ACTUARIAL REPORT AS AT 31 MARCH 2015

UNIVERSITIES SUPERANNUATION SCHEME

SEPTEMBER, 2015

1 Results and Analysis

Introduction

1.1 This paper is commissioned by and addressed to the Trustee of the Universities Superannuation Scheme (“the Scheme”). It summarises the results of a financial update of the Scheme’s funding position as at 31 March 2015, known as an “actuarial report”. It has been prepared to satisfy the requirements of section 224 of the Pensions Act 2004.

Summary of updated funding position – technical provisions

1.2 We have calculated an estimate of the Technical Provisions position as at 31 March 2015 and a summary of the position is shown below.

Table 1 shows the Scheme’s estimated funding position on the Technical Provisions basis as at 31 March 2015, as well as that at the 2014 actuarial valuation. (See the Appendix for assumptions.) At 31 March 2015 the Scheme is estimated to have had a shortfall of £8.2 billion, equivalent to a funding level (the ratio of assets to liabilities) of 86%.

Table 1

	As at 31 March 2014 (£bn)	As at 31 March 2015 (£bn)
Liabilities	46.9	57.3
Assets	41.6	49.1
Surplus / (Shortfall)	(5.3)	(8.2)
Funding level	89%	86%

1.3 The liabilities of £57.3 billion have been estimated using the approach set out in the Trustee’s statement of funding principles dated 24 July 2015, with financial assumptions based on market conditions as at 31 March 2015, and take into account the revised benefit structure effective 1 April 2016 consistent with the 2014 valuation results. I have assumed that all other Scheme experience since the valuation is in line with the relevant assumptions (for example, the increase in Pensionable Salary of the active Final Salary Section members is in line with the general pay growth and salary scale assumptions).

1.4 The asset value of £49.1 billion is the audited market value of the Scheme's assets at 31 March 2015 (excluding the value of AVCs). This is an increase of £7.5 billion over the year since the valuation date of 31 March 2014. This increase is equivalent to a return of c17.9% which has exceeded the investment return assumption included within the 2014 valuation recovery plan of 5.7% for 2015.

Analysis of Technical Provisions Funding Position

1.5 The deterioration in the Scheme's funding level since the 2014 valuation is due mainly to the effect of falling gilt yields, offset to some degree by higher than expected investment returns on the Scheme's assets over the year.

1.6 An analysis of the movement in the deficit can be seen in **table 2** below.

Table 2

Deficit at 31 March 2014	**£5.3 billion**
Interest on deficit	+0.3 billion
Higher than expected investment returns	-5.0 billion
Change in underlying financial conditions	+ 7.7 billion
Contributions paid versus cost of accrual	-0.1 billion
Deficit at 31 March 2015	**£8.2 billion**

Summary of updated funding position – self-sufficiency basis

1.7 We have also carried out an approximate update on a self-sufficiency basis (i.e. assuming a discount rate of gilts + 0.5% pa). In carrying out the update we have used assumptions in line with those used in the self-sufficiency basis for the 2014 valuation but updated for market conditions as at 31 March 2015. A summary of the position is set out below.

Table 3 shows the Scheme's funding position on a self-sufficiency basis as at 31 March 2015, as well as at the 31 March 2014 actuarial valuation. (See the Appendix for assumptions.) At 31 March 2015 the Scheme is estimated to have had a shortfall of £19.5 billion on the self-sufficiency basis, equivalent to a funding level of 72%.

Table 3

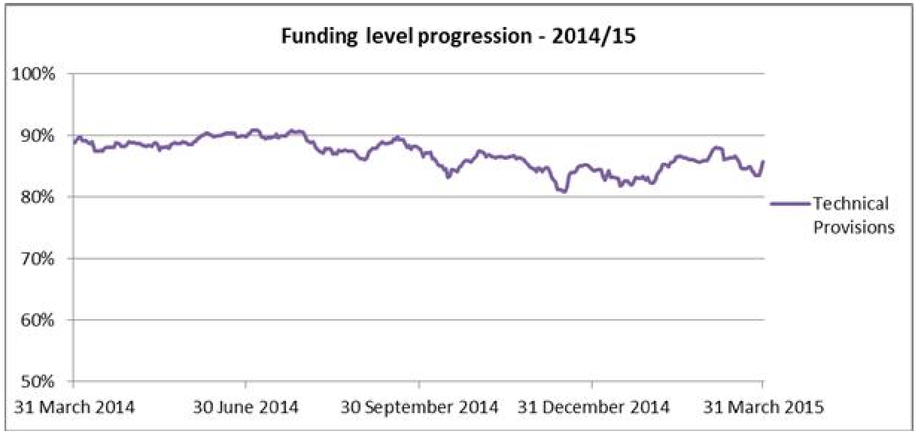
	As at 31 March 2014 (£ billion)	**As at 31 March 2015 (£ billion)**
Liabilities	56.1	68.6
Assets	41.6	49.1
Surplus / (Shortfall)	(14.5)	(19.5)
Funding level	74%	72%

Progress of Technical Provisions funding level against the Scheme Recovery Plan since the valuation

1.8 At the 31 March 2014 actuarial valuation, the Trustee put in place a recovery plan setting out the contributions required to remove the shortfall in the Scheme. **Chart 1** shows the approximate funding level (purple line) since the valuation.

1.9 If the assumptions used for the 31 March 2014 actuarial valuation had been borne out in practice, then, based on the agreed contributions, the deficit would have been expected to have fallen slightly to £5.2bn at 31 March 2015, equivalent to a funding level of 89% relative to the Technical Provisions.

Chart 1



Summary of future service contribution rate

1.10 We have calculated an estimate of the future service contribution rate of the Scheme on the benefit structure as agreed by the JNC on 9 July 2015 assuming those have been implemented in full. These are based on the 2014 assumptions updated for market conditions as at 31 March 2015 but with the membership details as at 31 March 2014 unamended. The approach is consistent with that adopted for the 2014 valuation. The results are shown in **Table 4.**

1.11 **Table 4** shows the future service contribution rate that would apply at 31 March 2015 if the rates were to be reassessed in line with the 2014 valuation approach. The 2014 actuarial valuation rates are shown for comparison (See the Appendix for assumptions).

1.12 The future service rates have increased substantially on account of lower prevailing gilt yields compared with 2014 valuation market conditions. The employers are currently paying 16% of payroll and this is planned to increase to 18% with effect from 1 April 2016 and this includes a provision for the correction of the past service deficit as at 31 March 2014. The total contribution rate will be reviewed at the next actuarial valuation (currently scheduled for 31 March 2017); it is shown here for information only.

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Table 4

	31 March 2014 Once DB salary threshold and DC section introduced % of salaries p.a.	**31 March 2015 Once DB salary threshold and DC section introduced % of salaries p.a.**
Total normal cost of DB pension benefits (including life assurance)	20.1	25.1
Allowance for expenses	0.4	0.4
Total Employers cost of DC benefits	2.5	2.5
Less members' contribution in respect of DB benefits	(7.1)	(7.1)
Employer future service rate	15.9	21.0

From 31 March 2016 future service benefits and accrued benefits will no longer be linked to salary. On this basis, the Employer future service rate for the period between 31 March 2015 and 31 March 2016 is calculated to be 21.2% of total salaries (as an average of the FS and CRB sections)

2 Market Commentary

2.1 The Trustee's target investment return and therefore the prudent discount rate used for valuing the liabilities are based on achieving a level of out-performance above gilt yields. The level of out-performance reflects the actual investments held by the Scheme. **Chart 2** shows the movement in both nominal and real yields over the period from 31 March 2014 to 31 August 2015 and also market implied inflation. For example the yield on index-linked gilts was -0.1% at 31 March 2014 and had fallen to around -0.9% at 31 March 2015. The yield remains at this level at the end of August 2015.

2.2 The return on the Scheme's investments, however, has been positive, offsetting to an extent the impact of falling yields. The fund returned 17.9% over the year to 31 March 2015. **Chart 3** overleaf shows the returns on the FTSE 100, nominal long-dated gilts and index-linked gilts over the period from 31 March 2014 to 31 August 2015.

2.3 The long term nature of the Trustee's investment strategy means that it is inevitable that the funding level could be expected to be volatile over short periods. The Trustee's overall approach to funding is underpinned by an over-arching Financial Management Plan (FMP) which takes into account funding, investment strategy and the strength of the covenant provided by the employers to be able to respond to variations in the funding position against the long-term plan. The FMP includes a long-term aim to reduce the level of potential variability in the funding position and the Trustee has a risk monitoring framework which covers all aspects of the FMP.

Chart 2

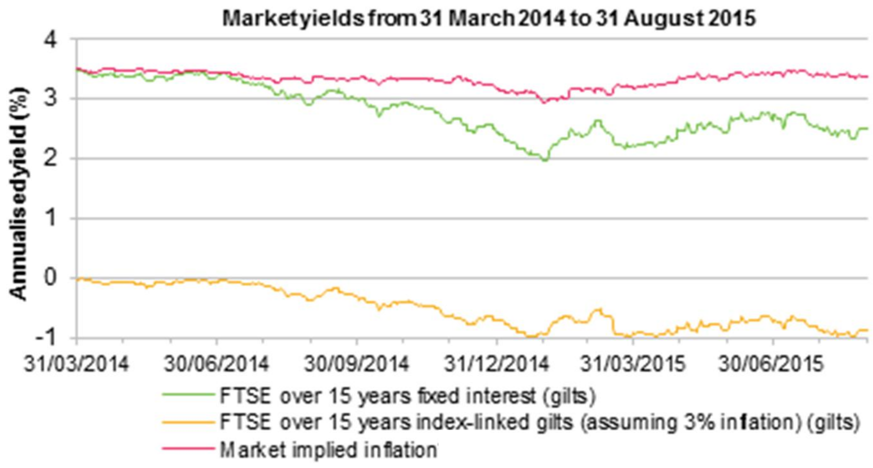
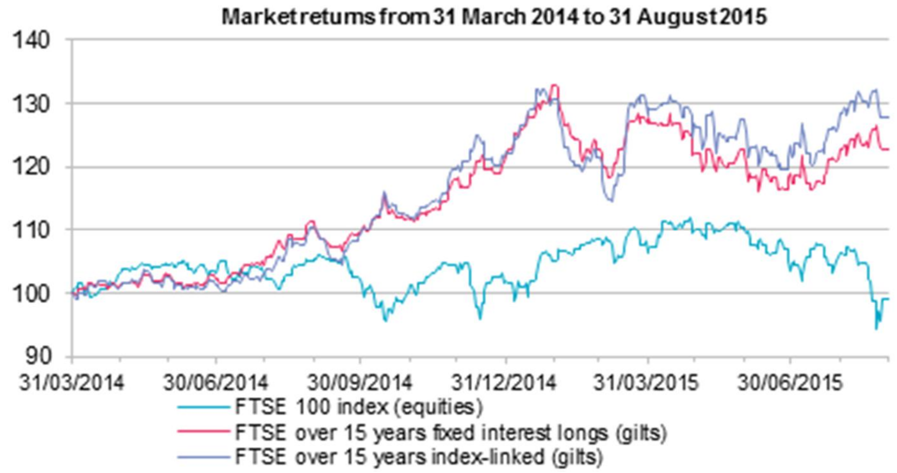


Chart 3


Market returns from 31 March 2014 to 31 August 2015
140
130
120
110
100
90
31/03/2014
30/06/2014
30/09/2014
31/12/2014
31/03/2015
30/06/2015
FTSE 100 index (equities)
FTSE over 15 years fixed interest longs (gilts)
FTSE over 15 years index-linked (gilts)

3 Conclusions

3.1 This paper provides a summary of the Scheme's funding position at 31 March 2015 and a comparison with that expected based on the position at 31 March 2014 together with reasons for the difference.

Signature		**Date of signing**	30 September 2015
Scheme Actuary	Ali Tayyebi	**Qualification**	Fellow of the Institute and Faculty of Actuaries

The advice set out in this paper and accompanying documents is covered by and compliant with the following Technical Actuarial Standards (TAS) issued by the Financial Reporting Council: *TAS R – Reporting Actuarial Information*; *TAS D – Data*; *TAS M – Modelling*; and *Pensions TAS*. It should be read in conjunction with the formal report for the 31 March 2014 actuarial valuation.

The approximate results in this paper have been calculated using the method and assumptions set out in the statement of funding principles agreed as part of the actuarial valuation at 31 March 2014 (updated to reflect changes in market conditions). The figures calculated for this report are not as accurate as those that would arise from a full actuarial valuation as some approximations have been made and individual member data has not been used (it is based on the membership data supplied for the 31 March 2014 actuarial valuation). This paper does not contain recommendations of any changes to the method and assumptions, or the contribution/ benefit structure. Further advice is likely to be needed if decisions are to be taken in relation to contributions, the method and assumptions in the statement of funding principles, or the level of benefit provision.

The audited market value of the Scheme's assets at 31 March 2015 has been provided by the Trustee.

The calculations in the paper use methods and assumptions appropriate for the purpose of reviewing the financial position of the Scheme. Mercer does not accept liability to any third party in respect of this paper; nor do we accept liability to the Trustee if the information is used for any purpose other than that stated. The contents of the report are confidential and should not be disclosed, in whole or in part, to any third party (except as specified in this note) without Mercer's prior written consent, other than as required by any law or order of a court or regulatory body.

APPENDIX

Funding assumptions

Table 5 below shows the assumptions used for this actuarial report and for the actuarial valuation as at 31 March 2014. The assumptions are based on the methodology set out in the Trustee's statement of funding principles as agreed at the actuarial valuation, but updated to reflect changes in financial conditions at 31 March 2015. The key assumptions are as follows:-

Table 5

Principal actuarial assumptions	31 March 2014	31 March 2015
Investment return	5.2% in year 1, decreasing linearly to 4.7% p.a. over 20 years	3.98% in year 1[1], decreasing linearly to 3.5% p.a. over the next 19 years
Market derived price inflation	3.6% p.a.	3.2% p.a.
Inflation risk premium	0.2% in year 1, decreasing linearly to 0.1% p.a. over 20 years	0.2% p.a. in year 1, decreasing to 0.1% p.a. over the next 19 years
Price inflation – Retail Prices Index	Market derived price inflation less inflation risk premium	Market derived price inflation less inflation risk premium
RPI / CPI gap	0.8% p.a.	0.8% p.a.
Price inflation – Consumer Prices Index	RPI assumption less RPI / CPI gap	RPI assumption less RPI / CPI gap

[1] The year 1 discount rate allows for the first year's de-risking, a reduction of 0.025% to the initial yield.

Principal actuarial assumptions	31 March 2014	31 March 2015
Salary increases		
1) General pay growth	CPI in year 1, CPI +1% in year 2 and RPI + 1.0% p.a. thereafter	CPI + 1.0% in year 1 and RPI + 1.0% p.a. thereafter
2) Salary scale for past service	Scale adopted (in first two years) reflecting recent experience	Scale adopted (in 2015 Scheme year) reflecting recent experience
Pension increases in payment	CPI assumption (for both pre and post 2011 benefits)	CPI assumption (for both pre and post 2011 benefits)
Mortality base table	98% of SAPS S1NA "light" YOB unadjusted for males and 99% of SAPS S1NA "light" YOB with a -1 year adjustment for females	98% of SAPS S1NA "light" YOB unadjusted for males and 99% of SAPS S1NA "light" YOB with a -1 year adjustment for females
Future improvements to mortality	CMI_2014 with a long term rate of 1.5% p.a.	CMI_2014 with a long term rate of 1.5% p.a.

The self-sufficiency basis uses the same assumptions as above, where applicable, except the investment return is 2.8% p.a. (4.0% p.a. at 2014) and there is no allowance for an inflation risk premium.

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