Universities Superannuation Scheme (USS)
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USS Initial Consultation for 31 March 2020 actuarial valuation

Introduction

The USS Trustee is carrying out an initial consultation on the 31 March 2020 actuarial valuation.

We have been asked to provide actuarial advice on three of the five questions posed by the USS Trustee (questions 1, 4 and 5), with this paper forming a technical annex to UUK's note to institutions of today.

Executive summary

This is the first consultation, and it precedes the main consultation on the assumptions and recovery plan which is expected in July/August. For this initial consultation, our advice to UUK is:

- **Question 1 (method):** In our view, a dual discount rate approach is worth exploring further.
- **Question 4 (investing in growth assets for longer):** In our view, taking risk for longer is worth exploring further.
- **Question 5 (employer risk appetite):** Some employers may feel that they have enough information from the Trustee to engage and provide a view on "risk appetite". We are suggesting further work is carried out within the Valuation Methodology Discussion Forum (VMDF) to help the Trustee develop a more practical risk framework for stakeholders to consider the risks being run.

The USS Trustee's consultation document provides information at 31 December 2019, and notes that concerns over Coronavirus have caused large market falls which, if they persist, could adversely impact the valuation. Since it was issued, the position has become worse still:

- USS estimates that the self-sufficiency deficit has increased from about £25Bn at the year-end to about £35Bn on 10 March.
- On last time's methodology, we estimate that the technical provisions deficit (on which cash contributions are based) has increased from about £5.4Bn to about £12Bn, and the cost of new benefits has increased from about 32.5% to about 35%(†).

We are not saying that this tracking information should inform the contribution rates for the March 2020 valuation, and it should be possible to review the approach based on long-term investment views. Nevertheless, we want to be clear with UUK that the valuation may result in difficult decisions being required whichever methodology is adopted.

(†) Based on information provided by the Trustee at 29 February 2020, with approximate adjustment for the impact on the liabilities of potential RPI reform using information provided by the Trustee to the VMDF.

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Many employers with a March 2020 valuation will find this a trying valuation cycle, with trustees grappling for the right balance between short- and long-term views. From a practical perspective, trustees may also find it hard to engage employers in the coming months (as their focus will be drawn to the wider implications of COVID-19). We hope that the Pensions Regulator will provide trustees (in general) with more flexibility on the 15-month deadline in these circumstances.

Since our last valuation was 2 years ago (rather than 3 years ago), the USS Trustee does have the additional option of deferring the valuation by a year. This *may* be worth the stakeholders considering further, but it would likely mean that the contribution increases due in October 2021 (for employers and members) would come into place.

In the remainder of the report we explore questions 1, 4, and 5 in more detail. Then, in the Appendix, we set out some more technical comments for those interested in these details at this early stage.

Question 1

The Trustee asks: *"What are your comments on the proposed new methodology"*.

The dual discount rate approach was suggested by the JEP for consideration: *"The Panel is of the view that, given the open nature of the Scheme, an appropriate balance would be one which employs a cautious and low-risk discount rate approach to the years of retirement and allows for a higher rate for the pre-retirement years".*

We see several potential advantages in a dual discount rate approach:

- It is "tried and tested" with many UK schemes using such an approach (including among universities for their SATS schemes).
- The VMDF is considering this approach, albeit other approaches are not considered "off the table" at this stage.
- Should the scheme remain open, then the investment strategy can be kept relatively constant (subject to the risk being acceptable – considered in questions 4 and 5). And should it ever close, the technical provisions will automatically strengthen to limit the reliance on covenant over time. Overall, this is consistent with the direction of travel of the Pension Regulator's consultation on the new Code of Practice on Funding.

However, we have three primary observations where further work is needed within the VMDF and from the Trustee ahead of the main consultation on the assumptions in July/August:

1. What pre-retirement discount rate is used at valuation date

The JEP report provides three example pre-retirement discount rates of Gilts+2.5% p.a., Gilts+3.0% p.a., and Gilts+3.5% p.a. (The higher the discount rate, the lower the value placed on liabilities.)

The Trustee has provided figures only on the most prudent of these three examples. Using Gilts+3.0% (3.5%) p.a. would reduce the deficit by about £2.5Bn (£5Bn), and reduce the cost of future benefits by about 2.5% (4.5%) of pay(†).

We note that the illustrative discount rate gives broadly the same deficit as the previous valuation approach.

(†) We have calculated these figures approximately. They are based on the relative figures provided in the consultation document using the Gilts+1.75% p.a. (applicable for a tending to strong covenant) and Gilts+2.5% p.a. (applicable for a strong covenant) pre-retirement discount rates.

2. Link between funding and investment strategy

The Trustee puts forward the view that the overall investment approach should comprise a “low-risk” strategy for pensioners, and a “growth” strategy for non-pensioners. It is said that this “implies” an investment strategy of 55% growth assets, compared with the current strategy which targets 65%.

As a general comment, dual discount rate approaches are popular, but it is rare for the investment strategy to so closely follow the funding approach. There may be valid reasons to target a higher return (or more growth assets), for example to address a deficit – or because the overall risk-reward trade-off is preferred. This issue has been identified by the VMDF, and further work needs to be carried out to test the merits of different investment strategies.

3. How the pre-retirement discount rate evolves over time

At present, we understand that the Trustee is calculating the pre-retirement discount rate by using their USSIM investment assumptions. The JEP report suggested that the pre-retirement discount rate could instead be set relative to CPI. We can see some merit in this simpler and more transparent approach, which would also make it easier for future valuation outcomes to be modelled.

In addition, based on the Trustee’s narrative, the approach gives a covenant support requirement in 2040 of broadly £35Bn (i.e. the value of 10% of pay for 30 years) (Table 7.2), equal to the Trustee’s assumed risk appetite. We have expressed concern to the VMDF that a version of Test 1 is effectively reappearing here. We have asked the Trustee to show how the valuation approach would work at different valuation dates to provide comfort that it is robust.

Summary

Overall, it is encouraging that the Trustee is consulting on moving to a dual discount rate approach, and this is being considered by the VMDF. But it is not enough to get the structure right, the assumptions must also be right.

While the Trustee has said that it is not consulting on the assumptions at this stage, their note contains various illustrations and it is difficult not to engage with these (for instance, only the most prudent of the JEP examples is shown).

We see three main issues to work through – what pre-retirement discount rate is used at the valuation date, what investment strategy is adopted, and how the pre-retirement discount rate evolves over time. We would hope that the VMDF can reach a closer consensus on these items ahead of the main consultation by the Trustee in July/August, as well as considering wider options.

Question 4

Do you have any initial views on whether you would be comfortable with an investment strategy that took a moderately larger amount of risk in the long term?

Our view is that it would be reasonable for the employers to consider an investment strategy that is closer to the current strategy but for a longer period (rather than being assumed to de-risk materially over 20 years).

New thinking here would increase the prospect of being able to set the Technical provisions at a lower level. As we have mentioned previously, the level of interest rate hedging should also be considered, with consideration of whether similar returns could be generated in a way that reduces the volatility of the past service funding position.

This would however need to be accompanied by a clear risk analysis showing the potential implications for future contributions/benefits, so that employers can take an informed decision.

The Trustee has responded to one of the questions posed by the VMDF in this document, by comparing the amount of risk run under a “no derisking scenario” vs the assumed dual discount rate approach. This is set out in Table A.1. We have expressed concern to USS that these figures are not fully consistent with earlier information in Table 7.1, because it assumes a lower investment return for the no de-risking scenario. In any event, we do not believe that the format of the information in the tables is sufficiently clear for stakeholders to make informed decisions, and through the VMDF we aim to help the Trustee provide better information as part of the main consultation.

Conclusion

We can see merit in the employers wishing to explore this further. Ultimately this comes down to understanding the risks associated with different investment strategy and funding approaches, where more analysis is required to help employers.

Question 5

Based on the example approach to managing risk, as set out in this document, what is your risk appetite? In other words, do you have initial views as to how much of your risk capacity you are comfortable for us to rely on in supporting the Scheme, in the knowledge that there are adverse scenarios in which this may be called? (You may wish to express this as a contribution of *x*% of salary, or a monetary amount, paid over *y* years).

Although the Pensions Regulator introduced the “risk appetite” terminology, in our experience it is often very difficult for employers to give a concrete view on something this conceptual. Potentially the Pensions Regulator now recognises this, as there is no reference to risk appetite in its 175-page consultation on its new code of practice on funding.

We are not convinced that focusing on the “self-sufficiency deficit in 20 years plus 1 year 95% Value at Risk” is the best way of helping employers understand the risks they are being asked to underwrite. The VMDF is aiming to develop a more practical way of explaining risk that focuses on real-world consequences so that stakeholders can better understand the consequences of the risks they are really running.

Employers need to know how the contribution rate could evolve in different economic scenarios, and what the impact would be on member benefits if employer/employee contributions remain unchanged. This could include extreme scenarios resulting in the Scheme closing to new DB benefit accrual.

Turning to the consultation question, the Trustee asks employers what their risk appetite is, and sets out why £35Bn (equal to 10% of pay for 30 years) may be a sensible starting point. USS then ask: *"what does a risk appetite of £35Bn mean for employers?"* To which they answer: *"It means in a sufficiently adverse scenario we would be relying on you to pay up to 10% of payroll annually over 30 years purely to cover the deficit in relation to benefits that have already been earned. This would be in addition to the cost of whatever ongoing pension provision(†) you continue to offer".*

(†) Aon note: "ongoing pension provision" at this point would need to be decided, but would most likely be outside of the USS (e.g. a DC scheme with fixed employer contributions).

As we have pointed out, this approach needs some work. In particular:

- **What is a significantly adverse scenario?** Effectively employers are given information on risk severity but have no information on risk likelihood. This matters because some employers may be prepared to pay 10% of pay (or possibly more) in what they regard as an Armageddon scenario, but not in what the Trustee might regard as an Armageddon scenario.
- **What actions would Trustee really take?** In poor market conditions (like over the last fortnight), it is not clear to us that the best approach would be to exit growth assets (at a low point) and purchase matching assets (at a high point). In many adverse scenarios the Trustee may continue to take investment risk and try to recover some of the deficit through investment returns (noting the unusually long covenant horizon, and the backstop of the unilateral contribution rule). Employers need to see more detailed scenario planning of what actions may be taken, to help understand the true risks being run, and to help compare the merits of different approaches.

We acknowledge that markets have moved rapidly in recent days, and the latest updates make uncomfortable reading. The figures being quoted for risk appetite are now close to the actual self-sufficiency deficit. We risk being rapidly overtaken by events, and the Trustee needs to be clearer on what actions may be taken and shared with employers. Only then will employers be able to understand the risks being run.

Conclusion

We believe it may be difficult for employers to answer questions in abstract like: *"what is your risk appetite as a percentage of salaries over y years?"* In our view the VMDF needs to be given the chance to assist the Trustee in forming a risk framework for consultation, which may lead to risk questions being framed in a different way.

Ultimately, however we talk about risk, options need to be provided to employers along with a clear understanding of what this means for contributions at the March 2020 valuation, and also for future contributions/benefits.

Wider comments

Recovery Plan

We are pleased that the Trustee will consult on the Recovery Plan at the same time as the Technical Provisions.

For USS, the actuarial valuation process is just as much about getting fairness between generations of institutions and members, as it is about getting the "right" answer to any actuarial question. This applies to the recovery plan, as well as to the calculation of any deficit. Given the recent market movements, the structure of the Recovery Plan could have a significant bearing on the total contribution rate.

Benefit guarantees

The Trustee notes that: *“**Guarantees are desirable, but costly:** The cost of the guarantees in the Scheme’s benefit structure (defined benefit pension promises are protected by law) needs to be captured. The fewer the guarantees, the greater the flexibility in valuation and funding.”*

With stakeholder agreement, it would be possible to change aspects of the USS benefit structure so that lower benefits are guaranteed, with members receiving higher benefits if longer term investment performance comes through in practice. This may be worth exploring further with the Trustee assuming market conditions do not improve by the valuation date.

Conclusions

The initial consultation contains some positive steps, particularly the willingness of the Trustee to revamp the valuation approach, remove Test 1, and bring the Recovery Plan into the main consultation.

The main areas of concern are:

- Understanding how the pre-retirement discount rate is proposed to be set at the valuation date, the linkage to investment strategy, and how the method will apply at future valuations.
- Better information is needed to really help employers understand the practical risks. This must be addressed over the next couple of months in VMDF discussions.
- Unfortunately, market movements mean that difficult decisions are likely to be needed for the 2020 actuarial valuation, rather than at some notional future valuation.

Our suggestion to UUK is to recommend employers treat USS’s document very much as an initial consultation, and to reserve views on the substantive issues until the main consultation in July/August. With the impact of COVID-19 on how institutions operate, this may be the only practical approach at this stage in any event.

Compliance

This note and the work relating to it complies with ‘Technical Actuarial Standard 100: Principles for Technical Actuarial Work’ (‘TAS 100’) and 'Technical Actuarial Standard 300: Pensions’ (‘TAS 300’).

Appendix – Detailed comments

Purpose of section	We set out more detailed comments on the Trustee's initial consultation, as they relate to questions 1, 4 and 5.
Page 3	We agree with Principle 3 – that intergenerational fairness should be considered. This is currently being interpreted as being consistent with a pre- and post- retirement discount rate, where the funding target reflects the assumed risk profiles of different members. We believe the principle could be developed further: ▪ Subject to understanding the impact on risk, this could suggest relatively long recovery plans for USS valuations (e.g. 15-20 years as suggested by the first JEP report), notwithstanding the TPR view that strong covenants go hand in hand with short recovery plans. ▪ The "risk appetite" narrative that suggests the Scheme may reach an event where the Trustee requests 10% of pay for 30 years (likely resulting in closure to new accrual) could be inconsistent with a desire for intergenerational fairness. Potentially there is merit in considering how changes could be "smoothed", such as by reducing the element of guaranteed benefits. This is not a matter primarily for the Trustee, but for the employers, employees and representatives.
Page 5	Although the Trustee caveats the figures as illustrative, it is not clear how the pre-retirement discount rate of Gilts+2.5% p.a. and Gilts+1.75% p.a. (for "strong" and "tending to strong" covenants) have been derived. We had understood from VMDF meetings that they related to the 67th percentile of the assumed underlying assets, however this has not been confirmed, and is not clear in the consultation document. We agree with the reasoning behind changing the CPI assumption.
Page 6	The illustrative pre-retirement discount rate gives almost the same TP deficit as the previous valuation approach based on conditions at 31 December 2019. The Trustee may regard this as reasonable since the Pensions Regulator has described the 31 March 2018 valuation approach as being at the limit of acceptability. We would note though that the Trustee has previously considered prudence in terms of a 67th percentile return (i.e. selecting a discount rate that has 67% chance of being achieved by the investment returns). If the Trustee is to take investment risk for longer, then we would expect a higher discount rate (and lower liabilities) under a consistent 67th percentile prudent approach to be possible. The main benefit of the dual discount rate based on the Trustee's choice of parameters is that the future service rate is lower.

For the first time, the Trustee quantifies how moving to a Tending to Strong covenant grade may impact on the valuation results – i.e. an increase in deficit of about £3.9Bn, and an increase in future service rate of about 4% of pay. This information is provided in the context of the Trustee's ask for closure on the *pari passu*, debt monitoring, and withdrawing employer issues. Here, we note that the Trustee needs employer agreement to these points; while for the valuation or investment strategy, only consultation is required.

Page 7

The Trustee's stated rationale for bringing forwards the March 2021 valuation by a year to March 2020 is that "economic conditions during the 2018 valuation were challenging and volatile". Conditions are more volatile now, and it appears at this moment in time that 31 March 2020 is a poor time to carry out a valuation, though it is a route to potentially change the increased contributions due from October 2021.

Our understanding is that the Trustee has the legal right to a call a valuation, and we note that carrying out a valuation in 2020 was part of the valuation agreement reached for the 2018 valuation.

More generally for March 2020 valuations, we expect to see interest from employers in: (i) using asset outperformance to a greater extent in the Recovery Plan; (ii) asking trustees to rebase the contributions on date of signing the valuation, if market conditions improve materially during the 15-month window after the valuation. The Pensions Regulator will also issue its annual funding statement shortly to provide guidance for current valuations.

Page 13

It is noted that the Trustee is targeting a low-risk strategy for pensioners, and that this is *"broadly similar in risk characteristics to the self-sufficiency strategy"*. We agree. As a technical point, additional return is required to address the lower inflation assumption used for technical provisions compared with self-sufficiency.

Page 14

The Trustee describes the 67th percentile approach, and says it is *"minded to take a broadly similar approach to prudence … for the 2020 valuation".*

At present we are not clear on what investment strategies have been assumed for the pre- and post-retirement strategies. We expect there is also a material difference between assuming a 67th percentile for the pre- and post-retirement strategies separately, and taking a 67th percentile of the overall strategy (since this will allow for the diversification benefits of holding different asset classes).

Page 21

The Trustee states that if its only objectives were to fulfil the "statutory duty", then it would look to take a very low-risk approach to funding the Scheme. The primary funding objective under legislation is to ensure that the assets meet the technical provisions, and there is a lot of flexibility in how these are set, with the Trustee required to consult with UUK.

Page 22	It is said that the Trustee could not continue with a high-risk investment strategy if the deficit was approaching the limits of the covenant's capacity, even if it was expected to improve over the long run – which is described as "not compliant with legislation". In reality, there are a number of schemes that are in this position i.e. weak employers where material investment risk is taken to provide a reasonable chance of paying member benefits. We are not suggesting this would be a comfortable place to be, though we do not believe it is "not compliant with legislation". Our overall comment on this section is that the Trustee and its Executive/advisers will need to answer the questions posed by the VMDF, so that the stakeholders can explore these issues – accepting that, ultimately, the Trustee decides on the valuation approach, subject to scrutiny from the Pensions Regulator.
Page 25	We note that the figures in the table are very sensitive to the assumptions, for example the value of 10% of salary over 30 years (of £35Bn) would fall by about 30% if the sector payroll grows by CPI rather than CPI+2%.
Page 28	We believe it would be reasonable to hold some assets in growth even for a self-sufficiency portfolio. (This is consistent with how USS has described the self-sufficiency strategy in the past, and the Trustee also needs to generate additional return for the different inflation assumption for the Technical Provisions compared with self-sufficiency). It is premature to say which investment approach is best. The VMDF – and ultimately employers – need to see some analysis of the different investment options before informed views can be taken.
Page 29	The concept of a "risk buffer" is different to how the Trustee consulted on target covenant reliance when setting technical provisions for the 2017 and 2018 valuations, where the key metric was the gap to self-sufficiency. More recently, the Trustee has included buffers in its monitoring and action framework – as they consider the ratio of the self-sufficiency deficit to the present value of 10% of employer payroll contributions over 30 years, and test whether this ratio exceeds 85%. Using Value at Risk is a variation on the 15% buffer that the Trustee is applying. Both the self-sufficiency deficit and a Value at Risk calculation are very sensitive to interest rate and inflation risk (particularly because the Trustee has chosen in the past to run the scheme with a long-term investment strategy with little focus on short-term hedging). This metric is therefore likely to be volatile over time. One issue with adding a buffer is that the self-sufficiency deficit has already increased to about £35Bn at 10 March (and quite possible more at time of writing), and adding a further c.£20Bn takes the position well above the "risk appetite" of £35Bn. The framework is presented as conceptual, but we appear to already have breached it. But what does this mean – what does the Trustee propose to do?

Page 34	We do not believe that Table 7.1 provides enough information on risk.
Page 35	The "covenant support" figures (of £32Bn and £25Bn) closely match the illustrated risk appetite figures of £35Bn and £25Bn for the "strong" and "tending to strong" covenant scenarios. The illustrative discount rate giving a similar deficit to the existing approach for the strong covenant case. This may not work so neatly at future dates. One of the VMDF questions asks the Trustee to explore this further and demonstrate how the Technical Provisions would be calculated at different dates.
Page 40	On the timetable, we note that the normal 15-month valuation timetable is effectively shortened to 4.5 months, with the Trustee informing the JNC of the contribution rate to be used by mid-August. With COVID-19, these timescales may be less realistic now.
Page 45	There is a consistency issue with the information provided in Table A.1, with the earlier table 7.1. We explain why below: ▪ For the no de-risking scenario, in table 7.1, a discount rate of Gilt+2.23% p.a. is adopted, consistent with a 67th percentile return for the current investment strategy with 65% in growth assets. ▪ For table A.1, a weighted average is used for the "prudent investment return", namely: 65%x2.5% + 35%x0.75%=1.89%, above gilts, where the 2.5% is supposed to represent a prudent investment return for the "pre-retirement" portfolio, and 0.75% for the remainder. ▪ But, in effect, the numbers take a further haircut of 0.34% p.a. (i.e. 2.23%-1.89%) against the 67th percentile return for the 65:35 investment portfolio under "no de-risking". If Gilts+2.23% p.a. were used for table A.1 as an alternative "prudent investment return", then the projected £6Bn deficit in 2040 would broadly vanish – although this would then be inconsistent with the dual discount rate figure in A.1 (which in turn means that this may not have been set using a 67th percentile). More work is needed to understand how the dual discount rate assumptions were set, and to ensure consistency between figures. The conclusion the Trustee draws that: "no derisking… has a lower self-sufficiency deficit, because it has higher expected returns", will be correct, though we note that the tables are not based on *expected* returns (otherwise the difference between the expected positions would be more pronounced). Having said all that, we do not believe that Table A.1 (even if the figures were reissued) would provide enough information on risk, and more work is needed more generally within the VMDF at this stage to help put meaningful information in front of employers with an appropriate balance placed on short-term and long-term risk, and on the implications of different investment strategies.