Memo

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To: Geraldine Egan, UCU

From: Bryn Davies, Union Pension Service Limited

Date: 20 May 2010

Re: Comparison of Proposed CARE Benefits

Introduction

Thank you for your email of 12 May 2010 in which you ask me to verify the comparison in pension terms between the present USS retirement benefit and the employers' proposed CARE scheme, assuming the latter had been introduced earlier. The specific comparisons you have asked me to look at are those in the document attached to your email, relating to what I take to be three 'typical' members, i.e. a lecturer, a senior lecturer and an academic related staff member. The career path and the earnings of each of these example individuals have been set by you from the data on past pay scales. I have not checked the figures for pay against the data but taken them as given. However, I have notice one oddity in the pay for the lecturer, where the figure for 2007 is markedly lower than that in 2006.

What I have done to undertake the process of verification is to produce my own spreadsheet which, given the past pay figures, calculates what I believe to be the current USS benefits and the proposed CARE benefits. This is attached (ucu0518 Comparison Tables.doc) and you need to check that I have understood correctly the way in which the USS benefit calculations work. You are able to display the calculations for the individual concerned by selecting the relevant description from a drop-down list in cell A1. The spreadsheet can also, as I explain below, be used, if you wish, to calculate further comparative figures.

How are earnings revalued?

In brief, my USS figures broadly agree with yours, other than minor differences that are probably due the calculation of revalued pensionable pay. However, my CARE figures are materially lower than yours because my understanding of the mechanics of how earnings would be re-valued is not the same as in your figures. As I have mentioned, there are many different ways of calculating CARE benefits and the explanation given in the employers' proposal is very short on detail. All it says in the document entitled "Proposal for the JNC to consider" is as follows:

> *"For the purpose of calculating revalued average earnings, each year's earnings would be revalued in line with RPI subject to a maximum of 10% and minimum of 0% p.a., except that only half of any RPI increase over 5% would be taken into account for this purpose (for example, if the rate of RPI increase were 8%, the rate of revaluation would be 5% plus _ x (8%-5%) giving a total of 6_%)."*

What this does not tell us is how and when the revaluation process is applied to members' past earnings. However, my understanding of how a typical CARE scheme would revalue past earnings is explained below. The approach I have adopted is how the most notable

example of a CARE scheme works, i.e. the Nuvos Scheme for new entrants to Civil Service employment, as explained in the excerpt from the Nuvos booklet that is set out in Annex 1. You will see that the approach used for Nuvos is to calculate the accrued pension each year and to revalue that, rather than revaluing the earnings and calculating the pension at the end, but the end result is the same. All we are looking at here is how the revaluation works.

The basic principle is that the revaluation takes place each April but, because RPI figures are only issued after some delay, the actual increase is based on the annual increase in the RPI the previous September, i.e. the increase over the preceding year. So the increase in April 2010 is based on the increase in the RPI between September 2008 and September 2009. You will see that this is the same increase that has been applied to USS benefits since 1988, when the April date was first used. It is also the figure you have used as the basis for revaluations that took place after that year. For previous years you used some interpolated figures but I suggest that, for the purposes of the comparison, it would be most straightforward to use the same basis for calculating the relevant increases before 1988 as that used subsequently, i.e. the previous September figure. I have taken the figures from a table of RPI increases provided by Watson Wyatt on its website, a copy of which is attached as Annex 2.

The April increase is applied to earnings for the years prior to the year that has just ended. So, for example, the increase due at April 2009 is 5%, being the annual increase in the RPI the previous September, i.e. at September 2008. So that increase is not applied to earnings in 2008/09 but it is applied to the actual earnings in 2007/08 and to the re-valued earnings from previous years. The increase is applied at the beginning of the scheme year, i.e. in April, and no further increases are applied to past earnings, even if the relevant date is later in the year.

You will note that I did not use April 2010 as the example, as this throws up a particular problem, i.e. what happens to the revaluation process if the RPI falls, as it did last September by 1.4%? My assumption is that as in Nuvos, no reduction will be applied but this leaves open the issue of what will happen in future years, i.e. will the reduction be offset against future increases? However, we can ignore the problem for the purpose of the present exercise, as the people in the examples are assumed to retire at the beginning of 2010/11.

What all this means is that no increase is applied to the member's earnings from 2009/10. The increase that is applied to earnings from 2008/09 is the April 2010 increase, which happens to be 0.0%. The increases that are applied to earnings from 2007/08 are a 5.0% increase at April 2009; and a 0.0% increase at April 2010 – a total of 5.0%. The increases that are applied to earnings from 2006/07 are a 3.9% increase at April 2008; a 5.0% increase at April 2009; and a 0.0% increase at April 2010 – a total when compounded of 9.1%. And so on. I am sorry if I seem to be labouring the point but I have found it difficult to get it clear in my mind how it all works and I want to avoid any possible confusion.

Tables of Results

Given this approach to revaluation, I have calculated the figures for the three examples. In each case I have assumed that the annual earnings you have provided as the basis for the calculation are those for the year from April to March and that the member retires in April 2010. If we assume that their earnings cease at the end of March, it makes the calculations more straight-forward and, given the number of years of service, it then makes no difference to the outcome exactly when during the year they take their pension.

I have retained the assumption of 18 years as the period of the expected receipt of the pension, as this is a reasonable figure for the purposes of illustration. However, by the time most future new entrants to the USS get to retirement I have no doubt that their expected lifetimes will be materially longer. If you want to use a longer period you can simply change the relevant figure in the spreadsheet.

I also agree that the most straight-forward comparison is after the USS lump sum has been converted into pension, based on the assumption that retirement is taking place on retirement at age 65. It would be possible to make the comparison the other way round, i.e. by commuting part of the CARE pension to provide the same retirement lump sum as that payable under the current USS, and then comparing the USS pension with what's left of the CARE pension. In some ways this would be preferable, as in practice the great majority of members take the lump sum, rather than maximising the pension. However, this would require an assumption to be made about what commutation rate applied in the CARE scheme and, as I mention below, this is one of key issues relating to the CARE where the employers' have not indicated what they wish to propose. In the circumstances it might be best not to pre-empt the point.

There are two further points to note about my calculations. First, I have used a conversion factor for USS lump sum to pension of 17.058, which is the factor at age 65 for males. The factor for females at that age is 18.123. These rates have been taken from a spreadsheet of current reverse commutation factors that has been provided by USS which is attached (USS Commutation-factors.xls). Secondly, in calculating the USS benefits I have not attempted to replicate the full detail of how pensionable salary is calculated but I have made some attempt to check that the impact of the revaluation of pensionable salary in line with the RPI is taken into account and this leads to the differences in some of our USS figures.

The results of the comparisons are set out in the tables in Annex 3, which is based on the table in your own loss document. What I have added is an indication of the reduction in the respective benefits when expressed as a percentage of the member's earnings in the final year, i.e. 2009/10. I have not redrafted the body of your report although, obviously, the figures will need to be changed to reflect those in the tables.

Further calculations

You can use my spreadsheet to make further calculations of the comparison for individuals with other earnings patterns, either by changing the data on the front tab of the spreadsheet, which in its original form calculates the figures for your three individuals or, by using the second tab, by inserting completely new data for a single individual.

On the front tab you have to select the individual from the descriptions at the top of the three columns of pay data from the drop-down box in the cell A1. You can also change the assumed lifetime by changing the figure in cell C10. You should note that you can make the comparison for members with less than 35 years service by just making the cells for pay in years prior to the year they joined blank. Finally, you can change the sex of the member on both tabs by selecting from the drop-down box in cell c13.

In the second tab you have to insert a description in cell A1 and the calculations are based on the figures for pay that you insert in column F.

Limitations of the Exercise

I am conscious that you have only asked me to verify your figures but in doing so I feel obliged to add some caveats about the limitations of the exercise. The major point to make is that the comparison is between what benefits are paid under the current rules and what would be paid, had the members been in the proposed CARE scheme. This is a perfectly valid comparison, as it illustrates the extent of the proposed cutback in benefits, although the results are not surprising given the employers' objective of making significant reductions in their pension costs.

What this exercise does not tell you, however, is how the benefits from the CARE scheme would compare with a final pay scheme given the same level of contributions to each scheme. The relative advantages and disadvantages of a CARE scheme vis-a-vis a final pay scheme is a major subject that cannot be dealt with satisfactorily in a relatively brief note. Nevertheless, it is important to recognise that the difference between the two types of scheme is more about how benefits are distributed between members, rather than their absolute level, with CARE schemes being comparatively better for members with shorter periods of service and a less advancement during their career.

Another limitation is that the comparisons are made for a small sample of members and it is not necessarily self-evident how general are the results. In particular, they only relate to members with longer periods of service and it should be remembered that there are many scheme members that end up with shorter periods of service.

Finally I have to point out that the past is only an uncertain guide to the future. It should be noted, therefore, that a CARE scheme with capped revaluation is bound to offer a worse deal when inflation hits the sort of levels experienced in the late '70s. It is an open question as whether such rates will be experienced in future.

Issues with CARE Schemes

I understand that the Union's approach is to oppose the introduction of a CARE Scheme. However, as mentioned above, the description of the CARE scheme that is being proposed is short on detail. In particular, the following points, which all have a potentially significant impact on scheme benefits, would need to be clarified before a definitive comparison could be made:

1. Is the cap on the revaluation of past earnings to be applied each year or on the average of the increases over the period between receipt of the earnings and retirement? We are assuming the former but the wording of the proposal suggests that they might have the latter in mind and, if there were to be a CARE Scheme, this latter approach would be very much to be preferred, from the members' perspective.
2. What happens to the revaluation of earnings if the RPI reduces in any year and, even if no reduction is applied in such circumstances, are they still offset against future increases? For the purposes of the comparison we have assumed that there are no reductions but, as explained above, the second question does not needed to be resolved for the purposes of the current exercise.
3. What commutation factor is used in the CARE Scheme? From the member's perspective it should be cost neutral, i.e. the actuarial equivalent. However, if the USS were to follow the policy enforced in the public sector by the Treasury, an arbitrary rate of 12:1 would be laid down in the rules. The result, as most members

take a lump sum despite the poor value that this rate offers, is a significant reduction in the cost of the scheme.

Conclusion

You will see that the figures I have calculated present the same broad picture of the comparison as those that you calculated, despite some differences in our results. My understanding of how revaluation in a CARE scheme might work actually produces results that are even less favourable to the offer that the employer has made. Despite the limitations I mention above, it is clear from the results that the employers are seeking a material reduction in the benefits to be offered to new entrants to the USS.

I hope that if you wish to undertake further comparisons that you will be able to use the spreadsheet that I have provided. In any event, please do not hesitate to get back to me if anything is unclear or further questions arise.

Annex 1.

Excerpt from Nuvos Pension Scheme Booklet

18. Will the pension I have built up increase in value?

Your pensions administrator will calculate the balance of your nuvos pension every March, and then increase it in April. This increase reflects the increase in the Retail Price Index for the year to the previous September. This increase applies every year, whether you are in service, have left with a preserved pension, or your pension is in payment.

Example

Simon joined the scheme on 1st April, on pensionable pay of £17,750. His pensionable pay went up to £18,250 on 1st October, so his pensionable earnings in his first year were £18,000. He earns £414 (2.3% of £18,000) of pension. The following October his pensionable pay went up to £18,500, so his pensionable earnings in his second year were £18,375. In that year he earns pension of £422.63. The pension earned in the previous year has been increased by 2.5% in line with inflation, so by the end of year 2 he has earned a total of £846.98 of annual pension. Each year he continues as a nuvos member he will build up further pension this way.

19. What happens if I join or leave part way through a scheme year?

You will earn pension that year based on the pensionable earnings you actually receive.

Example

Sophia has pensionable pay of £24,000. As at 31st March she had earned nuvos pension of £7,500. Sophia leaves on the 31st July. In the four months from April to July her pensionable earnings are £8,000, so she will be credited with a further £184 of nuvos pension (2.3% of £8,000), bringing her total entitlement to £7,684 of annual pension.

Reference: http://www.civilservice.gov.uk/Assets/nps_tcm6-1866.pdf

Annex 2.

RPI % Annual Inflation

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	3.7	3.7	4.4									
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
2009	0.1	0.0	-0.4	-1.2	-1.1	-1.6	-1.4	-1.3	-1.4	-0.8	0.3	2.4
2008	4.1	4.1	3.8	4.2	4.3	4.6	5.0	4.8	5.0	4.2	3.0	0.9
2007	4.2	4.6	4.8	4.5	4.3	4.4	3.8	4.1	3.9	4.2	4.3	4.0
2006	2.4	2.4	2.4	2.6	3.0	3.3	3.3	3.4	3.6	3.7	3.9	4.4
2005	3.2	3.2	3.2	3.2	2.9	2.9	2.9	2.8	2.7	2.5	2.4	2.2
2004	2.6	2.5	2.6	2.5	2.8	3.0	3.0	3.2	3.1	3.3	3.4	3.5
2003	2.9	3.2	3.1	3.1	3.0	2.9	3.1	2.9	2.8	2.6	2.5	2.8
2002	1.3	1.0	1.3	1.5	1.1	1.0	1.5	1.4	1.7	2.1	2.6	2.9
2001	2.7	2.7	2.3	1.8	2.1	1.9	1.6	2.1	1.7	1.6	0.9	0.7
2000	2.0	2.3	2.6	3.0	3.1	3.3	3.3	3.0	3.3	3.1	3.2	2.9
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
1999	2.4	2.1	2.1	1.6	1.3	1.3	1.3	1.1	1.1	1.2	1.4	1.8
1998	3.3	3.4	3.5	4.0	4.2	3.7	3.5	3.3	3.2	3.1	3.0	2.8
1997	2.8	2.7	2.6	2.4	2.6	2.9	3.3	3.5	3.6	3.7	3.7	3.6
1996	2.9	2.7	2.7	2.4	2.2	2.1	2.2	2.1	2.1	2.7	2.7	2.5
1995	3.3	3.4	3.5	3.3	3.4	3.5	3.5	3.6	3.9	3.2	3.1	3.2
1994	2.5	2.4	2.3	2.6	2.6	2.6	2.3	2.4	2.2	2.4	2.6	2.9
1993	1.7	1.8	1.9	1.3	1.3	1.2	1.4	1.7	1.8	1.4	1.4	1.9
1992	4.1	4.1	4.0	4.3	4.3	3.9	3.7	3.6	3.6	3.6	3.0	2.6
1991	9.0	8.9	8.2	6.4	5.8	5.8	5.5	4.7	4.1	3.7	4.3	4.5
1990	7.7	7.5	8.1	9.4	9.7	9.8	9.8	10.6	10.9	10.9	9.7	9.3
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
1989	7.5	7.8	7.9	8.0	8.3	8.3	8.2	7.3	7.6	7.3	7.7	7.7
1988	3.3	3.3	3.5	3.9	4.2	4.6	4.8	5.7	5.9	6.4	6.4	6.8
1987	3.9	3.9	4.0	4.2	4.1	4.2	4.4	4.4	4.2	4.5	4.1	3.7
1986	5.5	5.1	4.2	3.0	2.8	2.5	2.4	2.4	3.0	3.0	3.5	3.7
1985	5.0	5.4	6.1	6.9	7.0	7.0	6.9	6.2	5.9	5.4	5.5	5.7
1984	5.1	5.1	5.2	5.2	5.1	5.1	4.5	5.0	4.7	5.0	4.9	4.6
1983	4.9	5.3	4.6	4.0	3.7	3.7	4.2	4.6	5.1	5.0	4.8	5.3
1982	12.0	11.0	10.4	9.4	9.5	9.2	8.7	8.0	7.3	6.8	6.3	5.4
1981	13.0	12.5	12.6	12.0	11.7	11.3	10.9	11.5	11.4	11.7	12.0	12.0
1980	18.4	19.1	19.8	21.8	21.9	21.0	16.9	16.3	15.9	15.4	15.3	15.1
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
1979	9.3	9.6	9.8	10.1	10.3	11.4	15.6	15.8	16.5	17.2	17.4	17.2
1978	9.9	9.5	9.1	7.9	7.7	7.4	7.8	8.0	7.8	7.8	8.1	8.4
1977	16.6	16.2	16.7	17.5	17.1	17.7	17.6	16.5	15.6	14.1	13.0	12.1
1976	23.4	22.9	21.2	18.9	15.4	13.8	12.9	13.8	14.3	14.7	15.0	15.1
1975	19.9	19.9	21.2	21.7	25.0	26.1	26.3	26.9	26.6	25.9	25.2	24.9
1974	12.0	13.2	13.5	15.2	16.0	16.5	17.1	16.9	17.1	17.1	18.3	19.1
1973	7.7	7.9	8.2	9.2	9.5	9.3	9.4	8.9	9.3	9.9	10.3	10.6
1972	8.2	8.1	7.6	6.3	6.1	6.1	5.8	6.6	7.0	7.9	7.6	7.7
1971	8.5	8.5	8.8	9.4	9.8	10.3	10.1	10.3	9.9	9.4	9.2	9.0
1970	5.0	4.9	5.1	5.6	6.1	5.9	6.7	6.8	7.0	7.4	7.9	7.9

Annex 3. Comparison Tables – All Males

Lecturer	Annual Pension	Lump Sum
USS	£19,395 £22,807 if lump sum is turned into pension	£58,186 None
CARE	£15,046	None
Loss of pension including lump sum	£7,761 (A reduction from 52.1% to 34.4% of final pay)	na
Loss over retirement based on 18 years life expectancy	£139,697	na

Senior Lecturer	Annual Pension	Lump Sum
USS	£23,864 £28,061 if lump sum is turned into pension	£71,591 None
CARE	£17,696	None
Loss of pension including lump sum	£10,365 (A reduction from 53.1% to 33.5% of final pay)	na
Loss over retirement based on 18 years life expectancy	£186,571	na

ACREL	Annual Pension	Lump Sum
USS	£12,036 £14,153 if lump sum is turned into pension	£36,109 None
CARE	£9,911	None
Loss of pension including lump sum	£4,242 (A reduction from 32.3% to 22.6% of final pay)	na
Loss over retirement based on 18 years life expectancy	£76,357	na