USS Review Working Group
3.30pm – 5.00pm, Monday 4 March 2019
Venue: Bannister/Bell Room, Pensions Office, 6 Worcester St

Agenda

1. Apologies for absence

2. Conflicts of interest declarations

3. Minutes of previous meeting – 19 February 2019

4. To confirm the initial position on the 2018 valuation assumptions and support for JEP findings as outlined in the draft minutes

5. Material issued by UUK (attached and available at https://www.ussemployers.org.uk/)

   - UUK Consultation - The 2018 actuarial valuation and the provision of contingent support
   - Aon's advice to UUK on 2018 valuation and contingent contributions
   - Aon's USS Actuarial Valuation at 31 March 2018 – Initial Thoughts

6. To formulate the draft response to UUK's consultation on the questions posed:

   1. Do you have any specific comments on the proposed assumptions for the 2018 valuation, including views on the proposed upper bookend and lower bookend?

   2. Do you support UUK putting forward a proposal for a CCs arrangement to the USS Trustee as it requested? If not, would you prefer to pay at the upper bookend level, or what would your preferred response be?

   3. Do you find the proposal for a CCs arrangement set out in the Aon note (attached to this paper) acceptable, taking all factors into account? If not, what aspects would you wish to change?

7. Any other business

Date of next meeting – tbc (11.00am to 12.30pm Friday 15 March 2019, Room 6 Wellington Square in diaries)

Invitees:
Professor Richard Hobbs (Chair)
Dr Martine Abboud
Mr Charles Alexander
Professor Danny Dorling
Mr Julian Duxfield
Professor Fabian Essler
Professor Cecile Fabre
Mr Charles Harman
Professor Sam Howison
Professor Jane Humphries
Mr Jaya John John
Mr Lindsay Pearson

Professor Danny Dorling

In attendance:
Prof Anne Trefethen
Ms Jan Killick
Mr Stephen Rouse
Mr Lucian Hudson
Ms Rhiannon Curtis, Aon
Ms Judith Finch, Conference of Colleges

USS Review Working Group
Bannister Room, 6 Worcester St, 12.30 pm – 14.00 pm

Minutes of the meeting of 19 February 2019
Present: Professor Richard Hobbs (Chair), Mr Charles Alexander, Mr Charles Harman, Professor Jane Humphries, Mr Jaya John John, Mr Julian Duxfield, Professor Fabian Essler, Mr Lindsay Pearson, Professor Cecile Fabre, Professor Sam Howison

In attendance: Ms Jan Killick, Mr Russell Powles (Aon), Mr Stephen Rouse and Mr Lucian Hudson

1. **Apologies for absence and welcome**

Dr Martine Abboud, Ms Judith Finch, Professor Jane Humphries, Professor Anne Trefethen and Professor Danny Dorling sent their apologies.

2. **Conflicts of interest**
There were no new conflicts of interest declared.

3. Minutes of the previous meeting
The minutes of the meeting on 14 January 2019 were agreed.

4. Matters arising from the minutes
All matters arising from the minutes had been completed or were covered as separate agenda items.

5. Extract of Council paper on 2018 valuation assumptions – to note
Prof Hobbs briefly summarised the extract from the paper for Council. He commented that very few questions were raised by Council and that there was little discussion on the next steps for USS benefit provision given no benefit changes were currently being proposed. Mr Alexander asked if Council had come up with any other ideas and Prof Hobbs confirmed they agreed with the Group's current findings.

6. Communications plan
Mr Hudson talked through the communications plan for pensions, highlighting the main objectives, the communications strategy and the timings and priorities of the upcoming communications. He highlighted that the key aim was to make sure staff were properly informed and making sure that it was clear what decisions had been made on the consultations going forward through a robust communications strategy. Mr Alexander questioned how the latest consultation would be communicated outside the Group given the tight deadline to provide a response to UUK. He also raised how the USS Working Group's response would be communicated to individuals. Mr Pearson suggested that a high level response summarising the key messages would be possible but the ability to communicate a full response prior to the consultation deadline would be really time limited. Prof Essler proposed that an initial draft response could be made suggesting that the Working Group were looking into all the information and currently formulating their final response.

Mr Alexander suggested introducing a base response of continued support of the JEP recommendations and a valuation position reflective of the JEP recommendations. Prof Hobbs confirmed this would be picked up later in the agenda but the point regarding communications was relevant and he was pleased with the visibility and volume of communications provided. Mr Harman suggested reiterating Council's commitment to members not being worse off following any USS benefit changes, albeit that benefit changes were currently not being considered.

Prof Hobbs agreed that consistent wording reflecting Council's approach in the event of any USS benefit changes being agreed and the continued support of JEP's recommendations was a good idea and that this messaging should be reflected in communications going forward.

Prof Hobbs provided feedback on the recent pensions forum. Overall staff continued to be supportive of the forum and found the information provided was very helpful. There continued to be some individuals with a limited understanding of the benefits provided in the USS. Prof Essler questioned whether the glossary of terms could be expanded to help educate staff further. Prof Hobbs suggested an action to look at the glossary of terms and put in key information about USS on the website.

Action: JK/SR

Prof Hobbs confirmed that the forum was currently split into two parts, a high-level background in the first half of the presentation followed by more technical information in the second half. Mr Powles suggested that the recording of the Forum could be loaded on for viewing before the Webinar in April so that the webinar could focus solely on new information. This should be considered before the webinar.

Action: SR

7. 2018 valuation consultation update from USS to UUK

Prof Hobbs summarised the key elements of the valuation consultation update and highlighted that it looked as though negative pledges were now off the table and that the focus from USS was for contingent contributions. The main difference from the previous Working Group meeting was that it was now down to UUK to formulate a response on a contingent contributions proposal.

Mr Pearson highlighted three possible avenues for the consultation response:

(a) Passive: the University had made its position clear in previous consultations that it supports the JEP recommendations; this consultation does not adopt the JEP recommendations; the University was not engaging in the issue of contingent contributions as it remained to be convinced of the need for them.

(b) Active in support of a contribution level of 32% of salary without contingent contributions: the University continues to support the JEP recommendations; the JEP recommended contribution level of 30% of salary could by arrived at using USS' own data (Deficit Reduction Contributions of 2.1%, Technical Provisions valuation of deficit at £3.6bn); USS had, without full justification, changed the deficit recovery period from 14 years to 10 years in moving from 2017 valuation to 2018 valuation; if the recovery period were held constant, the outcome would be contributions of 32% without any need for contingent contributions; a contingent contribution framework would simply serve to add further complexity and short-termism to an already complex and volatile issue. Also, it was difficult to consult on the form of contingent contributions which preceded the consultation on required level of deficit recovery contributions: it should be the other way round.

(c) Active in support of a specific contingent contribution framework: one based on Technical Provisions valuation (£3.6bn) rather than Self Sufficiency valuation (£7.5n) which USS was suggesting and based on a broader basket of indicators than gilts yield alone.

The general consensus from the Group was for option (b) on the basis that if they engage in the consultation on form of contingent contributions, it might implicitly cede the point that any form of contingent contributions would be required.

Mr Alexander suggested Oxford should respond to the consultation and take firm position to not waste its voice. Prof Essler felt contingent contributions could be the solution given recent uncertainty and considering the position could be worse now. Mrs Killick confirmed that the JNC would need to agree a rule change in order to implement contingent contributions. Mr Alexander asked if a consultation would be required for each contingent contribution change. Prof Hobbs said a consultation would cover the contingent contribution structure and then the triggers would be automatic and not require further consultations. Mr Harman suggested known contributions may be the preferred route as contingent contributions brought uncertainty. Prof Hobbs suggested an upper bound contribution could be agreed but would involve lower deficit contributions and consistency with the 2014 valuation to help bring the contribution level down and remove the need for contingent contributions. This was the consensus of the Group based on the limited information from UUK.

The Group also agreed to bring forward the next Working Group meeting in order to reflect the latest documents provided by USS and UUK and to formulate a consultation response for Council's consideration at its meeting on 11 February 2019.

8. UUK webinar update
Covered in 7.

9. JEP Phase 2
The Group noted the paper.

10. Any other business
There was no other business.

11. Next meeting
The next monthly meeting: Monday 4 March 2019, 15:30 pm, to 17.00pm, Meeting room: Bannister Room, 6 Worcester St.

The meeting closed at 14:00 pm

Universities UK

A consultation by Universities UK with USS participating employers

The 2018 actuarial valuation and the provision of contingent support

27 February 2019

A consultation by Universities UK with USS participating employers

The 2018 actuarial valuation and the provision of contingent support

1 Introduction

1.1. The USS Trustee has advised Universities UK (UUK) that it will require tangible support from scheme employers in order to back the additional risk associated with moving towards the recommendations for scheme funding put forward by the Joint Expert Panel (JEP). Therefore, UUK has taken up the recent invitation from the USS Trustee to prepare contingent contribution (CCs) arrangements which meet the USS Trustee's principles. This is not a position which UUK expected to be in, given the earlier indications from the USS Trustee that it would set out the terms for CCs. Making this move, and taking the first step to fully define workable arrangements, demonstrates UUK's commitment on behalf of employers to achieving an outcome acceptable to all parties.

1.2. This paper describes the context within which the proposed arrangement is put forward and, most importantly, sets out the trade-offs that employers should look at when considering the extent of their support for such an arrangement, compared with the other outcomes which would be likely to emerge should no CCs arrangement be implemented.

1.3. With the necessary backing from employers, UUK believes that the proposed arrangements represent a credible and proportionate outcome that, with some give and take on all sides, all stakeholders could find acceptable. Crucially, this includes the University and College Union (UCU), with which UUK continues to actively engage.

1.4. It will be recognised that even if the proposals are broadly acceptable to employers, in the light of the trade-offs with other potential outcomes, there is no guarantee that the proposed arrangements will be acceptable to the USS Trustee. UUK has engaged closely with the USS executive team on these issues. **The proposals have been developed by UUK in a genuine spirit of seeking a balanced solution.**

1.5. The final section of this paper sets out some particular areas on which the views and comments of employers are invited.

1.6. The closing date for the USS Trustee's consultation with UUK on these issues is 15 March 2019; UUK would welcome the **comments of employers by 13 March 2019**, if at all possible, so that a collective response from employers can be provided to the USS Trustee by the deadline. **Employers are asked to provide responses which represent the view of the institution. While we recognise that this is a challenging timescale, employers are encouraged to engage with their governing bodies in framing their responses.**

2 Setting the scene

2.1. On 2 January 2019 the USS Trustee commenced a consultation on specific matters relating to the 2018 actuarial valuation. This consultation is in relation to the central assumptions underlying the USS Trustee's valuation of the liabilities (otherwise known as the scheme's technical provisions, or TPs), and on a draft statement of funding principles (SFP).

2.2. The consultation on the TPs has been intrinsically linked with a related consultation on CCs. In short, the USS Trustee has indicated it would require contributions to increase to an 'upper bookend' level – the detail of which is proposed in the TPs consultation –

although it could, through the mechanism of a 'rebate' (a new term developed by the USS Trustee), consider contributions at a 'lower bookend' level if *appropriate* contingent support is provided to stand behind the additional risk which the USS Trustee believes would be involved. It seems clear from the USS Trustee's material that contingent support really means CCs. This means higher contributions that can be activated should there be a significant deterioration in scheme funding.

2.3. The USS Trustee initially suggested that it would publish its proposal for CCs and communicate them to employers through UUK. However, more recently it has published a *framework and principles* around which any CCs arrangement should be based. The latest material on the framework and principles was issued to employers by UUK on 11 February 2019. The USS Trustee has advised UUK that the closing date for its consultation on these matters will be extended to 15 March 2019 (having initially been 28 February 2019).

2.4. The current position is therefore that the USS Trustee has invited UUK to bring forward specific proposals for a CCs arrangement (and has provided data to UUK to assemble its proposals, the latest of which was received in the last few days). UUK has instructed its advisers, Aon, to prepare a proposal which would meet the USS Trustee's 11 principles. The details have been considered by UUK and are attached.

2.5. Before considering those specifics, it is important to look at the broader context in which CCs might operate, and this is set out below.

3 The legal and structural context – is contingent support necessary?

3.1 While UUK recognises that the USS Trustee has stated there is additional risk associated with the proposals put forward by the JEP – and employers would clearly want to understand the nature of such additional risks – when considering the particular context within which the scheme operates, it would be reasonable to form the view that a specific CCs arrangement is not necessary. This particular context includes the backing provided to USS by its sponsoring employers, and the specific rules and powers which are (almost uniquely in private sector defined benefit scheme terms) in the hands of the USS Trustee. These arguments are set out in more detail on page 5 of the Aon note dated 14 January, and it is hoped that the USS Trustee takes these into account in responding to the views expressed by employers in this consultation.

3.2 Nevertheless, both the USS Trustee and, it seems, The Pensions Regulator have made it clear that contingent support is required as a demonstration of employers' increased risk appetite, and that at this point in time the only credible arrangement to conclude the 2018 valuation in a timely manner would be CCs. As such, if employers and scheme members would prefer not to pay the upper bookend contributions (initially at least), then a CCs arrangement is indeed necessary.

3.3 A CCs arrangement would be new for the scheme, and it is very important that such a mechanism is carefully thought through prior to its introduction. It would also be helpful if the USS Trustee were to explain why it takes a different view to the JEP that contingent support (other than that already available to the USS Trustee) is now required, when the JEP took the view that this is something to be considered in JEP Phase 2. Employers will have noted that the USS Trustee appears hesitant to take into account two of the four risk-bearing JEP recommendations (see section 7.2 of the USS Trustee's 2 January 2019 consultation document) and yet requires contingent support, while the JEP put forward all of its recommendations believing that no such support was necessary.

4 The circumstances in which a proposal has been put forward by UUK, and considering the trade-offs

4.1 The view expressed to UUK by employers is that they support, conditionally, an outcome to the 2017 valuation which is in line with that put forward by the JEP. UUK has progressed its engagement with the USS Trustee and with UCU on this basis. In order to achieve an outcome like this, the USS Trustee has made clear that it believes that contingent support is needed to back the additional risk that it associates with the JEP's recommendations.

4.2 It is recognised that actuarial valuations of defined benefit schemes are not objective exercises. They require careful judgements. To fully analyse the issues, and to make genuine progress, we must also try to see the issues through the lens of the USS Trustee. It has the statutory responsibility to deliver the promised benefits, a point which it has repeatedly made clear on recent occasions, and it also has the legal powers under the scheme rules.

4.3 From all of the engagement that has taken place with the trustee board and with the USS executive in recent months, it is unlikely in UUK's view that the lower bookend value of contributions (and therefore an outcome at or close to the JEP recommendations) will be achieved if contingent support is not provided – despite the views of the JEP and the compelling case, which UUK believes exists, that such additional support is not appropriate in a scheme like USS.

4.4 It is important, therefore, that employers are given an opportunity to consider what such an arrangement might involve, and in this section – and in the attached document from Aon – the broad terms for a potential arrangement are put forward. The circumstances in which a proposal is put forward are crucial for employers to understand, so that they can give it fair and balanced consideration. UUK would emphasise the following points:

(i) The arrangements presented by Aon in the attached paper have been developed in discussions between UUK and Aon – having engaged with the USS executive on these issues over recent weeks. Employers will be aware that it had been expected that the USS Trustee itself would bring forward proposed arrangements, however more recently its position changed and UUK was invited to bring forward its own proposals. UUK makes this first move in a genuine spirit of trying to achieve an outcome which all parties can find acceptable.

(ii) Both UUK and Aon believe that the proposals meet the 11 principles set out by the USS Trustee. While some discussions have taken place with the USS executive as the proposed arrangements have been developed, the formal view of the USS executive, or of the USS trustee board, has not been sought. Employers should consider the proposals on this basis, aware that they may or may not prove to be acceptable to the USS Trustee.

(iii) The proposed arrangements have been prepared solely on the basis that they represent appropriate CCs and therefore would provide for the lower bookend of contributions. The USS Trustee has advised that it would wish to place a 'rebate' value on any arrangements, from the upper bookend value, of such amount as it decides. UUK's view is that the proposals are put forward to meet any requirements associated with the lower bookend (and solely with that purpose). If the USS Trustee were not to accept the proposed arrangements at the lower bookend, UUK would expect employers to receive a clear and transparent explanation from the USS Trustee as to why this is not the case (given that the 11 principles set out by it have been met).

(iv) If there are no arrangements for CCs decided upon, it is likely that the outcome will be contributions at an upper bookend level. UUK will, with the support of employers, separately make responses to the USS Trustee on the assumptions behind the specific upper bookend figure of 33.7%, but it is clear that an upper bookend figure would require materially higher contributions from employers and members than are payable currently. Such contribution levels would be unsustainable and present an undeniable threat to investment and to jobs. To illustrate, taking for a moment the figure of 33.7%, this would derive employer contributions of 23% of salary and member contributions of 10.7% of salary under the cost-share formula. Without change in the level of the upper bookend contribution value, some level of scheme reform would be needed to moderate contribution levels and/or avoid damaging outcomes. It is important for employers to consider this scenario when assessing the acceptability of CCs.

(v) UUK believes that cost-sharing of any arrangements is essential. This is consistent with the scheme's general cost-sharing provisions in which increases in contributions are shared on a defined basis (in the ratio 65:35 for employers and members respectively), and more generally in which the implications of bearing increased risk are shared. It seems fundamentally consistent with the scheme's cost-sharing provisions that if scheme members would be sharing the 'rebate' that is provided through the introduction of any CCs arrangement, then any triggered contributions should also be shared.

(vi) Moreover, if no CCs are provided, the upper bookend level of contributions will be payable – and the proposed 33.7% contribution would result in contribution increases being shared under the cost-share formula. UUK recognises that cost-sharing of any contribution increases arising from a CCs arrangement may require a consultation to take place by employers with affected members and their representatives, for a minimum of 60 days. While UUK recognises the importance of such a consultation, and the procedural difficulties, it is nevertheless a fundamental element of the overall proposal which can be undertaken prior to the commencement of the arrangements, so that any CCs can be activated – should the funding position triggers be met – without any further consultation period.

(vii) Were CCs not cost-shared, it would suggest that the 'rebate' solely belongs to the employer contribution rate, and this does not provide an attractive outcome for the member contribution rate which would then be set relative to whatever the USS Trustee determines is the upper bookend contribution level. So, in simple terms, without contingent support the upper bookend rate proposed by the trustee is 33.7%, which would be shared at 23% for employers and 10.7% for members under the cost-share formula. If the rebate were solely attributed to the employer, the overall contribution rate would be (indicatively) 29.7% with the same 10.7% of salary payable by members, with an employer contribution of 19%. We believe it is justified, on a number of counts, for any CCs to be cost-shared.

(viii) The proposed CCs arrangement is a specific – and UUK believes (on balance) reasonable – response to the 2018 actuarial valuation. It is about finding a solution to what has been a very difficult process over the last 18 months or so. Employers will be aware that the JEP's first report identified a number of important changes that might be made to the USS Trustee's funding approach, but made clear that a broader review of the longer-term sustainability of USS would take place during 2019. This second phase of the JEP has commenced, and its report is due in the autumn. We would ask employers to consider the proposals for CCs in the light of the fact that this review of the future of USS will be presented by the JEP later in 2019, and is likely to have an impact upon the next actuarial valuation of USS (scheduled for 31 March 2021). This means that any arrangements for CCs will be time-limited, specific, and – as we set out in point (ix) immediately below – reset by the next actuarial valuation.

(ix) UUK believes that in formulating and agreeing in legal terms any CCs arrangement, it should be a provision which can be activated by the stakeholders in conjunction with the USS Trustee – as is proposed to be the case as part of the conclusion to the 2018 actuarial valuation – but then for a reset to take place at a next actuarial valuation of the scheme. This means that any CCs arrangement would cease once a new schedule of contributions is signed – which would not necessarily (but could) include a provision for a future CCs arrangement; the point being that such arrangements would not *automatically* be taken forward.

(x) The timeline for the next few weeks and months is extremely compressed, with key decisions being made and outcomes reached (some of the key details are set out in section 5 below). It is important to the USS Trustee, to The Pensions Regulator – and indeed to all stakeholders – that the 2018 valuation can be concluded and submitted in good time. This is crucial. UUK believes that the proposals for a CCs arrangement represent the best opportunity of concluding the valuation of USS, and wishes for employers to take this into account – and trusts that the other scheme stakeholders will do too as they respond over the coming weeks.

4.5 We hope that the above points are helpful to employers as they consider the CCs proposal which is detailed in the Aon advice attached to this paper.

5 Timeline and key milestones

5.1 The following represent the key dates within the overall timeline for the next few months:

13 March 2019	UUK would welcome the comments of employers, if at all possible, so that a collective response from employers can be provided to the USS Trustee by the deadline. Employers are asked to provide responses which represent the view of the institution.
15 March 2019	UUK to respond formally to the USS Trustee in respect of the 2018 TPs and SFP consultation
28 March 2019	USS trustee board meeting
Early April 2019?	Formal response from the USS Trustee to the consultation
May 2019?	Consultation on Recovery Plan and on Schedule of Contributions
30 June 2019	Statutory deadline for submitting the valuation to The Pensions Regulator
End July 2019	Crucial date for finalisation of the accounting provision for USS which many employers will need to make (and it is hoped a new schedule of contributions is signed by this date)
1 October 2019	2017 valuation contribution increases (22.5% employer, 10.4% member) implemented unless superseded by a new schedule of contributions

6 Communication

6.1 If employers have further questions they should be in contact with UUK's Head of Pensions, Stuart McLean, and his pensions team at pensions@universitiesuk.ac.uk.

6.2 UUK is considering the further supporting material that can be made available to employers in the limited time that is available, and will do what it can to respond to questions so that they can be seen more widely. Please look out for further emails, and for material posted on the USS Employers website at www.ussemployers.org.uk.

6.3 UUK will be making the consultation document and Aon note public on the USS Employers website.

7 Next Steps

7.1 We thought it helpful to set out in simple terms how things might progress in the light of responses to this consultation.

7.2 If employers are broadly supportive of the CCs arrangement put forward, the arrangement will be presented to the USS Trustee, and it will be invited to confirm whether or not it finds the arrangement acceptable in reaching the lower bookend value of contributions. If this is achieved, an outcome in line with that proposed by the JEP is attainable in which the same benefits are maintained – without, of course, the employer matching contribution – with some level of increase in contributions for employers and members (depending on the final level of the lower bookend value). The second phase of the JEP will progress looking at longer-term sustainable outcomes for the scheme.

7.3 If the USS Trustee rejects the proposed CCs arrangement, the rebate will not be available, and employers and stakeholders must face the prospect of materially (and unsustainably) higher contributions to maintain the current benefits. This would have substantial implications for employers and members, with contributions (subject to finalisation of the upper bookend value) of 23% for employers and 10.7% for members, with considerable implications for the finances and workforce of many institutions, and inevitable discussions regarding scheme reforms.

7.4 There are clearly a whole range of other possible scenarios, and UUK and employers will respond to emerging developments. That said, the timescale is such that the particular path available to employers – and we must hope it is the one which is in line with the JEP's recommendations – is identified quickly so that the October 2019 contribution increases can be averted.

8 Questions

8.1 We invite employers to respond to this consultation by expressing their views on the three specific questions set out below (alongside any further views which institutions would wish to register):

1	Do you have any specific comments on the proposed assumptions for the 2018 valuation, including views on the proposed upper bookend and lower bookend?
2	Do you support UUK putting forward a proposal for a CCs arrangement to the USS Trustee as it requested? If not, would you prefer to pay at the upper bookend level, or what would your preferred response be?
3	Do you find the proposal for a CCs arrangement set out in the Aon note (attached to this paper) acceptable, taking all factors into account? If not, what aspects would you wish to change?

Earlier documents, to which employers might refer in responding:

Title	***Web location of file***
USS 2018 Actuarial Valuation – Technical Provisions and Statement of Funding Principles consultation document	*https://www.ussemployers.org.uk/sites/default/files/field/attachemnt/2018-technical-provisions-consultation.pdf*
Advisory note on 2018 Technical Provisions consultation	*https://www.ussemployers.org.uk/sites/default/files/field/attachemnt/uss-actuarial-valuation-31-3-2018-initial-thoughts-aon.pdf*
USS Employers – Technical Provisions Q&A	*https://www.ussemployers.org.uk/sites/default/files/field/attachemnt/2018-technical-provisions-q%26a.pdf*
USS 2018 Actuarial Valuation – A Framework for Contingent Contributions	*https://www.ussemployers.org.uk/sites/default/files/field/attachemnt/uss-2018-actuarial-valuation-framework-contingent-contributions.pdf*

2018 Valuation and Contingent Contributions

Universities Superannuation Scheme (USS)

Prepared for	Universities UK
Prepared by	John Coulthard FIA Kevin Wesbroom FIA Andrew Claringbold FIA
Date	27 February 2019

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1. Introduction

Introduction

We have been asked by Universities UK (UUK) to work with them to develop a proposal (the Proposal) for the terms of payment of Contingent Contributions to the Universities Superannuation Scheme (USS) for consideration by employers.

The USS Trustee consultation on the Technical Provisions for the 31 March 2018 actuarial valuation of USS introduced the concept of Contingent Contributions, as the principal means of providing tangible additional support to demonstrate employers' willingness to adopt greater risk in respect of the Scheme, which in turn leads to lower (initial) contributions following the valuation.

Developing the Proposal

In our 14 January note, we envisioned preparing further advice once it was clear what the USS Trustee required for support to justify the Lower Bookend. The USS Trustee subsequently decided not to provide that information, and instead asked Universities UK to make the first proposal.

To assist this alternative process, the USS Trustee has set out 11 principles in a document dated 7 February. In addition, the USS Executive has provided various information to assist in the development of the Proposal.

The Proposal

In this note we set out a Proposal for a Contingent Contribution structure, and comment on the potential implications for employers. With UUK, we have developed the Proposal to be consistent with the USS Trustee's 11 principles.

Context

There is a risk, given the USS Trustee's decision not to table its own proposal for Contingent Contributions, that any Proposal developed by UUK and Aon will be judged by the USS Trustee as having insufficient value. The USS Trustee could then decide that the initial contribution rate will not start at the Lower Bookend, but somewhere between the USS Trustee's two Bookends with Contingent Contributions on top.

The Proposal in this paper has been designed to secure an initial contribution broadly in line with the JEP recommendation. This was the basis on which UUK consulted with employers in September/October 2018. Employers overwhelmingly endorsed the JEP recommendations, understanding that some tangible contingent support may be needed. The Proposal is consistent with that tangible contingent support.

Interaction with the JEP Report

We set out some observations on how the Proposal in this report relates to the JEP Report in Appendix 1.

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2. Bookends revisited

Introduction

In this section we develop a potential position on the bookends that forms a key ingredient to the Proposal. This is based on our earlier advice note dated 14 January which included our initial comments on the proposed bookends.

Role of "rebate"

At a basic level, Contingent Contributions are a mechanism to increase contributions if the funding position gets off track to a material extent before the next valuation. This serves two purposes – to improve the position ahead of the next valuation, and to establish a higher contribution rate as the starting point for the next valuation.

The USS Trustee also views the mechanism as enabling what they call a "rebate". That is, they first determine the contribution rate absent additional support (the Upper Bookend), and a "rebate" is then given by the USS Trustee which they determine based on what Contingent Contributions are provided.

Upper Bookend

If no *additional* support is offered, then the USS Trustee proposes an overall contribution rate of 33.7% of pay (which would be 23% for employers, and 10.7% for members under default "cost-sharing"). Ultimately, under the Rules of the Scheme, this is a Trustee decision subject only to actuarial advice and to consultation with UUK.

Our view is that 33.7% would be a more prudent approach than for the 2017 valuation from a risk perspective (although it does take into account new information). We say this for two reasons:

- More prudence in the recovery plan: In our view, maintaining a 5% deficit contribution rate would introduce more prudence over the period to the next valuation, compared with the approach taken at the 2017 valuation. That's because the proposed deficit has more than halved (from £7.5Bn at 31 March 2017 to £3.6Bn at 31 March 2018).
- Neutral impact for future service contribution: As explained in our 14 January note the changes here are updates for new information or refinements to the accuracy of the calculation, and hence we view the changes as risk neutral. In its 2 January consultation the USS Trustee largely agrees with this characterisation.

The USS Trustee is due to consult on the recovery plan later in the process, but it is a key component of the Upper Bookend and we believe that UUK cannot defer giving views on the recovery plan at this stage. Deficit contributions of 5% of pay would require a recovery plan as short as around 11 years with no allowance for asset outperformance. For a scheme with a covenant that was assessed to be strong and to have long-term visibility, we believe the USS Trustee could be comfortable adopting a longer recovery plan and/or sharing asset outperformance with members, which help smooth out intergenerational issues.

To develop a Proposal (and without wishing to prejudice the formal consultation on the Recovery Plan), we have used a deficit contribution of 3.5%. Based on information provided in the consultation, this is equivalent to a 14-year recovery plan with no allowance for asset outperformance. This is a little more prudent than simply scaling down the 2017 valuation contributions for the updated deficit, however there must be a reasonable gap between the bookends for the Contingent Contributions to have "value". This leads to an Upper Bookend of 32.2% of pay which would be 3% (or three steps of 1%) higher than the Lower Bookend defined below.

Lower Bookend

For the Lower Bookend, it appears that the USS Trustee would be more comfortable with 29.7% rather than 29.2%. The difference in contributions over a 3-year period would be around £0.12Bn which is not material in the context of the Scheme.

For the Proposal, we assume that 29.2% is adopted, although it is not clear that this is achievable with the USS Trustee. This could be arrived at in different ways. In the illustration below we have maintained the deficit contribution at 2.1% of pay (as proposed in the consultation provided that sufficiently valuable Contingent Contributions are offered). We estimate that this is equivalent to a 15-year recovery plan with no allowance for asset outperformance (to correct a deficit of £2.2Bn on the proposed Lower Bookend Technical Provisions assumptions).

We believe the future service contribution rate can be adjusted credibly downwards to reflect the fact that – under the Technical Provisions assumptions – the cost does decline over time. This was one of the JEP recommendations that has not yet been adopted by the USS Trustee, although we note that this does not increase the risks being taken in respect of the past service deficit. Other approaches are possible.

Bookends adopted for Proposal

For the Proposal we assume the following. All these figures include prudence (or a contingency margin) relative to the position had the JEP recommendations been adopted in full for the 2017 valuation.

Aon Table 1: Bookends adopted for Proposal

	Future Service Contribution	Deficit Recovery Contribution	Total Contribution
Upper Bookend	28.7%†	3.5%	**32.2%**
Lower Bookend	27.1%*	2.1%	**29.2%**
Difference			3.0%

(†) Note: The future service contribution figure is consistent with the USS Trustee's 2 January 2019 consultation.

(*) This is 0.5% lower than the figure of 27.6% used in the USS Trustee's first proposal for the Lower Bookend. We assume that a modest amount of smoothing of the future service contribution rate has been applied (less than the 6-year smoothing recommended by the JEP).

3. Developing the Proposal

Contingent Contributions

The Proposal has been developed against several structural and practical requirements which we and UUK have applied in our technical discussions with the USS Executive team and the USS Trustee's advisers (Mercer). These requirements can be summarised as follows:

- Any proposal is conditional on the USS Trustee accepting the Lower Bookend as the initial contribution rate.
- Additional contributions are only triggered in more extreme conditions (not by normal market movements, as a strong covenant with a 30+ year horizon can support waiting until the next valuation to deal with normal movements).
- Phased contribution increases with three potential step-ups, with each step equal to 1/3 of the difference between the Upper Bookend and the Lower Bookend.
- Lower Bookend of 29.2%, and Upper Bookend that is sufficiently high for the Contingent Contributions to be deemed to have sufficient value by the USS Trustee.
- The trigger metric should be Technical Provisions, not Self-Sufficiency, corresponding to how the scheme is funded.
- Any deterioration should endure for a reasonable period e.g. two or three quarter-ends, and there should be some smoothing (e.g. average of last three months).
- A notice period of at least six months between the trigger being breached and increased contributions applying, to allow the JNC to consider alternative approaches, and to allow institutions to mitigate the impact of paying additional contributions.
- The approach should be proportionate, and not overly complex given that JEP Phase 2 will provide a broader review.

Other issues

There are two other points that have guided the Proposal:

- UUK has indicated that any "rebate" should be shared in accordance with the cost sharing provisions (i.e. in the ratio 65% by employers – and 35% by employees), for consistency with the back-stop. The backstop could be either the Upper Bookend level of contributions from the 2018 valuation, or the Rule 76 contributions that come into effect in October 2019 (32.9%) and April 2020 (35.6%).
- The next actuarial valuation is important in providing a reset of any Contingent Contributions. This may take place as at 31 March 2021 (three years after the current actuarial valuation), or as at 31 March 2020 (three years after the 2017 valuation). The latter approach makes it clear that the 2018 valuation was an "out of cycle" valuation, designed to facilitate the consideration of the JEP recommendations.

USS Trustee's 11 principles	Although the USS Trustee decided not to offer fully developed proposals, in its 7 February paper, the USS Trustee set out 11 principles that it indicated any acceptable arrangement for contingent contributions should satisfy. In Appendix 2, we demonstrate how the Proposal is consistent with these principles.

4. Proposal for UUK to consult with Employers

High-level overview

In this section we set out the key elements of the Proposal:

Aon Table 2: Key elements of proposal

Parameter	Proposal for consultation with employers
Initial contribution rate	29.2%, from 1 October 2019
Trigger threshold	Deficit exceeds £10Bn on (a modified) Technical Provisions basis, corresponding to a c.30% chance of applying before 30 June 2022
What contributions are paid if trigger applies and continues to apply	First step-up of 1% to 30.2% Second step-up (a year later) to 31.2% Third step-up (a further year later) to 32.2%
Notice period	6 months, during which time JNC can make an alternative decision
Detailed points	Quarterly monitoring, based on average of three month-ends. Trigger threshold needs to be breached for 2 successive quarters

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Likelihood of Contingent Contributions being needed

Proposal: Trigger Metric set such that it has about a 30% probability of being triggered *(over a 3.5-year period, taking into account the statutory deadline for the 31 March 2021 valuation, i.e. 30 June 2022)*

We start from the premise that the Contingent Contributions should trigger only if there has been a "significant deterioration" in the financial position of the Scheme – Contingent Contributions should not be expected under normal conditions, but only in more extreme conditions. We develop our thinking in the following table, where we set out our views on objective anchors for the likelihood of payment:

Aon Table 3: Objective anchor points for probability of trigger applying

Probability	Aon comments – why relevant
16% as guide for one standard deviation	The USS Trustee has in the past provided a funnel of outcomes where they monitor whether the position is beyond what ***"might reasonably be expected"***. This is defined as a funnel of the: "*expected path plus or minus **one standard deviation**)". Example source: page 15 of* link. To be outside of the path the USS Trustee might reasonably expect due to normal market noise, one would need to have the trigger likelihood lower than about 16%.
10% and 30%	There are two markers in the sand from the USS Trustee's "Test 2". As you may recall, this required the probability of (employer) contributions exceeding 18% at the next valuation to be **low** (defined as 30%), and the probability of exceeding 21% to be **very low** (defined as 10%).
33% as upper bound	33% can be viewed as a broad upper bound on the probability of Contingent Contributions applying, based on conditions at the valuation date. If this were not the case, then the USS Trustee would expect to receive Contingent Contributions in some of the 67% of scenarios where they by design have enough assets, and this would not be credible. That's because in broad terms the valuation discount rate is chosen as the 67th percentile of the current investment strategy (including assumed "de-risking"), and the recovery plans do not need to include asset outperformance (which would slightly reduce the overall percentage chance of assets + agreed recovery plan contributions being sufficient to deliver accrued benefits).

Bringing this together, in initial discussions with UUK, we were comfortable using 10% for a proposal. However, in discussions with the USS Executive, we have been advised that a 10% probability would be well outside the USS Trustee's risk appetite because it would correspond to a trigger deficit of about £18Bn (on a gilts plus proxy to the Technical Provisions assumptions – explained further below), or a trigger of about £40Bn on a self-sufficiency basis.

To put forward a proposal that has a realistic chance of being accepted by the USS Trustee – and will therefore be consistent with a starting contribution of the Lower Bookend – we have moved significantly from where we believe the original concept for Trigger Contributions should lie, to proposing a figure of about 30% for the trigger probability.

The suggestion of using this much higher probability of triggering (i.e. c.30%) – close to what we would argue is the upper limit of the range (i.e. 33%) – is designed to ensure the Proposal can be accepted readily by the USS Trustee. In the next section of this report, we comment on the potential implications of accepting a trigger with this probability of applying.

What Contingent Contributions are paid

Proposal: 1%, 2%, and 3% of pay

In the USS Trustee's example set out in its 2 January 2019 consultation paper, it suggested three steps of 1.5% of pay.

Since the trigger process contains some approximations and simplifications (see below) compared with a full actuarial valuation – and has a material chance of applying (c.30% under the Proposal) – it is important that the step sizes are not overly large.

For a covenant that has been independently assessed by the USS Trustee advisers as "strong" – with good long-term visibility, it is preferable to make steady steps rather than risk over-reacting, and to use the three-yearly valuation as the primary route for assessing contributions.

We suggest that each step should be an overall 1% increase in contributions, with three steps applying. If all three steps apply, then this leads to an additional 3% of pay which if maintained would provide around £250M p.a. to the USS Trustee.

Each step corresponds to the difference between the bookends used for the Proposal (i.e. 32.2% - 29.2%) divided by three. In practice, the Upper and Lower Bookends will be set by the USS Trustee, in consultation with UUK.

Notice Period

Proposal: 6-month delay before higher contributions apply

Employers and employees must have a reasonable period of notice to plan and try to mitigate the impact of any increases, and to allow the JNC time to consider alternative actions. This could include some element of proposed scheme reform subject to consultation, or potentially a request for an additional actuarial valuation (e.g. carrying out a 31 March 2020 valuation if the second trigger applies – although higher contributions would still need to be paid while a new valuation were carried out).

In the absence of a JNC decision the Contingent Contributions would apply. Based on discussions with UUK we suggest 6 months for the notice period.

Trigger Metric

Proposal: Technical Provision deficit

Technical Provisions are the obvious measurement to use for the Trigger mechanism.

Conceptually, we believe employers (and employees) may be able to buy into the concept that if the position is materially worse than expected on a Technical Provisions basis, then higher contributions are likely to be required at the next actuarial valuation – and it would not be wholly unreasonable to make some steps towards higher contributions ahead of the next formal valuation to improve the position and to establish a higher contribution rate as the starting point for the next valuation. In contrast, we do not believe a self-sufficiency approach (which seems to be favoured by the USS Executive in discussions) would garner similar support. Further comments are set out in Appendix 3.

The Technical Provisions are the Statutory Funding Objective, used by the USS Trustee to determine cash contributions to the scheme. The draft Statement of Funding Principles also states that there are no funding objectives provided for in the Rules of the Scheme or which the USS Trustee has adopted in addition to the Technical Provisions.

Contributions to the scheme relate to both future service and past service – both calculations use the Technical Provisions measure. In addition, the Upper and Lower Bookends both use the Technical Provisions measure to determine contributions – and so logically this approach should be used to determine whether contributions need to move between the Lower and Upper Bookend.

In its 11 December letter, TPR indicated a preference for *"contingent cash support to be provided"* in the context of *"any increased deficit"* and *"to support [investment] risk if it is not rewarded"*. While not unambiguous, this in our mind is consistent with a Technical Provisions approach focused on the amount of deficit.

Proposal: Accept a simplified approach to Technical Provisions leading a £10Bn deficit trigger (on the proxy basis)

For reasons set out earlier, we believe that the Technical Provision basis is the most valid measure to use in considering whether additional contributions are required. The Technical Provisions for the Scheme are unique in their construction, but broadly distil down to a 67th percentile return (applied to an investment strategy that "de-risks" over 20 years).

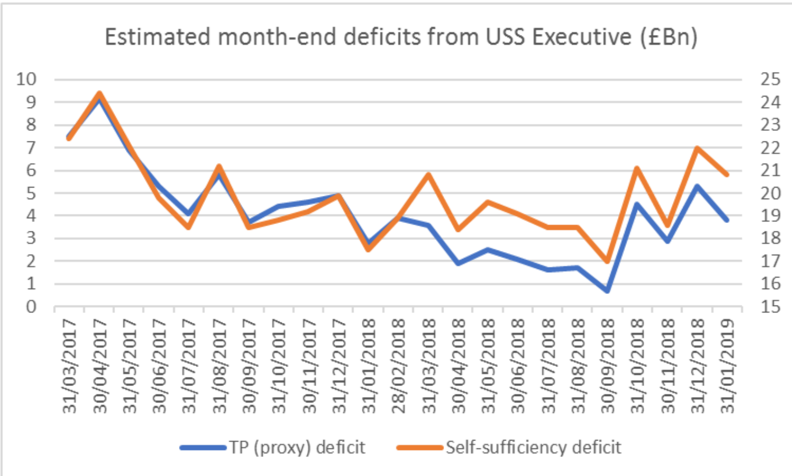
To give stakeholders most confidence in the approach, our preference would be to use a genuine effort at refreshing the Technical Provisions (keeping the 67th percentile prudence margin constant, using latest USSIM investment assumptions, and updating for national mortality data each year). This would lead we believe to a more stable funding position. In addition, a fixed "gilts plus" valuation approach may "break down" as a credible valuation method in precisely the conditions in which a trigger applies, leading to challenges over whether the trigger event is real.

However, this request appears problematic for the USS Executive to accept. Also, with our conceptualisation of aiming for a target likelihood (of about 30%), the precise actuarial measure becomes less important. In particular if a more volatile proxy measure is used, then the trigger amount will need to be higher (i.e. a c.30% outcome with a gilts plus proxy corresponds to a higher "deficit" trigger than would be the case had Technical Provisions being used). While not precisely equivalent, this provides a pathway to move on from this aspect of the debate.

In the spirit of trying to find a way through that is acceptable to all parties, we suggest a compromise approach is considered for adoption, as follows:

- The full calculation of the Technical Provisions deficit would take place at each 31 March, using the USS Trustee's judgement about a 67th percentile, and any national mortality trends incorporated by the Scheme Actuary. (The USS Trustee needs to provide a view on Technical Provisions each year to produce the statutory Summary Funding Statement – the updated financial position prepared by the Scheme Actuary and sent to members on an annual basis.)
- For the month ends between scheme year ends, a proxy to the Technical Provisions deficit would be calculated, by using a gilts plus adjusted measure of liabilities. The "plus" value should be taken from the last scheme year end – for example from 31 March 2018 to 28 February 2019, the deficit would be calculated using a gilts plus proxy based on "gilts plus 1.33% p.a." (see Table 3 on page 18 of the 2 January consultation).

Aon Chart 1: Estimated Technical Provisions (proxy approach) at all month ends since 2017 valuation. The chart is based on information provided by the USS Executive



Please note:

- We have shown the deficit on a Technical Provision (proxy) at each month-end, alongside the deficit on a self-sufficiency basis. Both measures are volatile and move in tandem for the first 11 months. Then, at 31 March 2018, the Technical Provisions (proxy) is refined to allow for updated USSIM investment returns (and both targets were slightly reduced to allow for new views on mortality).

- Between 31 March 2017 and 31 January 2019, based on figures provided by the USS Executive for their gilts plus proxy version of Technical Provisions, the average monthly movement in deficit is some £1.3Bn. To put this into context, the difference in contributions payable (Trustee's proposed Upper vs Lower Bookend) is only £1Bn over a 3-year inter-valuation period – and so the difference in contributions collected between bookends over three years is potentially worth less than one month's variation in the deficit.
- For information, the latest month-end estimate of the Technical Provisions (gilts plus proxy) deficit at time of writing is £3.8Bn at 31 January 2019.

Detailed points

The Proposal includes the followed detailed points:

- ***Frequency of monitoring: Quarterly monitoring of the funding level.***
- ***Smoothing: Each quarter-end funding level is calculated as the average of the three month-ends leading up to the quarter-end.***
- ***Period over which breach must be maintained: Two successive quarters.***

We elaborate further in Appendix 3. However, with our specification of a fixed likelihood of c.30%, what effectively happens is that if one wishes for different parameters for the above, then the trigger threshold would change to reflect this. We have been provided with some indicative figures from the USS Executive that help put all this into context.

Aon Table 4: Information provided by USS Executive on trigger amounts corresponding to 30% likelihood (aside from bottom right figure, estimate by Aon)

Scenarios	Technical provisions proxy	Self-sufficiency
	30% likelihood	30% likelihood
Proposal	£10Bn	c.£30Bn
Proposal but with measurement over one quarter, rather than two quarters	£12Bn	c.£32Bn

This shows that the Technical Provisions (gilts plus proxy) deficit would need to hit £10Bn for a trigger to occur under the Proposal. But if the deficit just needed to hit a threshold for a single quarter-end (rather than for two successive quarters), then the trigger would need to increase to £12Bn for this more volatile measure to have a 30% likelihood of applying.

The USS Executive has also provided us with information on what self-sufficiency deficit would arise with a 30% chance. We have included this in the table for reference, and comment further on self-sufficiency in Appendix 3.

Please note that all information provided by the USS Executive has been provided on a “non-reliance” and for information basis, and we have been unable to check the validity of the figures. Their modelling uses 2,000 stochastic simulations and bespoke assumptions for asset returns, variances, and correlations. We envision that information will be provided more formally (and in a form that can be shared) as part of the USS Trustee’s response to any proposal.

As a technical point, the modelling does not allow for the recalibration of the Technical Provisions on an annual basis. This is difficult to model, and we believe would not have a material impact on the modelling results, but a proposal that incorporates this feature would we believe give stakeholders more confidence that the target being measured remains relevant over the period to 30 June 2022 when the next valuation is due to be completed.

Contingent Contributions – endurability

Proposal: Contingent Contributions apply until next valuation and need for mechanism would be reassessed following JEP Phase 2

Under the Proposal, the Contingent Contributions would only apply until the next valuation, and any future arrangement would be discussed following JEP Phase 2.

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5. Worked example – “worst case outcome”

High-level overview

Seven times out of ten, there would be no Contingent Contributions under the Proposal. For the three in ten bad outcomes where additional contributions are required, there is a range of possibilities. In this section we begin with a worked example of a “worst case outcome”, and then share some information provided on 25 February by the USS Executive on the potential implications.

“Worst case outcome” for contribution rates ahead of next valuation

Starting contribution (from 1 October 2019) is 29.2% of pay.
If the rebate were shared 65:35, then this would result in employer contributions of 20.1% and employee contributions of 9.1%.

Suppose the valuation is signed off in June (i.e. ahead of 30 June statutory deadline). The new contribution rate can be implemented in time for 1 October 2019, replacing the October step-up due under the 2017 valuation.

First step-up: New contribution (from 1 April 2020) is 30.2% of pay.
If the rebate were shared 65:35, then this would result in employer contributions of 20.7% and employee contributions of 9.5%.

The threshold could be breached for the first two quarters of 30 June 2019 and 30 September 2019. If the JNC does not decide an alternative outcome, the first contribution increase would apply 6 months later i.e. from 1 April 2020 (coinciding with the next step-up that would have been due from the 2017 valuation).

Second step-up: New contribution (from 1 April 2021) is 31.2% of pay.
If the rebate were shared 65:35, then this would result in employer contributions of 21.4% and employee contributions of 9.8%.

If the trigger is still breached in the lead-in to the anniversary of 1 April 2020, then the contribution rate increases to 31.2%.

Third step-up: New contribution (from 1 April 2022) is 32.2% of pay.
This coincides with the Upper Bookend used for the Proposal, leading to employer contributions of 22.0% and employee contributions of 10.2% assuming 65:35 default cost-sharing were used.

An actuarial valuation is due as at 31 March 2021. (Potentially it could be brought forward to 31 March 2020 to take on board JEP Phase 2 recommendations, although conditions may be worse at 31 March 2020 than at 31 March 2021). This has a statutory deadline of 30 June 2022.

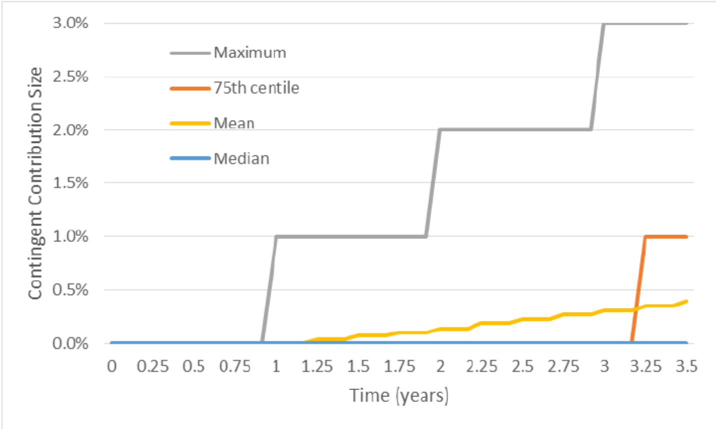
If the trigger is still breached in the lead-in to the anniversary of 1 April 2021, then the contribution rate increases to 32.2%. This would be payable for up to 3 months before the statutory deadline for the 2021 valuation of 30 June 2022 – although realistically it would take some time to put in place a new contribution rate (3 months, say), meaning that the third step-up could be paid for 6 months say before the (post JEP Phase 2) 2021 valuation outcome is applied. It is also possible that the position will have worsened sufficiently that the USS Trustee decides that contributions in excess of 32.2% are needed for the 2021 valuation.

Contingent Contributions over time

On 25 February, we were provided with some analysis of the Proposal by the USS Executive which we believe helps show the potential implications of accepting the Proposal. The approximate modelling is based on conditions at the valuation date of 31 March 2018. (The modelling also adopted a Lower Bookend of 29.7% rather than 29.2% although this has minimal impact on the analysis).

We begin by sharing a chart that shows the distribution of Contingent Contributions that would apply for the Proposal over time

Figure A.2. Evolution of the distribution of contingent contributions over time. The chart shows the mean, median, maximum and 75th centile contribution levels over time.



Notes:

- The distribution of outcomes shown by the USS Executive is highly skewed, with a minimum of zero, and a "maximum" like our worst-case example above.
- The USS Executive also showed the "median" contribution, which is zero. This is correct: if the trigger only applies in 30% of case, then the 50:50 outcome is clearly 0.
- The "mean" contributions are also shown. We believe this is not as useful as the median for showing the "average contribution" due to the highly skewed distribution. We would expect this again to be close to zero, as in most scenarios the Contingent Contributions are not needed.
- Collecting higher levels of contingent contributions on average would require either having a higher probability of triggering (which takes us into the position where we are double counting because of the Trustee's use of the 67th percentile for setting the Technical Provisions), or a higher level of contribution once triggered (here we believe steps of 1% are appropriate).

Probability of contributions applying

The following table provided by the USS Executive shows the probability of contributions applying over the whole period, which has been taken as 3.5 years. The 3.5-year period takes into account when the 31 March 2021 valuation may be signed off (the statutory deadline is 30 June 2022).

A summary of some key probability statistics from the stochastic analysis is given in Table 4.

Table 4: Summary of the probabilities of contingent contributions being payable over 2,000 scenarios.

Measure	Outcome
Probability that **contingent contributions** of any size **are being paid in 3.5 years' time**	0.26
Probability that maximum level of contingent contributions are being paid in 3.5 years' time	0.02
Probability that contingent contributions start and then stop during the **first 3.5 years**	0.02
Probability of triggering contingent contributions **at any time in 3.5 years** even if it is only temporary (cumulative probability)	0.28

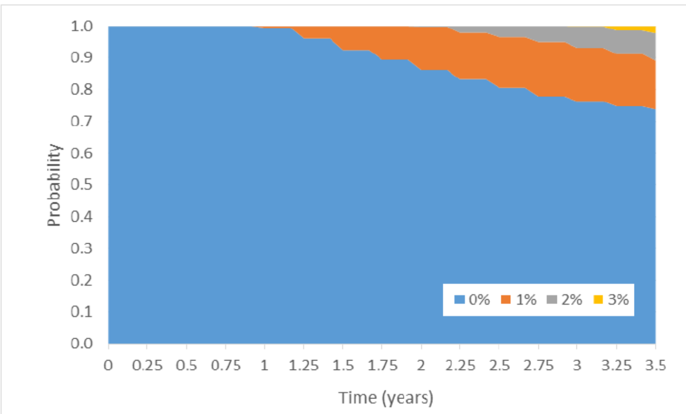
Notes:

- The final figure in the table should be c.30%, and we assume the small difference is caused by the deficit trigger being rounded to £10Bn.
- Over the period considered, there is only a 2% chance that the maximum contributions apply. This is due to the 6-month notification period and then step ups applying annually, such that the trigger needs to be hit almost immediately for there to be time for the third trigger to apply ahead of the next valuation being signed off.
- There is only a 2% chance that Contingent Contributions apply but are then switched off by the end of the period (i.e. if the position gets back on track to the anticipated position). With 350 participating employers with their own payroll systems, "false positives" would be costly from an administrative point of view, and it is necessary that this figure should be very small for a Proposal to be credible.

Probability of paying CCs of different sizes over time

The following chart provides some more colour on the probability of paying Contingent Contributions over the period considered.

Figure A.1. Probabilities of paying contingent contributions of different sizes at future times.

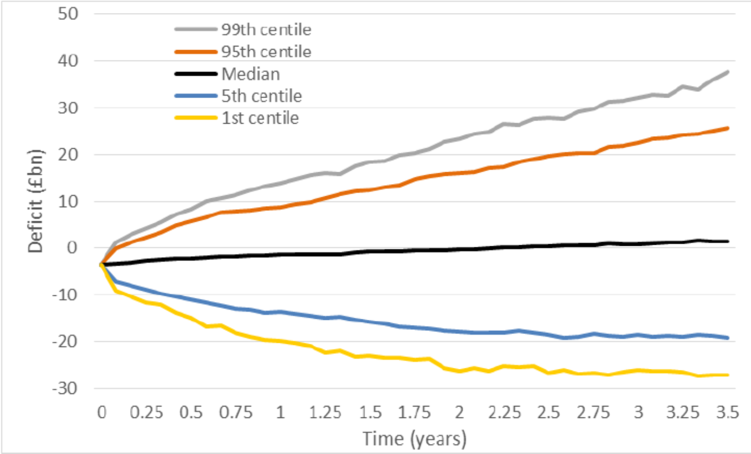


Note: This further demonstrates that under the Proposal there is a limited probability of the third trigger applying. We believe this is sensible as it would be somewhat disruptive for the joint contribution rate to change four times (to 29.2%, 30.2%, 31.2% and 32.2%) before the next valuation is signed off, noting that it has only changed four times in the last 44 years.

Evolution of distribution of deficit

The following chart shows the funnel of doubt for the deficit (gilts plus proxy) over the period considered.

Figure A.6. Evolution of the distribution of the deficit over the analysis horizon. (Note that a deficit is indicated by a negative number, a surplus by a positive number).



Notes:

- The chart shows that on the gilts plus proxy approach, there is a 1% chance of a Technical Provisions surplus of nearly £40Bn or more at the end of the period, and a 1% chance of a Technical Provisions deficit of nearly £30Bn or more.
- While the simplified nature of the proxy approach will over-state the volatility of the current Technical Provisions measure, the funding position (being difference between two large numbers) is clearly volatile. The valuation and investment approach will we understand be further reviewed by the JEP, noting that alternative valuation or investment approaches could reduce the variability.

Sensitivity with 10% probability of payment

We also share some information provided to us by the USS Executive on the sensitivity to using a 10% probability rather than a 30% probability.

Table A.1. Sensitivities to changing key parameters (changed parameters highlighted in ***red****).*

Trigger Threshold (£bn)	Expected total contingent contributions over 3.5 years (£m)*	Expected total contingent contributions over 3.5 years (% of salary)*	Cumulative probability of contingent contributions being payable at any time in 3.5 years
10	40	0.1%	0.3
18	10	0.02%	0.1

*Total over 3.5 years, averaged over all scenarios.

Note: Here, the expected total contingent contributions are very low – although again we note that the “mean” contribution is not the most useful statistic for what is a very skewed distribution.

6. Comments on draft Statement of Funding Principles

Comments on draft Statement of Funding Principles

We have reviewed the draft Statement of Funding Principles for the 31 March 2018 valuation included in the 2 January 2019 consultation.

This sets out the "principles" for funding the scheme, as well as the detailed assumptions for the valuation.

The assumptions are set using best estimate principles except for mortality (where some explicit prudence is included), and the discount rate (where a 67th percentile is adopted along with an assumed program of "de-risking" albeit de-risking is already incorporated into the "current" investment strategy through the Statement of Investment Principles).

We set out our initial thoughts on the assumptions in our 14 January 2019 note. Overall, we observe that the proposed assumptions for the bookends do not fully reflect all the JEP recommendations, and we recommend asking the USS Trustee to provide further commentary on why this is the case as part of the consultation response.

Turning to the detailed drafting of the Statement of Funding Principles, we have two comments:

- Compared with the draft Statement of Funding Principles for the 2017 valuation, there is some additional wording about the Trustee monitoring the short-term self-sufficiency position. This wording also seems to have been incorporated into the final version of the 2017 SFP without any consultation of UUK. We have no material concerns with the USS Trustee documenting that it is monitoring the self-sufficiency deficit, although would prefer this monitoring to have no role in the Proposal.
- The "economic basis" has been dropped (i.e. it is no longer defined, unlike for the 2017 and 2014 statements). This may suggest that the USS Trustee is disbanding Test 3 which compared the net assets of the sector with the deficit of the scheme on an economic basis together with a 1-in-100-year bad event, or the approach could be retained but on a self-sufficiency basis. We suggest checking this with the USS Trustee in due course.

7. Closing thoughts

Where next

Working with UUK, we have developed a Proposal for Contingent Contributions.

In our view it is a credible proposal which balances the desire of the USS Trustee to begin to collect and to establish higher contributions if the funding position deteriorates ahead of the next scheduled actuarial valuation, with the desire of employers and employees of having a degree of certainty each year about what contributions are likely to be needed.

We would be pleased to discuss this further.

We have given permission for this paper to be shared with participating employers in the USS.

Compliance

The advice in this report and the work relating to it complies with ‘Technical Actuarial Standard 100: Principles for Technical Actuarial Work’ (‘TAS 100’) and 'Technical Actuarial Standard 300: Pensions’ (‘TAS 300’).

The paper should be read alongside our advice dated 14 January 2019 (“USS Actuarial Valuation at 31 March 2018 – Initial Thoughts”).

Appendix 1 – Interaction with the JEP Report

Interaction with the JEP Report

The JEP report recommended that contingent assets be considered as part of Phase 2 of their work, and not part of the JEP's suggested approach to conclude the 2017 actuarial valuation.

- *"While the recommendations for this phase of work do not investigate the role of contingent assets or negative pledges, this may be an issue that merits future investigation."*
- *"We note that in their evidence to us and in the pre-September 2017 consultation on deficit recovery contributions, the Trustee had proposed that a lower level of DRC should be linked to the availability of trigger contributions (i.e. contributions that would be available to the Trustee if DRCs proved to be inadequate). However, we conclude that that is an issue to be addressed for the longer term, and as part of a wider review."*

The above is, we believe, the current position of many employers. However, employers also accepted that in endorsing the JEP recommendations, there may be a need to demonstrate "tangible support" that the USS Trustee has indicated it will require to support greater risk-taking by employers.

Aon view of JEP position

In our view, we believe the JEP position on not requiring Contingent Contributions to deliver their recommended contribution rate for the 2017/2018 valuation is reasonable, because:

- The USS Trustee benefits from a Unilateral Contribution Rule, and could at any time call an additional valuation to reset contributions.
- The USS Trustee benefits from a Last Man Standing structure which automatically protects against the covenant of individual institutions.
- In our wider experience, Contingent support tends to be used where the covenant is not strong. However, the covenant has been professionally rated as "Strong" by the USS Trustee's covenant advisers, with a long horizon of visibility of 30+ years.
- The long-term visibility of covenant, and cost-sharing nature of contribution increases under the JNC default mechanism, mean that it is reasonable for the Trustee to endeavour to keep contributions stable. There have only been four changes to contribution rates since the scheme was set up in 1975. While there have been changes to the funding regime in this time, the stability suggests to us that even changing contributions every three years may be a "rapid response" by historical standards.

UUK request

Noting the USS Trustee's position, and the Pensions Regulator's position – and notwithstanding the JEP view above – UUK has requested that we help develop a Proposal in the spirit of finding a way forward that all stakeholders may find acceptable.

Appendix 2 – USS Trustee's 11 principles

High-level overview	We set out below how the Proposal is consistent with the USS Trustee's 11 principles.
1. Efficacy	*The structure of any contingent contribution arrangement should be practical, transparent, unambiguous and as simple as possible.* We believe that the Proposal is practical (for example the trigger metric can be readily calculated as needed), transparent (in that they link back directly to contribution funding measures), and as unambiguous and simple as practical, given how we have arrived at this position.
2. Objective metric	*The metric that is used to trigger contingent contributions should be objective and not require subjective judgments, interpretations or a decision-making process.* For reasons set out earlier, we believe that the Technical Provision basis is the most valid measure to use in considering whether additional contributions are required. With our proposed compromise of using a proxy method that is reset annually, we believe that no additional subjective judgments would be needed (noting that the Scheme Actuary must provide an annual actuarial update and so this should not be viewed as additional subjective judgment).
3. Alignment	*The mechanism for triggering contingent contributions should be sufficiently sensitive to data that could signify that current contributions may not be adequate.* We believe that by looking at the Technical Provision calculation we are more aligned to the "the underlying reason or concern" – i.e. a worsened funding position on the Statutory Funding Objective.
4. Robustness	*The mechanism for triggering contingent contributions should be robust in the sense it is not triggered solely in response to short-term market volatility.* The Technical Provisions Deficit is averaged over three successive month ends, and then must exceed the Threshold over two successive quarter ends. This is a minimum of 6 months of data for the Technical Provision Deficit to be assessed, which we believe is a reasonable balance between picking up trends, as opposed to picking up market noise. While it might be considered desirable to look at averaging over a longer period – say a full year – this would lead to a delay of over 18 months before increased contributions are applied, which we believe stretches credibility.

5. Safety valve

Contingent contributions once triggered should be terminated over a reasonable period should data suggest that they are no longer needed.

The Proposal sets out clear principles and measurement criteria under which planned increase in Contingent Contributions would be suspended and Contingent Contributions would cease in their entirety, if there has been a subsequent improvement in financial conditions (as explained in Appendix 3).

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6. Materiality

Contingent contributions once triggered should be sufficiently material such that, if they were sustained over the long term, they would substantially improve the funding position in adverse scenarios.

If the contribution rate increased by 3% (i.e. the third step is activated), then this is worth around £250M p.a. or around £400M p.a. allowing for the deficit contributions within the Lower Bookend. If sustained over the long term, and noting the covenant is visible for 30 years based on the covenant assessment, then this would clearly substantially improve the funding position in adverse scenarios. The USS Trustee also has the three-yearly actuarial valuation process to further refine contributions (as well as the ability to call an early valuation).

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7. Quantum

In adverse scenarios in which contingent contributions are triggered, the aggregate quantum of the contingent contributions should be <u>broadly similar</u> to the Trustee's contribution requirement in the absence of contingent arrangements over a reasonable period of time.

Our interpretation of this principle is that in an adverse scenario, where Contingent Contributions have been triggered and all three steps have applied, the Contingent Contributions should be equal to the difference between the Upper and Lower Bookends.

The USS Trustee's latest paper of 7 February suggests that it may require contributions to go above the Upper Bookend, in effect to ensure that the under collection of contributions in the early years is made good.

We believe it is important to avoid over-engineering the approach, given that the amount of underpayment (potentially £1Bn over 3 years as mentioned earlier) is small compared with normal market movements. The concept of "broadly similar" needs to be in the context of these normal market movements.

In addition, the proposed Upper Bookend comes with a relatively prudent recovery plan given the unique long-term covenant. So, there would be flexibility to make good any small underpayment (following a rebate, and with triggers then applying) by a slight extension of the recovery plan, thereby ensuring that the total contributions are broadly similar to what would have been paid without a rebate, over a reasonable period of time.

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8. Durability	*The contingent contribution arrangement should remain in place until a revised Schedule of Contributions comes into force following a future valuation.* The Proposal does this. As noted above, a three-year contingent contribution cycle will have a triennial valuation that commences during its operation, after which contributions will be "reset" – formally re-assessed.
9. Covenant	*The contingent contributions should be consistent with the findings of the most recent review of the employers' covenant.* The sizing and timing of Contingent Contributions is appropriate to the covenant results at the most recent covenant review – stepping up contingent contributions over time, and with a cap on to the maximum size of contingent contributions. Therefore, the Proposal meets this principle.
10. Legally binding	*The contingent contribution arrangement should be legally binding and documented as part of the Schedule of Contributions* We would expect this to be the case and that any consequential need to notify employers and members of contribution increases would be factored into the required documentation. The parties would need to take legal advice on how this can be best accomplished.
11. Payment certainty	*The Trustee must be sufficiently comfortable that contingent contributions would be paid in full if triggered.* The Proposal, if supported by employers with the formal support of the USS Trustee and the Pensions Regulator, would lead to Contingent Contributions being paid, when triggered, on a timely basis. This is subject only to the JNC having the chance to make an alternate decision.

Appendix 3 – Detailed aspects of the Proposal

Purpose of Appendix

This Appendix sets out some of the more detailed aspects of the Proposal.

Deficit vs overall contributions

We have considered whether the trigger event should relate to the deficit, or the overall contributions payable. We believe the simpler approach of focusing on the past service deficit is appropriate. It is consistent with the main difference between bookends being due to the deficit payments, and avoids having to codify how the deficit payments would evolve based on a difference in deficit.

Self-sufficiency

It is clear from discussions with the USS Executive that they favour the USS Trustee adopting the self-sufficiency basis rather than Technical Provisions.

The self-sufficiency basis is a "gilts plus" type of calculation – but the "plus" is not a fixed amount and requires subjective judgment on the part of the USS Trustee. For example:

- The USS Trustee updated its calculation of self-sufficiency from using a discount rate of gilts + 0.5% p.a. in 2014, to gilts + 0.75% p.a. in 2017, equivalent to a change of around £4Bn in the self-sufficiency target. Arguably it could review the 0.75% more often, in the light of changes in long-term returns on the asset categories that would comprise the self-sufficiency portfolio.
- The USS Trustee also exercised subjective judgment in updating the mortality assumption inherent in the self-sufficiency portfolio for the 2018 valuation.

In short, there is little about funding unknown future liabilities that does not require subjective judgement and interpretation.

The USS Trustee's investment policy does not incorporate material hedging of interest rate and inflation exposures – because of their oft stated conviction about the path of future interest rates. But the use of self-sufficiency measure carries high amounts of these elements.

The USS Executive state that this can be partly addressed by taking a 40-day rolling average of the self-sufficiency deficit, which reduces volatility by c.90% compared with taking daily rates. Unfortunately, this reduction in daily volatility does not translate to a similar reduction in volatility over longer periods. Based on information provided by the USS Executive on daily deficits on a self-sufficiency basis between 31 March 2017 to 31 December 2018, the unsmoothed daily deficit has varied between about £16.5Bn and £26.5Bn. And the 40-day rolling average has varied between about £17.9Bn and £23.7Bn.

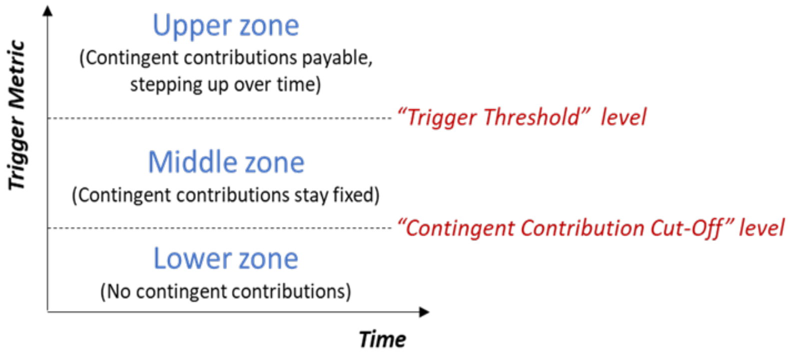
The self-sufficiency basis could be used as an alternative to the gilts plus proxy version of Technical Provisions, however this would miss the opportunity for the Technical Provisions to be recalibrated on an annual basis as part of the annual actuarial report which we believe may provide the stakeholders with more comfort that the trigger metric is credible.

Annual review process

Proposal: Annual review process using three zones suggested by USS Executive

We were comfortable with the mechanism outlined by the USS Trustee where an annual check is carried out, and contributions are then either increased, held level, or suspended.

Three zones are proposed for the overall approach as follows:



Source: The diagram is taken from the USS Trustee's 2 January 2019 consultation paper

Upper zone: If the Trigger Metric stays in this zone for a minimum period then Contingent Contributions will kick-in and increase in predefined steps up to the Maximum Contingent Contribution.

Middle zone: If the metric is in this zone for a minimum period then Contingent Contributions remain fixed (if they are zero they remain at zero, if they are 1% they remain at 1%).

Lower zone: If the metric is in this zone for a minimum period then Contingent Contributions are reduced to zero.

For the Proposal we suggest that the funding level is tested at the two quarter-ends preceding the anniversary of Contingent Contributions coming into place.

- If the average remains above the trigger threshold level, then contributions step up (an extra 1%), up to a maximum of the Upper Bookend.
- If the average is between the anticipated position (how we are defining the "Contingent Contribution Cut-off" level in the diagram above), and the trigger threshold level, then the current level of Contingent Contributions is paid.
- If the average is in line or lower than the anticipated position, then Contingent Contributions are switched off.

How trigger metric monitoring works in practice

- ***Frequency of monitoring: Quarterly monitoring for the funding level.*** This would increase the frequency of monitoring by a factor of around 10 compared with three yearly valuations being used to make contribution decisions. We believe this strikes a reasonable balance between more frequent monitoring, and not over-engineering the approach.

- ***Smoothing: Each quarter-end funding level is calculated as the average of the three month-ends leading up to the quarter-end.*** This provides some protection against stakeholders feeling aggrieved that a particular date was "unlucky" (particularly if the position the improves again during the notice period), without seeking to over-engineer the approach.
- **Period over *which breach must be maintained: Two successive quarters.*** Funding positions can be very volatile one quarter to the next. One quarter where a trigger is breached may be followed by subsequent quarters where the position reverses. Any triggering needs to be sufficiently well established before additional contributions are payable. However, we also need to be mindful that with a 6 month notice period already preferred, we could introduce too long a delay that would cause the Trustee to believe the structure is not worth enough. For the Proposal, any trigger should be breached over a period of two consecutive quarter ends, before the Trigger Event is deemed to have occurred.

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About Aon

Aon plc (NYSE:AON) is a leading global professional services firm providing a broad range of risk, retirement and health solutions. Our 50,000 colleagues in 120 countries empower results for clients by using proprietary data and analytics to deliver insights that reduce volatility and improve performance.

Universities Superannuation Scheme (USS)
Date: 14 January 2019
Prepared for: Universities UK
Prepared by: John Coulthard FIA
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USS Actuarial Valuation at 31 March 2018 – Initial Thoughts

Introduction

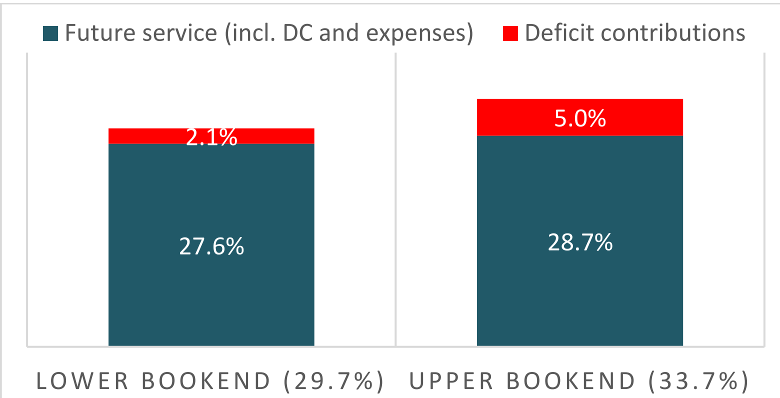
Following the Joint Expert Panel (JEP) report and after consulting employers, UUK confirmed that the vast majority of employers support the JEP recommendations, subject to a number of specific conditions and the receipt of further information on what (if any) requirements there may be from the USS Trustee.

The Trustee has called a new valuation at 31 March 2018 and has issued a consultation document in which it considers the JEP recommendations. The Pensions Regulator (TPR) has also now written to the Trustee setting out its views on what the Trustee should consider for the 2018 valuation.

Under the Rules, the USS Trustee determines the contributions subject to advice from its Scheme Actuary, and consultation with (rather than the agreement of) Universities UK (UUK). For the 2018 valuation, the USS Trustee is consulting on a range of potential contributions for existing benefits (less the 1% DC employer matching contribution):

- **“Upper Bookend”:** A total contribution of about 33.7% of pay, if employers offer no formal contingent support.
- **“Lower Bookend”:** A total contribution of “slightly below 30%” of pay (potentially 29.7% from the example provided), if satisfactory contingent support is given – such as Contingent Contributions (favoured by TPR in its 11 December Letter) that would be triggered if the funding position deteriorates. Further details are to follow.

Chart 1: Total contributions under Upper Bookend and Lower Bookend (% of pay)



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While the proposals are not fully in line with the JEP recommendations (e.g. the JEP concluded that trigger contributions are an issue to be addressed in the longer term, i.e. not as part of Phase 1), the Trustee has put forward something materially better than the proposal for the 2017 valuation. Although we can argue for the JEP recommendations to be implemented in full, contingent support is worthy of consideration with the hope of finding an approach that all stakeholders can live with given their different points of view.

A Lower Bookend (i.e. contribution rate) that coincides with the JEP recommendation is likely to be acceptable to employers, however employers will need fuller details of the contingent support required before deciding whether this can be supported. We will provide further advice (and we understand UUK will issue a further advisory note) when further clarity is available on contingent support, and bearing in mind the 28 February consultation deadline. In the meantime, we set out our high-level thoughts on the Trustee's consultation.

Upper Bookend (for contributions)

If no *additional* support is offered, the Trustee proposes an overall contribution rate of 33.7% (which would be 23% for employers, and 10.7% for members under default "cost-sharing"). Compared with the Rule 76 valuation, this is higher than the proposed contribution of 32.9% that would apply from 1 October 2019, and lower than the proposed contribution of 36.6% from 1 April 2020 onwards.

We have the following comments:

- As mentioned above, the proposed contributions are lower than the Rule 76 proposed contribution from April 2020, by 2.9% (i.e. 36.6%-33.7%=2.9%). We understand from USS that the difference comprises:

Table 1: Rule 76 vs Upper Bookend. All figures are expressed as % of pay.

	Future service (incl. DC and expenses)	Deficit contributions	Total
2017 valuation proposal (from April 2020)	**30.6%**	**6%** (for proposed deficit of £7.5Bn)	**36.6%**
(i) Updated mortality	(0.1%)		
(ii) Updated future investment returns	(0.9%)		
(iii) NRA for future service increased from 65 to 66 (October 2020)	(0.9%)		
(iv) Change deficit contributions (6% to 5%)		(1%)	
"Upper Bookend"	**28.7%**	**5%** (for proposed deficit of £3.6Bn)	**33.7%**

- We believe it is reasonable to regard (i) and (ii) in the table as being a consequence of updating the valuation to new conditions at the 2018 valuation date. Item (iii) is a refinement in the accuracy of the benefits being valued in future, which is being taken earlier than strictly required, and we welcome this proposal from the USS Trustee.

- However, the Upper Bookend is still materially higher than the JEP recommendation, by about 4.5% (i.e. 33.7% - 29.2%). Employers will question why this is the case, and whether the Upper Bookend can be brought much closer to the JEP recommendation.
- One potential influence here is TPR. In its 11 December 2018 letter, TPR stated that the *"2017 valuation proposal on technical provisions … is at the limit of what we regard as being compliant with the requirement for prudence under the Pensions Act 2004",* and it is concerned with the overall approach being used. This creates some tension with the JEP recommendations. TPR views the covenant as "Tending to Strong" rather than "Strong", and this appears to be a key source of the tension.
- Nevertheless, we believe that it would be credible for the Trustee to decide to reduce the Upper Bookend, with the proposed deficit contributions (item (iv) in Table 1) being perhaps the simplest lever.
- Deficit contributions of 5% of pay look excessive compared with the illustrated outcome of 2.1% in the JEP report. And, at a simplistic level, between 2017 and 2018 the proposed deficit reduced from £7.5bn to £3.6bn – so the proposed 6% deficit contribution (on which UUK is currently reviewing employer responses to – in a separate 2017 valuation consultation) should reduce to around 3%. This is even if no allowance were made for asset outperformance, and without allowing for a 15-20 year recovery period that the JEP recommended could be supported. Table 4 on page 19 of the USS Trustee's consultation also shows that there are credible recovery plans with contributions closer to 0% than the 5% suggested, and if this table were extended to cover 15-20 year periods, then this point would be even more apparent.
- Although the formal consultation on the 2018 Recovery Plan is scheduled for later in the process (as we understand it), the deficit contributions make up an important part of the total contributions. Both employers and also members need clarity on the position (assuming contributions are split using the default cost-sharing mechanism). Also, most of the difference between the Lower Bookend and Upper Bookend arises from the different deficit contributions requested.
- USS raises the idea that 5% could be higher (potentially increasing the Upper Bookend), depending on market conditions at the date the Recovery Plan is put in place. We discuss the idea of contingent contributions later in the document, but we believe the starting point for the valuation should be to base the contributions on the position at the valuation date. To allow more explicitly for post valuation date changes would add a further layer of complexity to this and to future valuation discussions. TPR recognises this issue in paragraph 16 of its 11 December letter.

Lower Bookend (for contributions)

The USS Trustee proposes a Lower Bookend of “slightly below 30%”, and gives an example that would result in an overall contribution rate of 29.7% of pay (which would be 20.4% for employers and 9.3% for members under default “cost-sharing”).

USS does not explicitly rule out the estimated figure assuming the JEP recommendations were implemented of 29.2%. Their example for Contingent Contributions (Appendix D) assumes a 4.5% gap between bookends, and we observe that 33.7%-4.5% = 29.2%. However, at this stage USS have not explicitly suggested that 29.2% may be acceptable.

We have the following comments:

- The example of 29.7% is 4% lower than the proposed Upper Bookend. The difference comprises:

Table 2: Upper Bookend vs Lower Bookend. Figures are % of pay.

	Future service (incl. DC and expenses)	Deficit contributions	Total
“Upper Bookend”	**28.7%**	**5%** (for proposed deficit of £3.6Bn)	**33.7%**
(i) Increase target reliance to £13Bn in 2017 terms (from £10Bn)	(1.1%)		
(ii) Change deficit contributions (5% to 2.1%)		(2.9%)	
“Lower Bookend” example	**27.6%**	**2.1%** (for proposed deficit of £2.2Bn)	**29.7%**

- The Trustee is not allowing for two of the JEP recommendations i.e. deferring when de-risking starts (in line with the USS Trustee’s original proposal for the 2017 valuation in September 2017), and the smoothing of contributions over two valuation cycles. Partly offsetting this, the USS Trustee does allow for improved market conditions at 2018 (which was not explicitly adopted for the JEP example of c.29.2%), and allows for the NRA to increase to 66.
- From a practical perspective, employers may prefer for the Trustee to adopt a Lower Bookend of 29.2% (or potentially whatever an “accurate” JEP figure would have been had the recommendations being incorporated for a 2017 valuation in full). If 29.7% were adopted, then UUK would need to re-consult with employers on cash contributions (having only just consulted employers on 29.2% late last year). Some employers who were willing to live with 29.2% may decide that 29.7% (20.4% for employers and 9.3% for employees under default cost-sharing) is not acceptable. We believe there is merit in avoiding this diversion given that the differences involved are small in the context of the overall funding and risk of the scheme.
- Although the JEP provide information on the 31 March 2018 position in their report, their recommendations applied to a 31 March 2017 valuation – in line with the terms of reference they worked to. If the individual changes proposed by the JEP were all applied to the 2018 valuation, then the resulting contribution rate would be lower (we understand c.26%). However, it should be recognised that we need to find an overall outcome that is acceptable to the USS Trustee and

which TPR would be content with. In our view, the Lower Bookend figure is in the spirit of the JEP report which noted that there were a number of paths the Trustee could adopt to reduce the contribution rate to below 30%. Our principal issue is that the example is north of 29.2%, which may create some issues that could be avoided.

Additional risk

In its 11 December 2018 letter, TPR asked the USS Trustee to ensure that the stakeholders understand the greater level of risks involved in accepting the JEP recommendations. The USS Trustee's consultation states that *"Employers are prepared to accept more risk…in order that the JEP adjustments can be implemented, subject to USS providing more information on the financial risks involved"*. We believe this may be a conflation. UUK asked not for more information on *risks* at this stage, but for more information on the potential USS Trustee requirements for accepting the JEP recommendations, noting that Phase 2 of the JEP would lead to a wider review.

Nevertheless, the whole topic of additional risk underpins the 2018 valuation discussions, and is referenced frequently by TPR.

At the most basic level, if employers and members pay lower contributions than the Trustee would prefer, then the *additional* risk is that those lower contributions are insufficient and that the "missing" contributions need to be recouped in some way. This could result in employers/members paying higher contributions in future than would otherwise have been the case; or benefits could change in the future, so that more of the contributions from that point on are diverted into paying off the deficit. This is a very simple way of thinking about additional risk – arguably not robust for the long term, but it is a credible way to consider additional risk in the context of finalising the 2018 valuation and before JEP Phase 2.

The consultation document sets out further information, which we comment on in the Appendix.

Contingent support

The JEP report noted that contingent assets may be an issue that merits future investigation, rather than being needed as part of a quick outcome to the 2017 valuation.

We believe the JEP position would be reasonable for the USS Trustee to accept, due to:

- The strong covenant rating for the covenant overall from the USS Trustee's specialist covenant advisers, including a 30 year horizon for covenant visibility.
- The last man standing rule (which provides a form of contingent security protecting against potential individual defaults).
- The USS Trustee's ability to set contributions following consultation (but not necessarily employer agreement) under the unilateral contribution rule in Rule 6.1, and the default cost-sharing provisions contained within Rule 76. Taken together these are a form of "contingent contributions" which the USS Trustee has shown it is willing and able to implement by its Rule 76 consultation in 2018.

As mentioned, the USS Trustee's view (we believe supported by TPR) is that the Lower Bookend is not possible absent contingent support. But if the Upper Bookend were adopted, then the proposed contribution levels will likely be unsustainable for many employers. In our view, contingent support is therefore worthy of consideration with the hope of identifying an approach that all stakeholders (employers, members, USS Trustee, TPR) can live with given their different points of view.

The USS Trustee has identified two options to explore further: negative pledges and contingent contributions. We comment on these below.

Negative pledges

A negative pledge arises when employers commit not to take certain actions in certain events. For example: employers agree not to take on new borrowing that ranks above the pension scheme, without trustee consent.

The consultation raises the concept of negative pledges though does not say anything further about them. Specifically, it does not show how negative pledges could translate into reduced contributions. It may be difficult practically to find an approach that is fair across all employers in a multi-employer scheme, and which can be implemented quickly. We will comment further as and when a more concrete proposal is brought forward.

Contingent contributions

The devil will be in the detail, but what's outlined is:

- The total contribution rate is initially set at the Lower Bookend (29.2% is implied in the example from Appendix D of the consultation).
- The USS Trustee assesses what it would have asked for without contingent support (Upper Bookend i.e. 33.7%, which is 4.5% higher in the example).
- If market conditions worsen such that a trigger threshold is reached, then total contributions would increase by 1/3x4.5%=1.5% in first year after notice given, then potentially 3% in second year, and 4.5% in third year. A future actuarial valuation takes place no later than as at 31 March 2021 (by which time JEP Phase 2 will have concluded).

One of the key pieces of further information required is when any Contingent Contributions may be triggered. We consider this further below using the language in the consultation document.

"Trigger Metric"

The consultation document (Appendix D) suggests the self-sufficiency deficit as an example of the basis that could be used to determine the triggers. Our initial reaction is that we are concerned about the inherent volatility of self-sufficiency (as shown in Figure 5 of the USS Trustee's consultation document), and the Technical Provisions target (on which cash contributions are primarily calculated for the bookends) may be preferable.

“Trigger Threshold” – how far off course?

To be able to consider the potential impact of Contingent Contributions, stakeholders should have information on the likelihood of the proposed Trigger Threshold being breached based on conditions now, along with examples of what economic scenarios would lead to this.

Our view is that the Trigger Threshold would need to be for extreme scenarios, since business as usual variations can and should be debated as part of the regular valuation cycle.

Furthermore, ordinarily if market conditions worsen then the stakeholders would have other options to consider. It may be preferable for the “action” once a trigger is hit to be for the JNC to have a time-limited period to consider the response (in terms of potential contribution and/or benefit changes), with Contingent Contributions only applying to employers and members (assuming such contributions would be split using the default cost-sharing mechanism), if the JNC does not reach a decision.

Summary

The USS Trustee has usefully developed its thinking in terms of what it may require to implement a contribution rate close to the JEP recommendations.

While our preference would have been for the USS Trustee to accept the JEP recommendations in full given the employer support, we can see merit in the approach being developed by the USS Trustee as a potential way to bridge the different perspectives of the various stakeholders including TPR.

Clearly, the devil is in the detail: Contingent Contributions will be more credible if they apply in more extreme scenarios rather than business as usual variations; and some may wish for the stakeholders to have the opportunity to consider other options through the usual JNC process with the Contingent Contributions being a default.

Further information will be needed we believe for UUK to pose meaningful questions to employers (who have already fed back that they support the JEP recommendations subject to understanding any specific requirements from the USS Trustee). The cover letter from the USS Trustee notes that further information is expected during January, and that the process may be iterative. We will provide further advice in due course, and understand that UUK will also provide an advisory note to employers.

Statement of Funding Principles

We will provide comments on the draft Statement of Funding Principles (the document setting out the updated approach for the 2018 valuation) included in the consultation document as part of our second advice note.

Compliance

The advice in this report and the work relating to it complies with ‘Technical Actuarial Standard 100: Principles for Technical Actuarial Work’ (‘TAS 100’) and 'Technical Actuarial Standard 300: Pensions’ (‘TAS 300’).

Appendix – Risk

Risk

The USS Trustee provides further information on risk. The information comes in three sections:

a) Comparison of the discount rate with the 2017 position relative to gilts and relative to CPI (section 6.2 in the USS Trustee's consultation);

b) Stress tests on a self-sufficiency basis (section 6.3);

c) Qualitative classification of potential JEP changes into – updating experience, updating views about the future, and those that clearly increase risk (section 6.1).

We set out comments below.

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a) Discount rate benchmarking

The amount of "prudence" in the discount rate (the key financial assumption) is often measured relative to gilts. In part this is because it provides a consistent approach for each scheme and relative to a low risk position. We agree that TPR often compares scheme discount rates in this way (although they regularly point out they are not a "gilts plus" regulator – e.g. in their 2017 Annual Funding Statement they said that "*We are not prescriptive about the approach trustees should take when setting the valuation discount rate, provided that the outcome is consistent with the requirements of the legislation and the DB code*").

Of the eight potential changes listed in Table 2 of page 14, only three of them (4, 5 and 6) actually impact on the discount rate at the valuation date. So, for example "2018: including 1-4" could be simplified to "2018 including 4 (only)".

If the "gilts plus" measure were the main concern, then it may be better to incorporate some of the other JEP recommendations (e.g. smoothing of future service contributions and allowing for investment outperformance in the recovery plan), as this could provide an easier path to c.29.2%. For example, if the USS Trustee were to incorporate 1-4, 7 and 8, then based on our estimates this would give close to 29.2%, but without worsening the "gilts plus" position compared with the 2017 Technical Provisions consultation.

Turning to the comparison against CPI, this is interesting but for proposal 4 this shows "more risk" (as does the "gilts plus" comparison). We agree with USS that proposal 4 could be viewed as not changing the risk, since it is simply a recalibration of the future investment assumptions based on the Trustee's latest views on the future (with a 67th percentile adopted for prudence), but it is perhaps unhelpful for USS's charts to show an increase in risk. It may be helpful to also illustrate a comparison relative to "best estimate" returns, noting the USS Trustee's comment that proposal 4 could be considered by TPR as an increase in risk.

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b) Stress tests on self-sufficiency basis

The self-sufficiency deficit can be viewed as the reliance of the USS Trustee on employers (who are ultimately underwriting the anticipated asset returns, on top of the low risk position).

The self-sufficiency deficit is volatile principally because of the mis-match between the investment strategy and the self-sufficiency measure.

It may be possible to reduce the volatility without reducing expected investment returns by hedging interest rates to a greater extent, and by taking additional risk elsewhere in the strategy. This could be considered in JEP phase 2 as part of a wider review of the investment strategy and risk. The topic does not lend itself well to phase 1, as any change would have implications that need careful consideration and engagement.

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c) Additional risk by category of risk

We acknowledge the different ways of categorising risk, such as those set out in section 6.1 of the consultation document.

In the webinars to employers (October 2018), we also described the additional risk as falling into three (slightly different) buckets, as follows:

- Moving back to September 2017 consultation position.
- Updates for new information.
- Additional risk.

From our perspective, moving back to the position the USS Trustee consulted on originally in September 2017 (item 6) is in line with the level of risk that UUK supported (as per paragraph 2.3 in UUK's response in 2017). For the 2017 valuation, this corresponds to a contribution rate of 31.4% for current benefits (minus the 1% DC match), rather than the subsequent Rule 76 figure of 36.6%, with the main difference being a deficit contribution of 2.1% rather than 6%. From this vantage point, allowing for updated conditions at 2018 and the change to the normal retirement age would bring the 31.4% down very close to 29.2% – and we appear, by using that September 2017 reference point, to have achieved the JEP recommendations by taking minimal additional risk.

However, we run into a practical difficulty that TPR believes that such an approach would be beyond the limit of what is acceptable, based on its assessment of covenant as being Tending to Strong (rather than Strong). Additionally, another perspective is that the revised Rule 76 Technical Provisions (with a contribution rate of 36.6% rather than 31.4%) reflected the USS Trustee's interpretation of discussions at the time regarding the risk appetite of employers, and the USS Trustee's comment in the 2017 consultation document that it may be necessary to consider the need for a more rapid pre-agreed short-term response (e.g. increased contributions, asking the JNC to consider changes to future benefit levels, or investment portfolio changes). While this narrative could be discussed further, it is not clear to us that this path would allow the 2018 valuation to be concluded quickly or successfully (if all we are really saying to the USS Trustee is that they should adopt the JEP recommendations without the need for contingent support, with the USS Trustee arguing that contingent support is needed, and indeed even required by TPR).
