging actual experience not being captured.

4.25 **Member value:** Past service benefits are protected by law. Excluding past service risks from the mechanism means that members carry no upside or downside from these risks and consequently the real value of the member benefits might not be preserved as well.

4.26 **Stability:** The stability of the mechanism would be much improved.

4.27 **Intergenerational:** There would be a clear linkage between future service changes and future service costs, which would further improve intergenerational fairness.

4.28 **Government response:** Removing the past service element from the mechanism would appear to potentially restrict the government's ability to respond to relevant future developments. For example, if a retrospective increase in accrued rights were awarded to members these additional costs would not be captured in a future service only mechanism.

Analysis

4.29 The impact this change would have had at the preliminary 2016 valuations is largely the same as under the reformed scheme only mechanism as illustrated by the accrual cost column in Table 3 above, with a much smaller movement in assessed costs due to the removal of all past service impacts. Under a future service only mechanism, only one scheme would have been outside of the +/-2% corridor using the accrual cost only in the provisional 2016 valuation results which is illustrated in Chart 2 above. Going forward, there would be no accumulation of past service costs under this mechanism and so it would be more stable than a reformed scheme only mechanism. However, as Chart 2 indicates, even

an alternative mechanism with reduced volatility is still likely to breach under a +/-2% corridor.

Practical considerations

4.30 The employer cost cap set out in scheme regulations will still be consistent with a future service only mechanism because the past service impact was nil at the outset so it wholly related to the future service cost. Therefore, the cost cap would not need to be reset. Furthermore, there would no longer be a requirement to track notional assets or to allocate cashflows within the cost control mechanism.

Legislative considerations

4.31 12(4)(b) of the Public Service Pensions Act (PSPA) 2013 states that “*Treasury directions may in particular specify the extent to which costs, or changes in costs, that are to be taken into account...*”. Legal advice should be sought to determine whether this would allow only future service costs to be captured and for this change to be implemented in directions, or whether changes to the primary legislation are required.

3. Widened corridor

Proposal

- 4.32 The corridor which is currently +/-2% of pensionable pay for all schemes is widened to reduce the frequency of breaches. Especially if no other changes are made to the mechanism, widening the corridor to say +/-3% would reduce the volatility of the mechanism. And even with changes to the mechanism, consideration might still be given to widening the corridor according to the relative appetite for stability of benefits compared to the responsiveness of cost control.
- 4.33 It would also be reasonable to consider wider corridors for schemes with a higher cost (as a percentage of pay).

Assessment against objectives

- 4.34 Increasing the size of the corridor would make the mechanism less prone to breaches and therefore improve the stability and certainty of benefit levels. However, as it would mean larger changes in costs can occur without any remedial action it would reduce the ability to protect the taxpayer or maintain value to members and lead to larger changes in benefits and/or member contributions when breaches do emerge. A wider corridor will also exacerbate the impact of the “cliff edge” nature of the cost control outcomes.
- 4.35 Conversely, a narrow corridor means that breaches can occur as a result of relatively minor events which might not be considered to be extraordinary or unpredictable. Whilst this would protect taxpayer and members against relatively small changes in costs/value, it would lead to more regular changes in the level of member benefits. Stakeholders were generally against this, with concerns that it would make retirement planning more difficult and potentially reduce member engagement.

Size of the corridor

- 4.36 For the purposes of illustration, I have analysed the sensitivities to assumptions for a ‘reformed scheme only’ cost cap mechanism. The analysis uses 2016 valuation data and reformed scheme designs of the Teachers’ Pension Scheme (England and Wales) and Police Pension Scheme (England and Wales) but I have assumed that the reformed schemes are sufficiently mature to have built up a substantial past service liability.
- 4.37 Charts 3 and 4 show the sensitivities of the cost cap cost to reasonably plausible changes in the assumptions used in the calculation. It thus helps to provide an indication of the sort of events or combination of them that might lead to a future cost cap floor or ceiling breach. The following sensitivities are shown in the two charts:
1. The impact of reducing assumed future improvements in life expectancy. Broadly this reflects a one-year reduction in life expectancy for a member currently aged 65.
 2. Increase in State Pension age of one year.
 3. Increase in the proportion of pension commuted for cash where the directed commutation assumption is used, from 17.5% to 25%.
 4. Two-year decrease in average age.
 5. Increase in the withdrawal assumption by 10%.
 6. Increase in the ill-health retirement assumption by 10%.
 7. Additional 20% of members retiring at age 55.

8. All members retiring at the scheme's Normal Pension Age.
9. Increase of 0.25% pa in the assumed short-term and long-term rates of public service earnings.

Chart 3: Teachers' Pension Scheme (England and Wales) sensitivities to assumptions of a reformed scheme only or future service only mechanism (% of pensionable pay)

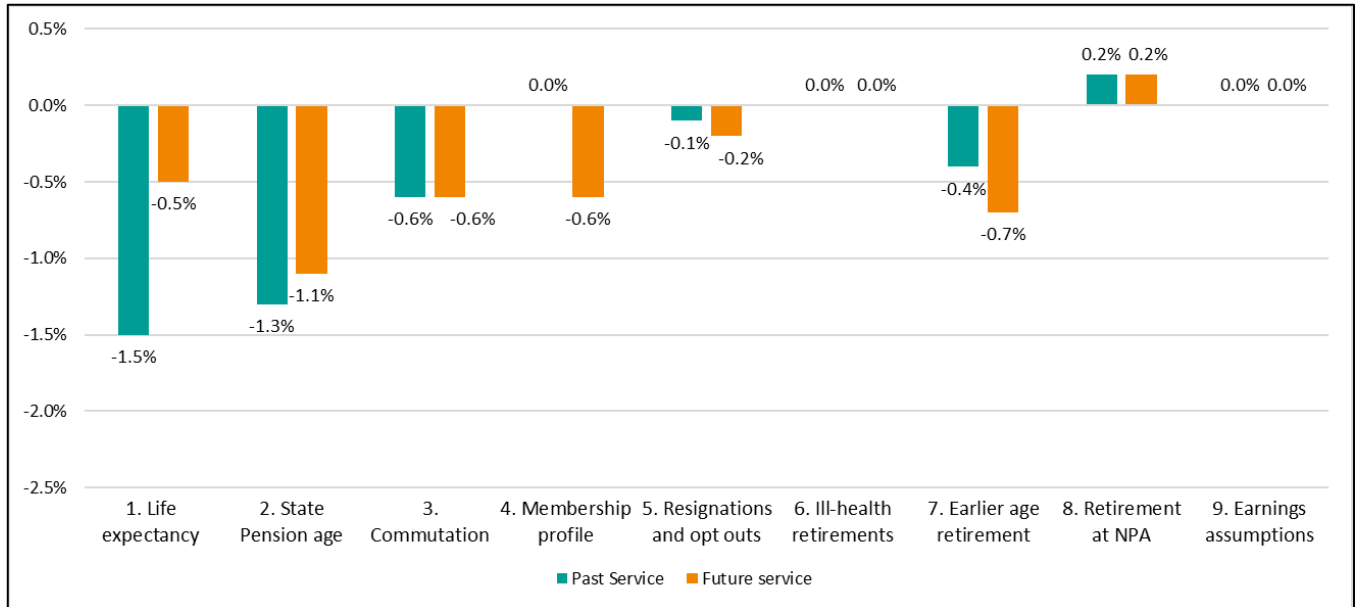
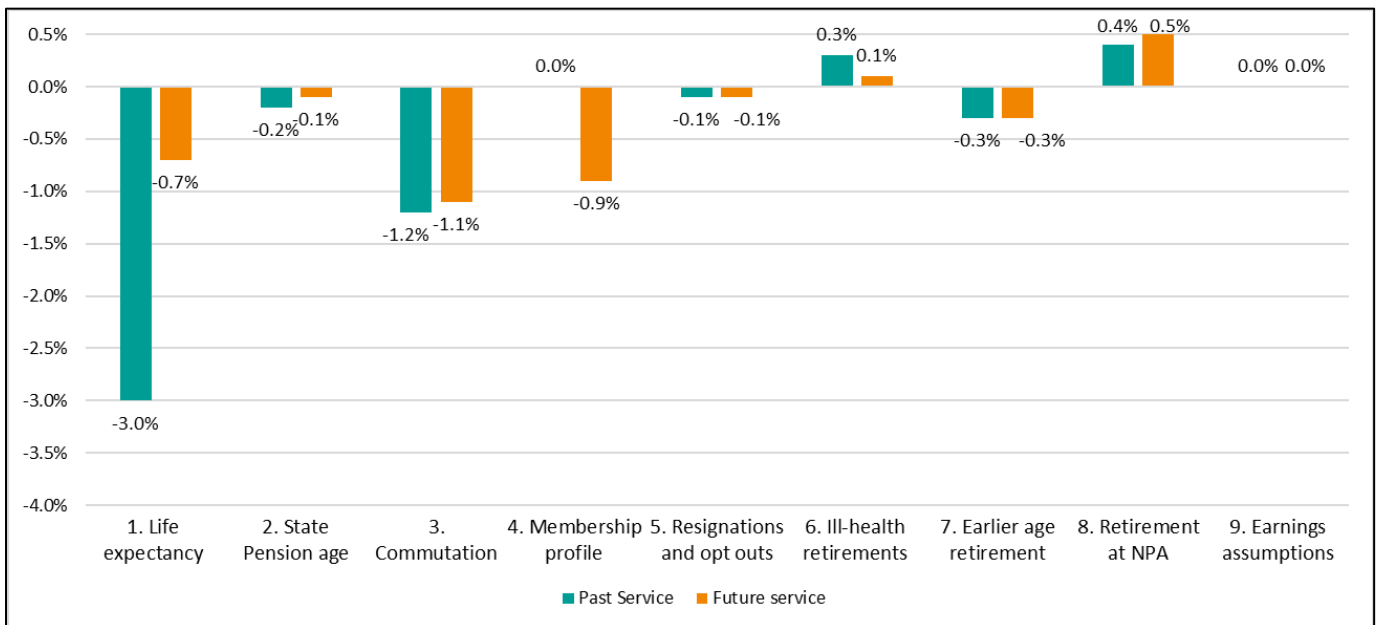


Chart 4: Police Pension Scheme (England and Wales) sensitivities to assumptions of a reformed scheme only or future service only mechanism (% of pensionable pay)



Notes:

- i. The sensitivity shown is in relation only to the change in the assumption described. The impact of a combination of assumption changes will not necessarily equate to the sum of the relevant rows above.
- ii. Opposite changes in the assumptions will produce approximately equal and opposite changes in the valuation results.
- iii. Note that the link between NPA and SPa in the Teachers' Pension Scheme (England and Wales) is intended to largely mitigate life expectancy changes and that SPa changes are not aligned to the valuation cycle thereby resulting in a potential mismatch in the mitigating factors.

- 4.38 If a future service only mechanism is adopted, then just the sensitivities in the future service columns in Charts 3 and 4 need be considered. If a reformed scheme only mechanism is adopted, then the sensitivities in the future service columns represent the effects in the very short term and there is no past service effect. In the longer term – 30 years or so – it would be appropriate to add in the sensitivity effects from the past service columns.
- 4.39 Charts 3 and 4 show differences between the sensitivities in the Teachers and Police pension schemes, which are due to the characteristics of each of those schemes, in particular the earlier fixed retirement age in the Police scheme and the relatively smaller size of the active membership compared to the pensioner membership as reflected in the 2016 data.
- 4.40 The sensitivities in the charts above highlight that, under a 2% corridor, reasonable and ordinary changes in experience and assumptions could cause a breach both in isolation and in combination with other reasonable and ordinary changes in assumptions.
- 4.41 Based on the above sensitivities, I have given consideration to the sort of reasonable scenarios that could occur between valuations which would cause a floor or ceiling breach. Tables 4 and 5 set out cost cap ceiling and floor breach scenarios under a reformed scheme mechanism (once the scheme has matured) and a future service only mechanism respectively. (Table 5 could also be considered to be a reformed scheme mechanism in the very short term.)

Table 4: Cost cap breach scenario under reformed scheme mechanism once scheme has matured (% of pensionable pay)

Reformed scheme	Change in cost cap cost
Age retirement (All members assumed to retire at NPA)	0.90%
Allowance for commutation as directed (decrease of 3.0%)	0.90%
Ill-health retirements (10% increase to assumed rates)	0.45%
Total impact	2.05%

Table 5: Cost cap breach scenario under future service only mechanism (% of pensionable pay)

Future service only	Change in cost cap cost
Life expectancy decrease of 1.25 years	-0.70%
Withdrawals 20% higher	-0.20%
Allowance for commutation as directed (additional 8.75%)	-1.25%
Total impact	-2.15%

Note that for simplicity and illustration purposes, I have assumed that the effect of a combination of assumption changes will equate to the sum of the individual whereas, in practice, the combined effect may be higher or lower than this.

4.42 While in practice there could be offsetting changes in experience and assumptions, the tables above, and Table 2 from earlier analysis, reflect changes in experience seen over historic intervaluation periods and serve to highlight that the 2% corridor could be breached as a result of changes which might not be considered extraordinary or unpredictable under the existing, reformed scheme and future service only mechanisms. There is, therefore, a strong argument for widening the corridor to avoid regular breaches of the mechanism, especially if no other changes are made to the mechanism. Without this widening of the corridor, I expect there to be frequent breaches without any extraordinary, unpredictable events needing to occur.

4.43 The size of the corridor should reflect the balance HMT wish to achieve between the various objectives. Any decision will also need to take into consideration any other changes to the mechanism, where for instance the need to widen the corridor under a future service only mechanism may be less compelling. Widening the corridor to say +/-3% would reduce the volatility of the mechanism but even at this size, under the existing mechanism, all public service pension schemes with provisional 2016 valuation results would still have been outside the corridor.

Consistency of the corridor

4.44 All schemes are subject to the same +/-2% of pensionable pay corridor, but because schemes have different overall pension costs, that 2% level represents a different proportion of the pensions cost for each scheme. The following table sets out these proportions for some sample schemes with the Armed Forces and Teachers' Pension Scheme representing the uppermost and lowest end costs across the public service pension schemes. This shows that a particular event could more easily lead to a breach of the cost control mechanism for, say, the Armed Forces scheme where only a 6% proportional change in costs is required, than the Teachers' Pension Scheme where close to a 10% proportional change is required.

Table 6: Comparison of 2% corridor to expected long term cost

Scheme	2012 expected long term ongoing cost % of pensionable pay (pp)	2% corridor as proportion of 2012 cost
Armed Forces	34.6% pp	6%
PCSPS GB	24.1% pp	8%
LGPS Northern Ireland	23.4% pp	9%
NHS Scotland	21.3% pp	9%
Teachers' Pension Scheme England and Wales	20.5% pp	10%

4.45 Instead of the same +/-2% corridor applying to all schemes, the corridor could instead be framed as a consistent proportion of the starting cost. As an example, Table 7 sets out what corridors, as a +/-% of pensionable pay, would apply to a sample set of schemes if the corridor was framed as a consistent 10% or 15% proportion of the total starting cost (so also including member contributions).

Table 7: Illustration of corridors framed as a consistent proportion of a scheme's starting cost (as a % of pensionable pay)

Scheme	Corridor determined as a % of scheme starting cost	
	10%	15%
Armed Forces	+/- 3.5% of pp	+/- 5.2% of pp
PCSPS GB	+/- 2.4% of pp	+/- 3.6% of pp
LGPS Northern Ireland	+/- 2.3% of pp	+/- 3.5% of pp
NHS Scotland	+/- 2.1% of pp	+/- 3.2% of pp
Teachers' Pension Scheme England and Wales	+/- 2.1% of pp	+/- 3.1% of pp

4. Affordability offset assessment

Proposal

4.46 Under this proposal, a breach of the mechanism would be implemented only if it would still have occurred had the long-term economic assumptions (such as the SCAPE discount rate) been considered within the mechanism. In practice this would mean that the impact of a change to the long-term economic assumptions would be able to offset any ceiling or floor breaches that would otherwise occur, but in itself it would not be able to cause, or increase the size of, a breach. This would effectively hold back a breach until it becomes affordable to employers (if a floor breach) or members (if a ceiling breach), provided the underlying causes of the breach persist.

4.47 The following table provides some example situations to illustrate how such an offset could operate. If there is no breach of the mechanism, the impact of an affordability offset would not need to be considered. The offset is intended to apply equally whether the initial position is a breach of the cost cap floor or ceiling and so I show both positions for clarity.

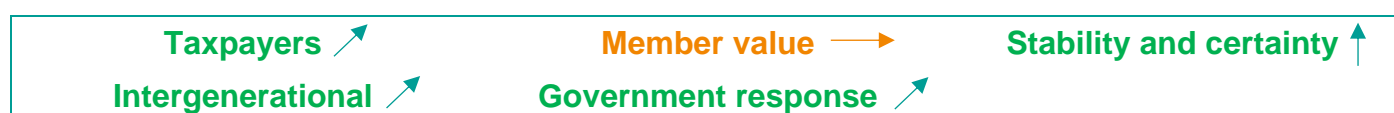
Table 8: Example operation of affordability offset assessment in various scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Initial calculated breach excluding SCAPE			-5% (ie 3% outside the -2% corridor)	
SCAPE impact	-1%	+1%	+3.5%	+8%
Initial + SCAPE	-6%	-4%	-1.5%	+3%
Disclosed breach	-5% SCAPE does not further increase the breach	-4% SCAPE partially offsets the breach	-1.5% No breach as SCAPE offsets to within corridor	+2% No breach. SCAPE can only offset and cannot cause a breach in the opposite direction.
	Scenario 5	Scenario 6	Scenario 7	Scenario 8
Initial calculated breach excluding SCAPE			+5% (ie 3% outside the +2% corridor)	
SCAPE impact	+1%	-1%	-3.5%	-8%
Initial + SCAPE	+6%	+4%	+1.5%	-3%
Disclosed breach	+5% SCAPE does not further increase the breach	+4% SCAPE partially offsets the breach	+1.5% No breach as SCAPE offsets to within corridor	-2% No breach. SCAPE can only offset and cannot cause a breach in the opposite direction.

Rationale

- 4.48 Changes in the SCAPE rate are excluded from the cost cap mechanism but a reduction in the rate was the main reason that employer contribution rates at the 2016 valuation increased by up to 9% of pensionable pay before any impact of the cost control mechanism. As I noted in the previous section, under the preliminary cost cap results all schemes reported a cost cap floor breach, which would in turn when rectified add a further increase to the employer contribution rates and therefore cost to the taxpayer. I do find such an outcome hard to justify and it would appear to clearly violate the objective of protecting taxpayers.
- 4.49 It does not seem possible for the mechanism to be able to protect taxpayers unless it considers more of the factors affecting the actual cost of providing a pension. Furthermore, in the circumstances it might be considered generous for members to be immunised against all the long-term financial downside risks whilst being able to benefit from the upside of other risks. I believe it is relevant in the context of this immunity, to note that the cost of providing pensions in the private sector has been rising sharply for well over a decade, often with consequences in terms of the pension provision for the members of those schemes. For example, typical annuity rates in April 2012 were such that a fund of £100,000 would be able to purchase a level income of around £5,350 pa for a 65-year-old with a spouse aged 60 who would receive 2/3rds of this amount on the individual's death. If the same annuity were to be purchased in April 2016, the level of income drops to around £4,560 pa, which suggests that the cost of pension increased by around 17% between 2012 and 2016.⁹
- 4.50 However, I also appreciate it was previously agreed that only member costs would be in the mechanism, and if the impact of a change in SCAPE discount rate were fully allowed then it could be reasonably viewed as an overly technical assessment for determining an exact change in member benefits as a result. It would also create a much more volatile mechanism because it would typically require only a 0.1% change in SCAPE discount rate to change assessed costs by 2% of pensionable pay and thus very likely to cause a cost cap breach. Further details of why I have not recommended full allowance for SCAPE in the mechanism is set out in Appendix C.
- 4.51 This proposal is therefore a pragmatic approach by allowing the impact of a change in SCAPE discount rate to only stop, or reduce, a breach that if otherwise occurred would result in a perverse outcome for the general affordability of public service pension provision.

Assessment against objectives



- 4.52 **Taxpayers:** The SCAPE discount rate is currently set in line with long-term expectations of GDP. This is representative of future government revenue and therefore its level does have a bearing on taxpayer costs. Indeed, as set out in the National Audit Office report on Public service pensions, HMT assess the affordability and sustainability of public service pensions with respect to GDP¹⁰. This proposal would therefore increase the protection afforded to taxpayers, because the perverse outcome of contributions going up at the same time benefit improvements are implemented via the cost control mechanism due to a floor breach (and

⁹ <https://www.williamburrows.com/calculators/annuity-chart/>

¹⁰ <https://www.nao.org.uk/report/public-service-pensions/>

vice-versa) would be largely mitigated. However, without fully allowing for the impact of the SCAPE discount rate then costs to taxpayers could still increase without any corresponding reduction in benefits.

- 4.53 **Member value:** The introduction of the affordability offset means that there is less likelihood of changes to member benefits (upwards or downwards) being required. Thus there is arguably greater protection for the nominal value of member benefits albeit that changes in the real value of the member benefits would only be rectified if there was no offsetting movement in the SCAPE rate.
- 4.54 **Stability:** This change could only ever stop, or reduce the impact of, a breach happening and could never result in a breach itself. It will improve the stability of the mechanism.
- 4.55 **Intergenerational:** Intergenerational fairness could be improved in so far as the SCAPE rate as it is currently constructed is an indicator of the future economic climate. Therefore, if the economic climate was considered to be worse in the future, which will adversely impact future generations, then this proposal stops or reduces pension improvements being awarded now, which otherwise would further exacerbate the differential between generations. Similarly, if the long-term economic outlook improved to the advantage of future generations, then any benefit cuts now would be reduced or stopped.
- 4.56 **Government response:** This implicitly increases the ability of government to respond to future relevant developments in so far as any developments that impact the future economic outlook will impact the SCAPE rate, based on its current methodology.

Analysis

- 4.57 Table 9 below shows the change in costs in the event of a 0.25% reduction in the discount rate under a reformed scheme only mechanism and reflects the mature reformed scheme membership as described under recommendation 3. If an 'affordability offset' applied, then the total effect of all other changes in costs would need to exceed that of the change in SCAPE costs for a breach to occur.

Note that the long-term discount rate net of CPI reduced by 0.6% between the 2012 and 2016 valuations from 3.0% pa to 2.4% pa.

Table 9: Discount rate sensitivity under reformed scheme only mechanism with mature reformed scheme membership (% of pensionable pay)

Assumption	Teachers' Pension Scheme (England and Wales)		Police Pension Scheme (England and Wales)	
	Past Service	Future service	Past Service	Future service
Discount rate in excess of CPI (-0.25% pa)	2.6%	1.8%	4.5%	2.1%

Notes:

1. This shows the impact of a 0.25% pa decrease in the SCAPE discount rate with all other financial assumptions remaining unchanged.
2. The differences between the sensitivities in the Teachers and Police pension schemes are due to the characteristics of each of those schemes, in particular the earlier fixed retirement age in the Police scheme and the relatively smaller size of the active membership compared to the pensioner membership as reflected in the 2016 data.

4.58 The 2016 valuation results show that the change in SCAPE rate would have offset the preliminary floor breaches across the public service pension schemes after this “affordability offset” was applied. Similarly, were the affordability offset to be applied under a “reformed scheme only” or “future service only” core mechanism, all schemes would have remained within the corridor at 2016 preliminary valuations.

Practical considerations

4.59 I acknowledge that the SCAPE rate is not used to set employer contribution rates in the LGPS, which are set locally with a discount rate based principally on expected investment returns of the local fund. This proposal would therefore not necessarily offset affordability concerns as precisely for the LGPS, and indeed would widen the existing disconnect between LGPS funding and cost cap valuations. However, I would expect there to be broad linkage between GDP expectations and general investment return expectations and I believe it would therefore be reasonable to also consider this proposal for application to the LGPS.

4.60 An alternative would be to use an objectively set discount rate with some element of market value, such as one based on gilt yields, as a proxy for how the value of public service pension scheme benefits would change if they were purchased in the private sector. Although less subjective than a rate set by HMT this approach would add a further layer of complexity to the mechanism.

4.61 I note that there is an upcoming separate review of the SCAPE methodology and therefore HMT will need to consider the interactions of that review with respect to this proposal. If the SCAPE methodology changes from the current link to long term GDP estimates then consideration will need to be given to the appropriateness of using the new SCAPE discount rate in the cost control mechanism.

4.62 There are arguments that the discount rate used to set the employer contribution rate should be consistent with that used in the cost control mechanism, as an assessment which could ultimately lead to a change in benefits should be consistent with the costs that are being placed on those benefits and subsequently met by employers. However, this is dependent on the ultimate aims of the SCAPE discount rate in setting employer contribution rates. For example, government may decide it is preferable to have a stable discount rate which leads to less volatile costs for employers. In this case, the SCAPE discount rate may no longer remain a suitable rate to assess the value of benefits in the cost control mechanism and an alternative rate may need to be used. In such a scenario, if it is felt that long-term GDP still best reflects affordability then it would be right to use that rate explicitly in the assessment of the cost control mechanism. Or, as noted above, discount rates reflecting market values which reflect more general pension affordability could also be considered.

4.63 It would also seem appropriate for any affordability offset to include the effect of any change to the long-term earnings assumption, given this is a long-term economic variable that affects employer costs but is currently excluded from the mechanism. Under the existing mechanism, this would affect final salary linked benefits and those schemes with in-service revaluation set in line with the increase in average earnings, and under a “reformed scheme only” or “future service only” core mechanism this will only affect the latter.

4.64 Further consideration will need to be given to how exactly an affordability offset will be implemented in practice.

5. Review of breach

Proposal

4.65 An additional layer of review is put in place which allows for a reasoned judgement to be made of whether or not to apply the results of the cost cap valuation. A calculation-based assessment would still occur using a defined mechanism as is the case now, but the results would be advisory only. A decision could then be taken after consideration of the causes of the breach and whether it should result in a change to member benefits.

Rationale

4.66 As previously discussed, whilst I believe improvements can be made to the mechanism, it is not possible to create a single mechanism which can meet all of the objectives and therefore undesirable outcomes may still occur. Indeed, it was noted by many stakeholders that the cost control objectives do conflict. Therefore, a layer of judgement could be used to ensure a reasonable outcome based on wider, more flexible considerations than a calculation-based process on its own would be able to.

Assessment against objectives



4.67 The impact a layer of review has on the objectives depends in part on how it operates and what its remit is. However, if the purpose of the layer of review is to examine the causes of a breach more fully and perform a reality check that the cost cap result is reasonable then it should have the potential to improve the mechanism in relation to the objectives.

4.68 **Government response:** This proposal, in particular, may improve the ability of government to respond to future relevant developments, assuming those developments can be fed into the judgement-based layer of review. For example, if the ultimate decision on whether a floor or ceiling breach should be implemented is made by government then this decision would be able to reflect wider policy intentions. This could help to avoid perverse outcomes such as government attempting to strengthen public finances which lead to the cost control mechanism indicating that benefits should be improved and thereby reversing any savings that government is attempting to create. Further, where objectives conflict, judgement can be used to ensure a reasonable outcome is delivered.

Practical considerations

4.69 This layer of review could take different formats, varying from an independent specialist panel to solely the government making the decision. An independent panel would be more objective but determining who is on the panel and its Terms of Reference would be far from straightforward. Whilst a government based decision is a more significant change to the current operation, there are precedents in this area such as the process around the State Pension age review.

4.70 I do not believe it is in the scope of my review to consider exactly how such a judgement based layer of review would operate, however I believe there are various practical complexities to work through which I would be happy to discuss further.

Legislative considerations

4.71 My understanding is that 12(6) of the Public Service Pensions Act (PSPA) 2013 sets out the procedure for when the cost cap valuations report a breach. Therefore, from a lay understanding, it would appear this proposal would require changes to this primary legislation, although legal advice should be sought on this matter.

Other considerations

Longevity

- 4.72 In Chapter 3 I noted that longevity risk is already mitigated in those schemes with a linkage between the age at which benefits can be taken unreduced and SPa. As such, having another layer of longevity mitigation within the mechanism would appear to have a disproportionate impact, which may then have unwelcome implications. In particular, a change in assumed life expectancy may result in a cost cap breach at one valuation, only for a consequent change in SPa not being implemented until a latter valuation then offsetting the prior breach. Indeed, Chapter 3 highlights that assumed life expectancy was one of the main drivers for breaches across the preliminary 2016 valuations. This impact is also exacerbated somewhat by the nature of mortality improvement assumptions, which are projections and therefore inherently uncertain, being liable to fluctuations.
- 4.73 There are a couple of alternative approaches which will improve this situation that HMT might like to consider. One option would be to completely remove the impact of changing longevity and SPa from the mechanism for the relevant schemes, given they already have mitigation in place. Whilst this appears a reasonable step to take, I note that there are likely to be significant technical and data related challenges from such an approach, unless it is in conjunction with a future service only mechanism. Further, consideration would also need to be given on how such an approach would work in practice and whether some longevity risks should remain. For instance, pensioner longevity risk is unmitigated as is the relative risk of the scheme population mortality varying compared to the wider population. Such an approach will bring around a difference in treatment between these schemes with the SPa linkage compared to the uniformed schemes which have a fixed NPA, although one I would see as being justified.
- 4.74 If it were concluded that it would not be practical for longevity and SPA to be entirely removed from the mechanism, then consideration should be given to the smoothing of longevity assumptions given their potentially disproportionate impact on the mechanism and the likelihood for such assumptions to fluctuate. For example, an average of the last two ONS projections could be used to set mortality improvement assumptions.

Rectification methodology

- 4.75 My terms of reference do not specifically require me to consider the approach to rectification in the event of a cost cap breach occurrence. But my terms of reference ask me to consider the cost cap mechanism in the context of the policy objectives and the approach to rectification may have a bearing on how well the mechanism meets these objectives and, in particular, that relating to generational fairness. Individual scheme regulations allow stakeholders to reach agreement on the adjustments required in the event of a breach with the default approach being a change to the accrual rate of the reformed scheme.
- 4.76 Because the choice of rectification approach can have a bearing on the generational fairness of the scheme, it may be helpful to consider some central guidance on the potential rectification options and their generational impacts. For example, improving the in-service CARE revaluation rate benefits those who stay in the scheme longer, lower employee contributions benefit those remaining in the scheme, improved early retirement terms only benefit those members who retire early and better partner benefits are only beneficial for those with a surviving partner on their eventual death.

4.77 Whilst not a change to the mechanism, I recommend that this issue is considered further as a separate exercise. The timing is less pressing for this element, as such considerations would first apply only when a subsequent valuation produces a breach of the cost control mechanism and stakeholders then need to agree adjustments.

Scheme-specific measures

4.78 I believe that it is preferable to continue with a single overarching cost control mechanism that applies to all public service pension schemes, regardless of the nature of the workforce and whether the scheme is funded or unfunded but I appreciate that there may be some scheme-specific features that would require addressing as my recommendations are further considered.

Appendix A: Terms of Reference

A1 Set out below are the full Terms of Reference for my review.

Terms of reference for the Government Actuary's review of the cost control mechanism

Context

In September 2018, the then Chief Secretary to the Treasury (CST) announced that the government would ask the Government Actuary to conduct a review of the cost control mechanism that was established in the reformed public service pension schemes, following a recommendation of the Independent Public Service Pensions Commission. This reflected a concern that the mechanism was not operating in line with its original objectives; in particular, the intention that it would only be triggered by 'extraordinary, unpredictable events'.

On 16 July 2020, the CST confirmed in a Written Ministerial Statement that this review would proceed.

Terms of Reference

Purpose

To undertake a review of the cost control mechanism that was established in the reformed public service pension schemes, following a recommendation of the Independent Public Service Pensions Commission.

Objectives

1. To assess whether – and to what extent - the mechanism is working in line with original policy objectives for the mechanism.

These objectives are:

- To protect taxpayers from unforeseen costs
- To maintain the value of pension schemes to the members
- To provide stability and certainty to benefit levels – the mechanism should only be triggered by 'extraordinary, unpredictable events'

2. To make recommendations as to any changes to the mechanism that could be made to ensure it is working in line with these original objectives.

Output

A final report for HM Treasury that sets out the assessment that has been made of the mechanism, and includes a clear set of recommendations on any changes that could be considered.

An interim report will also be produced. The parameters of the interim report will be agreed between the review team and HM Treasury at the commencement of the review.

HM Treasury will publish the final report and respond after the findings and recommendations have been duly considered.

Scope

The review will consider the operation and effectiveness of the mechanism as it is currently set out in legislation (primary, secondary, and tertiary) governing valuations of public service pension schemes. It should consider the effectiveness of the mechanism at both an aggregate level across all schemes and at an individual scheme level.

The review will produce a range of recommendations, as appropriate, to be considered by HM Treasury.

1. The review should provide recommendations on potential changes or adjustments to the mechanism as currently established, that could be made ahead of the 2020 scheme valuations, to address any problems with the mechanism that have been identified in the course of the review.
2. The review should provide recommendations on any potential changes or adjustments to the mechanism that would require longer to implement, to address problems that have been identified.
3. The review may also consider broader issues including, but not limited to:
 - the effect of the mechanism on intergenerational unfairness; and
 - the interaction between the mechanism and the ability of government to respond to future relevant developments in the public service pensions system, such as changes to the economic and fiscal context and court judgments;

and may make any recommendations on changes that could be made to the cost control mechanism to address such issues; the implementation of which could be considered to longer time scales.

Approach, roles, and responsibilities

The review will be led by the Government Actuary and supported by actuaries in the Government Actuary's Department. This review team will be responsible for delivery of the work, and the reports to HM Treasury.

HM Treasury officials will provide support to the review team to facilitate the work as required, but will not play a formal role in delivery of the review.

Stakeholder engagement will be led by the review team, with HM Treasury support as required.

The Government Actuary's Department will keep HM Treasury officials up to date on progress in regular meetings. Progress will be shared with senior officials through existing HM Treasury governance arrangements (monthly meetings, and ad hoc engagement as/if required).

Timing

The review will report in time for recommendations that are accepted to be implemented ahead of the 2020 valuations process.

Appendix B: Overview of the cost control mechanism

Cost control mechanism

- B1 One of the objectives of public service pension reform was to ensure a fair balance of risks between scheme members and the taxpayer. The Independent Public Service Pensions Commission¹¹ set out a recommendation that a fixed cost ceiling should be established, setting a limit on the proportion of pensionable pay that the government should contribute to pensions over the long term.
- B2 To achieve this, the government established an employer cost control mechanism in the new public service pension schemes, introduced in the Public Service Pensions Act 2013¹². As set out in the HM Treasury paper “Public service pensions: actuarial valuations and the employer cost control mechanism”, this was intended to provide backstop protection to the taxpayer and to ensure that the risks associated with pension provision are shared with scheme members.¹³
- B3 The Treasury Directions provide the framework for this mechanism, which was introduced in Directions in 2014¹⁴. All schemes set a cap, expressed as a percentage of pensionable pay, and if a future valuation shows that the costs of a scheme have risen more than 2 percentage points above the cap, or have fallen more than 2 percentage points below the cap, action will be taken to return costs to the level of the cap. This may be achieved via adjustments to member benefits accruing in respect of future service or adjustments to member contributions.
- B4 The cost control mechanism considers the costs associated with the reformed pension schemes and the legacy pension schemes for active members. Risks associated with deferred members or pensioner members in respect of legacy scheme benefits are not included in the mechanism and are effectively all borne by the employers. Additionally, only risks which relate directly to members, such as changing expectations about life expectancy, short-term salary growth or career paths, are included in the cost control mechanism. Broad economic risks such as changes in future financial and economic conditions and including longer-term salary growth are excluded and are effectively all borne by the employers.
- B5 In many cases employers are public sector departments or other bodies, which are therefore funded by the taxpayer, although private sector employers participate in some schemes, for example in the NHS Pension Scheme and the Principal Civil Service Pension Scheme. Employers in the LGPS are primarily local authorities and councils who are funded by

¹¹ See Recommendation 12 on page 13 and details from paragraph 4.24 onwards in https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/207720/hutton_final_100311.pdf

¹² See regulation 12 in <https://www.legislation.gov.uk/ukpga/2013/25/contents/enacted>

¹³ See the Executive Summary in https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/289366/public_service_pensions_actuarial_valuations_130314.pdf

¹⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/411287/HMT_Directions_9_Mar_2015.pdf

taxpayers through council tax. Members of the public service pension schemes are also taxpayers themselves and therefore share in the taxpayer risks of these pension schemes to a certain extent, as well as contributing any required member contributions in exchange for receiving the benefits from the scheme.

Schemes in scope

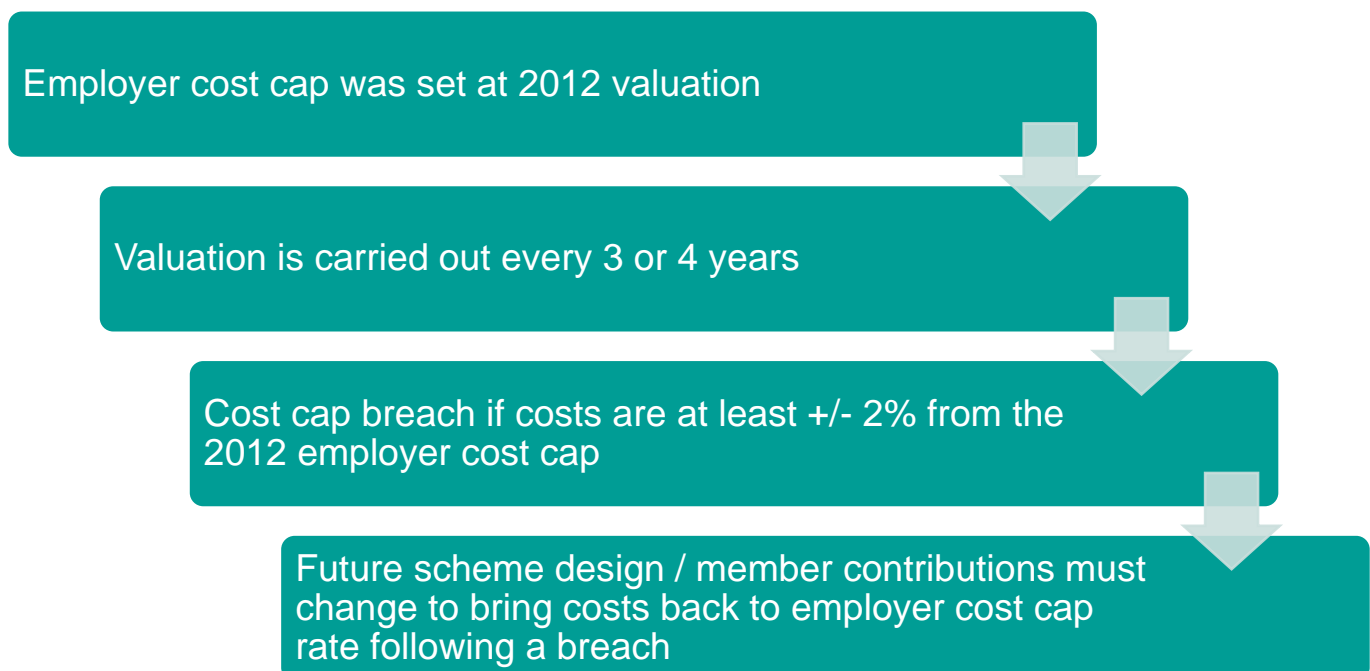
B6 The Public Service Pensions Act 2013 covers schemes for the following public servants:

- civil servants;
- the judiciary;
- local government workers for England, Wales and Scotland;
- teachers for England, Wales and Scotland;
- health service workers for England, Wales and Scotland;
- fire and rescue workers for England, Wales and Scotland;
- members of police forces for England, Wales and Scotland;
- the armed forces.

B7 This review also considers the corresponding schemes provided in Northern Ireland.

How does the mechanism work?

B8 This section provides a brief summary of the operation of the current cost control mechanism and is not intended as a detailed specification.



What is included in the cost cap cost?

B9 The following table summarises the key elements that are included in the cost cap cost and those that are excluded from it but included in the calculation of the Employer contribution rate as part of a valuation.

Included in cost cap cost calculation	Excluded from cost cap cost calculation
Past service costs in the reformed schemes and those relating to active members in the legacy schemes	Pensioner and deferred liabilities in respect of legacy scheme benefits
Future service costs for active members. All members assumed to accrue reformed scheme benefits reflecting the expected costs once transitionally protected members have left.	Impact of transitional protection on future service costs (for preliminary 2016 valuation results)
Member experience and assumption differences: <ul style="list-style-type: none"> • Mortality experience and assumption changes • Pay inflation experience and short-term assumptions • Other demographic impacts – for example withdrawal, commutation and early retirement experience and assumption variances 	SCAPE discount rate assumption changes
	Long term economic assumptions eg wage and price inflation
	Changes in actuarial valuation methodology
Member costs eg McCloud remedy (expected for the completion of the 2016 valuations)	

How is the cost cap cost calculated?

Cost cap cost assessed at each valuation = A + B – C – D

A = Cost cap future service cost	B = Cost cap past service cost	C = Cost cap contribution yield	D = Cost cap difference
<ul style="list-style-type: none"> • Cost of benefits accruing over implementation period • Assuming all members are in the reformed scheme 	<ul style="list-style-type: none"> • Costs related to deficit/surplus from past service • Costs relate to reformed scheme and legacy scheme service of active members 	<ul style="list-style-type: none"> • Contribution yield expected from members over implementation period • Covers all contributing members including those in legacy scheme 	<ul style="list-style-type: none"> • Difference between employer cost cap after adjustment for SCAPE rate change and the original employer cost cap. • This is to ensure the impact of SCAPE rate change is excluded

B10 The implementation period is set out in the valuation Directions and means the period in which the employer contribution rate is assumed to be paid. For example, for the 2016 valuations of the unfunded public service pension schemes, the implementation period is 1 April 2019 to 31 March 2023.

How is a breach of the cost control mechanism rectified?

B11 If a breach is determined, action must be taken to return costs to the level of the original employer cost cap. This can be done by adjustments to member benefits accruing in respect of future service in the reformed scheme or by adjustments to member contributions. Examples of potential benefit adjustments include changes to the members' accrual rate, surviving partner's pension proportion, commutation factor and in-service revaluation rate. Changes can affect groups of members in different ways, for example changing the surviving partner's pension proportion affects the value of benefits for members who die with an eligible partner but has no impact on those who do not.

B12 Individual scheme regulations set out the process to allow stakeholders to reach agreement on the adjustments required before any change is made and, if agreement cannot be reached, that a default adjustment is made to the accrual rate of the reformed scheme.¹⁵

B13 The cost control element of the 2016 valuation was paused following the McCloud judgment and results of the valuation without this element were published for all schemes other than the Local Government Pension Schemes (LGPS)¹⁶. In July 2020 the government announced that the pause would be lifted so that the cost control element of the 2016 valuations could be completed and confirmed in February 2021¹⁷ that the 2016 valuations could be completed following finalisation of the way in which the McCloud remedy will be implemented. At the time of writing, this process was still underway and thus there remains no actual experience of the approach to rectification for any of the schemes.

¹⁵ For example, see regulations 9 to 13 of the NHS Pension Scheme
https://www.legislation.gov.uk/ukxi/2015/94/pdfs/ukxi_20150094_en.pdf

¹⁶ <https://www.gov.uk/government/publications/public-service-pensions-2016-actuarial-valuation-reports/public-service-pensions-2016-actuarial-valuation-reports>

¹⁷ <https://www.gov.uk/government/consultations/public-service-pension-schemes-consultation-changes-to-the-transitional-arrangements-to-the-2015-schemes/outcome/update-on-the-2016-and-2020-valuations>

Appendix C: Changes considered but not recommended

C1 As part of my review, I initially considered as wide a range of approaches as possible, without being constrained by the nature of the current mechanism. I decided that some of these initial ideas were not suitable to take further beyond my initial consideration. However, there were others that I did consider in some detail but which I ultimately concluded do not sufficiently improve the operation of the cost control mechanism, compared to either the current mechanism or my shortlist of recommendations in Chapter 4. These are summarised briefly below.

1. Full allowance for SCAPE discount rate in the cost control mechanism

- The impact of the SCAPE discount rate is one of the biggest drivers of assessed costs. Therefore, including it fully in the cost control mechanism would make the costs measured by the cost control mechanism more aligned to the employer contribution rate costs, which should provide a better assessment of costs for taxpayers.
- However, it is such a driving feature of costs that it would likely create significant instability in the mechanism. Even small changes in SCAPE could lead to a breach in isolation based on the existing +/-2% corridor. The following table shows the sensitivity of a -0.25% pa change in the SCAPE discount rate for the uncorrected employer contribution rate determined at the 2016 valuation for a selection of the public service pension schemes, as set out in the published results reports¹⁸. A similar impact would be expected if full allowance for SCAPE was included in the cost control mechanism.

-0.25% change in SCAPE discount rate	Addition to uncorrected employer contribution rate
NHS Pension Scheme	4.9%
Scottish Teachers' Pension Schemes	5.6%
Firefighters' Pension Schemes (England)	11.1%

- I do believe the change in SCAPE discount rate is a reliable indicator to stop perverse outcomes occurring for the general affordability of public service pension provision but that allowing for the change in SCAPE discount rate fully within the mechanism could be reasonably viewed as an overly technical assessment for determining an exact change in members benefits in isolation.
- As such, my recommendation of the affordability offset assessment aims to better protect the taxpayer whilst actually reducing volatility and without introducing a dominating yet technical factor directly into the mechanism.

¹⁸ <https://www.gov.uk/government/publications/public-service-pensions-2016-actuarial-valuation-reports>

- In introducing the cost control mechanism, the government set out that the measurement of changes in the cost of the scheme against the employer cost cap should exclude effects caused by changes to the discount rate. My affordability offset assessment proposal attempts to strike a balance between recognising this previous treatment and producing a mechanism which better meets the objective of protecting taxpayers from unforeseen costs.

2. Less frequent implementation of cost control

- One means of increasing stability and certainty to benefit levels would be to reduce the frequency that the cost control mechanism is implemented.
- Allowing for a longer period to assess changes in costs can smooth out fluctuations in assumptions and experience that would otherwise lead to more frequent and potentially conflicting breaches.
- This could be achieved in a number of ways, for example:
 - Average out the results, for example if a breach occurs at 5%, only allow for 2.5% at the current valuation, with the balance carried over to the next valuation.
 - Only allow for a breach if it occurs over two consecutive periods.
 - Only assess the cost control mechanism at every other valuation.
- This will provide some additional stability but may exacerbate the size of a breach at the subsequent valuation if higher/lower benefits continue to accrue.
- It could reduce the protection for both taxpayers and members if there are delays in allowing for cost impacts.
- It could also increase intergenerational unfairness due to the time between the reason for the breach occurring and the rectification being implemented. For example, the Covid-19 pandemic may lead to a higher level of deaths during 2020/21, which would impact the experience for the 2024 valuation and could lead to a breach of the cost control floor. Applying some form of averaging over multiple valuations could mean that it would only be assessed in and implemented following the 2028 valuation, with rectification effective from 2031, a decade after the actual experience occurs.

3. Share of costs

- The Independent Public Service Pensions Commission noted that the four largest public service pension schemes had introduced cost control mechanisms as part of the 2007-08 reforms through cap and share arrangements. The intention was that certain increases in pension costs were shared between employer and employee up to a cap on employer costs. The Commission went on to recommend a fixed cost ceiling, so returning to a share of costs arrangement would be against these recommendations. However, in light of the challenges identified with the current mechanism, I did revisit the considerations of a cost share mechanism.
- This option would remove the existing cost control mechanism and replace it with a share of costs between members and employers. For example, LGPS currently has a 2/3 employer and 1/3 member target share and some unfunded schemes historically had similar target shares. This would help reduce any impact of rising costs on taxpayers as any increase would be shared with members. However, it would not provide protection against taxpayer

costs increasing in the first place as employer contributions could continue to go up without any remedial action.

- This approach would likely lead to changes in member contributions at every valuation. This increased volatility of member contributions could have an impact on opt outs and therefore public service workers' income in retirement. It would be more straightforward and transparent than a cost control mechanism, but further consideration would be needed for how it could be consistently implemented for the Armed Forces Pension Scheme for which members do not pay contributions.
- While there is attraction in the simplicity and fairness of this option, I have not pursued further in light of the Independent Public Service Pensions Commissions' recommendation of a fixed cost ceiling. However, I would be happy to consider this option further if HMT view this as a feasible option that is worth exploring further.

4. External indicators of costs

- Instead of a holistic actuarial assessment of cost, the key elements that actually determine the costs could instead be examined to determine whether the member costs are increasing or decreasing.
- For instance, a breach could be deemed to occur if GDP, life expectancy, average earnings or other key determinants of risk move by a certain amount. For example, if life expectancy changes by greater than +/-1 year over a 4-year valuation cycle.
- This could remove the complex calculations from the mechanism but it would be difficult to assess the combined impact of multiple changes, especially if they are offsetting one another, unless some weighting is added. Any weighting would be subjective or indeed effectively lead back to needing a strong calculation element of the mechanism.

5. Remove all aspects that are covered by CARE design

- CARE scheme design already protects against changes in salary and so short-term salary changes and hence could be removed from the mechanism.
- I have proposed more fundamental changes to which costs are covered by the mechanism, rather than focussing on individual elements. However, both my "reformed scheme only" and "future service only" proposals will remove the impact of short-term salary changes in any case.

6. Other points

- **Spreading period of past service cost**
 - Costs arising from past service are generally spread over a 15-year period.
 - Having a longer spreading period provides more stability.
 - However it will perpetuate intergenerational unfairness as what happens now will impact members further into the future.
 - Current 15 years may be considered to be broadly representative of future working lifetime.

- **Rebasing to the centre of corridor**
 - Currently, breaches of the cost control mechanism are rectified by benefit or contribution changes that reset the cost back to the baseline costs.
 - An alternative could be to only reset back to edge of corridor (at the +/-2% level) rather than back to baseline costs.
 - This would reduce the volatility in so far as a smaller change in benefits will be required to rectify a breach. But conversely may ultimately increase volatility in so far as the number of breaches is concerned as the subsequent valuations will be starting with a benefit structure at the point of a breach.
- **Rectification including deferred and pensioner members**
 - Intergenerational unfairness can arise as a breach is rectified by changing the future benefits or contributions for reformed scheme members, whereas those members who had experience that led to the breach may no longer be active.
 - An alternative option would be to rectify some of the value of the breach by amending future pension increases for deferred and pensioner members, or at least those who were active during the inter-valuation period. For example, a breach of the cost control floor could be partially rectified by providing pension increases to deferred and pensioner members at a rate that is above CPI for a defined future pension. Conversely, breaches of the ceiling would lead to lower than CPI increases.
 - However, there is a risk that this could result in reductions in accrued pension rights and would be at odds with the longstanding commitment to provide fully indexed pension increases.

Appendix D: Data, assumptions and methodology

- D1 References throughout this report to the cost cap results of the 2016 valuation refer to the provisional results which were published but which are yet to be finalised due to a pause in the cost control mechanism as a result of the transitional protection arrangements litigation. On 16 July 2020, the Chief Secretary to the Treasury announced the lifting of the pause on the cost control mechanism.¹⁹
- D2 The data, assumptions and methodology used for results of the provisional 2016 valuations of the public service pension schemes discussed in this report can be found at the following link:
<https://www.gov.uk/government/publications/public-service-pensions-2016-actuarial-valuation-reports>

Data

- D3 The sensitivities shown for 2016 valuation results reflect the data, assumptions and methodology for these schemes, as noted above.
- D4 In paragraph 4.34, I introduce an analysis of sensitivities reflecting a typical mature reformed scheme membership profile that might occur at a future valuation date. For this additional analysis I have constructed the membership profile by assuming members at the 2016 valuation have past service in the reformed scheme based on their legacy past service and using data as at 31 March 2016 for the Teachers' Pension Scheme (England and Wales) and the Police Pension Schemes (England & Wales). As at 31 March 2016, in the Teachers' Pension Scheme there were approximately 727,000 contributors to the scheme with a payroll of £24.0bn, 692,000 pensions in payment and 523,000 ex-contributors who had not yet started to receive their pension. The Police Pension Schemes at the same date had 120,673 contributors to the scheme with a total payroll of £4.5bn, 152,020 pensions in payments and 27,786 ex-contributors who had not yet started to receive their pension. Further details on the data, including checks carried out on that data, can be found within the Data report for these schemes in the link above.

Benefits

- D5 The benefits provided in the 2015 Scheme in the Teachers' Pension Scheme (England & Wales)²⁰ and the Police Pension Schemes (England & Wales)²¹ are set out in regulations. Full details on benefits and the membership of the schemes is provided in the Data report for these schemes.

Assumptions

- D6 The Directions specify certain assumptions to be used for the valuation whilst requiring certain other assumptions to be set as the Secretary of State's best estimates, after taking

¹⁹ <https://questions-statements.parliament.uk/written-statements/detail/2020-07-16/HCWS380>

²⁰ SI 2014/512 (2015 scheme).

²¹ SI 2015/445 (2015 scheme).

the advice of the scheme actuary. Actuarial advice on the scheme specific assumptions, and other relevant information (including an analysis of the scheme's demographic experience), is set out in the Assumptions report of the relevant schemes in the link above.

- D7 The financial assumptions used in the calculations of the reformed scheme only illustrations are in line with those used for the provisional 2016 valuation results and are set out in detail in the Valuation report of the relevant schemes.

Methodology and calculations

- D8 The reformed scheme only illustrations have been calculated by assuming members at the 2016 valuation have past service in the reformed scheme based on their legacy past service. This is intended to reflect a typical mature reformed scheme membership profile that might occur at a future valuation date. This methodology explicitly assumes that the overall profile of the membership in terms of distribution of headcount and pay by age and gender will remain stable.
- D9 The methodology used for the valuation calculations are in line with those detailed in the 2016 valuation reports except for a change to the cost of repayment of any surplus or deficit over 15 years relating to past service for the Police Pension Scheme. The 15-year payroll for the Police Pension Scheme in the 2016 valuation makes explicit allowance for short term OBR projections of payroll and workforce changes. As the reformed scheme calculations are intended to reflect a typical mature scheme membership profile at some future date, we have instead assumed a steady profile of membership with payroll increasing in line with 2016 valuation assumptions. This is in line with the methodology used for the Teachers' Pension Scheme in the 2016 valuations.

Appendix E: Glossary

- E1 This report contains several terms with which you may not be familiar. Many of these terms come directly from the Directions or are specified in regulations, and paragraph 2 of the Directions gives some explanation of their meaning. This appendix is not intended to repeat the definitions of these terms from the Directions, rather to add further information to aid understanding of some of those terms and some other general pensions terms.
- E2 Career Average Revalued Earnings (**CARE**) is a pension based on a proportion of the salary earned in each year, increased up to retirement in line with a particular revaluation factor depending on the scheme.
- E3 The term SCAPE is short for the Superannuation Contributions Adjusted for Past Experience. The **SCAPE discount rate** is the government's measure for determining the present value of future payments. It is currently set equal to the rate of expected long-term GDP growth. Further detail can be found in in the consultation documentation published by HM Treasury in December 2010 and April 2011²².
- E4 **Pensionable pay** is the part of pay that is included for the purposes of determining contribution requirements and benefit payments.
- E5 **Past service** liabilities are the benefit promises (pensions, lump sums, survivor pensions etc) that have been made to members over their period of active membership of the Scheme prior to the effective date of the valuation. For active members, these liabilities include allowance for future salary inflation or in-service benefit revaluation until the assumed date of cessation of pensionable service.
- E6 **Future service** costs are the percentage of total pensionable pay that would need to be paid to meet the benefits accrued over a specified implementation period.
- E7 The proposed **employer cost cap** is the contribution rate, that was determined at the 2012 valuation, to cover the cost of benefits accruing over the implementation period as if all active members were in the 2015 Scheme and had no pre 2015 Scheme service, minus the expected average contribution rate payable by members over the implementation period. This can be thought of as a baseline cost for the scheme under the cost control mechanism.

²² <https://www.gov.uk/government/consultations/the-discount-rate-used-to-set-unfunded-public-service-pension-contributions>

Appendix F: Limitations and professional compliance

- F1 This report has been prepared by GAD at the request of HM Treasury. The purpose of the report is to conduct a review of the cost control mechanism that was established in the reformed public service pension schemes.
- F2 This report has been prepared for the use of HM Treasury and must not be reproduced, distributed or communicated in whole or in part to any other person without GAD's prior written permission. It is expected that HM Treasury will publish this report as part of its consideration of the cost control mechanism.
- F3 Other than HM Treasury, no person or third party is entitled to place any reliance on the contents of the final version of this report, except to any extent explicitly stated herein. GAD has no liability to any person or third party for any action taken or for any failure to act, either in whole or in part, on the basis of this report.
- F4 In preparing this report, GAD has relied on data and other information supplied on behalf of each of the schemes covered by the cost control mechanism for the 2016 valuations. Any checks that GAD has made on this information are limited to those described in the report, including any checks on the overall reasonableness and consistency of the data. These checks do not represent a full independent audit of the data supplied. In particular, GAD has relied on the general completeness and accuracy of the information supplied without independent verification.
- F5 GAD are not legal advisers and our advice does not constitute legal advice. Advice in this area should be sought from an appropriately qualified person or source.
- F6 This work has been carried out in accordance with the applicable Technical Actuarial Standard: TAS 100 issued by the Financial Reporting Council (FRC). The FRC sets technical standards for actuarial work in the UK.