UNIVERSITIES SUPERANNUATION SCHEME LIMITED

Universities Superannuation Scheme

An integrated approach to scheme funding

July 2014

Opening message from the Chairman

Welcome to this update on the trustee's approach to scheme funding which I hope will provide some useful context for the ongoing discussions taking place between stakeholder representatives on the future shape of USS pension provision.

A formal valuation of the scheme's assets and liabilities will shortly be completed and the trustee anticipates that, as previously stated, we shall report a continuing substantial deficit. My role and that of my colleagues on the trustee board is to ensure that there are sufficient funds available to pay the pensions promised and it is our duty, as the scheme's trustee, to set out both how we shall recover the deficit and what we shall do to manage scheme funding in the future to meet that objective.

The trustee board has been preparing for this valuation for some time. Last year we completed an assessment of the strength of the employer covenant which involved taking a substantial, representative selection of institutions and carrying out a detailed examination of the financial health of the employers that stand behind the scheme. Through this we were able to update our view of how much support employers could actually provide to USS if pension contributions were prioritised. We also carried out some initial calculations, based upon the assumptions being considered for the 2014 valuation, of the cost of providing the benefits currently offered into the future, and we estimated the likely value of the deficit (although the final figures will not be known until the valuation is complete).

This work was presented in the December 2013 engagement paper which was issued to all institutions by Universities UK as part of the trustee's consultation on scheme funding. Earlier this year, continuing our ongoing engagement with the scheme's participating employers, Bill Galvin, our Chief Executive (and colleagues) participated in a series of consultation events alongside representatives from the Employers Pensions Forum (EPF) to listen to feedback and answer questions. We received formal feedback from Universities UK following its consultation with the sector in February of this year.

This paper is the next step in that continuing dialogue. In it we set out how the high level findings from the employer covenant work affect the trustee's approach to investment and our ongoing management of the scheme's finances. Our analysis demonstrates that the current funding arrangements need to be revised and the recovery plan updated. Specific changes to pensions offered in the future are a matter for the scheme's stakeholders.

In this paper we set out how the trustee will support the stakeholders to ensure the scheme is adequately funded to deliver the pensions promised. We have developed three guiding principles which govern our ongoing management of scheme finances, and a series of specific tests which we will apply to ensure the funding arrangements continue to satisfy those principles. We have endeavoured to explain some of the more technical aspects of this approach in clear and concise terms which we hope you will find accessible.

We welcome your feedback on this paper by mid-September at the latest so that it can be reflected in the continuing discussions with the scheme's stakeholders. Of course we are also keen to receive your feedback more broadly as we continue to work with the sector to deliver an appropriate response to the current funding challenges.

I would also like to extend the trustee's thanks to all of those who have participated in this dialogue so far, by attending the joint USS and EPF events, submitting responses to Universities UK on the engagement paper or offering feedback more informally. We welcome the ongoing engagement of all of the scheme's stakeholders and we shall continue to share information and updates as appropriate to support the sector as these discussions continue in the coming months.

Sir Martin Harris
Chairman, USS trustee board

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Introduction

This paper sets out the trustee's evolving approach to scheme funding. In it we demonstrate how the support available to the scheme from the sponsoring employers – known as the employer covenant – impacts on the amount of risk which can be prudently taken by the trustee. These risks are inherent in the funding of the scheme and in investment of the scheme's assets, and therefore have an impact on the contribution requirements associated with providing a particular level of benefits.

In broad terms the trustee believes the amount of risk taken should be proportionate to the amount of support available to the scheme from the employers, and specifically that there should be no increase in the reliance placed on the covenant over time. Indeed, it is the trustee's view that with the right economic conditions, opportunities should be taken to reduce the amount of risk within the scheme and therefore the reliance on the covenant. The trustee believes this is the right approach for the scheme as it will ensure that the commitments required from participating employers (and members under the cost sharing arrangements[1]) do not over time become overwhelming.

Understanding the interaction between covenant, investment strategy, scheme funding and future benefits – and their impact on the level of contributions payable – is fundamental to understanding the context for the current discussions around the future shape of pension provision within USS.

In developing this paper the trustee has discussed its emerging plans with representative bodies, and has taken advice from Mercer in its funding and investment advisory role (and in particular Ali Tayyebi of Mercer as the appointed scheme actuary), and from Ernst & Young (EY) as the trustee's covenant advisor.

After careful analysis of the information gathered, and taking into account the views received from individuals and representatives within the sector, the trustee has developed three guiding principles for scheme funding. These are set out on page 10. These principles are supported by a series of tests which, by their very nature, are quite technical and require some additional understanding of the methods which can be used to measure a pension scheme's liabilities. This paper includes an explanation of each of these methods with illustrative values to assist with wider understanding of the technical calculations.

[1] The current cost sharing arrangements are triggered when, following actuarial investigation, the aggregate contribution rate exceeds 23.5%. It falls to the Joint Negotiating Committee (JNC) to determine how the excess over the 23.5% threshold is to be addressed, either by increases to the contribution rate, and or changes in benefits under the scheme. If additional contributions are to be levied then, unless the JNC decides otherwise, they will be shared 35:65 between members and employers respectively.

It is important to recognise that, such is the nature of pension scheme funding which must take account of benefits that are payable over many decades, the tests will not necessarily deliver definitive answers.

These tests will be used by the trustee to analyse scheme risk over time and will highlight potential issues which can then be investigated further and discussed with employer and stakeholder representatives as appropriate.

The trustee has produced this paper to further inform the ongoing discussions taking place between stakeholder representatives on their responses to the scheme's funding challenges. The paper is intended to provide a reference for those discussions by sharing the trustee's updated view about the support available from the employer covenant and therefore how much risk the trustee considers can be taken in delivering the promised benefits. By bringing together the different elements of scheme funding into a single paper, it is hoped that a richer understanding can be gained of these issues and the judgements which the trustee must make - alongside scheme stakeholders - both now and in the future.

Key features of scheme funding, and how they interact

The strength of the employer covenant drives key judgements on pension scheme funding. The amount of support available to the scheme from the employers (i) on an ongoing basis and (ii) in extreme circumstances, dictates how much risk the trustee is reasonably able to take in delivering the benefits. One of the key areas for the trustee to consider is the level of risk that is appropriate in scheme investments, and the amount of investment return that can be anticipated when assessing scheme funding (this is critical in calculating the contributions payable to fund future benefits). The following diagram provides an overview of how the different elements of scheme funding interact:

EMPLOYER COVENANT

*"represents the extent of the employer's legal obligation and financial ability to support the scheme now and in the future"**

A strong employer covenant typically means employers can tolerate more risk in the scheme as they are believed to have the ability to make up any shortfall if investments do not deliver the anticipated returns.

Employers with weaker covenants are unable to carry significant levels of risk as they are considered to be unable to provide additional support if the investments do not deliver the anticipated returns.

Strong employer covenants allow scheme trustees to make an allowance for investment return in calculating the scheme's liabilities and assets. Trustees of schemes with weaker covenants cannot make the same allowance and must seek other funding (typically from contributions).

INVESTMENT

The employer covenant informs the trustee of the amount of risk it is able to take when setting the investment strategy. From this the trustee, working with its advisors, is able to devise an investment strategy which is appropriate to the level of risk that the employers are able to support. The trustee then calculates how much it expects to earn from those investments.

FUNDING STRATEGY

The funding strategy explains how the trustee plans to pay for the pensions promised. It brings together the covenant, the current value of the assets and the anticipated investment returns – with the contributions from participating employers and members – to calculate the scheme's projected income. The trustee will calculate how much is needed to pay the pensions already promised, by making assumptions about longevity, inflation increases etc. An allowance or 'discount' is applied to allow for future investment return. This is explained in more detail below.

FUTURE BENEFITS

Taken together the employer covenant, the investment strategy and the funding strategy enable the trustee to provide the scheme's stakeholders with information on the cost of future benefits for employers and members.

** the definition used by the Pensions Regulator in its latest Code of Practice on Funding Defined Benefits, June 2014*

Below we take each of these elements in turn and set out the current position before moving on to explain how the trustee intends to monitor them going forward. We will then set out the guiding principles and technical tests which form the basis of the trustee's integrated approach to scheme funding.

Employer Covenant

The trustee continuously monitors and assesses the employer covenant using its own experience and knowledge of the sector, through close engagement with representative and funding bodies (in particular with the Higher Education Funding Councils for England, Scotland and Wales, to gather their current knowledge and intelligence on sector developments, forecasts, etc.) and when appropriate through its appointed independent covenant advisor. Early last year the trustee commissioned a covenant report from EY. The main conclusions of this report are in line with the trustee's long-held belief that the covenant is robust. The trustee has therefore adopted the following conclusions, supported by the findings in the EY report:

- Confirmation that the sector provides a substantial, ongoing covenant to the scheme.
- The vast majority of the participating employers could potentially increase their contribution rate to 21% of salaries, albeit not without changes to their business plans and/or prioritisation of pension contributions.
- An increase to 25% of salaries could potentially be met by the majority of participating employers, but this would undoubtedly require further, more significant, changes to the employers' operations and may place greater reliance on the mutuality of the scheme.
- Generally speaking there is good visibility of the covenant for a period of up to 20 years. Beyond this there are potential threats to the UK higher education sector which could result in changes to its longer term operation.
- The net assets of the largest participating employers, adjusted where appropriate in cases where historic book values of assets have been used, are considerable, being in excess of £40bn.

Investment Strategy

The trustee's approach to investment is set out in its Statement of Investment Principles; a copy of the most recent version is available on the USS website at www.uss.co.uk. This statement establishes the broad principles governing the investment policy of the scheme and provides information on other key aspects of the scheme's investment programme including the trustee's approach to risk, diversification, governance, responsible investment and the strategic investment benchmark. The expected "normal" long term returns in excess of inflation measured by Consumer Prices Index (CPI) for various asset classes are also detailed.

Funding Strategy

The trustee is required to hold assets equal to the value of the liabilities measured on a technical provisions basis (definition provided below). To the extent that the assets held at each valuation are less than the technical provisions, the trustee must put in place a recovery plan to make good the shortfall. Any shortfall will be met by additional contributions over a term with which the trustee is comfortable in the light of the covenant, and which is reasonably affordable. Such matters are subject to consultation between the trustee and Universities UK as the representative employer for scheme funding purposes.

In calculating the contributions required under any recovery plan, allowance can be made – if it is considered appropriate – for a proportion of the expected investment return over and above that prudently assumed in the technical provisions.

Future Benefits

The trustee's role is to calculate how much it will cost to provide the future benefits as set out under the current arrangements and to notify the scheme's sponsors and – where the cost-share arrangements are activated – the Joint Negotiating Committee. The trustee's overriding objective is to manage the scheme to ensure that the promised benefits are paid as they become due. In order to do this, the trustee is able to make alterations to the contribution rates and to the investment strategy. Any changes to future benefits must be decided not by the trustee, but principally by the Joint Negotiating Committee (which comprises representatives of the sponsoring employers and of members, with an independent chairman). Any proposed changes must be made after consultation with potentially affected employees. In the current context the trustee will evaluate any proposals using the guiding principles and the supporting tests set out below.

Governance and monitoring

The content, monitoring and review of the integrated funding approach are the responsibilities of the trustee, and this forms a standing agenda item at all trustee board meetings. At those meetings the trustee board considers:

– the monitoring information specified in relation to the employer covenant, investment strategy and funding strategy;
– whether additional information or advice is needed, and
– whether any action needs to be taken

At least annually the trustee board will review the guiding principles expressed in this document to determine if they remain appropriate or if changes should be made.

Monitoring the covenant

As part of its ongoing management of the scheme, the trustee adopts a system of regular monitoring of the covenant. This includes a formal assessment, when appropriate, and going forward at least every three years to precede the triennial valuation of the scheme. The trustee's ongoing monitoring of the covenant also takes into account a number of key institution indicators, including:

Student numbers	Income
Operating costs	Capital expenditure
Change in value of net assets	Standing in world rankings of large institutions

These indicators, amongst others, are reviewed by the trustee, drawing upon the latest knowledge and insight from the Higher Education Funding Councils. Where appropriate, a specific dialogue is opened with employer representatives to consider further the impact upon scheme funding of key changes within the UK higher education sector.

Monitoring the investment strategy

The Statement of Investment Principles is reviewed at least every three years, to coincide with the triennial valuation process, or sooner if there are any significant changes in investment policy. This includes if there is a material change in the scheme's funding position or indeed if there are other circumstances which, in the trustee's opinion, warrant a reconsideration of the strategic asset allocation and risk tolerance beyond those responses envisaged in the latest Statement of Investment Principles. The Statement of Investment Principles is a standing agenda item at trustee meetings and at each of its meetings the trustee:

- Reviews the progress of the scheme against its funding target;
- Agrees any actions that should be put in place to rectify issues identified.

The Statement of Investment Principles will be reviewed in light of the ongoing discussions the trustee is having with the sector on the issues spelt out in this paper. Any revisions to the Statement of Investment Principles are themselves subject to consultation with the sponsoring employers.

Monitoring the funding strategy

At least every three years and prior to the regular triennial valuation, the overarching approach to scheme funding will be reviewed and, whether or not any changes are made, a consultation will be undertaken with the participating employers through their representative body, Universities UK, to confirm that it remains appropriate**.** This approach will guide future actuarial valuations and reviews of investment strategy.

The guiding principles adopted by the trustee for scheme funding

As stated above, the trustee's primary responsibility is to manage the scheme to ensure that the promised benefits are paid as they become due. The trustee's approach to the financial management of the scheme, and in particular to its funding and investment strategy, is driven by its view of the covenant provided by the participating employers. The guiding principles, adopted by the trustee in order to manage scheme funding, draw very clear lines between the support available from participating employers and scheme risk over the horizon of the covenant (and the trustee's view is that it has visibility of the covenant over a period of 20 years). This is in keeping with the trustee's long-term view of the scheme and its approach to funding and investments. These principles will be reviewed as set out above and employers will be consulted on a continuing basis. The guiding principles for scheme funding adopted by the trustee can be summarised as follows:

1	**Reliance of the scheme on the sector**
	Over the period for which there is visibility of the covenant (estimated to be 20 years) there should be no increase in USS's reliance on the covenant of the sector and, where opportunities arise, the reliance on the covenant should be reduced if possible. The reliance on the sector will be measured as the additional contributions which would be required if the trustee moved to a relatively low risk approach to investment strategy and therefore could not rely on the same level of investment returns which are anticipated under the current investment strategy.
2	**Stability of contributions**
	There should be a *high* probability that the employer contribution rate will not exceed 18% of salaries over a three year period and there should be a *very high* probability that the employer contribution rate will not exceed 21% of salaries over the same period. In the longer term the stability of the contribution rate should be increased.
3	**Investment risk and tail risk**[2]
	The balance sheet of the scheme's participating employers should be able to cover the impact which a rare set of adverse circumstances (tail risk) may have on the funding position of the scheme. This includes being able to cover both the level of any existing deficit, plus an allowance for a potential increase in this deficit over a one year period if an exceptional economic event were to occur with resulting adverse impacts on investment returns.

[2] The investment strategy being followed by the scheme means that, in extremis, there is a very large range of uncertainty in the potential change in the deficit which could take place over even relatively short periods, such as one year. These changes could take place through, say, a particularly adverse combination of changes to long-term interest rates and / or the level of the stock market. Within this range of uncertainty, there is a long "tail" of outcomes with a relatively low probability but a very high impact on the deficit. Tail risk is therefore a measure of the potential impact of these low probability outcomes – it is often quantified as a single number called the "Value at Risk" or VaR associated with different levels of probability as defined in the table above. It is a scheme-specific measure because it depends on the profile of the scheme's liabilities and the investment strategy being followed. Since the tail risk considers relatively unlikely events it is not used as part of the main set of parameters for setting the contribution requirements. However the tail risk cannot be ignored as it is an important element for the trustee in considering the ultimate security of benefits. In practice it needs to be looked at to ensure that the tail risks arising from the scheme's investment strategy are supportable given the potential for changes in contributions or additional mitigating actions. A similar concept is used by financial institutions, such as insurers, in measuring their resilience to "market shocks".

Scheme funding and the trustee's technical tests

The three guiding principles identified above are supported by a number of specific technical tests; this approach enables the trustee both to assess any scheme changes proposed by the employer and member representatives in relation to the current scheme funding challenges, and to manage the scheme going forward. Providing greater transparency around these key judgements which the trustee must make is intended to support the scheme stakeholders as they consider the options available.

The tests inform the trustee's decision making on the degree of risk which is acceptable within the scheme and specifically in delivering both the past and future benefits. These decisions are formed by both looking at the risks in the short term but also importantly how these are likely to build up over longer time horizons, particularly the 20 year period over which there is good visibility of the covenant.

This decision on the overall level of risk which is appropriate and acceptable, and its implications for the funding and investment strategies – and therefore the expected rate of return on scheme investments – has a direct effect on the contribution requirements for funding the benefits which have already been earned and those benefits which could be earned in future. In the technical tests a number of measures are used in order to place a current value on the scheme's future liabilities. We have defined these measures below so that it is clear in each of the technical tests which measure is being used.

Each of these measures involves adding together the value of the current and future pensions (and associated benefits) which the scheme is already committed to provide up to this point in time. A current value is calculated by discounting all of these commitments using a rate of interest which reflects the expected return on underlying assets. Each measure provides a different answer and all are used for different purposes to provide the trustee with a fuller picture of scheme funding.

The calculations on a technical provisions basis involve placing a current value on commitments which will run for many decades into the future, and the USS trustee – just like other trustees of defined benefit schemes – must make sensible and prudent judgements regarding the rate of return that can be expected in the long term on future investments, along with other appropriate assumptions.

Key concepts which underpin the trustee’s funding tests

The key measures used in the technical tests are set out below.

Technical provisions basis
This is the basis used by the trustee generally for setting the employer (and under the cost-share arrangements, member) contributions to the scheme, and is scheme-specific in that the trustee must decide it by reference to USS’s specific characteristics. It is often also referred to as the “ongoing” funding basis as it’s used in the regular ongoing funding of the scheme. It must, by law, be a basis that is prudent, which means that in deciding the assumptions it is more likely than not that the assumptions will be borne out in practice (i.e. it is not a neutral assumption which only has a 50% likelihood of being realised).

Self-sufficiency basis
Here the liabilities of the scheme are calculated using a discount rate consistent with a low investment risk approach, where a low level of reliance is placed on the participating employers to provide further financial support to the scheme. A low investment risk approach is one that could, in appropriate scenarios, be adopted by a scheme trustee to reduce the longer term reliance on the supporting employer(s) and to reduce the likelihood of the employer not being available to meet funding shortfalls.

Economic basis
This is a basis for calculating the liabilities of the scheme which uses an assumed rate of future return on assets that most closely matches the nature of the liabilities. As pensions are similar to inflation-linked bonds, in that the level of payments is pre-determined to be subject to inflationary increases, this implies using the interest rate on government bonds (also known as gilts).

Below we provide an example of the different outcomes generated using these methodologies. These figures are calculated as at 30 September 2013, based on the 2011 valuation assumptions updated for current market conditions, and include the trustee's proposed modifications to the assumptions for longevity and the inflation risk premium (and are for illustrative purposes only).[3]

Measure	Definition	Assumption	Liabilities
Technical provisions	Allows for scheme specific assumption in relation to investment returns.	Gilts + 1.7%	£47.9 billion
Self-sufficiency basis	Low level of investment return assumed	Gilts + 0.5%	£53.8 billion
Economic basis	No assumption of investment return above gilts	Gilts	£58.5 billion

The technical tests also require an understanding of one further key concept – the Value at Risk or VaR. This calculation provides an assessment of the financial impact of a rare event, if one were to occur, for example a significant economic event such as Black Monday in 1987, when huge values were wiped from world stock markets.

Value at Risk (VaR)
This is an assessment of the financial impact of a rare event, commonly used measures are the downside risk given a 1 in 20 event (95% VaR), a 1 in 100 event (99% VaR) or even 1 in 200 event (99.5% VaR). This is a methodology for assessing the scale of the economic tail risks (low and very low likelihoods) to which the scheme is subject.

[3] It should be noted that certain figures contained in this paper (the "Information") are based on advice addressed to the trustee company from Mercer Limited ("Mercer") as its appointed advisers and are not intended to contain all the information that may be desirable or necessary for your purposes. Universities UK and the participating employers ("you") should take your own advice in relation to any decisions which they may wish to take at this stage. No representation or warranty, express or implied, is made or given by Mercer to parties (other than the trustee company as its client), as to the accuracy or completeness of the Information or as to the reasonableness of any opinions, findings, interpretation or conclusions contained in the Information. In the absence of fraud or dishonesty, none of Mercer, or any of its respective directors, employees, advisers or agents shall have any liability to you or any person relating to or resulting from the use of or reliance on the Information and you waive all rights, actions and claims against any such person relating to your use of or reliance on the information. Mercer is not responsible for any errors or omissions, or for any decision made or action taken based on the Information or for any indirect, consequential, special or similar damages even if advised of the possibility of such damages.

The technical tests

Using the concepts described above, the trustee has devised a number of specific tests which can be applied to assess whether, and the extent to which, its guiding principles are satisfied in the light of potential changes in the level of future benefits provided under the scheme. The trustee will use these tests as a reference and guide to determine the nature and timing of any responses that might be required.

The second test, the stability of contributions test, has been devised to ensure that the contributions requirements which arise from both the provision of future benefits together with the maintenance of the past service benefits (and dealing with any deficit if one exists) should fall within certain parameters. The contribution parameters have been determined by the employer representatives after consultation with the scheme's participating employers, and focus on two specific employer contribution reference points of 18% of salaries and 21% of salaries.

Test 1: Benefit security and additional contribution cover

The difference between the liabilities assessed on a self-sufficiency approach (for this purpose a discount rate of gilts plus 0.5% is used) and the actual technical provisions basis should generally not exceed what we refer to as the amount of contributions payable in extremis, which we will indicatively measure as the difference between (i) the maximum contribution of 18% of salaries stated by the employers as being desirable and (ii) the maximum identified as being affordable by employers (in the independent covenant review undertaken by EY on behalf of the trustee board) of 25% of salaries, over a long period such as 15 to 20 years.

The rationale is that, at any given time, the trustee could be required to replace the investment returns assumed in the funding of current benefits with additional contributions from the participating employers, if such a response were needed due to scheme or economic circumstances.

In considering the development over time of the relationship between the liabilities measured on a self-sufficiency basis and on the technical provisions basis, the position at the end of a 20 year horizon will be used. The size of the technical provisions at the end of 20 years will be determined so that the difference between it and the self-sufficiency value of liabilities is maintained broadly constant. This informs the trustee of the size of the technical provisions required, and from that the required investment strategy can be derived.

It's the gap to the self-sufficiency funding level that is critical, and that is maintained (and not allowed to grow disproportionately) by keeping the technical provisions value at a sufficient level over time.

Test 2: Stability of contributions

Modelling will be carried out to quantify the scope of the contributions that the scheme might require (using the technical provisions basis) when risk is assessed over a three year horizon.

It is proposed that the contribution levels required to meet (i) the cost of the future benefits accruing and (ii) any deficit on the technical provisions basis – at the end of a three year period – should have a *high* probability of not exceeding 18% of salaries and a *very high* probability of not exceeding 21% of salaries. In assessing the risk parameters the following will apply:

– A high probability will be broadly 70% or above.
– A very high probability will be broadly 90% or above.

Test 3: Benefit security and the asset base of the participating employers

The net asset value of the participating employers will be compared to the deficit on an economic basis (for this purpose a discount rate equal to the yields on gilts is used) plus the amount of additional assets required to meet a 'tail risk', one in one-hundred, funding event.

The 'tail risk' will be measured using a Value at Risk (or VaR) at a 99% level over a one year period. This comparison will be a guide to the extent to which, in all but the most extreme circumstances, the trustee could rely on sufficient funds to secure the benefits promised by the scheme.

The trustee acknowledges that the net asset value of the scheme's participating employers is not precisely quantifiable. As such the trustee will monitor the ratio of (i) the deficit on an economic basis plus VaR at 99% level to (ii) the estimated net asset value of the scheme's participating employers. Should the ratio increase above 90%, then the trustee will commence a discussion with stakeholders as to whether any mitigating responses are required.

The net asset value of the scheme's participating employers would be assessed on a basis which might include the use of insurance replacement value measures if this is judged to be more representative of fair value than book value.

Summary and next steps

Pension scheme management is largely about making sensible judgements on the economic and demographic environment which will impact upon a scheme in the long term, and a scheme trustee does this based on the best information it has available at points in time, gradually adjusting its funding plans where changes are required. Scheme funding within USS continues to evolve as the trustee deals with the challenges of a constantly changing economic and sectoral environment, and with the need to adopt sensible long term plans for funding the scheme and for setting contribution requirements. These challenges are certainly not unique to USS; all defined benefit pension schemes are making these adjustments, particularly as the cost of providing a guaranteed income in retirement continues to rise, for example because of increasing longevity (in pensions terms, every two years of extra life adds five per cent to pension liabilities). Alongside these external factors, USS's trustee has a duty to take account of the particular characteristics of this scheme, of its operating environment and prospects for its participating employers, and of the risks associated with its investment strategy, in updating its long term funding plan for delivery of the benefits.

The size and scale of the higher education sector, and its willingness to share pension scheme risk (by virtue of the multi-employer nature of the scheme) are an advantage as we make these judgements and adjustments. The risk-sharing that exists enables fund investment and administration to take advantage of the natural economies of scale. This can help employers continue to provide pensions which are responsive to their needs, at a cost and quality that may not be possible in other employment sectors.

But this collective scheme management does require the sector to make clear decisions about issues such as the trade-offs between the cost of pension provision and tolerance of risk. The trustee's role is to assist the scheme's stakeholders through that decision making process, and make these trade-offs clear. These issues are not straightforward, and it is hoped that in setting out the principles and specific tests the trustee has adopted for the assessment of scheme risk and the impact of future funding strategies that this paper has provided a greater insight into the decisions that need to be considered. Much of this paper is technical in nature and in some ways highlights the complexities and the breadth of issues which need to be considered in delivering pensions promises over many decades. That said, we hope it is clear that the tests are a guide and a reference for the trustee and for stakeholders in finding sustainable long-term funding solutions – they are not intended to provide a single and formulaic answer.

The trustee would welcome comments from Universities UK, and from individual participating employers, on this paper by mid-September 2014. The responses will provide further important input to the trustee's deliberations regarding the 2014 actuarial valuation, on which a further consultation with employers (through Universities UK) will be undertaken in the autumn. We are aware that Universities UK has issued a consultation paper on USS funding and benefits and that it will be progressing discussions on those issues with participating employers and with the University and College Union (UCU). We look forward to participating in these continuing exchanges between stakeholder bodies as they decide on the most appropriate outcomes.