23 July 2021

USS

USS Briefing: The likely outcome of a 2021 valuation

This briefing note responds to requests from Universities UK (UUK) and University and College Union (UCU) for analysis of the likely outcome if we chose to hold a valuation as at 31 March 2021.

The 2020 valuation needs to be completed in any event as several funding metrics are still in the red. But, on the basis set out in this note, we would not expect the outcome of a 2021 valuation to be materially different: while we compensated for exceptional market conditions as at 31 March 2020, the same adjustments would not automatically carry over to a 'more normal' 2021 valuation.

We are also mindful that members will start to contribute 11% of salary from October and even more potential members may choose to opt out of the Scheme the longer that rate is in place.

The likely outcome

We have considered the benefit package on which UUK has consulted employers for the 2020 valuation, together with our proposed adjustments to its covenant support package. This would (as at 31 March 2021 and subject to statutory consultation with UUK) result in an estimated Technical Provisions (TP) deficit of around £5.6bn and an estimated contribution rate of 31.6% of USS payroll. The same figures for the 2020 valuation would be £14.1bn and 31.2% respectively. (See 'Summary of results' in the appendices.)

Our assets have increased in value from £66.5bn at 31 March 2020 to £80.6bn at 31 March 2021. But the estimated amount we need to hold for the pensions already promised to members (our 'TP liabilities') has also increased – to £86.2bn. The estimated annual cost of funding new pension promises (the 'future service cost') is also slightly higher: up from 24.9% of payroll to 25.6%. These increases are driven by lower expected future investment returns and higher expected inflation.

The outcome illustrated above depends on the associated benefit and covenant arrangements first being agreed for the 2020 valuation. For example, the estimated TP deficit and future service cost would both likely be higher at 31 March 2021 – £7.1bn and 36.7% respectively – if existing benefits continued to be offered (see appendices). They were £3.6bn and 28.7% at the 2018 valuation.

2020-2021: post-valuation experience

Market conditions at 31 March 2020 were extraordinary, fuelled by the initial impact of the COVID-19 pandemic on the global economy. But they were not universally negative for the valuation: asset prices crashed, which affected the deficit in respect of pensions already promised – but lower market prices meant the outlook for future investment returns was unusually high.

We compensated for these extraordinary conditions in the 2020 valuation principally through the:

- discount rate – higher than normal (compared with low-risk returns) but moderated prudently
- proposed deficit Recovery Plan – significant, enduring investment outperformance over 18 years

At 31 March 2021, conditions had broadly normalised in a manner that supports the 2020 decisions: asset prices had recovered (allowed for in the proposed Recovery Plan) but, partly as a consequence, the outlook for future investment returns had reduced (allowed for in the discount rates). This is effectively a form of 'smoothing' that is consistent with our Fundamental Building Blocks (FBB) model for expected investment returns. In other words, the adjustments we made to take account of the exceptional market conditions as at 31 March 2020 (again, a form a smoothing) have been validated by 'more normal' conditions. But this means the same adjustments would not

automatically carry over. That is why we would not expect the outcome of a 2021 valuation to be materially different.

What has changed?

Our assets have increased in value, but so have our TP liabilities. Asset prices have recovered, but the outlook for future investment returns has correspondingly reduced. Nominal gilt yields have increased and the expected rate of improvement in members' life expectancy is slightly lower but market expectations for UK inflation are higher. We would expect to use a 'more normal' Recovery Plan. See the appendices for more information.

How would we approach it?

We would use the same 'dual discount rate' methodology – as recommended by the Joint Expert Panel (JEP) and supported by the vast majority of employers in consultations for the 2020 valuation. We would also apply the same Integrated Risk Management Framework (with assumptions updated to reflect market conditions as at 31 March 2021). The two together are consistent with the 'long term funding objective' suggested by the JEP.

The strength of the covenant informs the overall amount of investment risk we can plan to take and, in turn, the contributions required. Given the extensive analysis of, and engagement on, the covenant for the 2020 valuation we would propose initially to use consistent 'affordable' and 'available' risk capacity values (see appendices). However, this too could be affected by post valuation experience (see below). We assume the level of additional covenant support provided by employers would be the same as we are discussing with UUK for the 2020 valuation.

Other notes

As conditions were 'more normal', there would generally be slightly less **prudence** in our assumptions as at 31 March 2021 than 2020 (compared to the 'best estimate'). The discount rates, for example, would be consistent with lower, less prudent confidence levels (see appendices).

Given the rates set under the last three valuations[1] and the estimated £5.6bn shortfall at 31 March 2021, we have assumed **deficit recovery contributions** (DRCs) would be set at around 6%. This would be consistent with a 'more normal' Recovery Plan and The Pensions Regulators' (TPR) comments of 14 July 2021:

"If there is a bigger deficit in 2021 than the valuation in 2018, which appears to be the case based on the preliminary numbers we have seen, the starting point for discussions about DRCs should be at least 6% of salaries. This is the level of DRCs which is payable from 1 October 2021 in the recovery plan agreed following the 2018 valuation.

"The Trustee may choose to consider whether it can get comfortable with receiving DRCs which are marginally less than 6% of salaries…we would not expect anything materially below that level."

Note also that the 'self-sufficiency' deficit has not fallen as much as the TP deficit, and as a result the Scheme's short-term risk position remains uncomfortable. This constrains the trustee decision making, through the Integrated Risk Management Framework metrics (see appendices).

In practice, the Recovery Plan (including length and any allowance for out-performance) would be considered in the latter stages of a valuation to take account of post-valuation experience.

[1] 2017: £7.5bn deficit and 5% DRCs; 2018: £3.6bn deficit and 6% DRCs; 2020: £14.1bn deficit and 6.3% DRCs

Post-valuation date experience needs to be applied consistently from valuation to valuation – not just when it is positive. As above, it has been mixed since 31 March 2020. It is difficult to know how it would play out under a 2021 valuation – particularly under an accelerated or streamlined process.

TPR has said: *"We recognise that there are challenges in seeking to run a streamlined [2021] valuation process and that in practice this may not be achievable despite the Trustee's intentions. In particular, a streamlined process may be difficult to progress if the current covenant support measures and/or benefit reform under consideration were revisited."*

TPR has also noted that the government's Autumn higher education sector funding review *"could potentially have a material impact on affordability for certain employers"*. At the least, the prospect of changes to HE funding policy would add time and complexity to the completion of a 2021 valuation. The covenant assessment has been an area of contention between the Trustee and TPR, and significant changes in this area could require a substantive re-evaluation.

Fundamentally, a 2021 valuation would not change the **structural challenges** facing defined benefit (DB) pension schemes. The economic cost of funding 'guaranteed' pensions has increased over the past decade, driven by higher asset prices and lower expectations for future returns across a sensibly diversified and suitably secure portfolio.

That is as true for USS as it is for other DB schemes. For example, SAUL has reported its future service cost now stands at 35% of payroll (some 63% higher than in 2014). The 'unfunded' Teachers' Pension Scheme has increased employer contributions to 23.68% – a 43% rise on the previous rate (16.5%).

According to the Pensions Protection Fund, 89% of the UK's private DB schemes have closed to new members, while 48% have stopped offering DB pensions altogether. USS accounts for almost a fifth (18.8% - 204,000) of the 1,089,000 people in the UK who are still actively paying into private DB schemes, and it is open to new members.

The 2020 valuation

The original reasons for pressing ahead with the current valuation still hold: by the end of March last year, the Scheme's funding position had deteriorated dramatically and members' pensions were at risk of being under-funded. Several funding metric triggers are still in the red. Continuing with the 2020 valuation is the required response under the Monitoring and Actions framework for the 2018 valuation. Abandoning the 2020 valuation would also bring the Trustee into a breach of regulatory expectations. It needs to be completed regardless of whether we were to hold a 2021 valuation.

TPR is also clear in its letter of 14 July 2021 that it expects the 2020 valuation to be completed in any event:

"The rationale for the Trustee to carry out and complete a valuation as at 31 March 2020 remains. We expect the Trustee to do this without delay, regardless of any decision in relation to a potential 2021 valuation."

"Any decision by the Trustee to conduct a 2021 valuation should not be seen as an opportunity by stakeholders to avoid or defer difficult decisions, making it less likely that an appropriate, sustainable outcome can be reached for the 2020 valuation in a reasonable timeframe."

"…one of the options it may be appropriate for us to consider would be to set out a timetable for completion of the 2020 valuation in the form of an improvement notice."

We are also mindful of the contribution increases scheduled from October 2021 under the 2018 valuation – when members will start to pay 11% of salary, with employers paying 23.7%. The high level of member opt-outs USS is already experiencing is driven primarily by concerns over affordability and suitability/portability.

The Joint Negotiating Committee needs to make decisions relating to the 2020 valuation by the end of August for there to be any chance of intercepting October's increases.

Conclusions and next steps

The outcome of a 2021 valuation would be subject to consultation with UUK and so the outcomes illustrated cannot be definitive. The length and optimism of the illustrative Recovery Plan shown here would be considered in the latter stages of a valuation to take account of post-valuation experience. The trustee may be able to conclude on marginally lower recovery plan contributions and negotiate such an outcome with TPR. It is also clear that changes in market conditions or covenant assessments could result in an outcome that was materially worse.

The indicative outcome is based on the benefit changes and covenant arrangements on which UUK has recently consulted employers for the 2020 valuation. A 2021 valuation would be much more challenging if those arrangements are not agreed and cannot be carried across. On balance – having considered the advice of the Scheme Actuary, the views of TPR, and the perspectives of stakeholders – we do not believe there are compelling grounds to commission a 2021 valuation.

It is critical that the trustee and stakeholders focus first on completing the 2020 valuation and addressing members' and employers' immediate concerns about the affordability and value of the benefits offered by the Scheme The optimal timing of a subsequent valuation will depend on the nature of the outcome negotiated between stakeholders and the trustee is willing to discuss various alternative timings, within the triennial statutory frame.

We look forward in this context, to working with stakeholders on other key issues that need to be resolved and have been raised in consultations. In particular, we are keen to address the challenges cited by some members of the suitability of the USS offering for those with short tenure and concerns on mobility of the pension promise (including international mobility). We would also welcome the opportunity to work with stakeholders on the design of alternative benefit arrangements, such as conditional indexation, where careful thought will be required on policy matters.

We are also keen to discuss how scheme governance can be improved, so that USS can continue effectively to evolve and remain one of the best private pension offerings in the country.

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Appendix

2021 PVE vs 2020 valuation: Summary of results[3]

	31 March 2020		31 March 2021	
	Current benefits[1]	UUK proposal[2]	Current benefits[1]	UUK proposal[2]
Technical Provisions (TP)	£81.9bn[4]	**£80.6bn[4]**	£87.7bn	**£86.2bn**
Assets	£66.5bn	**£66.5bn**	£80.6bn	**£80.6bn**
Technical Provisions Deficit	£15.4bn	**£14.1bn**	£7.1bn	**£5.6bn**
Future service contribution (FSC)[5]	33.6%	**24.9%**	36.7%	**25.6%**
Deficit recovery contribution (DRC)	8.9%	**6.3%**	6%	**6%**
Total contribution	42.5%	**31.2%**	42.7%	**31.6%**

Notes

1. **"Current benefits"** pricing is based on Scenario 3 for additional covenant support in the Rule 76.1 Report. This is the case throughout this presentation.
2. **"UUK proposal"** pricing is based on the Trustee's counter-proposal for additional covenant support. This is the case throughout this presentation.
3. All 2021 calculations are approximate, based on 2020 membership data.
4. Includes allowance of £0.5bn for effect of liabilities for certain late retirement entitlements and liabilities for short service members with less than two years' service who retain rights to cash transfer sums. DRCs include an extra 0.4% of salary as a result. The potential need for additional liabilities for short service members was signposted in the Rule 76.1 report.
5. For both the 2020 and 2021 figures, the calculated FSC allows for investment outperformance for 15 years (current benefits) or 18 years (UUK proposed benefits) from March 2020. If in the 2021 figures the investment outperformance were allowed for on the future service contributions for only the period of the Recovery Plan (see later), the future service rate would be higher.

Overall contribution rates at 31 March 2021 are not materially different from the 2020 valuation

2021 PVE vs 2020 valuation: Technical Provisions and future service contributions[1]

USS

	31 March 2020		31 March 2021	
	Current benefits	UUK proposal	Current benefits	UUK proposal
CPI inflation assumption	2.1%	**2.1%**	2.5%	**2.5%**
Nominal gilt yield 15 year	0.70%	**0.70%**	1.23%	**1.23%**
TP discount rate[4] (pre- / post-retirement)	gilts + 2.5% / gilts + 1.0%	**gilts + 2.75% / gilts + 1.0%**	gilts + 2.2% / gilts + 0.55%	**gilts + 2.45% / gilts + 0.55%**
Outperformance in FSC[3,4]	0.5% pa	**0.5% pa**	0.25%	**0.25%**
Technical Provisions Assets Technical Provisions Deficit	£81.9bn[2] £66.5bn £15.4bn	**£80.6bn[2] £66.5bn £14.1bn**	£87.7bn £80.6bn £7.1bn	**£86.2bn £80.6bn £5.6bn**
Future service contribution (FSC)[3]	33.6%	**24.9%**	36.7%	**25.6%**

Notes

1. All 2021 calculations are approximate, based on 2020 membership data.
2. Includes allowance of £0.5bn for effect of liabilities for certain late retirement entitlements and liabilities for short service members with less than two years' service who retain rights to cash transfer sums. The potential need for additional liabilities for short service members was signposted in the Rule 76.1 report.
3. For both the 2020 and 2021 figures, the calculated future service contribution rate allows for investment outperformance for 15 years (current benefits) or 18 years (UUK proposed benefits) from March 2020. If in the 2021 figures the investment outperformance were allowed for on the future service contributions for only the period of the Recovery Plan (see later), the future service rate would be higher.
4. The 2021 discount rates and outperformance are the maximum supportable as being consistent with the 2020 valuation.

2021 PVE vs 2020 valuation: Integrated Risk Management Framework – key metrics

USS

	31 March 2020		31 March 2021	
	Current benefits	UUK proposal	Current benefits	UUK proposal
Technical Provisions Deficit	£15.4bn	**£14.1bn**	£7.1bn	**£5.6bn**
Self-sufficiency deficit	£35bn[1]	**£35bn[1]**	£30bn	**£30bn**
Affordable Risk Capacity	£30-33bn	**£30-33bn**	£31-35bn	**£31-35bn**
Metric A – headroom[2]	£10-13bn	**£9-12bn**	£8-12bn	**£7-11bn**
Metric A – RAG rating	Green	**Green**	Green	**Amber / Green**
Metric B – headroom	£-2 to -5bn	**£-2 to -5bn**	£1-5bn	**£1-5bn**
Metric B – RAG rating	Red	**Red**	Amber	**Amber**

Notes
1. May need adjustment for note 2 on previous page.
2. The threshold for "Green" Metric A is headroom of £7-8bn.
3. The Affordable Risk Capacity is the same for both the Scenario 3 additional covenant support and the Trustee's counter-proposal on additional covenant support.

2021 PVE:
Total contribution rate based on possible Recovery Plans

USS

	31 March 2021	
	Current benefits	UUK proposal
Future service contribution - FSC[1]	36.7%	**25.6%**
Deficit recovery contribution DRC[2] based on:		
1. 6.0% fixed contribution rate	6.0%	**6.0%**
2. 10 year Recovery Plan (0.25% outperformance)	6.0%	5.0%
3. 13-year Recovery Plan (0% outperformance)	5.8%	5.0%
Total contribution rate:		
1. 6.0% fixed contribution rate	42.7%	**31.6%**
2. 10 year Recovery Plan (0.25% outperformance)	42.7%	30.6%
3. 13-year Recovery Plan (0% outperformance)	42.5%	30.6%

- Recall that 6.0% is the starting point for DRC because that was the DRC in the 2018 valuation when the TP deficit was smaller

Notes

1. For the 2021 figures, the calculated FSC allows for investment outperformance for 15 years (current benefits) or 18 years (UUK proposed benefits) from March 2020. The DRC allows for investment outperformance for the full length of the Recovery Plan where relevant. If in the 2021 figures the investment outperformance were allowed for on the future service contributions for only the period of the Recovery Plan, the future service rate would be higher.
2. In all cases, it is assumed that the new contribution rate would take effect from 1 October 2021, and under the UUK proposal it is assumed that benefit changes would take effect from 1 April 2022. The 10 year recovery plan for the 2021 figures runs from 31 March 2021.

Prudence – 2021 vs 2020 and 2018: Lenses 1 & 2

The following tables provide an update to the prudence lenses described in the USS briefing note of 3 March 2021

	31 March 2018	31 March 2020		31 March 2021	
Benefit structure		Current benefits	**UUK proposal**	Current benefits	**UUK proposal**
Lens 1: Confidence level of TP discount rates					
***Lens 1a:* Confidence level using USS' model for investment returns**	67%	Pre retirement: 80% - 85% Post retirement 73%	**Pre retirement: 77% - 84% Post retirement 73%**	Pre retirement: 66% - 77% Post retirement 70%	**Pre retirement: 63% - 75% Post retirement 70%**
***Lens 1b:* Confidence level using LCP's approximate analysis**	N/A	Pre retirement: Broadly 5-10% lower	**Pre retirement: Broadly 5-10% lower**	Pre retirement: Broadly similar	**Pre retirement: Broadly 0-5% lower**
***Lens 1c:* Confidence level allowing for investment outperformance in the recovery plan using USS' FBB return model (Recovery plan: 15/18 years for 2020 and 10 years for 2021)**	67%	Pre retirement: 74% - 83%	**Pre retirement: 69% - 79%**	Pre retirement: 64% - 76%	**Pre retirement: 60% - 73%**
Pre-retirement discount rate used in Lens 1c	N/A	2.95%	3.33%	2.38%	2.69%
***Lens 1d:* Confidence level allowing for investment outperformance using LCP's approximate analysis**	N/A	Pre retirement: Broadly 10% lower	**Pre retirement: Broadly 10% lower**	Pre retirement: Broadly 0-5% lower	**Pre retirement: Broadly 0-5% lower**
Lens 2: Ratio of TP to best estimate liabilities (TP/BE)	124%	121% - 130%	119% - 128%	114% - 123%	112% - 121%

Note that the ranges shown in the table reflect a range of the possible allocations to growth assets between 40% and 55% overall. Reference to LCP confidence levels is based on approximate analysis rather than full stochastic modelling – comparisons are with the USS model output.

In general, there is slightly lower prudence in 2021 than 2020. In particular confidence levels are lower for the 2021 figures. Compared with 2018, the 2021 lenses show higher prudence in some aspects and lower in others.

Prudence – 2021 vs 2020 and 2018: Lenses 3, 4 & 5

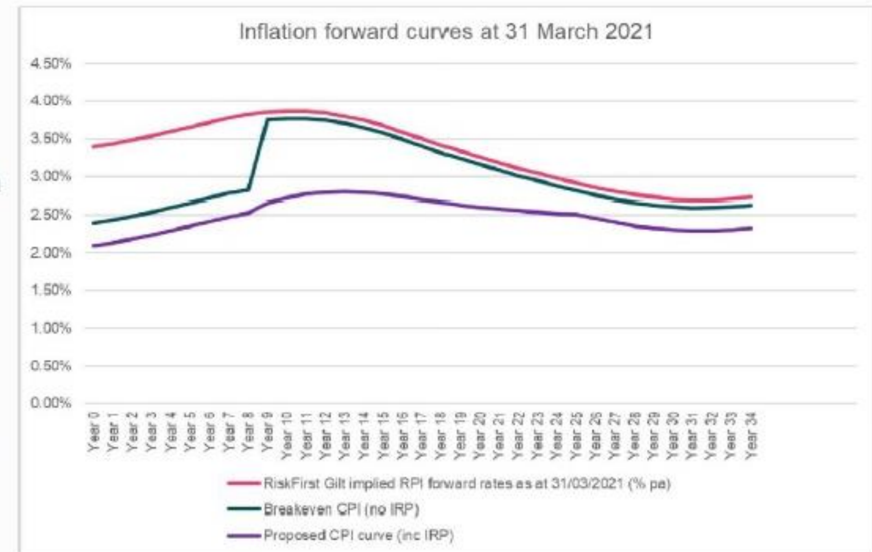
	31 March 2018	31 March 2020		31 March 2021	
Benefit structure		Current benefits	**UUK proposal**	Current benefits	**UUK proposal**
Lens 3: **Comparing TP and SS liabilities**					
Lens 3a: **Ratio of TP to SS (TP/SS) as %**	80%	80%	79%	79%	78%
Lens 3b: **Distance of TP to SS (SS–TP) in £bn**	17.2	20.1	21.4	23.3	24.8
Lens 4: **Reduction in contributions from investment outperformance in recovery plan** (Recovery plan: 15/18 years for 2020 and based on a 6.0% fixed DRC with 0.25% pa outperformance for 2021)	-	4.4%	4.0%	2.4%	2.3%
Lens 5: **Headroom in affordable risk capacity above TP distance from SS**					
Lens 5a: **Headroom as %**	45%	33% - 39%	29% - 35%	25% - 33%	20% - 29%
Lens 5b: **Headroom in £bn**	£13.8bn	£10bn - £13bn	£9bn - £12bn	£8bn - £12bn	£7bn - £11bn

Note that the ranges shown in the table reflect a range of the possible allocations to growth assets between 40% and 55% overall

In general slightly lower prudence in 2021 than 2020. In particular confidence levels are lower for the 2021 figures. Compared with 2018, the 2021 lenses show higher prudence in some aspects and lower in others.

CPI inflation assumption at 31 March 2021

- We now have greater clarity on RPI reform – from 2030, RPI will be aligned with CPIH.
- Trustee now considers it appropriate to allow for a step-change in the difference between RPI and CPI in 2030.
  - Difference between RPI and CPI assumed to be 1.0% pa until 2030 and 0.1% pa after 2030.
- Gilt market future breakeven rates of RPI inflation are now significantly higher than in 31 March 2020
- It is not clear that all of this rise represents a true best estimate of future RPI inflation expectations, or whether implies existence of an inflation risk premium (IRP)
- If there were no IRP then the implied CPI assumption would suddenly jump up in 2030 as illustrated on the chart
- Trustee has determined it would be reasonable to allow for an IRP as at 31 March 2021 of 0.3% pa pre-2030 stepping up to 1.1% pa in 2030 and then tapering linearly back down to 0.3% pa over the subsequent 16 years
- This results in a relatively smooth forward curve for CPI as illustrated in the chart to the right. The overall single-equivalent IRP is 0.5% pa



Single equivalent assumption	31 March 2020	31 March 2021
CPI	2.1%	2.5%
Inflation risk premium (IRP)	0.0%	0.5%

Expected investment returns are lower in 2021

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- Trustee has been clear – assumed investment returns (which feed into discount rates and assumed out-performance) as at 31 March 2020 were higher than would be expected in more normal financial conditions.
- Top table shows some published indicators for key financial markets (gilts, credit, and equities) – indicating substantial changes in financial market conditions from 31 March 2020 to 31 March 2021.
- The position as at 31 March 2021 reflects the less extreme financial conditions at that date.
- The table to the right shows best-estimate returns under both USS FBB assumptions and LCP's central assumptions for the pre- and post-retirement portfolios assuming (for indicative purposes) an overall 55% growth strategy. LCP best-estimate returns take into account the IRP where relevant.
- Reduction in expected returns due to lower credit spreads and strong equity performance over the year – the higher assumptions at 31 March 2020 reflected extreme conditions at that date.

Market indicators	31 March 2020	31 March 2021
FTSE Gilts 15 year yield index	0.70%	1.23% (+53bp)
iBoxx £ Non-gilts credit (option-adjusted spread)	2.16%	1.06% (-110bp)
FTSE All-Share index	3107	3831 (+23%)
FTSE All-Share dividend yield	5.53%	2.85% (-268bp)

Best-estimate portfolio returns (assuming overall 55% growth strategy)	31 March 2020	31 March 2021
FBB returns		
Pre-retirement portfolio	gilts+5.90%	gilts+4.69%
Post-retirement portfolio	gilts+1.55%	gilts+0.99%
LCP returns		
Pre-retirement portfolio	gilts+5.4%	gilts+4.1%
Post-retirement portfolio	gilts+1.7%	gilts+0.8%

TP discount rates

Discount rates *(subject to appropriate covenant support)*	31 March 2020	31 March 2021
Current benefits (+ Scenario 3 for additional covenant support)		
Pre-retirement	gilts+2.5%	gilts+2.2%
Post-retirement	gilts+1.0%	gilts+0.55%
UUK proposed benefits (+ Trustee counter-proposal on additional covenant support)		
Pre-retirement	gilts+2.75%	gilts+2.45%
Post-retirement	gilts+1.0%	gilts+0.55%

- Table shows the Trustee's decision on TP discount rates as at 31 March 2020 (subject to appropriate covenant support) and the Trustee's view on consistent discount rates as at 31 March 2021
- Post-retirement– reflects the self-sufficiency discount rate as before, including effect of reduced credit spreads
- Pre-retirement (current benefits) – reflects reduced assumed returns
- Pre-retirement (UUK proposed benefits) – an increase in the pre-retirement discount rate to reflect lower future defined benefit risks
- Assumed outperformance from 31 March 2021 – also constrained by lower expectations of future returns than from the exceptional conditions at 31 March 2020 – up to 0.25% pa from 2021 rather than up to 0.5% pa from 2020.