Universities Superannuation Scheme

Update on the 2020 valuation

3 March 2021

Introduction

As Chair of the Trustee Board, I would like to thank our stakeholders and sponsoring employers for their continued engagement with the 2020 valuation in an extraordinarily difficult context. We have stretched the timetable to support that cooperation and to engage with the Pensions Regulator (TPR) before we confirm the increase to the total contribution rate required to provide the current benefits to the Joint Negotiating Committee (JNC). While some aspects of the valuation are now becoming clearer, there are still some very significant challenges ahead.

The 2020 valuation so far

One of the main issues we've been considering for some time now is the covenant. That is because it is so fundamental. It determines the sector's *capacity* to take risk and informs our *appetite*, as Trustee, to take risk. The ability and commitment of employers to support risk influences the discount rate and, ultimately, the contributions needed.

Employers are promising USS members a set inflation-linked income for life in retirement, regardless of what happens to the economy and the Higher Education sector in future. As we set out in Section 1, this makes the strength of the employer covenant a critical input to the valuation's outcome. We must have confidence that employers will prioritise funding for the Scheme through good times and bad.

The rapidly deteriorating market conditions in early 2020, and their impact on the Scheme's funding position, is something we would have had to address even if we had not already made a commitment to hold a 2020 valuation. A valuation would have been required by 31 March 2021 at the very latest in any event.

Our Financial Management Plan reports indicate how the outlook for future investment returns has deteriorated since the valuation date. We now believe investments will generate lower returns in future than we did at 31 March 2020, which offsets the recent recovery in the value of the Scheme's existing assets. That means our members' pensions remain at risk of being under-funded.

Employers' long-term commitment to the Scheme was once taken as read. But since Trinity College Cambridge's exit, the advice of our covenant advisors PwC has been that this commitment needs to be tangible and evidenced. Further, concerns about rising levels of debt in the HE sector are probably greater now than before COVID-19 – with evidence of increasing debt to assist with liquidity through this difficult period.

Before the pandemic, our view was that the right commitments from employers could support a strong covenant rating for the 2020 valuation. Our position has not changed. COVID-19's impact on the sector's financial resilience has been a real-life test of our original assessment, and our covenant advisors PwC and our sector advisors have reaffirmed our view that the sector still has the *ability* to demonstrate a strong covenant. The outcome of their review is covered in more detail in Section 1 and Appendix A.

This brings the need for tangible and evidenced commitments required of employers into sharper focus. UUK recently shared an illustrative package of covenant support measures for us to 'price', in support of their forthcoming consultation with employers on this issue. We understand they will also consult employers on benefit options and contributions. While the support measures they have shared are not consistent with a strong covenant, they would improve the outcome compared to the absence of any measures at all. This is set out in Section 3, together with an illustration of an improved support package that – in our view – would support a strong covenant rating.

TPR has, however, repeatedly stated its view that USS's covenant is tending to strong. Its view is that the covenant support measures being considered by UUK serve to protect, rather than enhance, the covenant – although it recognises they do add value and allow some flexibility in relation to the valuation approach. It has reasserted its view that more demonstrable commitments from employers would be required for the covenant to go beyond a tending to strong rating.

The Trustee's determination on the cost of the current benefits

The information we are now publishing provides an update following the completion of our consultation with UUK on the proposed methodology, inputs and assumptions for setting the Scheme's Technical Provisions (TP).

We detail our position on these points in Section 2 and Appendix C. It is clear employers strongly support a dual discount rate (DDR) methodology, have mixed views on the inputs to be used and very firm views on the outputs – in particular, on discount rates and the illustrated Recovery Plans and contribution rates to address the deficit and future service costs.

Following the completion of the consultation, the Scheme Actuary has provided an actuarial report to the Trustee on the financial condition of the Scheme (the 'Rule 76.1 report' required by the Trust Deed and Rules). This includes the Scheme Actuary's advice and recommendations in relation to the total required contribution rate based on the existing benefit structure taking account of the Trustee's selected assumptions in three different covenant support scenarios. The key information for each of these scenarios is summarised in Sections 3 and 4.

We have held extensive discussions with TPR throughout the valuation process but most recently held a series of detailed and robust discussions to explain our position on the Rule 76.1 report. Across nine meetings, held over late December to early February, we discussed areas of our proposals that TPR felt would not be prudent enough to comply with Part 3 of the Pensions Act 2004.

We believe we have given appropriate weight and consideration to **TPR's position** in our conclusions, having also carefully considered the advice of the Scheme Actuary, and our covenant advisors, and UUK's formal response to the TP consultation, alongside other representations. Scenarios 2 and 3 in the 76.1 report represent the limit of what we understand TPR would regard as compliant – subject to the relevant covenant support measures being agreed and fully implemented.

The Trustee has determined, on the basis of 'Scenario 2', that **an overall contribution rate of 49.6% is required** towards the costs of benefits under the Scheme**.** This is on the condition that the indicative package of covenant support measures outlined by UUK late last year is implemented – including debt-monitoring, *pari passu* arrangements and a six-year rolling moratorium on employer exits.

We are submitting the Scheme Actuary's Rule 76.1 report and the Trustee's contribution determination (on the basis of Scenario 2) to the JNC, as required by Rule 76.4 of the Scheme rules.

We have also shown that **an overall contribution rate of 42.1% can be achieved** ('Scenario 3') if employers are able to agree to a strengthened debt framework (including *pari passu* arrangements, with a lower threshold than under scenario 2) and a rolling 12-year moratorium on employer exits, with a minimum initial term of 15 years.

We believe that the moratorium rule change proposal under Scenario 3 provides a strong commitment from employers. The length and rolling nature of the moratorium provides substantial additional support for taking risk within the Scheme and a basis to support a longer proposed Recovery Plan of 15 years, compared to 10 years under the other scenarios illustrated.

A moratorium longer than this would provide some additional benefit to the Scheme and could have a modest effect on contributions. However, the suitability of any overall package, and the additional risks in funding members' benefits arising from any Recovery Plan longer than 15 years, would need to be considered in the round. More tangible, covenant commitments from employers, for example contingent contributions or contingent assets, could provide a way of managing these additional risks.

Equally, if employers are unable to support *any* package of covenant support, the valuation outcome would be based on a weaker covenant (see Appendix A). We have illustrated this in 'Scenario 1' of the Scheme Actuary's report, which results in an overall contribution rate of **56.2%**.

Any one of these outcomes would clearly be a very significant increase from both the current overall contribution rate of 30.7% and the rate of 34.7% that will apply from 1 October 2021 under the Schedule of Contributions for the 2018 valuation.

UUK's response to the TP consultation indicated that current contribution rates are at the limit of what is considered sustainable, and they asked us to illustrate some high-level examples of what benefits could be provided for 30.7% of pay.

The examples provided in Section 4 are based on the existing hybrid benefit structure and the scenarios set out above.

Due to the scale of the deficit and the future service costs involved, every scenario would involve a material change to the benefits currently offered if contributions are to be kept at 30.7% of pay. We are not, however, proposing a view on the most appropriate response to the valuation in terms of contribution rates or benefit changes. These are matters primarily for the JNC.

As mentioned earlier, we understand UUK will undertake their own consultation with employers on covenant support measures, contributions and potential benefit changes and will provide employers with supporting information as required.

Through their discussions at the JNC, we expect UCU and UUK will want to consider issues of distributional and intergenerational fairness for members.

Affordability for members was, of course, among **the issues raised by the Joint Expert Panel (JEP)** in its second report. We are also concerned that one in six people joining the Scheme are currently opting out.

Data from the start of 2019 shows that between a quarter and a third of members who opted out put their decision down to affordability. The second and third most common reasons were being on a fixed term contract and having plans to move out of the UK in the future.

One of the JEP's formal recommendations was for UCU and UUK to investigate different approaches to contributions as part of a move away from a one-size-fits-all approach. We remain ready to support the stakeholders and the JNC as they further consider these issues.

The next steps in the process

Ultimately, the outcomes for this valuation will be influenced by UUK and employers (through their support for the additional covenant support measures) and by UCU and UUK together, through the JNC.

The JNC is responsible for deciding how to meet any overall increase to the required contribution rate, through the design of the Scheme's benefits and its contribution structure. Our key role, as Trustee, is to administer the Scheme in line with the Scheme Rules and to secure the pensions promised to our members. We stand ready to support the JNC's discussions as appropriate.

Given the challenges the sector is facing, we will continue to be as flexible, collaborative and constructive as we can in discharging our statutory and fiduciary duties and ensuring that current and future benefits are being adequately funded.

We know the increase in the overall contribution from 1 October 2021 to 34.7% is a concern for employers and members alike but it is very difficult to see how it can be avoided. The JNC would have to decide how to address it before the end of March 2021 – and we are not seeking to pressure our stakeholders into making such important decisions in that short time. It is, however, important we all keep working together. We must keep the process moving forward.

I believe everyone involved with USS wants to find a way forward, consistent with the legal and regulatory framework, that provides valuable and secure pensions, and that puts the Scheme on a sustainable footing. I hope we can all commit to working together to that end.

Dame Kate Barker, *Chair of the Trustee Board*

Section 1. Our updated review of the covenant

The level of investment and funding risk USS takes is dependent on the ability and commitment of employers to support the Scheme. This is consistent with our duties as Trustee and is also in line with TPR guidance on assessing and monitoring covenant.

In the Technical Provisions (TP) consultation, we said we would review the covenant again in the autumn of 2020 when the impact of COVID-19 on the HE sector would be clearer. PwC and our sector advisors have assessed the effect of the pandemic on the sector, and the outlook for HE more generally. This work has re-affirmed the positive underlying features of the covenant. The impact of the pandemic has been less than expected earlier in 2020 and has confirmed the resilience of the sector.

Whilst there remains some risk of drop-outs, domestic student numbers at the sector level appear to be higher than expected before the summer. At an overall sector level it appears at this stage that demand from international students has held up well, relative to some competitor countries such as the US and Australia, which have taken different approaches to managing the impact of COVID-19.

Universities have demonstrated the ability to mitigate the effects of expected lower enrolments by deferring capital expenditure and reducing payroll and other costs whilst avoiding (for the most part) more radical headcount savings. Additional government action through sector-specific measures and broader job retention and support schemes have also supported the covenant.

However, the size of the sector compared to the size of the Scheme is a concern. Scheme deficit figures have increased significantly on all measures when compared to the last valuation. Our covenant advisor PwC notes that a further material increase in the deficit, as seen between the March 2018 and March 2020 valuation dates, could put pressure on the potential for the covenant to be rated as strong.

In spite of these concerns, we agree with PwC's advice that – with the right additional covenant support measures – the covenant has the potential to be strong (see Appendix A) and is ultimately capable of supporting a covenant horizon of up to 30 years. The covenant has been assessed in three ways in each of the three covenant support scenarios considered:

- an overall assessment in accordance with TPR's four-point scale
- as an estimate of the present value of the future sector cash flows that could potentially be made available to fund pension obligations and manage other risks (the 'available risk capacity' of the sector – see below)
- as the 'affordable risk capacity', which provides an estimate of the present value of future USS sector cash flows based on what employers could realistically and sustainably afford and are willing to provide to support the Scheme in the long term.

We have reviewed and updated the valuation model we use to estimate *available* risk capacity in the sector. Reflecting refinements to the methodology, the estimate for a covenant considered to be strong (or *consistent* with strong) is up to £79bn.

Further details of this calculation can be found in Appendix B, and the amounts assumed in each scenario are described in Appendix A.

Section 2: Responding to comments on the TP consultation

Below we outline our response to comments made by UUK on the TP consultation on the actuarial and technical issues that potentially have the greatest impact on the outcome of the valuation. For our detailed response, see Appendix C.

Ability of the covenant to support the Scheme

We share the views of employers, as reported by UUK, about the unique and enduring collective nature of the covenant and its ability to support the Scheme over time. But the covenant's 'nature' is distinct from its 'strength' in relation to the specific demands and risks in funding the accrued benefits and future service in USS. It cannot be considered as strong without additional covenant support measures, as the level of investment and funding risk we take is dependent on both the ability and commitment of employers to support the Scheme. This is consistent with our duties and is also in line with TPR's overall guidance on assessing and monitoring covenant. The measures we've set out in Section 3 are needed to address key risks to the covenant identified by us and PwC.

Additional covenant support

UUK has said that many employers believe the covenant should be considered strong, due to the unique and enduring collective nature of USS's sponsors. TPR's view for previous valuations has been that the covenant is tending to strong. We have sought to engage with TPR's view using analysis and advice from PwC and our sector advisors. The 2018 valuation was concluded on the clear expectation that new covenant support measures would be introduced. The need for these measures stemmed from PwC's advice following Trinity College Cambridge's decision to exit the Scheme, and their advice around increasing debt levels in the sector (identified in their first review in 2016). In July 2019, employers representing 81% of our active membership said they were willing to support a package of measures to secure an initial total contribution rate of 30.7% from October 2019, rising to 34.7% from October 2021. Over the past 18 months, and most recently in the TP consultation document, we have set out why these measures are still required for us to consider the covenant as strong for the 2020 valuation.

Affordability

According to UUK, "employers have essentially said that the limit of regular contributions payable to the Scheme is reached at current rates". We acknowledged this in our TP consultation – and we understand contribution levels are among the issues on which UUK will shortly consult employers. But the key driver of costs is the level, and nature, of the benefits provided. As UUK recognised in its response, it is not our place (as Trustee) to initiate or promote benefit change. The Scheme's design and contribution structure is primarily a matter for UUK and UCU to consider through the JNC. UUK has, however, asked us to illustrate what benefits could potentially be afforded within the current level of contributions (30.7%) and the existing hybrid benefit structure (see Section 4). These illustrations would not, however, address the issues of the members who have *already* opted out on grounds of affordability and suitability.

Discount rates

UUK said employers broadly supported a post-retirement rate of gilts + 1% pa but considered a pre-retirement rate of gilts + 2% to be "incredibly conservative", finding it difficult to see the rationale for increasing prudence (relative to the confidence centile adopted in 2018). UUK reported that a number of employers also said the pre-retirement discount rate should be fixed relative to CPI in the line with comments made by the JEP. There is no point of principle that means we want to increase the level of prudence for the 2020 valuation. Both pre- and post-retirement discount rates proposed are in fact higher than we might have considered appropriate at other dates. The level of prudence in the pre-retirement discount rate is not a straight-forward simple comparison. It reflects the extraordinary market conditions prevailing on 31 March 2020, the risk position of the Scheme and employers' affordable risk capacity. We recognise that the level of prudence may appear higher than the 2018 valuation based solely on confidence levels in the expected investment returns derived from our 'Fundamental Building Blocks' (FBB) analysis. But this is just considering one angle, and against other expected return forecasts, such as that of the Scheme Actuary's firm and other investment advisors, the level of prudence is lower than shown on the FBB basis in the TP consultation. The allowance for investment outperformance in the Recovery Plan also means the overall level of prudence is lower than implied by the discount rate assumptions alone. Overall, we and the Scheme Actuary believe the level of prudence is appropriate given the conditions prevailing at 31 March 2020.

Furthermore, we have held extensive discussions with TPR throughout the valuation process but most recently held a series of detailed and robust discussions to explain our position on the 76.1 report. Across nine meetings, held over late December to early February, we discussed areas of our proposals that TPR felt wouldn't be prudent enough to comply with Part 3 of the Pensions Act 2004. Scenarios 2 and 3 in the 76.1 report represent the limit of what we understand TPR would regard as compliant – subject to the underpinning covenant support measures being agreed and fully implemented.

Finally, while we express discount rates relative to gilts, they are informed by our FBB analysis of all asset classes which are expressed relative to CPI. We chose to express them relative to gilts to allow greater comparability. We do not keep the "+" fixed over time – it reflects our future investment expectations at each valuation.

- We appreciate that there is a lot of stakeholder interest in this specific issue so have addressed it extensively in a separate briefing note on our website.

Inflation risk premium

Several employers questioned the proposed removal of the inflation risk premium in estimating future CPI. The advice we have received from the Scheme Actuary is that there was less evidence of a positive inflation risk premium at 31 March 2020. We have not removed the inflation risk premium as a matter of principle, and our monitoring makes allowance for an inflation risk premium at dates subsequent to the valuation date. Any allowance for an inflation risk premium needs to be considered in the context of the impact of potential RPI reform, as this will have influenced demand for (and market pricing of) index-linked government bonds.

However, the estimates for various components of the inflation assumption are less important than the ultimate level of CPI inflation assumed in the valuation. As UUK's advisors Aon noted: *"It is difficult to construct CPI from market implied RPI given the potential index changes. The construction of the CPI assumption is different to what we would propose, but the resulting single equivalent rate of 2.1% is only marginally higher than the rate we would calculate of 2.0%."* The single equivalent rate of 2.1% stated is a rounded figure – in more detail the single equivalent of the CPI assumption used is 2.06%, indicating that in practice the difference between our approach and Aon's is even more marginal.

Investment strategy

UUK's response stated that employers do not believe that the adoption of a dual discount rate (DDR) approach should lead in a "direct or mechanical way" to a reduction in the allocation to return-seeking assets. We agree. As we stated in our Discussion Document of March 2020, our approach to managing the risk within the investment strategy "would allow for a different investment strategy which need not be so closely aligned with a dual discount rate approach".

We can therefore consider a higher allocation to return-seeking assets if employers are willing and able to provide the additional covenant support measures needed to back the higher level of risk. Given the risk position of the Scheme, holding more 'growth' assets would not automatically lead to higher discount rates but could lead to higher investment returns that would potentially reduce contribution requirements at subsequent valuations. We will continue to use portfolios with 40-55% growth assets to determine the acceptable level of risk and prudence in the funding of the Scheme but will be engaging with UCU and UUK on investment strategy later in the valuation. There will also be a formal consultation with employers on the Statement of Investment Principles (SIP) later in the process.

Methodology
UUK said employers representing 84% of the active membership supported a DDR approach.

Mortality assumptions
Employers suggested we consider the mortality assumptions for any potential impact of COVID-19 and express more clearly the extent to which any allowance is included. However, it is too soon to draw any firm conclusions. Whilst high-level statistics indicate that there were more member deaths than usual in 2020, the number of excess deaths compared to recent years is around 200 and is, so far, not significant enough to materially impact the financial position of the Scheme. The longer term impact will depend on whether COVID-19 also leads to materially increased excess deaths in future years compared to prior expectations. We will keep this under review, but do not consider it appropriate to change the assumption at the current time.

Payroll growth rate
In the TP consultation, we allowed for assumed payroll growth in the range CPI+1% to CPI + 2% in the calculation of affordable risk capacity and when illustrating possible deficit contributions. UUK said over a third of respondents (representing 30% of the active membership) did not respond to this question and that a number of others did not feel confident providing any figures. On balance, the majority view was that assumed growth for the USS active member payroll overall of CPI+2% pa was "not unreasonable" if taken over the long term. On the basis of advice on the sector received in November, sector growth rates are expected to be a little lower than this over the long term and, as a result, we propose to use an assumption of CPI+1.5% when determining the deficit recovery contributions. We believe payroll growth of CPI+1% is more appropriate for the calculation of the affordable risk capacity, due to the increased uncertainty in projecting over longer horizons.

Recovery Plan
The TP consultation did not formally consider the deficit Recovery Plan (RP), but illustrations were provided to give a view of the valuation 'in the round'. According to UUK, employers believe that, in line with the JEP, the enduring nature of the covenant made a recovery period of 15-20 years entirely reasonable without additional covenant support measures.

Based on the Scheme Actuary's latest advice, we plan to make an allowance for investment outperformance above the discount rate in all scenarios, which reduces contributions. Employers can secure a Recovery Plan of up to 15 years with appropriate additional covenant support measures and, in particular, through agreeing to a longer moratorium commitment on a rule change on employer exits for a period of at least that length. See Section 3. Given TPR's repeatedly stated view, we do not believe it would be credible for the Trustee to argue for a longer Recovery Plan without at least a matching commitment from employers to remain in the Scheme.

Risk capacity and risk appetite
UUK said employers needed better clarity on questions seeking views on extreme funding scenarios, compared with ongoing sustainable commitments, citing a risk of ambiguity in questions regarding 'available' and 'acceptable' risk capacities. We have updated our assumptions and approach to calculating available risk capacity which has resulted in a change in the estimate. Details of the calculation and assumptions are in Appendix B and the estimates for each scenario are summarised below. To calculate *affordable* risk capacity, we have allowed for the projection over the full period of the covenant horizon of 30 years under each covenant support scenario and set the discount rate used to reflect the risk associated with the underlying cash flows in each case. We have also reviewed the payroll growth rate assumption appropriate over such a long horizon, as noted above.

Scenario	Scenario 1	Scenario 2	Scenario 3
Available risk capacity	£63bn	£68bn	£76bn
Affordable risk capacity	£26-28bn	£27-30bn	£30-33bn

Risk Management Framework
UUK said the majority of employers could not comment meaningfully on the framework at this stage and without further information. Some said they do not support the self-sufficiency assumption that informs the framework. We have looked carefully and deeply again at the self-sufficiency measure and found it robust. We also note that the JEP found it to be "a useful concept" and understand TPR believes it is appropriate for quantifying the reliance placed on future employer support and generally for informing discussions around risk. We will therefore continue to use self-sufficiency as our risk benchmark.

This is consistent with the long-term funding objective proposed in the JEP's second report: *"USS aims to be fully funded on a TPs basis where TPs are valued on a low-risk self-sufficiency basis for post-retirement years and on a prudent on-going basis for the pre-retirement years. The Scheme will also ensure that, at all times, the proximity to full self-sufficiency assessed on a low-risk basis can be supported by employers over an appropriate time frame if the Scheme were to be closed to future accruals."*

Smoothing future service contributions
UUK's advisor Aon stated that the precise figures for the TP basis should not matter, provided that a sensible 'smoothing' approach is then applied to the information at the valuation date. In this context, smoothing means through the Recovery Plan and potentially some smoothing of the future service contribution rate. This would normally mean taking market conditions into account at other dates – not just the valuation date. We will examine post-valuation experience when we finalise the deficit recovery contributions.

As set out above, we plan to make an allowance in the RP for investment out-performance above the discount rate in all scenarios. Any further smoothing at this valuation (for example, anticipating improvements in investment conditions when setting the future service cost) would increase the level of risk in funding the Scheme and the security of members' benefits beyond acceptable levels. Actual market movements since the valuation date would imply an increase in future service contribution rates, so smoothing across post-valuation dates would (at the time of writing) imply higher future service contributions.

Conclusions

We have considered UUK's response and taken further advice from our covenant advisors PwC, other advisors, and the Scheme Actuary. As a result, we have updated our assumptions for both **available** and **affordable** risk capacity and revised our assumption for sector payroll growth (as a proxy for the growth of the sector).

The advice from the Scheme Actuary has also led us to making an allowance for out-performance in Recovery Plans across all three covenant scenarios. Appropriate covenant support measures could provide sufficient support for a Recovery Plan of up to 15 years if, as we have described, the commitment to a moratorium on employer exits is of at least that length. We could not consider a Recovery Plan of such length without at least a matching commitment from employers.

USS

Section 3. The requirement for additional covenant support measures

As set out in Section 2, PwC has re-affirmed the positive underlying features of the covenant – but continues to advise that a strong rating would require additional covenant support measures:

- Effective debt arrangements: monitoring and *pari passu* arrangements need to be in place
- An appropriate mechanism for controlling employer exits: Continued commitment from employers to support the Scheme via a permanent rule change or a moratorium on employer exits

These measures are required to evidence employers' commitment to support the long-term risk in the Scheme and tail-risk. In July 2019, UUK reported that employers representing 81% of the active membership were willing to support a package of measures that would secure a strong covenant for the 2018 valuation.

However, no proposal on additional covenant support measures had been put forward by UUK when we came to publish the TP consultation for the 2020 valuation. In the absence of a proposal, we were asked by UUK to illustrate a range of potential outcomes.

Whilst the sector has proven resilient to the pandemic, PwC continues to advise that, without appropriate additional support measures in place, the covenant should be downgraded to tending to strong for the 2020 valuation.

The measures required

Debt monitoring

The debt monitoring and *pari passu* framework help protect the covenant from the potential effects of increasing gearing (and so increase confidence in accessing the cashflows that support the risk capacity measures). UUK consulted employers on the proposed debt framework from 8 July to 3 August 2020. The responses to that consultation from employers informed UUK's belief that "with modification, a way can be found to implement proportionate arrangements on debt monitoring which employers could support".

We have reviewed some of the parameters. In particular, we will amend debt metrics A to D in the draft framework to account for the circumstances of the colleges of Oxford and Cambridge and we will set de minimis limits to exclude the smallest employers. We are keen to reassure institutions that we will take into account the short-term impact of additional financing to manage through the impacts of the Coronavirus pandemic.

Pari passu

We will also seek *pari passu* security from employers. *Pari passu* refers to the understanding that, when an institution takes on new or additional debt which is secured on its assets, the Scheme obtains equivalent security at the same time. This will help to protect the covenant from a reduced return from the value of assets which have been granted a priority charge over them, in the event of an institution becoming insolvent or seeking a compromise with its creditors. This is in the interests of all employers in the Scheme, and certainly those with more robust balance sheets, who would otherwise have to absorb any under-recovery of Section 75 debt under the 'last man standing' arrangements.

We are only seeking to protect the Scheme's creditor position and potential recovery on insolvency by requesting *pari passu* security – we are not seeking to enhance its position relative to other secured creditors.

We have defined a threshold test (debt metric E) below which we would not seek *pari passu* and some latitude may be possible in the required 5%. Our advisors recommend a threshold of 10% (calculated on both net and gross assets) would be consistent with the covenant being rated strong (subject also to a sufficient moratorium on employer exits). PwC has suggested that the risk of institutional failure or lenders seeking security, for example in exchange for covenant waivers, may have increased as a result of the pandemic and that this provision is now at least as important as it was, if not more so.

Schedule of Contributions

In support of the debt monitoring framework, the Scheme's Schedule of Contributions (SoC) for the 2020 valuation that will be put out for consultation in due course (see Section 5) will include wording which expressly acknowledges that one of the remedies available to us (where we decide that action should be taken in an individual case) could be to accelerate the payment of employer contributions. We will formally consult with UUK on the SoC later in the valuation process.

Employer exits

The Scheme is funded on a mutual, 'last-man-standing' basis. This has been a defining element of the covenant and supports risk-taking in the funding of the Scheme. The primary driver of the covenant is the collective robustness of the sector. However, some employers with substantial assets (in particular, many of the colleges of Oxford and Cambridge, and some teaching institutions which have a small deficit share relative to the size of their assets) contribute proportionately more than others to the covenant, underwriting the Scheme for the risk of an extreme downside scenario. The financial assets of all employers are part of our available risk capacity measure (see Appendix B).

PwC's view is that a long-term rule change on employer exits is the most straightforward way of securing a stronger covenant rating. But it is not the only way, and UUK has stated that the rule change we proposed was "felt to be detrimental by several employers".

PwC has advised us that a 30-year moratorium on employers leaving the Scheme would be adequate to fund the Scheme on the same basis as a long-term rule change. An appropriately structured rolling moratorium of fewer years could help to achieve a strong covenant in line with Scenario 3. Or it could enable a tending to strong covenant to run greater investment risk, with a pre-retirement discount rate closer to that for a strong rating.

We have been advised that, combined with an effective debt monitoring and *pari passu* framework, a moratorium on employer exits with an initial term of 15 years and a rolling 12-year term thereafter could allow for assumptions associated with a strong covenant (but not necessarily a pre-retirement discount rate at the higher end of the range illustrated in the TP consultation document). The length and rolling nature of the moratorium and the fact that the moratorium is as long as the Recovery Plan (15 years under Scenario 3) provides substantial additional support to the Scheme.

A moratorium longer than this would provide some additional benefit to the Scheme and could have a modest effect on contributions. However, the suitability of any overall package, and the additional risks in funding members' benefits arising from any Recovery Plan longer than 15 years, would need to be considered in the round. More tangible, covenant commitments from employers, for example contingent contributions or contingent assets, could provide a way of managing these additional risks.

UUK's illustrative package of covenant support measures

In its response to the TP consultation, UUK has indicated that a number of employers are unwilling to support the proposals on *pari passu* and that there is limited support for a long-term or permanent rule change on employer exits to replace the current moratorium.

The principles of our proposed debt monitoring framework have been broadly accepted, with modifications requested. The proposal to set a 'de minimis' level to exclude the smallest employers, and above which we will have the freedom we need, is pragmatic whilst recognising the strength that comes from the mutual nature of the covenant (including those employers which may have relatively lower exposure to the Scheme). There were requests to review certain elements of the metrics. In particular, UUK has proposed a threshold of at least 20% of net assets (and dropping altogether the test on gross assets) within which lenders may take security without corresponding protection for the Scheme. This would leave significant ongoing risk of the Scheme ranking lower than other creditors. Tighter control measures are required for the debt framework to be considered consistent with a strong covenant rating.

A long-term (30 years or more) rule change would assure the full support and commitment of employers and their balance sheets far into the future. However, a moratorium for less than 30 years still brings benefits:

- It improves confidence that the stronger employers remain committed to the Scheme
- It allows planning over a longer period, providing there is the ability and sufficient notice for us to take action to reduce risk in the Scheme if that moratorium is not renewed

The 'value' of a moratorium for the covenant depends on:

- The duration of the moratorium
- The process and the certainty of its renewal
- The term outstanding if not renewed

UUK has illustrated a rolling moratorium of six years duration, with an initial period of nine years. The notice period is set such that we would have notice of any decision to terminate the moratorium ahead of the next valuation. If we were to receive that notice, the moratorium would still remain in force for a further six years from the completion of that valuation. We have assumed that the signing date coincides with the expiry of the current moratorium, so there would be no 'window' for employer exits. UUK has made clear that this provision is subject to legal advice.

Based on the advice of our covenant advisors, an arrangement of this length would not be sufficient to secure a strong covenant but would allow some time for us to review the arrangements of the Scheme under the 2023 valuation. It is therefore still of some value in supporting an increase in risk.

How the package could be improved

Arrangements that are closer to what was included in the materials issued for the consultation on the debt monitoring framework in July/August 2020 would be more effective in managing the risks related to increasing debt. We have reviewed the details of the metrics to address some of the issues raised. However, the precise parameters for any 'de minimis', 'materiality' and 'covenant-enhancing' carve-outs do need to be drafted carefully to ensure clarity for employers and the effectiveness of the framework. The *pari passu* provisions ('Metric E' in the draft framework) are of particular importance in protecting the covenant. The 20% test suggested by UUK would be too high. PwC suggests that threshold tests at 10% on each of both gross and net assets would be consistent with a strong covenant.

Alongside an improved proposal on the rule change, a package could be arrived at that would improve outcomes for both future service contributions and deficit recovery contributions. We have described such a package in ‘Scenario 3’, which would include the debt framework described above and a rolling moratorium of 12 years with an initial period equal to or greater than the duration of the Recovery Plan. This moratorium would legally automatically roll for additional periods, unless the renewal is explicitly cancelled by giving written notice in a mutually agreed way. This would provide a suitable period for us to reassess the Scheme and take the necessary risk-reduction action if the commitment was not renewed.

With these measures in place, our advisors consider that a strong covenant could be achieved (whilst not supporting risk-taking at the highest levels) and allow us to consider a Recovery Plan of 15 years. We cover these issues in more detail in Appendix A.

Section 4. The costs of the current benefit structure and the role of the JNC

The Rule 76.1 report

As required by the Trust deed and rules, the Scheme Actuary has provided us with his Rule 76.1 report on the financial condition of the Scheme. This includes the Scheme Actuary's advice and recommendations on the total required contributions for the current benefit structure taking account of the Trustee's selected assumptions in three different covenant support scenarios:

- Scenario 1: no additional covenant support. Tending to strong covenant towards the bottom end of the range specified in the TP consultation document.
- Scenario 2: additional covenant support as outlined in UUK's clarification of their illustrative package of 7 December. Tending to strong covenant. **This is the basis for our contribution determination, which is being issued to the JNC.**
- Scenario 3: sufficient additional covenant support to enable us to fund the Scheme on the basis of a strong covenant, but not sufficient to reach the top end of that range detailed in the TP consultation document.

Without additional covenant support, we would fund the Scheme on a tending to strong basis. The deficit on the TP basis would be dealt with under a recovery period of up to 10 years and allowance for out-performance of up to 0.5% a year.

With additional support it would be possible to increase the TP discount rate, lengthen the recovery period and/or make greater allowance for investment out-performance in the Recovery Plan.

Table 1: Summary of the additional covenant support set out in Section 3 under each scenario.

Scenario	Effective debt monitoring	Effective *pari passu*	Length of rolling moratorium	Initial moratorium to support Recovery Plan length*
1: No additional covenant support	No	No	Zero	None
2: UUK package of covenant support	Yes	No	6 years	9 years
3: Adequate to fund on a strong basis	Yes	Yes	12 years	15 years

*Assumes next valuation is as at 31/3/2023

The amount of covenant support drives the level of the Technical Provisions, the length of the recovery period and the level of out-performance that can be allowed for in the Recovery Plan.

Whilst we are required to fund the Scheme based on our assessment of the level of covenant the employers are prepared to provide, the table below details the Trustee's decisions having considered the advice that the Scheme Actuary has provided to us about the underlying financial assumptions, length of recovery period, out-performance and contributions for each scenario. The key output to focus on in the table below when comparing scenarios is the total contribution rate, because this is the only output that fully integrates all elements of covenant support for each scenario.

In all scenarios it is proposed to use a post-retirement discount rate of gilts+1% in respect of pensioner liabilities.

Table 2: Summary of the Headline Parameters and Outcomes under each scenario in the 76.1 report

Scenario	Pre-retirement discount rate	Technical Provisions deficit	Recovery period (years)	Allowance for out-performance	Future service contributions	Deficit recovery contributions	*Total contributions
1: No additional covenant support	Gilts+2%	£17.9bn	10	0.5%	37.0%	19.2%	56.2%
2: UUK package of covenant support	Gilts+2.3%	£16.1bn	10	0.75%	34.7%	14.9%	49.6%
3: Adequate to fund on a strong basis	Gilts+2.5%	£14.9bn	15	0.5%	33.6%	8.5%	42.1%

**Contribution rates assume changes apply from 1 October 2021*

In our TP consultation document, we set out our approach to risk management in our Integrated Risk Management Framework (IRMF). This framework uses three key metrics (A, B and C) to measure our ability to manage the funding risk relative to self-sufficiency. Metrics A and B consider the *Affordable* Risk Capacity. Metric C considers the *Available* Risk Capacity. We assign a RAG status to each of these metrics.

In all three scenarios, Metrics A and C are 'green', but Metric B is 'red'.

- Being 'green' on Metric A signals that the amount of risk we would be running could be supported within the *Affordable* Risk Capacity if we were fully funded on a TP basis.
- Being 'red' on Metric B signals that we are currently running more risk than can be supported by the *Affordable* Risk Capacity (but the valuation nevertheless incorporates a clear plan for Metric B becoming 'green' in the medium term).
- However, Metric C being 'green' indicates that the additional risk we are running is manageable within the *Available* Risk Capacity we believe the employers can support.

See Appendix D for more on the IRMF metrics.

The level of covenant support available to the Scheme is ultimately a decision for the employers and this will determine the level of both the future service cost and deficit recovery contributions.

We have held detailed and robust discussions with TPR to explain our position on the 76.1 report, including areas of our proposals that TPR felt wouldn't be prudent enough to comply with Part 3 of the Pensions Act 2004.

We believe we have given appropriate weight and consideration to TPR's position in our conclusions, having also carefully considered the advice of the Scheme Actuary, and our covenant advisors, and UUK's formal response to the TP consultation, alongside other representations.

Scenarios 2 and 3 in the 76.1 report represent the limit of what we understand TPR would regard as compliant – subject to the relevant covenant support measures being agreed and fully implemented.

Affordability of the current hybrid benefit structure

According to UUK's response to the TP consultation, employers feel current contribution rates of 30.7% are at the limit of what is considered sustainable. UUK asked us to illustrate what benefits could be afforded with 30.7% as the limit, including the deficit recovery contributions.

The design of the Scheme's benefits is primarily a matter for UUK and UCU to consider via the JNC. We have been asked to illustrate examples (based on our assumptions for the 2020 valuation) of the kind of changes required for the overall contribution rate to be kept at 30.7% of pay. We recognise that alternative contribution rates and benefit structures are also possible and note that UUK intends to consult employers on these matters shortly.

Benefits already earned by members cannot be changed and so deficit contributions will be required in any case, and the scope for benefit changes to reduce contributions is focussed on the future service contribution rate.

Under the current hybrid benefit structures, members accrue benefits in the Retirement Income Builder (the Defined Benefit section – DB) up to a £59,586 salary threshold for 2020/21, at a 1/75 accrual rate. Above the salary threshold, total contributions of 20% (12% from the employer and 8% from the member) are paid into USS Investment Builder (the Defined Contribution section – DC). Indexation on DB pensions is paid in line with CPI up to 5% and half of CPI between 5% and 15%.

Under **Scenario 1**, with deficit recovery contributions assumed to be 19.2% of pay, it is difficult to envisage any meaningful defined benefit pension being provided under the hybrid structure. We assume alternative forms of pension provision would need to be considered.

Under **Scenario 2**, deficit recovery contributions are assumed to be 14.9% of pay which would leave 15.8% to fund new pensions. Very significant changes would be required to both the defined benefit and defined contribution elements to maintain total contributions at 30.7%. For example, assume the salary threshold was reduced to £40,000. Depending on whether indexation on pensions for future service were capped at 2.5% per annum or not, the accrual rate could need to be between 1/155ths and 1/170ths. These illustrative parameters also assume DC contributions above the salary threshold would change from 20% to 12%.

Under **Scenario 3**, deficit recovery contributions are assumed to be 8.5% of pay. This would leave 22.2% to fund new pensions. Less significant but still very material changes would be required to maintain total contributions at 30.7%. For example, assume the salary threshold was reduced to £40,000. Depending on whether indexation on pensions for future service were capped at 2.5% per annum or not, the accrual rate would need to be between 1/100ths and 1/115ths. Again, these illustrative parameters also assume DC contributions above the salary threshold would change from 20% to 16%.

In sharing these illustrations, we are not proposing a view on the most appropriate response in terms of contribution rates or benefit changes. These are primarily matters for UUK and UCU via the JNC. We are illustrating the scale of benefit changes that would be needed to maintain total contributions at their current level of 30.7%.

We recognise that UCU and UUK will wish to consider the most appropriate response, including potentially factoring in issues of distributional and intergenerational fairness, and considering how the existing cost-sharing arrangements in the Scheme Rules impact on different cohorts of members.

We have not at this stage taken any legal advice on, and do not comment on, the legal permissibility or otherwise of any of the benefit structures discussed above, including whether they meet the criteria for automatic enrolment. We also do not comment on whether the trustee would be able to approve or take steps to implement any JNC Recommendation for the above changes. UCU and UUK will need to take their own legal advice on any proposed change to scheme design or benefits.

Note that the above benefit costings have been prepared for illustration based on the assumptions used for the Technical Provisions in each scenario. At this stage, we have not considered in detail the assumptions we would wish to use in such circumstances, so they would be subject to further review. Contribution rates may also be subject to review if any benefit changes were likely to influence the average age of the defined benefit members.

Based on the financial conditions at the end of December 2020, the future service contribution rate would be higher than based on calculations at 31 March 2020. UCU and UUK may wish to take this into consideration in their planning.

Section 5. Timeline and next steps

Based on us issuing the 76.1 report and Trustee's contribution determination of an overall contribution rate of 49.6% on Scenario 2, the JNC now has until 2 June – three calendar months – to decide how to address the cost of the increase. This is a matter reserved for the JNC under the cost-sharing process contained in Scheme rules 64.10 and 76.4-8, which was introduced following the 2011 valuation at the request of stakeholders via the JNC.

We appreciate that this will be a very challenging timeline for the JNC to decide how to address the cost increases set out in the 76.4 determination and the 76.1 report. The cost increases are significant and a JNC recommendation on a rule change on employer exits is also likely to be required to secure a better outcome for employers and members.

We will consider representations from UCU and UUK, via the JNC Chair if appropriate, on the additional time they feel is required to gather their respective mandates and engage in their negotiations through the JNC. Any such representations should include clear commitments and milestones, which will be vital for concluding the 2020 valuation. Demonstrable efforts to make progress will also be important for us to ensure that the valuation is properly considered and completed in a timely manner. We understand that any decision by TPR to take action would depend on whether delays were considered reasonable and the source of those delays.

We assume that an employer consultation with affected employees and their representatives will be needed, on either a JNC decision on benefit change and/or contribution rates under rule 64.10 or under the default cost-sharing arrangement under rules 76.4-8. As a result, it will not be possible to complete the valuation by the statutory deadline of 30 June 2021. This is one of the issues we have been discussing with TPR.

The indicative milestones[1] remaining in the process are as follows:

- JNC decision on benefit change and/or contribution changes or default cost-sharing applies under rule 76.4-8 (engaged if no JNC decision within timescale under rule 64.10) *– expected from early-June onwards.*
- Preparation for employer consultation with affected employees and their representatives – *from July onwards.*
- Launch of 60-day employer consultation – *from early September.*
- Consideration of employer consultation by Board/JNC – *November.*
- Consultation with UUK on Schedule of Contributions/Recovery Plan/Statement of Funding Principles – *November/December.*
- Approval by Trustee of SOC/RP/SFP following completion of consultation with UUK – *December.*
- Submission of valuation documents to TPR – *December 2021*/January *2022.*
- Statement of Investment Principles (SIP) consultation with employers – *early 2022*
- Implementation of any changes to contributions and benefits recommended by the JNC *– to be confirmed dependent on operational complexity.*

[1] Note that there are timeline dependencies on the commitments to covenant support through agreement to a rule change by the JNC and agreement by UUK/employers on debt monitoring and *pari passu* arrangements. Failure to implement these measures (or alternative similar or enhanced covenant support scenarios) will require the Trustee to reissue a Determination under Rule 76.4.1 on the basis of 'Scenario 1'

We acknowledge and appreciate the challenges UUK and UCU need to address. We are committed to being as collaborative and constructive as we can in supporting their discussions, through the JNC, on how to address the increase in the overall contribution rate required to provide the current benefits offered by the Scheme.

We stand ready and able to support UUK with its engagement on additional covenant support measures, and employers with the logistics of a statutory consultation with affected employees.

Equally, we will be focused on fulfilling the legal and regulatory duties that stem from both legislation and the Trust Deed and Rules as well as TPR codes and guidance.

We will continue to monitor post-valuation experience which, together with the advice of the Scheme Actuary, will inform the Schedule of Contributions and Recovery Plan we consult UUK on in the latter stages of the valuation.

We will also finalise the investment strategy and Risk Management Framework’s metrics and monitoring arrangements in discussion with our stakeholders.

Appendix A: Update to covenant assessment

Introduction

Our approach to covenant assessment was set out in Appendix C of the Technical Provisions consultation document. At that time, we noted it was too early to assess the impact of COVID-19 on the covenant and that we would be carrying out a further review over the autumn.

The results of that review, taking account of experience during the new academic year, are reported here. It considers, among other things, the changing state of the job market, the government's decision on A-level results, and the relative handling of the health crisis by the UK compared to the US and Australia. We have also assessed the extent and swiftness of action taken by employers and some of the plans prepared in anticipation of a severe downturn.

While there remains a high degree of uncertainty, the overall conclusion is that the outlook is more optimistic than we expected in May 2020.

The Institute for Fiscal Studies in its 2020 Annual Report on Education Spending in England (November 2020) said: *"For higher education institutions, the last few months have mostly brought good news on their finances. With hindsight, the relative calm in the trajectory of the pandemic between May and September may have been perfectly timed to maximise student enrolment. Even international enrolments appear to have held up remarkably."*

The Office for Students has also published its report on the Financial Sustainability of higher education providers in England (11 December 2020). The report illustrates a robust financial performance in that part of the sector through the near-term effects of COVID-19.

However, there remains significant uncertainty and the performance has not been consistent across USS employers. The financial resilience of the sector has been tested by the impact of the pandemic and its ability to flex has provided further evidence of the strength of the covenant. But the importance of the continuing support of the strongest employers and the risks of value being secured by other creditors ahead of the Scheme are, if anything, greater than ever.

We believe that the sector can support a strong covenant but only with the appropriate additional support measures – at least at the level envisaged in Scenario 3 in the main Trustee Update document.

Updated outlook for the sector

We have continued to take external advice on the trends impacting the UK HE sector landscape and to assess the financial sustainability of the sector as a whole and segments / employers within it.

In support of the TP consultation, work was conducted by our sector advisors on our behalf in February to April 2020 and then again in May 2020 to update it for the possible impacts of the pandemic.

In October, we asked our sector advisors to revisit the scenarios they had described to us in their report in May and integrate new evidence on student numbers and employers' responses so far.

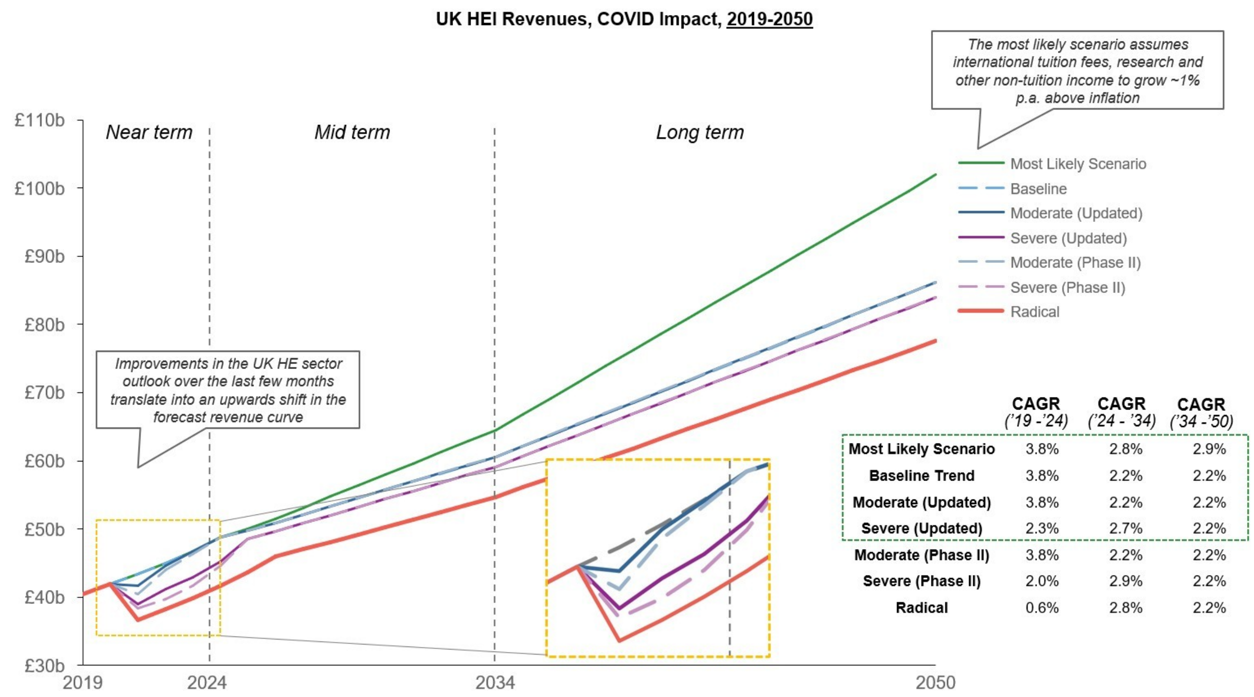
We also asked for a view of the impact of the cost measures undertaken and their impact on payroll, the student to staff ratio and capital expenditure, and on the UK's international competitiveness in the long term.

From the findings produced in this work, we drew the following conclusions:

- In addition to government support through sector-specific measures and broader job retention schemes, universities have been able to mitigate the effects of falling enrolments.
- UCAS acceptances data for this academic year has been positive, although there remains some risk to January enrolments and dropout rates.
- The outlook for UK HE has improved relative to the worst sector expectations and relative to forecasts undertaken by our advisors in May. However, the sector continues to face uncertainty in the short term regarding the trajectory of withdrawal / dropout rates and the impact of COVID-19.
- Longer term, the pandemic may expedite a sector shift towards increasingly efficient and digitalised operating models – increasing the role of technology not only in the learning experience, but in the centralisation of administrative functions, the consolidation of estate footprint, and the automation of back-office processes.
- Growth in UK HE will be resilient, with fundamental advantages not eroded relative to Anglophone competitor countries.
- Structural and near-term threats to the financial viability of UK universities are concentrated on universities with lower rankings, weaker financial sustainability and less capacity to invest in effective blended learning.
- USS employers in aggregate are well-placed to weather ongoing disruption, given weighting towards higher-ranked broad-based research universities with strong balance sheets and resilient international reputations.

Considering all of these factors, the sector is projected by our advisors to recover from the effects of the pandemic over the next four and then to grow at approaching 3% pa thereafter. Considering recent trends in current government policy, our sector advisors consider this to be the most likely scenario given the current evidence available. Revenue projections for this, and more pessimistic scenarios, are illustrated in the chart at Figure A1. This chart also compares this updated view with the projections illustrated in the TP consultation document (taken from the second phase of the work~~,~~ done in May; these are denoted ‘Phase II’ in Figure A1).

Figure A1: Projections of Revenue in UK Higher Education Institutions



	CAGR ('19 -'24)	CAGR ('24 - '34)	CAGR ('34 -'50)
Most Likely Scenario	3.8%	2.8%	2.9%
Baseline Trend	3.8%	2.2%	2.2%
Moderate (Updated)	3.8%	2.2%	2.2%
Severe (Updated)	2.3%	2.7%	2.2%
Moderate (Phase II)	3.8%	2.2%	2.2%
Severe (Phase II)	2.0%	2.9%	2.2%
Radical	0.6%	2.8%	2.2%

(Source: HESA data, projections taken from our sector advisors)

Assessment by our covenant advisor, PwC

PwC has arrived at the following key conclusions. These take into account work done by our sector advisors, their own analysis (including an update to the available risk capacity calculation and review of the affordable risk capacity calculation – see Appendix B), and the outcome of a series of in-depth interviews with a sample of USS employers:

On covenant strength

The covenant remains **strong but on negative watch**. Employers would need to be able to agree to support measures at least in line with Scenario 3 (see Trustee Update document) for us to consider the covenant as strong. This depends on the outcome of ongoing discussions on an employer exit rule change and a debt monitoring and *pari passu* framework.

The 'negative watch' is no longer linked to uncertainty regarding the financial outlook for the sector (as it was in May 2020) given it has demonstrated resilience through the COVID-19 pandemic, and enrolments were higher than industry commentators expected. However, the gap between higher and lower ranked institutions has widened, overall benefitting the stronger institutions to whom the USS has the largest exposure. There could be some failures in financially weaker institutions but this is unlikely to result in the need to downgrade the covenant, given the joint and several, last-man-standing nature of the Scheme. This brings the commitments required of employers into sharper focus.

On covenant horizon

PwC has, on the basis of its own further analysis and that of our sector advisors, confirmed that the covenant horizon is 30 years (consistent with their position since they were appointed in 2016). This advice of a 30-year covenant horizon is independent of any additional covenant support measures employers might agree to, as discussed above and below. How this translates and relates to the affordable risk capacity is set out below (see: 'Covenant as a continuum').

On the ability of the sector to support the Scheme

Scheme deficit figures have increased significantly on all measures when compared to the last valuation. Although the sector's ability to cope with the impact of COVID-19 has demonstrated the underlying resilience of the covenant, PwC considers that the size of the sector compared to the size of the Scheme is in a tending to strong position. PwC also notes that a further material increase in the deficit, as seen between the March 2018 and March 2020 valuation dates, could put pressure on the covenant.

The underlying sector trends are more positive than expected in the spring. However, the review was undertaken early in the academic year with employers providing enrolment data and forecasts in early November. There continues to be uncertainty in relation to COVID-19 and the impact of further lockdowns including around the risks of attrition and possible tuition and accommodation refunds.

Figure A2: Covenant Dashboard at 30 November 2020

Covenant metric		Illustrative sub-rating	Overall rating
Group structure	Nature of the Scheme and nature of the higher education sector	S	Strong
Balance sheet & financing	Assets and liabilities of the sector	S	
Income	Strength of income and flexibility in the cost base compared to TP deficit	S	
Cash flows (current and forecast)	Cash flow from operations compared to contributions and other commitments	TTS	
Markets	Positioning of employers in the UK and global education market	S	Strong but on negative watch due to the risks of increased debt levels and strong employers exiting the Scheme.
Affordability	Affordability of higher contributions taking account of flexibility for cost reduction	TTS	
Relative size of Scheme to Sector/ Valuation approach	Cash flow based valuation compared to Scheme obligations	TTS	

Covenant as a continuum

While we believe employers recognise the requirements for additional covenant support measures, no firm commitments have yet been made. It was therefore necessary to illustrate a range of possible outcomes in our TP consultation document.

We have set out our conclusion above (in line with PwC's advice) on the resilience of the higher education market and the ability of employers to generate income which has the potential to support a strong covenant with a covenant horizon of up to 30 years.

We believe that the sector will endure over the long term and has shown itself to be financially resilient. This removes some of the uncertainty in the range of outcomes illustrated in the TP consultation document, at which point the covenant was on negative watch due (in part) to the impact of COVID-19.

However, our positive conclusion on the underlying strength of the covenant also needs to be complemented by commitments from the employers to secure the Scheme's access to it.
The strength of the covenant is therefore reduced by the lack of an express commitment to continue supporting the Scheme – and by the risk of increased borrowing, especially where secured.

These commitments are at least as important now as they were before, because:

- the effect of the pandemic has not impacted all institutions equally.
- PwC has suggested that the risk of institutional failure or lenders seeking security, for example in exchange for covenant waivers, may have increased as a result of the pandemic.

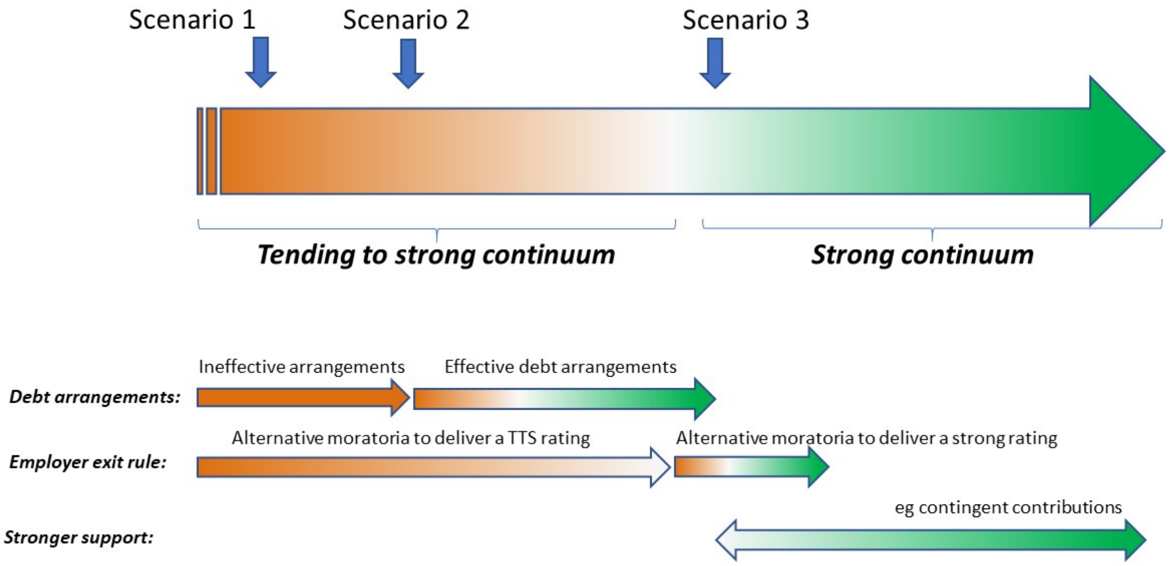
PwC continues to advise that an ongoing strong covenant rating requires:

- An "appropriate" rule change or moratorium on employer exits, to demonstrate the commitment of the strongest employers.
- An effective debt management framework with *pari passu* security on new lending to help protect future cash flow from the effects of excessive gearing and the risk of third parties having a senior call on the assets of failed institutions.

PwC also notes (in line with the Pensions Regulator's (TPR) guidance) that if the covenant is downgraded to tending to strong, it would be important for us to continue to progress with a debt monitoring and *pari passu* framework to protect the covenant from future risks.

Covenant strength ratings are not binary. We and our advisors assess the effectiveness of any alternative proposals for covenant support on a scale as illustrated in Figure A3 below. Scenarios 1, 2 and 3 represent the covenant support scenarios we have considered.

Figure A3: The effect of covenant support measures



The implementation of additional covenant support measures by the employers would be a signal of increased commitment to the Scheme and increased willingness to support risk-taking in its funding. We have illustrated three scenarios, as set out below.

See Section 3 of the Trustee Update for a summary of PwC's advice on the minimum acceptable package of measures that could be regarded as comprehensive and enable the Scheme to achieve a strong rating. The minimum package is that associated with Scenario 3.

Scenarios 1 and 2 fall short of providing this level of covenant support and in these scenarios PwC rates the covenant as tending to strong (TTS). The top part of Figure A3 summarises the key covenant-related metrics for each scenario. These three scenarios are further described below.

Note, however, that TPR has repeatedly stated its view that USS's covenant is tending to strong. Its view is that the covenant support measures being considered by UUK (Scenario 2) serve to protect, rather than enhance, the covenant – although it recognises they do add value and allow some flexibility in relation to the valuation approach. It has reasserted its view that more demonstrable commitments from employers would be required for the covenant to go beyond a tending to strong rating.

Affordable Risk Capacity

We consider a suitable measure of the risk-taking capacity of the sector to be based on the present value of a specified level of employer contributions paid over a period up to the covenant horizon. PwC and the Scheme Actuary have confirmed that this is a reasonable approach.

For this purpose, we have – since 2018 – used 10% of payroll per annum and a 30-year covenant horizon. We call this measure the employers' affordable risk capacity (ARC) and at 31 March 2020 it came to £30bn-£33bn for a strong covenant under Scenario 3. This is lower than illustrated in the TP consultation document primarily because we have used an assumption of payroll growth lower than the CPI + 2%, which gave the upper end of the range.

PwC has confirmed that this is, in principle, a reasonable way of establishing the amount that the sector could afford to pay over a sustained period without adversely affecting its long-term prospects.

We believe the amount of ARC that we can rely on *without* additional covenant support measures is less than that available with the full set of measures discussed as part of the 2018 valuation. In the TP consultation document, we illustrated the effect of a tending to strong covenant by using a reduced "effective covenant horizon" of 20 years. This restricted the number of years of future contributions used in the calculation of the ARC. Since then we have reviewed our approach recognising that:

a) The sector has demonstrated a high degree of resilience in the face of COVID-19 and restricting the calculation to a twenty-year period would not be appropriate
b) Alternative covenant support proposals have been presented and we need to appropriately reflect their relative value to supporting the covenant

PwC has suggested an alternative approach to determining the ARC for each of the three covenant support scenarios detailed in the Trustee Update, as follows: allow for the projection over the full period of the covenant horizon of 30 years and set the discount rate used to calculate ARC in each case to reflect the risk associated with the underlying cash flows under each covenant support scenario. We have also reviewed the growth rate assumption appropriate over such a long horizon.

On this basis, we have (for the strong covenant assumed in Scenario 3) used a discount rate relating to prevailing market credit spreads for comparable debt issuers on the valuation date of 31 March 2020, based on advice from USSIM and reviewed by PwC.

PwC has advised using discount rates for Scenarios 1 and 2 that incorporate an additional spread above the Scenario 3 discount rate of 100bp and 70bp respectively, again based on relevant market-observed spreads for different credit ratings. In each case, we have used a long-term salary growth assumption of CPI + 1% (compared to CPI + 1.5% assumed in the Recovery Plan), for consistency with the long-run revenue growth rates shown in the figure A1 and used in the calculation of *available* risk capacity.

There is implicit uncertainty in all of the assumptions on which these calculations are based, especially over such a long projection period. However, we believe that the sector will be enduring over the long-term and believe a 30-year period to be appropriate. In order to allow for a range of opinions on these inputs, we have expressed the affordable risk capacity within a tolerance of +/- 5% in each scenario.

Summary of the three scenarios

Scenario 1

This scenario is at the left-hand side of the continuum illustrated in Figure A3. The covenant rating is tending to strong, with no additional covenant support. In Scenario 1, we calculate the affordable risk capacity using a discount rate of gilts + 2.2% to give an ***affordable* risk capacity of £26bn to £28bn**. We assume an ***available* risk capacity of £63bn** (see Appendix B for more details).

Scenario 2

This scenario is based on an illustration of a package of additional covenant support measures which UUK has shared for our consideration. More detailed assumptions have been discussed and agreed with UUK as to how that package could be implemented in practice.

In this scenario, there are arrangements in place for debt monitoring – but with some limitations. There is a proposal for us to take *pari passu* security in some circumstances – but the proposal is not consistent with a strong covenant rating. The details are set out in Section 3 of the Trustee Update document.

A rolling six-year moratorium with an initial term of nine years is assumed, which provides additional support to the Scheme including:

- A demonstration of commitment by employers and removing any short-term concern that strong employers may be planning to leave the Scheme.
- Renewal at each valuation by default, with any change subject to a consultation with **all** employers.
- Securing employers' commitment through the current period of uncertainty, especially in respect of COVID-19 which, as noted above, has not had an equal effect on all employers.

It is also assumed that this moratorium would bind all current employers and would become effective on termination of the moratorium for the 2018 valuation – although UUK has noted that this remains subject to legal advice.

We have assessed this package as between Scenario 1 and Scenario 3 on the covenant continuum in Figure A3, and we assume a discount rate of gilts + 1.9% in the affordable risk capacity. This gives **an *affordable* risk capacity of £27bn to £30bn** and we assume the ***available* risk capacity would be £68bn**. This is between the strong and TTS calculations of *available* risk capacity shown in Appendix B.

- We have reached the stage in the 2020 valuation where we consider it appropriate and necessary to issue a Rule 76.1 report and a contribution determination to the JNC, in order for the valuation process to move forward.
- UUK has confirmed to us that it will shortly consult employers on the package of additional covenant support measures it first shared with us in November 2020 (Scenario 2).
- **We have therefore decided, for the purposes of a contribution determination on the 76.1 report, that this scenario is a reasonable basis on which to proceed.**

Scenario 3

As explained above, reaching a covenant rating of strong requires effective debt monitoring and *pari passu* arrangements together with an appropriate moratorium on employer exits. In Scenario 3, we have assumed that a debt framework could be agreed with employers which is close to that consulted on by UUK on 8 July 2020. Some parameters in the debt monitoring arrangements may be reviewed but, in particular, both tests under 'Metric E' are agreed, with thresholds potentially eased to 10%.

A longer moratorium on employer exits is also required to reach the lower end of the strong side of the continuum. We had suggested a permanent rule change but indicated we might be willing to accept a moratorium of 30 years. However, we recognise that a 30-year moratorium is a very significant undertaking for institutions' governing bodies, even though the benefits being promised by employers to members extend far beyond that horizon. If it is not possible at this time to secure a 30-year moratorium, a lesser term could in our view still be considered consistent with a strong covenant rating.

For Scenario 3, we have assumed a rolling 12-year moratorium with an initial term of 15 years, and at least as long as the Recovery Plan to be put in place for the current valuation. We believe that this would provide substantial commitment, significantly greater than the six-year rolling moratorium in Scenario 2. It would also have the following additional attributes:

- Securing employers' commitment throughout the duration of the Recovery Plan.
- Demonstrating that employers have no plans to leave the Scheme in the medium term.
- Substantial time for employers and us to reconsider longer-term solutions in future valuations and perhaps at a time of more economic stability.
- Ensuring that at the next valuation, if the moratorium were to be revoked and there was a resulting impact on the covenant strength, we would still have three full valuation cycles to make necessary changes to Scheme funding.

It is also assumed that this moratorium would bind all current employers and would become effective on termination of the moratorium for the 2018 valuation – although, as with Scenario 2, we expect this would be subject to legal advice. Taking all these factors into account, we consider this package to offer significant protection and that the affordable risk capacity could be calculated using a discount rate of gilts + 1.2%. This would give an ***affordable* risk capacity** of **£30bn to £33bn.** The ***available* risk capacity** is assumed to be towards the upper end of the range calculated for a strong covenant (shown in Appendix B). For scenario 3, available risk capacity is assumed to be **£76bn.**

We consider the covenant support measures in Scenario 3, including an effective debt monitoring and *pari passu* framework and an initial 15-year (rolling 12-year) moratorium on employer exits is just sufficient to support a strong covenant. The length and rolling nature of the moratorium and the fact that the moratorium is at least as long as the Recovery Plan (15 years under Scenario 3) provides substantial additional support to the Scheme.

A longer moratorium would provide some additional benefit to the Scheme and could have a modest effect on contributions. However, the suitability of any overall package, and the additional risks in funding members' benefits arising from any Recovery Plan longer than 15 years, would need to be considered in the round. More tangible, covenant commitments from employers, for example contingent contributions or contingent assets, could provide a way of managing these additional risks.

Appendix B: Higher Education Institutions' available risk capacity valuation

An updated estimate of the Higher Education sector's available risk capacity calculated as at 31 October 2020 in support of the 2020 covenant assessment. This calculation has been undertaken by PwC, supported by assumptions from our sector advisors.

Introduction

Risk capacity is the financial ability of the employers as a group to withstand risks. In particular, it reflects the financial resources that we could call on to respond to risks, if we need to.

'Available risk capacity' is the most that employers could pay to secure all the benefits already promised to members in an extreme funding downside scenario. The model assumes an ongoing robust demand for higher education in the UK, although the relative size and strength of the employers may change over time, with some reducing or even failing but others growing in size and strength. This could require some employers to change their business models and/or engage in substantial restructuring.

Quantifying risk capacity is not a precise science and depends on a number of external factors and parameters that must be estimated based on available information and judgement. This paper contains an illustrative calculation showing one approach to estimating risk capacity and is focused on the 'available risk capacity'. It is based on a methodology and assumptions which have been updated from the pre-COVID-19 estimate, which was included in the Technical Provisions (TP) consultation document. The details of that calculation were set out in the paper Higher Education Institutions (HEIs) Free Cash Flow Model for risk capacity published on 7 September 2020.

The results of the calculation of available risk capacity are intended to illustrate what employers could make available to support the Scheme in an extreme downside funding scenario. It is important to note that current deficit recovery and the full cost of ongoing future participation in USS are not included in this calculation of available risk capacity. The calculation is intended to provide a view of the level of support available to fund accrued benefits.

Updating the assumptions and approach to calculating available risk capacity

The approach involves calculating the net present value of the forecast free cash flows generated by the combined institutions participating in the Scheme. The details of the calculation used were originally published in our Discussion Document of March 2020. The value has been updated since this work was undertaken, as follows:

- The Coronavirus pandemic has negatively impacted near term revenue growth and cost growth assumptions.
- Analysis of institutions' abilities to respond to the pandemic has justified an increase in their assumed capacity to achieve cost savings from 2% to 5% when required. The cost savings have been assumed to increase linearly from 0% to 5% over the first four years of the cash flow projections in the base case valuation.
- PwC has included a terminal value, which is standard valuation practice for any valuation of indefinite-lived assets such as the USS institutions.
- Consistent with the inclusion of a terminal value, it has assumed a higher normalised level of growth-related capital expenditure than the previous model which assumed only a maintenance level of capex.
- It has also updated certain other assumptions, such as the assessment date (to 31 October 2020) and discount rates for each of the sub-sectors.

Institutional data

The starting point for the free cash flow calculation is the data for the years ended 31 July 2017 (FY17) to 31 July 2019 (FY19), published by the Higher Education Statistics Agency (HESA). This data is submitted by the HEIs and is analysed by HESA who make it publicly available.

Colleges of Oxford and Cambridge universities do not submit data to HESA. PwC has used data from the published accounts of each of the colleges that participate in the Scheme (the 'Oxbridge Colleges'), covering the same years as the HESA data.

The HESA and Oxbridge Colleges data provides a reconciliation from revenue to 'net cash flow from operations' for each of the three years from FY17 to FY19.

There are other USS employers that support the covenant but are not HEIs and do not therefore submit data to HESA. However, the share of the Scheme's total liability in respect of all such employers is less than 5%. PwC has therefore excluded these employers from the calculation given the challenges around collating consistent data for these institutions, which results in an understatement of the risk capacity. It does not expect this to be material.

Cash flow projections

This model is concerned with projections for the participating employers in aggregate over the long term. Therefore, the performance of individual institutions and short-term deviations from long-term projections are not the main focus of this approach. The institutions have been grouped into the seven 'segments' (or HE 'sub-sectors') used for analysis of the HE sector. The Oxbridge Colleges form an additional segment.

The net cash flows from operations have been averaged over the three years of historical data (FY17-FY19) to smooth the effect of year-on-year fluctuations, and to generate a 'year zero' figure for net cash inflow from operations. The net cash inflow from operations is then adjusted to arrive at an estimate of 'free cash flow' for each sub-sector by:

- Adding back USS pension contributions paid in the year
- Deducting a normalised level of capital expenditure which is grown each year; and
- Adding back 5% of cost savings which are assumed to increase from 0% to 5% by year four. The cost savings are applied to cash expenses, defined as total expenses less interest, finance costs and depreciation.

The result of this calculation for the 'year zero' free cash flow was then projected forward for each year, driven by the revenue and cost growth rate assumptions. The growth rate assumptions are outlined in a later section.

Consistent with updating the model to reflect a normalised growth capex assumption, PwC no longer feels it is appropriate to exclude the terminal value (the value of cash flows from year 30 onwards). The model calculates the net present value of the free cash flow generated by each of the segments over 30 years and beyond (including the terminal value).

The forecast free cash flows are discounted at an estimated 'weighted average cost of capital' (WACC) per sub-sector to arrive at a net present value. This is discussed in more detail in a later section. The net present value for each sub-sector is then summed, and net cash balances added, to derive the total available risk capacity.

Capital expenditure

In the previous calculations, PwC had used depreciation expense as a broad proxy for maintenance-level capex. This was consistent with the finite life assumption embodied in the earlier calculation.

In its updated calculation, the estimation of a normalised capex level for HEIs covered by HESA is based on an estimate provided by our sector advisors of £2.8bn p.a., which references data for the entire UK university sector. This estimate has been adjusted as follows:

- Our sector advisors have confirmed that capex levels have been inflated over recent years to levels above what would be required to support forecast revenue growth. Our advisors have also confirmed that historic capex levels from years prior to the impact of the lifting of student number caps (prior to FY13/14) provide a more appropriate basis for a normalised level of capex. It was noted in external advice that: *"Over the course of the pandemic universities have been able to critically review their estate strategies and focus their planned capital programs in the future to align with more strategically necessary and efficient targets. This suggests that capital expenditure is likely to be structurally reduced in the sector."*
- PwC derived a similar number (£2.9bn) by taking an average of capex from the HESA data in the years FY04 to FY13 and making appropriate adjustments. These adjustments take account of the fact that the USS universities only make up a sub-set of the total sector, and that the total sector excludes data for the Oxbridge Colleges.
- It has then inflated the £2.9bn capex number by approximately 15% over the period between the historical observations and the date of the valuation (31 October 2020) to take account of inflation.

Cost savings

Having carried out interviews with a sample of employers covering a cross-section of the HE sector and taken advice, we have assumed that a cost saving of 5% of total expenditure is achievable for the majority of HEIs without having a major impact on their operating model.

PwC has factored this into the calculation of total available risk capacity. This is an increase from the previous calculation, which assumed a 2% cost saving, as we have seen institutions demonstrate a greater potential to make cost savings when faced with external shocks, such as the impact of COVID-19.

Recognising that cost savings take a period of time to implement, it is also assumed that these would be achieved gradually over the first four years of the forecast period, rising to the full 5%. The 5% cost savings are applied to cash expenses and are projected at cost growth rates throughout the forecast period.

Revenue and cost growth rates

Expenditure is assumed to grow in line with revenue growth rates with the exception of FY21, where it is assumed that institutions would be able manage their cost base to achieve 0% growth in costs in that year.

A 2% growth rate has been adopted across all sub-sectors for the terminal value free cash flow in line with inflation estimates based on CPI data.

The revenue growth rates by sub-sector are outlined in Table B1.

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Table B1 – Revenue growth rates (%)

Sub-sector	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27 – FY33	FY34 – FY51
BBR	3.9	-0.7	7.2	4.5	4.1	2.9	3.0	3.0	3.0
Cusp	3.9	-0.7	7.2	4.5	3.7	2.6	2.7	2.7	2.8
Scotland Research	3.9	-0.7	7.2	4.5	4.9	2.9	3.0	3.0	3.1
Teaching	3.9	-0.7	7.2	4.5	4.0	2.4	2.5	2.5	2.6
Teaching Int’l	3.9	-0.7	7.2	4.5	6.3	2.6	2.8	2.8	2.8
Specialist Research	3.9	-0.7	7.2	4.5	6.7	2.8	3.0	2.9	3.0
Scottish Teaching	3.9	-0.7	7.2	4.5	3.4	2.6	2.7	2.7	2.8
Oxbridge	3.9	-0.7	7.2	4.5	4.1	2.9	3.0	3.0	3.0

Discount rates

Discount rates are one of the more subjective areas of the calculation to establish the available risk capacity. Discount rates have been chosen based on PwC’s understanding that the sector has relatively stable future cash flows, which are not influenced as much by the economic cycle as compared to many other commercial sectors of the UK economy.

Discount rates were estimated using a Capital Asset Pricing Model (CAPM), which is a model typically used to determine required rates of return for investors in businesses based on their level of risk. The model includes a number of subjective assumptions. For example, in the absence of publicly available benchmarks for the HE sector, we have assumed the lowest risk USS institutions could reasonably be compared to UK utilities/infrastructure assets in terms of the relatively lower levels of volatility of their cash flows.

For groups of USS institutions where there was assessed to be slightly greater volatility associated with their future cash flows, we attributed varying premiums over the base discount rate, driven mainly by higher assumed asset betas within the CAPM model.

Table B2 below sets out some of the key assumptions for the CAPM. We acknowledge that a range of assumptions could be appropriate.

Table B2: Key assumptions for the CAPM

Sub-sector	Risk-free rate (%)	Asset beta (%)	Equity market risk premium* (%)	WACC (%)	Rounded mid-point WACC (%)
Broad based research, Oxbridge Colleges, Scotland Research	0.8%	0.50	7.8%	4.7%	4.5%
Cusp	0.8%	0.60	7.8%	5.5%	5.5%
Teaching and other	0.8%	0.75	7.8%	6.6%	6.5%

*This includes a 2.75% conditional equity market risk adjustment as at 31 October 2020 based on PwC views.

The discount rate assumptions used for each sub-sector were as follows for a strong covenant scenario:

- Broad based research, the Oxbridge Colleges, Scotland research: 4.5%
- Cusp: 5.5%
- Teaching and others: 6.5%

PwC has considered a 1% uplift in discount rates across all sub-sectors to reflect a tending to strong (TTS) covenant scenario. A 1% uplift in discount rate as an appropriate assumption for a TTS scenario has been cross-checked to the following:

- A 1% discount rate premium is equivalent to an increase in the beta estimate (a measure of risk) of 0.13. This is broadly equivalent to the difference between Broad Based Research and Cusp/Teaching universities, so another way of rationalising strong going to TTS would be that it means viewing the sector as being more weighted towards the risk profiles of Cusp/Teaching universities than Broad Based Research universities.
- Institutions with strong covenants tend to have higher investment grade debt (such as AA-rated), while institutions with TTS covenants would more typically have lower rated, but still investment grade, debt (such as BBB-rated). We note that the difference in debt yields between AA and BBB-rated corporate debt is 60-70bps based on Utilities sector and All Corporate yields as at 31 October 2020.

Net cash and financial investments

In this model, no value has been ascribed to *a*ssets such as land and buildings, student accommodation, research facilities etc over and above their contribution to the free cash flows. However, in arriving at the available risk capacity for the HE sector we consider it appropriate to recognise the value of net cash and financial investments in addition to the present value of the free cash flows. We have therefore included:

a) the available net cash (after netting off outstanding debt), which is assumed not to be required for the ongoing operations of the institutions; and

b) the market value of long-term investments where we have not already taken account of the income they generate. Whilst there may be restrictions over the use of these assets, the income generated is generally available to support ongoing operations. We therefore assume the market value of the investments as reported in the accounts to be a proxy for the present value of their available future income, discounted at an appropriate market rate (since it is not subject to operational risk).

This additional value is derived from HESA/ Oxbridge Colleges accounts and made up of the following items:

- Cash and cash equivalents; plus
- Short-term investments; plus
- Long-term financial investments; less
- External borrowing: defined as bank loans and external borrowing plus bank overdrafts plus loans repayable to funding council plus obligations under finance leases and service concessions.

Pension costs

Having noted above that USS contributions have been removed from the free cash flow projections, we then need to recognise that, if the Scheme were closed, ongoing operations would require ongoing retirement provision to an alternative scheme.

Maintaining a sustainable scheme implies current contributions to the Scheme should continue into the longer term. But, in evaluating the available risk capacity in the context of supporting the accrued benefits in the USS, PwC has calculated the value *excluding* current deficit repair commitments and future contributions to USS.

In the event of Scheme closure, we have considered a minimum future service pension cost to provide a market-competitive DC proposition to employees would be 15% of pensionable salaries. We have assumed that pensionable salaries will remain a consistent proportion of total costs over time and hence that they grow in line with expenditure growth rates. We note that this differs from the assumption used by the Scheme when calculating deficit recovery contributions, which is CPI + 1.5%. The latter is suitable over the Recovery Plan length, but available risk capacity is modelled over a much longer term.

Results for available risk capacity

Table B3 summarises the employers' available risk capacity based on the discounted value of the free cash flow for strong and TTS covenant scenarios.

Table B3: Available risk capacity for a strong and tending to strong covenant

Components of the calculation	Strong covenant (£bn)	Tending to strong covenant (£bn)
Equity value (present value of free cash flows before USS future service costs)	143	109
Present value of future service pension costs at 15% up to year 30	(33)	(29)
Present value of terminal value of future service pension costs at 15%	(32)	(17)
Illustrative available risk capacity*	**79**	**63**

**Equity value includes present and terminal value of future cash flows and 5% cost savings.*
Note: Figures in the table may not sum due to rounding differences.

USS

Appendix C: A summary of the Trustee's position on UUK's response to the Technical Provisions consultation

Introduction

Universities UK (UUK) is nominated – under the Scheme's Trust Deed and Rules – to act as the formal representative of all participating employers for the purpose of consultation in relation to the funding of the Scheme.

On 7 September 2020, we launched a statutory consultation with UUK on the proposed methodology, inputs and assumptions for setting the Scheme's Technical Provisions (TP). This set out our assessment of the funding level of the USS Retirement Income Builder (the defined benefit section of USS) as at 31 March 2020.

Our original plan was to consult on the Recovery Plan and Schedule of Contributions at the same time. This had to be revised due to the uncertainty surrounding the potential impact of COVID-19 on the financial resilience of the HE sector, and because the covenant support measures assumed to follow in concluding the 2018 valuation had not been agreed.

We did, however, respond directly to a request from UUK to illustrate a range of potential outcomes based on alternative covenant scenarios in the TP consultation. This range was wide by necessity, as we did not have an agreed package of covenant support measures to 'price'. Rather than 'close down' the choices still available to employers in terms of proactively strengthening the covenant, we chose to reflect what they could still achieve. Employers were invited by UUK to feed back on the specific points we detailed in our consultation document, as well as on the document as a whole.

UUK's response was received in early November and the Trustee Board has since met nine times to consider it in detail, alongside reflecting on extensive discussions with the Pensions Regulator (TPR) and further advice from the Scheme Actuary, USS Investment Management, our covenant advisors PwC and others.

This summary sets out our position in response to UUK's key points and is therefore primarily of interest to UUK and employers. However, we are also publishing this response as an appendix alongside our **Trustee Update** to provide additional context on our decisions to our stakeholders and other interested parties. Our decisions are, in turn, reflected in the 76.1 report and contribution determination which we are issuing to the Joint Negotiating Committee (JNC) on 2 March 2021 to initiate the next stage of the valuation process.

Our response to UUK's feedback

- **Our position on the most material matters**

The issue that will have the greatest influence on the outcome of the valuation is our ability and appetite to take risk in the way we plan to fund our members' pensions.

For the TP consultation, we measured employers' *affordable* risk capacity in terms of contributions of 10% of payroll per annum payable for as long as can be supported by the covenant 'horizon'. We still believe employers' affordable risk capacity is best measured in terms of a sequence of contributions of 10% of payroll over a long period of time. For the 2020 valuation we are proposing to use a period of 30 years in each of the covenant support scenarios and vary the discount rate used for the affordable risk capacity calculation depending on the level of covenant support provided by the employers.

A key element in calculating the present value of these contributions is the assumption about sector payroll growth. This has been updated from between CPI + 1.0% and CPI + 2.0% in the TP consultation document. On the basis of advice received in November 2020, we propose to use an assumption of CPI+1.5% when determining the deficit recovery contributions. We believe payroll growth of CPI+1% is more appropriate for the calculation of the affordable risk capacity, due to the increased uncertainty in projecting over longer horizons.

This follows a review of the projections for the growth of the HE sector by our advisors, noting that, according to UUK, a third of employers who responded to them (representing 30% of the active membership) did not answer the question on payroll growth and a number of others said they did not feel confident providing any figures.

This *affordable risk capacity* limits the amount of risk we can take in funding the Scheme, and a higher affordable risk capacity may be used in several ways: to support an investment strategy with a higher allocation to growth assets; a higher TP discount rate; a longer Recovery Plan; or allowing for some investment outperformance above the discount rate in the Recovery Plan. Which combination of these applications is appropriate depends not just on the level of additional covenant support, but also the *nature* of that support. For example, a longer Recovery Plan would only be appropriate if there were a moratorium on employer exits of at least the same length. In these scenarios, both a longer Recovery Plan and an allowance for investment outperformance are being considered.

UUK's response states that employers do not believe that the adoption of a dual discount rate (DDR) approach should lead in a "direct or mechanical way" to a reduction in the allocation to return-seeking assets. As we set out in our Discussion Document of March 2020, our risk management approach means the investment strategy need not be so closely aligned with a DDR approach: we can consider a higher allocation to return-seeking assets if employers are willing and able to provide the additional covenant support measures needed to back the higher risk.

In terms of TP discount rates, there was broad support amongst employers for the post-retirement discount rate of gilts + 1%. For the pre-retirement discount rates, much of the feedback related to the level of prudence in those assumptions. We address this extensively in separate briefing on prudence.

Finally, UUK reported that several employers are of the view that the pre-retirement discount rate should be fixed relative to CPI, as suggested (but not formally recommended) by the JEP. While we 'express' discount rates relative to gilts, they are not 'set' purely relative to gilts. They are influenced by, amongst other factors, our Fundamental Building Blocks (FBB) analysis of expected returns which are expressed relative to CPI. We chose to express the discount rates relative to gilts to allow greater comparability. We do not keep the spread over gilts fixed over time – the amount of the spread varies to reflect our changing expectations for future investment returns over time. We have allowed for the change in spread since 31 March 2020 when looking at how the Scheme's funding position has developed since then.

- **Our position on other matters**

UUK said 83% of employers who responded (representing 84% of the active membership) supported the adoption of a DDR approach. This is a validation of the methodology, which is also aligned with one of the JEP's formal recommendations. Whilst it does not in itself necessarily change the result of the valuation in terms of the overall discount rate, a DDR approach does bring advantages, as we outlined in our Discussion Document and TP consultation. It better aligns with the open nature and maturity of the Scheme, its evolution and its demographics. It leads to a much larger long-term 'risk budget' and the potential to take more risk in the long-term, on the basis of an open scheme (subject to sufficient employer covenant support). These are all points that have been raised by our stakeholders and are consistent with the JEP's reports.

Some employers questioned the decision to proceed as planned with a valuation as at 31 March 2020, given the impact of COVID-19. We address this separately in a briefing **here**.

Employers suggested we re-evaluate the mortality assumption to reflect the potential impact of COVID-19 and express more clearly the extent to which any allowance is included. However, it is too soon to draw any firm conclusions on this. Whilst high-level statistics indicate that there were more member deaths than usual in 2020, the number of excess deaths compared to recent years is around 200 and is, so far, not significant enough to materially impact the financial position of the Scheme.

The longer term impact will depend on whether COVID-19 also leads to materially increased excess deaths in future years compared to prior expectations. While there is some suggestion that this disease may become endemic, the positive news on development and efficacy of vaccines may well temper any such effect, and there is also at least a theoretical argument that the surviving population could be slightly healthier than before on average. We will keep this under review, but do not consider it appropriate to change the assumption at the current time.

Several employers questioned the proposed removal of the inflation risk premium in estimating future CPI. The advice we have received is that there was less evidence of a positive inflation risk premium at 31 March 2020. We have not removed the inflation risk premium as a matter of principle, and our monitoring makes allowance for an inflation risk premium at dates subsequent to the valuation date. Furthermore, any allowance for an inflation risk premium needs to be considered in the context of the impact of potential RPI reform, as this will have influenced demand for (and market pricing of) index-linked government bonds.

However, the estimates for various components of the inflation assumption are not as important as the overall level of CPI inflation assumed in the valuation, which is very close to the level that UUK's advisor Aon has indicated they would have proposed at the same date.

As Aon noted: *"It is difficult to construct CPI from market implied RPI given the potential index changes. The construction of the CPI assumption is different to what we would propose, but the resulting single equivalent rate of 2.1% is only marginally higher than the rate we would calculate of 2.0%."*

The single equivalent rate of 2.1% stated is a rounded figure – in more detail the single equivalent of the CPI assumption used is 2.06%, indicating that in practice the difference between our approach and Aon's is even more marginal.

Regarding the suggestion that contributions be smoothed over time, we take this to mean smoothing in relation to the Recovery Plan and also, potentially, the future service contribution rate. This would normally mean taking market conditions into account at dates other than the valuation date.

We will examine post-valuation experience when we finalise the deficit recovery contributions to consider a 'smoothed' perspective. However, our estimates at more recent dates at this stage do not show any significant improvement, and we would also need to revisit the allowance for investment outperformance in the Recovery Plan.

Any further smoothing (for example, anticipating improvements in investment conditions) is effectively the same as allowing for investment outperformance in the Recovery Plan. As set out in our Trustee Update, we plan to make an allowance for investment outperformance above the discount rate in the Recovery Plan depending on the position employers take on providing additional covenant support measures.

We do not, however, plan to explicitly allow for smoothing of future service contributions. As noted later this in appendix, the outlook for investment returns has if anything deteriorated since 31 March 2020, and so smoothing across more recent dates would, in fact, lead to higher future service contributions.

Having an Integrated Risk Management Framework (IRMF) is a regulatory requirement. The metrics we plan to use are consistent with the long-term funding objective proposed by the JEP in its second report[2]. No alternative proposals for an IRMF, the metrics, the role of self-sufficiency as the risk benchmark, or the approaches to determining risk capacity were put forward in UUK's consultation response. We propose to retain these elements of the valuation as envisaged in the TP consultation document.

Alternative approaches were discussed in the Valuation Methodology Discussion Forum (VMDF), with views shared by UCU and UUK representatives and their advisors, as set out at length in Appendix A of our TP consultation document. Ultimately, there are issues on which we now have a greater shared understanding but where we still appear to disagree. We believe this is not because of a failure to actively engage or to listen but reflects differences of opinion, perspective and duties.

What has changed?

We have updated our assumptions for both available and affordable risk capacity and revised our assumption for sector payroll growth (to align with our expectation on the growth rate for the sector). Advice from the Scheme Actuary has also led us to making an allowance for outperformance in Recovery Plans across all three covenant scenarios.

What could still change?

The pre-retirement discount rate is linked through the IRMF to the strength of the covenant. Employers have not yet confirmed their position on additional covenant support measures (debt monitoring and *pari passu* arrangements, and a moratorium or rule change on employer exits).

We are therefore issuing a 76.1 report to the JNC that illustrates a range of potential outcomes for three different covenant scenarios. The Trustee determination (regarding the employer contribution rate required to fund the current benefits offered) is based on Scenario 2 for the purposes of Rule 76.4.1 and progressing the valuation. Appropriate measures could support a Recovery Plan of up to 15 years if, as we have described, the commitment to a moratorium on employer exits is of at least that length.

We recognise that, in all scenarios, the outcomes set out will be considered unaffordable and understand members and employers are concerned about the difficult choices facing the JNC. The continued fall in interest rates and a worsening outlook for investment returns have made USS's

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[2] Page 58, JEP 2: *"USS aims to be fully funded on a Technical Provisions basis where Technical Provisions are valued on a low-risk self-sufficiency basis for post-retirement years and on a prudent on-going basis for the pre-retirement years. The Scheme will also ensure that, at all times, the proximity to full self-sufficiency assessed on a low-risk basis can be supported by employers over an appropriate time frame if the Scheme were to be closed to future accruals."*

valuable pension benefits even more expensive to provide. We acknowledge and appreciate the challenges these conditions present and will continue to be as flexible, collaborative and constructive as we can whilst being mindful of our legal obligations. However, all parties to the process need to play their own part in reaching an acceptable solution for the sector overall.

The level of the increase to contribution rates depends primarily on UUK (through covenant support measures) whilst the options for dealing with the increase sit with the JNC, which is responsible for considering how the cost of any increase in the overall contribution rate is met. We are committed to engaging with UUK and UCU as we work to achieve the best outcome possible in these most difficult circumstances.

Further inputs considered by the Trustee

Among the issues discussed with stakeholders in various forums over the course of 2020 (see below) was the benefit of them having clear communications and a fuller view of the factors that influence our decisions. As well as UUK's response, our perspective on the issues covered above has been informed by a range of other inputs.

Further reviews of the covenant, the employers' collective risk capacity, financial markets, the economic outlook and demographic experience since 31 March 2020 have also been considered in light of COVID-19, with advice taken from the Scheme Actuary, our covenant advisors, and others.

There has also been extensive engagement with TPR throughout the entire process. This has (amongst other things) covered the strength of the covenant and potential covenant support measures, the Technical Provisions methodology and assumptions and potential outcomes, the Integrated Risk Management Framework, and the timetable for completing the valuation.

- **Further advice from the Scheme Actuary**

The Scheme Actuary has provided further advice to us in relation to demographic and financial assumptions following UUK's response to the consultation. This advice has informed our decision to calculate the Technical Provisions broadly in line with the assumptions in the TP consultation document – although the pre-retirement discount rate is clearly linked to the matter of covenant support.

- **Further investment experience and analysis**

Whilst there has been a recent recovery in some asset values to pre-pandemic levels, the outlook for expected future investment returns has, if anything, deteriorated since the valuation date of 31 March 2020. Financial conditions at 30 June, 30 September and 31 December 2020 all imply a higher contribution requirement for the Scheme using the 2020 valuation approach (allowing for changes in assumptions for future investment returns consistent with that approach).

Our Financial Management Plan (FMP) reports monitor the Scheme monthly on the 2018 valuation basis, and they have also been showing worsening funding metrics. At the end of March 2020, the value of the Scheme's assets stood at £66.5bn but the deficit and future service cost (based on tracking of the 2018 valuation's assumptions) were £12.9bn and 33.7% of payroll respectively. By the end of December 2020, assets stood at £80.5bn but the deficit and FSC were £27.9bn and 46.9%.

This is because the total value of the Scheme's assets returning to levels seen prior to March 2020 has been offset by a poorer outlook for expected future investment returns.

- **Further advice from our covenant advisors**

As set out in the TP consultation document, we commissioned further work on the covenant to assess the impact of COVID-19 on the HE sector. PwC and other advisors have since benefited from further engagement with a number of employers to analyse their financial position and business outlook. This was a significant time commitment at a busy time for institutions and we are grateful to those who participated. This helped to both update and strengthen the basis for our decisions.

In summary, the HE Sector has shown a greater-than-expected degree of resilience to the impact of the pandemic. This has confirmed PwC's view of the covenant's characteristics – although the commitment of employers to prioritising funding for the Scheme still needs to be evidenced and tangible. The allied work on affordable and available risk capacity has produced updated results. We have developed an approach to calculating the affordable risk capacity in different covenant support scenarios and reflecting our positive assessment of the resilience of the sector. This is explained in Appendix A. We have also reviewed the approach to calculating the available risk capacity and this is covered in more detail in Appendix B.

- **Engagement with the Pensions Regulator**

We have held extensive discussions with TPR throughout the valuation process but most recently held a series of detailed and robust discussions to explain the Trustee's position on the Rule 76.1 report. Across nine meetings, held over late December to early February, we discussed areas of our proposals that TPR felt wouldn't be prudent enough to comply with Part 3 of the Pensions Act 2004.

After considering all the analysis, reports and arguments we and our advisors put forward TPR remained of the view that the covenant would be tending to strong in all the scenarios set out in the 76.1 report. It has reasserted its view that more demonstrable commitments from employers would be required for the covenant to go beyond a tending to strong rating.

We believe we have given appropriate weight and consideration to TPR's position in our conclusions, having also carefully considered the advice and views set out in this Appendix. Scenarios 2 and 3 in the 76.1 report represent the limit of what we understand TPR would regard as compliant – subject to the relevant covenant support measures being agreed and fully implemented.

You can read TPR's views **here**.

A note on wider engagement

As mentioned above, we have engaged extensively with employers, UUK, UCU and the JNC in various forums throughout the 2020 valuation to make clear the issues that will hold greatest sway.

The importance and primacy of the covenant was reinforced in our Discussion Document of March 2020. We have regularly attended UUK's Employers Pension Forum and participated in UUK's working groups to support the development of covenant support proposals. We have also engaged separately with Institutions' executive teams and working groups.

These discussions have been extremely helpful to us, especially given the broad range of views across employers, and we are grateful to everyone concerned.

However, the covenant support measures remain outstanding. More recent discussions with UUK on this issue have helped to refine the scenarios detailed in the main body of this document.

We have also:

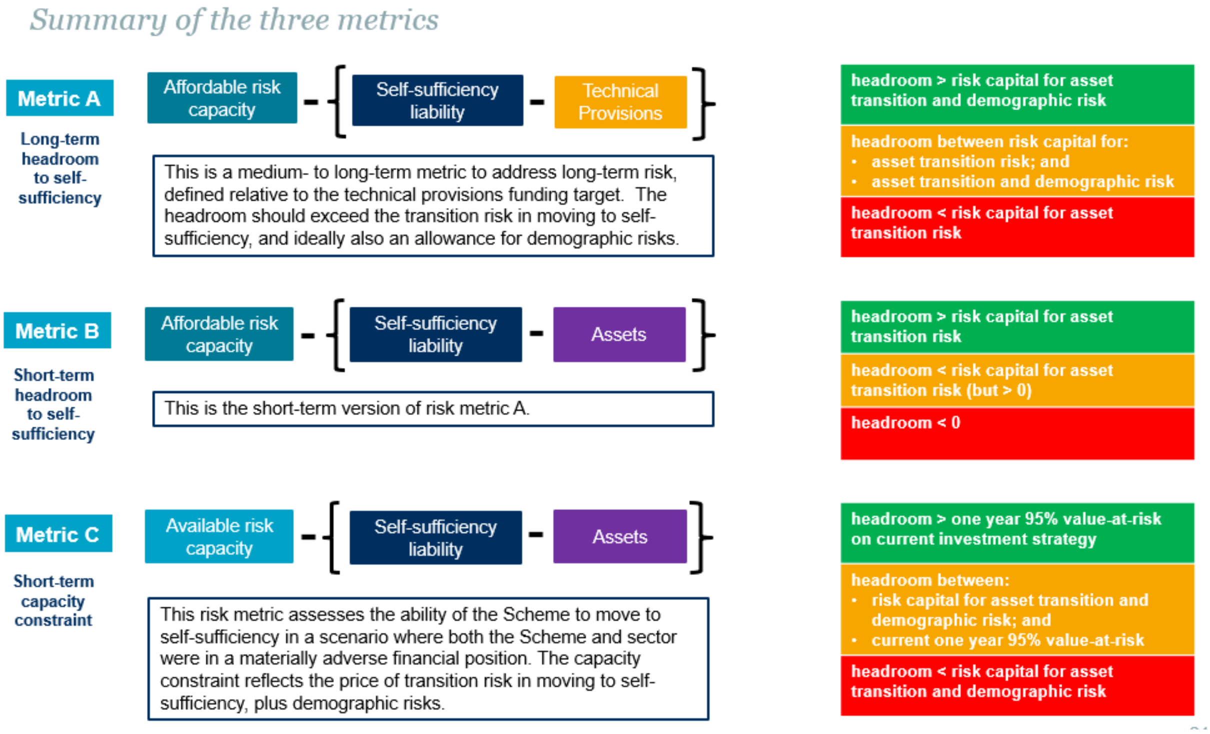
- Issued regular updates to institutions including more comprehensive updates and key points in the decision-making process.
- Published a summary of the responses we received to our Discussion Document.
- Provided further information on the proposed rule change on employer exits via a 'Rationale for a long-term rule change' note, a live webinar for employers with PwC and 'Proposed rule change FAQs'.
- Supported UUK in respect of the consultation on the proposed debt monitoring and *pari passu* framework.
- Held webinars with employers and with members focused on the valuation throughout this process to explain our approach, including participation by Trustee Directors, the Scheme Actuary, and our covenant advisors where appropriate.
- Held 24 briefings with individual employers representing almost 50% of our active membership.

We have engaged extensively with UCU, UUK and their advisors through 11 meetings of the VMDF, 17 tripartite meetings to progress the governance-related aspects of the Joint Expert Panel's (JEP) second report, and 10 meetings of the JNC. Members of the Trustee Board have attended each of these meetings. A summary of the comprehensive VMDF discussions was published in the TP consultation document and we have also published some of the key analytical outputs.

Appendix D: Integrated Risk Management Framework

In our Technical Provisions (TP) consultation document, we set out our proposed approach to integrated risk management and the framework we planned to use. The Integrated Risk Management Framework (IRMF) employed three metrics (A, B and C), which measure risk relative to self-sufficiency. These are summarised below.

Figure 1: Definitions of the three risk metrics and their thresholds



The three scenarios considered in the 76.1 report target TPs which are between £17bn and £20bn less than the self-sufficiency measure adopted by the Trustee. This can be viewed as the level of reliance we would be placing on the employer covenant when fully funded on a TP basis. This is a result of anticipating future expected (but uncertain) investment returns in the Technical Provisions in excess of those which we would allow for under our self-sufficiency measure. Self-sufficiency would be our target in the absence of employer support.

Under our IRMF, as described in the TP consultation, **Metric A** tests how the gap between TPs and self-sufficiency compares with our assessment of the employers' *affordable* risk capacity. This metric is rated 'green' if the *affordable* risk capacity exceeds the gap to self-sufficiency **plus** an allowance for asset transition risk in moving to a self-sufficiency investment strategy **and** an allowance for demographic risk.

Metric B tests how the shortfall on our self-sufficiency measure compares with our assessment of the employers' *affordable* risk capacity. This metric is rated 'green' if the affordable risk capacity exceeds the self-sufficiency deficit plus an allowance for asset transition risk in moving to a self-sufficiency investment strategy. It 'red' if the self-sufficiency deficit exceeds the *affordable* risk capacity.

Metric C is similar to Metric B but is based on our assessment of the employers' available risk capacity (higher than the *affordable* risk capacity) and is a higher measure of risk.

The table below shows the position of the metrics for each of the employer covenant scenarios set out in our Trustee Update. In each scenario, Metric A is 'green' with a modest excess above the 'green' threshold. This helps to support the assumed additional investment returns in the Recovery Plan.

	Scenario 1 No additional covenant support	Scenario 2: UUK illustrative covenant support package	Scenario 3: Enhanced level of covenant support
Metric A			
Affordable risk capacity	£26-28bn	£27-30bn	£30-33bn
Difference between TPs and self-sufficiency	£17.1bn	£18.9bn	£20.1bn
Headroom	£9-11bn	£8-11bn	£10-13bn
RAG rating	**Green**	**Green**	**Green**

The threshold for a green Metric A is £7-8bn, depending on assumed investment strategy in the range 40-55% growth.

	Scenario 1 No additional covenant support	Scenario 2: UUK illustrative covenant support package	Scenario 3: Enhanced level of covenant support
Metric B			
Affordable risk capacity	£26-28bn	£27-30bn	£30-33bn
Self-sufficiency deficit	£35bn	£35bn	£35bn
Headroom	- £7-9bn	- £5-8bn	- £2-5bn
RAG rating	**Red**	**Red**	**Red**

The threshold for a red Metric B is £0bn.

	Scenario 1 No additional covenant support	Scenario 2: UUK illustrative covenant support package	Scenario 3: Enhanced level of covenant support
Metric C			
Available risk capacity	£63bn	£68bn	£76bn
Self-sufficiency deficit	£35bn	£35bn	£35bn
Headroom	£28bn	£33bn	£41bn
RAG rating	**Green**	**Green**	**Green**

The threshold for a green Metric C is £15-19bn, depending on assumed investment strategy in the range 40-55% growth.

The asset transition risk, allowance for demographic risks, and value at risk figures that feed into the risk metrics are as outlined in the TP consultation document. No decision has been taken regarding the actual investment strategy to be adopted.