## What do the USS Pension Changes Mean?

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**Background.** Most academic and academic-related staff in the pre-1992 Universities are members of the Universities Superannuation Scheme (USS). The employers are of the opinion that reforms are necessary in order to "safeguard the long-term sustainability of the scheme". Following 18 months of negotiations, involving the representatives of Universities UK and the University and College Union (UCU, representing all members of USS), deadlock was reached. By the casting vote of the independent Chairman the proposals put forward by the employers were recommended to the Trustees of USS. On 22 July 2010, the USS Trustee Board agreed to take steps to implement these proposals. One of these steps is a mandatory consultation with members.

**The Consultation.** This is taking place from 20 October to **22 December**, and is being conducted by each USS employer. Prior to 20 October, an information pack from USS was circulated to members, and there is a website, <u>www.ussconsultation.co.uk</u>, that provides a feedback form<sup>1</sup> for USS members to comment on the significant changes being proposed to the scheme, namely:

- (i) to introduce caps on pension increases and on the revaluation of deferred benefits, at the same time as moving from the retail price index (RPI) to the historically lower consumer price index (CPI);
- (ii) to put new members and most members re-joining USS after a break of more than 6 months into a "CARE" (career average revalued earning) scheme instead of the current final-salary scheme;
- (iii)to increase employee contributions and to introduce cost sharing arrangements;
- (iv)to increase the "normal pension age"<sup>2</sup> to 65;
- (v) to actuarially reduce retirement benefits, unless retirement is at age 65 or later;
- (vi)to introduce flexible retirement arrangements.

Our Aim. The USS website, plus the information pack, only includes information provided by USS and by the Employers Pensions Forum (EPF), even though both the EPF and the UCU were equal partners in the negotiations. The USS and EPF documents describe the proposals in bare terms, but provide little information on their effect and only minimal examples. For instance, the illustration of the CARE scheme only gives results for three years, which does little to indicate how a CARE pension after a typical 40-year career would differ from that of the current final-salary pension. In response the UCU has posted information on http://www.ucu.org.uk/index.cfm?articleid=4598 including a 'riposte' to the distributed EPF document, but that also lacks numbers. Searching further on the UCU web site, one can find a statement that "their first proposals, now slightly amended, would mean a lecturer who retired now at the top of the Lecturer B scale with 35 years' service would receive a pension of only £15,704 compared [to] a final salary pension of £22,962, a difference of more than 30%". That sounds alarming but not knowing anything of how the calculation was done leaves one wondering.<sup>3</sup> Furthermore, little information is given on the cost reduction to the employer, which would be needed to allow us to judge the balance the proposals make between the needs of employee and employer.

We believe members need a range of example calculations to give them a feel for the effect of the proposals before they can understand them and meaningfully respond to the consultation. Indeed the University of Cambridge wrote to USS requesting that supplementary information be provided to members in terms of illustrations. USS declined and referred Cambridge to the EPF (who, at the time of writing, have yet to respond). Calculations by experts would certainly be preferred and we can provide no guarantee for our own, but to move things along while we are waiting, we provide in this article some simple example calculations with an outline description of our method so that readers can better decide for themselves, or even calculate their own variations.<sup>4</sup> While some existing USS members may only care about the effect on their own pensions, we take the point of view that a full comparison should be made of how the changes will affect new members.

Although we are both members of UCU and are respectively elected members of the Oxford and Cambridge Councils, we do not write as representatives of any of these but as individuals trying to evaluate the proposals objectively.

**RPI, CPI, Official Pensions, and the Cap in Pension Increases.** At present, once a member has retired, pensions in payment are increased annually in line with the RPI. In the June 2010 budget, the Government announced that it intended to change increases in, and revaluation of, *"official pensions"* from being based on the RPI to the CPI. USS is *not* an official pension, but through USS rule 15.1, the Trustees have chosen historically to mirror official pensions as regards both pension increases and the revaluation of deferred benefits.<sup>5</sup> Hence if HMG's legislation is passed, USS pension increases will in future be uprated with the CPI unless rule 15.1 is changed.

Over the 21-year period since 1989, the period for which both RPI and CPI have been available, the annual increase in CPI has usually been lower than that in RPI, on average 0.68% a year lower (with the gap forecast to be bigger in each of the next five years<sup>6</sup>). We can use that period as an example to illustrate the effect: the 2009 pension of a person who had retired in 1988 with a pension uprated by CPI would have been 87% of what RPI would have brought (others have predicted lower ratios in future of 75%<sup>7</sup>). The USS consultative documents present this as a done deal, and one might argue that using CPI is more reasonable. However, it is important to recognise the effect of the change. Members should appreciate that there is nothing to stop the USS Trustees changing rule 15.1 to refer to RPI (as six other USS Rules already do<sup>8</sup>). In the negotiations UCU requested this change, but it was rejected by the employers.

In addition to the change from RPI to CPI, there is also a proposal to cap the annual increase in pensions at 5%.<sup>9</sup> No illustration is provided of this in the USS documents. Our calculations show that if this cap is applied to the aforementioned 21-year period, it results in a 2009 pension that is 83% of a pension uprated by RPI.

The effect of the cap would be significantly larger if there was a period of sustained high inflation similar to that in the 1970s. In order to model such a period we need an estimate of CPI prior to 1989. As noted above, for the period when CPI and RPI have both been calculated, on average CPI inflation has been 0.68% lower than RPI. Hence for the period before 1989 we have used this average difference to estimate CPI from the known RPI. If we cap this estimated CPI at 5% and investigate various 21-year periods into the past, the result gets progressively worse and reaches 36% if a 5% cap is applied to the 21-year period starting

in 1969. That means someone who in the 21st year after retirement would have received £25000 using RPI would get only £9000 with capped CPI.

## Particularly the last example demonstrates that a 'defined benefit' scheme that is not protected against inflation does not really give a defined benefit.

While the savings to the pension fund of changing from RPI to CPI are somewhat easier to estimate, the additional savings by capping CPI are highly unpredictable. What capping does is move the risk of high inflation from the pension fund, which has the ability to average out peaks and valleys and beat inflation with a wise long-term investment strategy, and put the risk onto the pensioner, who does not.

**The Revaluation of Deferred Pensions.** The world is sometimes an oyster for academics, with many academics having periods of employment outside the UK. Hence consider an academic who spends the first part of his or her career in the UK, and then moves abroad until retirement, leaving their first pension in USS. This is called a 'deferred pension'. At present the deferred pension is uprated each year by RPI while awaiting retirement. Under the proposals the pension will be uprated by CPI *capped at 2.5%*. There are at least two issues here.

First, it has been argued that the CPI is a more appropriate index with which to uprate pensions in payment because of its exclusion of mortgage payments (but CPI also excludes council tax, vehicle excise duty and television licenses, and includes the spending in the UK by foreign residents). However, for someone still in employment and probably still paying a mortgage, surely RPI is the more appropriate index (also because academic salaries have more closely tracked RPI than CPI). Further, the President of the Royal Statistical Society recently wrote to the UK Statistics Authority noting that he did "not feel that CPI should have sole star billing", that "both indices [i.e. the RPI and CPI] have drawbacks", and that the CPI "is not necessarily the best index for all purposes".<sup>10</sup> In the case of deferred pensions we agree.

Second, the capping of CPI at 2.5% is close to immoral. Since April 2008, CPI has been above 2.5% for all except 8 months. The long term average of CPI over its existence is  $2.69\%^{11}$  (i.e. above the cap) and would surely have been much higher in the 1970s if it had been calculated back then. Anyone with a deferred pension is almost guaranteed to get a bad deal, with their pension likely to shrink rapidly in real terms. For instance, a deferred pension uprated over the period 1988-2009 with CPI capped at 2.5% would be worth only 75% of a deferred pension uprated with RPI (as at present). Going back to earlier periods as above, the pension uprated with capped CPI would only be worth 23% of a pension uprated by RPI after a 21-year period starting in 1969: what would have been £10,000 with RPI turns into only £2,300. Moreover this change is being introduced at a time when more staff may find themselves in forced deferment as a result of redundancy, and it may affect women disproportionately (for example if they give up work to look after children and then have a career change).

**The CARE Scheme.** The current pension scheme gives members a pension of 1/80th of final salary for each year of contributions, or 50% of final salary for a typical career of 40 years (plus a lump sum of three times the pension). From April Fool's Day 2011 it is proposed that all new entrants to USS, or most members who rejoin after a break of 6 months or more (e.g. as a result of a period abroad), will no longer be in the final-salary scheme, but in a CARE scheme. It may be that this change is needed in order to make USS viable for employers, and it

is claimed that "all the other benefits associated with the scheme would be similar to those in the final salary section of USS, except that the CARE-like formula of benefits would be used as the basis rather than final salary benefits". However, how similar is similar?

One of the difficulties in constructing an illustration is how to include inflation, annual national pay settlements, promotions, etc. Since we cannot know what the future will bring, as in our earlier illustrations we use the historical RPI and the CPI as an example. We compare the pensions of people retiring now in the current final-salary scheme with what they would get if the proposed new CARE scheme had been in operation for their whole career. Although modelling the past, for simplicity we use the *current* Oxford salary scale structure for the entire period.

We have constructed three example career paths. The first is an academic who started in October 1970 at age 25 as a post-doc at the bottom of grade 7, was awarded the available automatic annual increments on that grade, and moved at age 35 to a University Lectureship with a £5000 pensionable college housing allowance, starting at the bottom of that scale and being awarded the available automatic annual increments. The second is a researcher who started the same, but was gradually promoted through grades 7-10 getting annual increments until reaching the top of the normal scale of grade 10. The results for this path turn out to be very similar to the academic path so are not discussed further. Our third very different example is a 'constant' person who was recruited at the top of grade 7 and stayed there for his or her full career. All are assumed to retire at age 65 in September 2010.

We start by considering a model *without inflation* to show the simplest difference between final salary and CARE. In this case we find that while the constant person would still get a pension of 50% of final salary, the academic would get only 41%, a significant change.

Next we need to include inflation, in which case the details of the 'revaluation' part of the CARE scheme become crucial. We do not have detailed salary information for past years and for simplicity we assume that salaries have scaled with RPI.<sup>12</sup> If the annual pension revaluation was also based on RPI, the results would be the same as the calculation above that ignored inflation. However the USS proposal is to use a capped version of CPI.

The CPI has only been calculated since 1989, so for earlier years we use (as in our earlier calculations) RPI inflation minus 0.68%. The result in this model is a starting<sup>13</sup> CARE pension of 37% of final salary for the academic and 44% for the constant person. However, because the economic pattern in the future may be different from the past, other possible scenarios should be explored to test the sensitivity. One variation is to run time backwards, using the 1970 RPI value for 2009, the 1971 value for 2008, etc. This puts the period of higher inflation in the more recent past where it affects more of the career average, but since our estimated CPI for that period tracks the RPI, the result is almost the same. This version of CARE would give less, but at least it would be fairly predictable as a period of high inflation would be likely to affect both RPI and CPI.

However the USS proposal is *not* simply to use CPI, but a capped version: CPI up to 5% a year, plus one half of any excess of the increase in the CPI above 5% a year, subject to a hard cap of 7.5% a year. This strongly affects much of the 1970-1985 period, a period that may have been one of particular financial stress but who would dare say that is not going to happen again! The effect of the cap is to reduce the academic's starting pension to 35% and the

constant person's to 41% of final salary in the forward time scenario.<sup>14</sup> In the reversed time scenario the effect is much stronger, giving the academic only 24% and the constant person 28% of final salary. Capped CPI leaves members very exposed to the vagaries of inflation with the academic possibly getting 1/3 or only 1/4 of final salary, a very significant change compared with the current final-salary scheme which uses uncapped RPI. The above results including pension amounts are summarised in the table.

	Academic Career Path		Constant Pay Grade	
Starting Pension:	pension	% of final salary	pension	% of final salary
Final-salary scheme	£33,753	50%	£17,823	50%
CARE, no inflation	£27,580	41%	£17,823	50%
CARE with CPI " time reversed	£24,784 £24,871	37% 37%	£15,737 £15,781	44% 44%
CARE with capped CPI " time reversed	£23,578 £16,313	35% 24%	£14,471 £10,047	41% 28%
Pension after 20 years:	pension	% of final salary	pension	% of final salary
Final-salary scheme: RPI CPI, low CPI, high capped CPI, low capped CPI, high	£33,753 £29,295 £28,625 £28,026 £12,221	50% 43% 42% 42% 18%	£17,823 £15,469 £15,115 £14,799 £6,453	50% 43% 42% 42% 18%
CARE with capped CPI: normal time, low reversed time, low normal time, high reversed time, high	£19,577 £13,545 £8,537 £5,907	29% 20% 13% 9%	£12,015 £8,342 £5,240 £3,638	34% 23% 15% 10%

In the lower part of the table we combine our results for the pension earned during a 40-year career and the loss due to inflation after 20 years of retirement. The results are given in "today's money" (i.e. adjusted for RPI), so in the current final-salary scheme the pension would remain the same as its starting value.

The proposals would affect current members who stay in the final-salary scheme by changing from RPI to CPI to uprate their pensions after retirement and by capping it at 5% for that part of the pension earned from April 2011. A member who retires very soon would get full CPI for almost all of the pension, while a member just starting a 40-year career would get almost entirely capped CPI. For each, the effect is shown for a low-inflation scenario as in the last 21

years and for a high inflation scenario as in 1970-1991. The result is a pension in the 21<sup>st</sup> year of retirement that is about 42% of final salary, except for the case of capped CPI in the high-inflation scenario, where it is only 18% of final salary.

For the proposed CARE with capped CPI we also show the results for four different scenarios. The first uses the inflation values of the normal time sequence 1970-2009 during employment and a repeat of the last 21 years after retirement; this has a period of high inflation during the first half of the career and then low inflation after that, so is fairly optimistic but still brings the academic's pension down to 29% of final salary. The second uses the same low inflation during retirement but the reversed time sequence 2009-1970 during employment, so the overall pattern is low - high - low; this is a more moderate scenario and gives 20%. The third returns to the normal time sequence during retirement, so the pattern is high - low - high. This is more pessimistic but still not unreasonable; the pension comes down to only 13%. The fourth is the most pessimistic, with a pattern of low - high - high, and brings the academic's pension down to a very low 9% of final salary after 21 years. None of these is a prediction of the future; all are possible. The differences between them certainly don't allow one to look forward to a reliable pension.

## As these examples again demonstrate, a 'defined benefit' scheme that is not protected against inflation does not really give a defined benefit.

**Better CARE.** This is not to say that a move to a fair CARE scheme, possibly even for current members, would not be a good idea. As Lord Hutton has observed, with a final-salary scheme promotion effects, particularly those late in a career, "could mean that high flyers can receive almost twice as much in pension payments per pound of employee contributions than do low flyers".<sup>15</sup> Hence, using a career average is arguably a fairer scheme as you get what you pay for.

However, the CARE scheme being advocated is a very poor deal. In addition to the use of capped CPI, the proposed accrual rate, i.e. the fraction of salary added to a member's pension pot each year is the same as for the current final-salary scheme at 1/80<sup>th</sup>, which if the 3/80<sup>th</sup> lump sum is converted into pension is equivalent to about 1/68<sup>th</sup>. This compares very unfavourably with 1/46<sup>th</sup> in the Civil Service CARE scheme. Given increasing life expectancies, some reduction in benefit may be needed, as USS claims, to keep the scheme "viable for employers" (although this need may be offset somewhat by the government's intention to remove the default retirement age so people can keep working past the normal pension age). But what might be viable for employers, may not, as claimed, be "attractive for members". Indeed we expect the changes may make it difficult to recruit outstanding staff, especially from overseas.

**Is USS sustainable?** A key question is whether USS in its current form is sustainable. The employers claim not. However, UCU's actuary<sup>16</sup> notes that "while it might appear from the actuarial advice given to the employers that the ability of the Scheme to earn higher returns is being called into question, it appears that this is unlikely to be an issue in practice, so long as the present approach to investing the Scheme's assets is maintained". He further notes that USS can take a longer-term investment strategy than a corporate pension scheme that has to reckon with the possibility that the corporation could go bankrupt at any time.

On this basis one would really expect the expert investors who work for USS to be able to get returns that beat inflation in the long term and be able to provide us with pension provision that at least scales with uncapped CPI.

The next full valuation of USS will be done using the financial situation on 31 March 2011, but an 'annual report' is produced each year to give an approximate update.<sup>17</sup> The March 2010 report estimates that USS was 91% funded at that time, up from 75% in March 2009. Since financial markets have improved since then, it seems reasonable to expect that it will be even closer to the 103% in hand at the last full valuation in March 2008, and thus be close to break-even or even in surplus again. Those valuations 'on a technical basis' assume that the USS investments get a better return than the safest bonds ('gilts'), as one would hope. The Trustees have historically chosen to use the much more conservative assumption that their investments will only do as well as gilts, which naturally leads to a larger deficit, but that does not mean it is a reasonable approach. In fact the recent investment performance has been so good that bonuses were paid to the fund managers totalling nearly £3 million.<sup>18</sup> It has also become clear that the high pay rise of 2008 is being eroded by at least 2 years of very low increases, further reducing pressure on the fund.

Further, UCU *alleges* that during the negotiations the employers admitted that their real agenda was to reduce their costs from 16% to around 10%. If this is so then the employers should be upfront, especially since one of the questions on the USS website is to "summarise on the form below where you believe that those objectives would be more effectively achieved by a different method". How can one answer this question if no details of the objectives are given, and if members are given almost no information about the cost savings of the proposed changes?

Of the information we are given, the sums do not seem to add up. We are told the employee contributions for current USS members continuing in the final-salary pension scheme will be 7.5%, and that for members in CARE will be 6.5%, with the employers apparently continuing to contribute 16% of salary for both. This small difference in total contribution cost stands in stark contrast to the large difference in pension. Looking at the difference in the employee contribution alone still does not match even the pure reduction of going to CARE, never mind the additional reduction of revaluing by CPI. Perhaps it somehow does all makes sense, but that is not evident to us from the limited information provided. In such conditions, the consultation is not meaningful. Worse, it makes it difficult to have trust in the people who run our pension scheme.

It is also instructive to recall historical contribution rates. From April 1983 through December 1996 the employer and employee contribution rates were 18.55% and 6.35% respectively. During the boom years of the late 1990s the employers reduced their contributions to 14%, apparently believing the boom-and-bust cycle had been abolished. In retrospect this appears to be an unwarranted underpayment. If the employer rate had remained steady at 18.55%, USS would have been in a much better position to ride out the recent bust without changing benefits. Indeed there may now be a case that before employee rates are raised to the proposed 7.5% the employers should pay in the additional 4.55% (with interest) which they took as a "pension holiday" between 1997 and 2009.

The period 1983-96 is also concrete evidence that it is possible for USS to recover from a time of high inflation and low returns without reducing benefits. The 18.55% rate achieved (actually over-achieved) this, and was sustained for nearly 14 years.

**In Conclusion.** USS has sought responses on six significant changes (five of which are detrimental to USS members). The lack of illustrations means many members are likely to be unaware of the significance of some of the changes, a situation we have attempted to remedy with the calculations presented here. However, without access to USS's actuarial data (indicating the cost reductions to USS of the change to CARE, the change to CPI, the introduction of the caps, the change to the normal pension age, etc.) it is impossible for members to meet USS's request for alternative methods by which the objective of sustainability and viability could be "more effectively achieved by a different method". The information provided by USS is inadequate to make an informed response. USS was also not willing to provide supplementary information requested by the University of Cambridge (acting as employer). Such behaviour hardly inspires confidence.

Our simple calculations indicate that moving to CARE while keeping the accrual rate at 1/80<sup>th</sup> and revaluing by CPI and RPI lead to significant decreases in pensions. The lack of a crystal ball prevents anyone from predicting the future effects of capping, but it's clear that it shifts the risk from employer to employee. We believe that the need for such capping is questionable, assuming the competence of the USS investment team and the conventional wisdom that investment return beats RPI, let alone CPI, in the long term. Indeed the 1970-96 period shows that USS can recover from a period of high inflation. As far as we can tell, there is no proposal to cap official pension increases. Moreover, we do not believe that there is any justification for using progressively tighter caps for revaluation during employment, during retirement, and for someone who leaves before retirement (e.g. as a result of redundancy); such a regime means that the most vulnerable members are given the least protection from inflation.

The USS has given us no concrete evidence for the need to make these serious reductions in benefits. The next full valuation is not due until March 2011 but the March 2010 update already showed a reassuring recovery compared to 2009, so one can reasonably hope it will return to the surplus it had in 2008. The USS fund seems to be in much better shape than many others. We should not allow ourselves to be confused by the general news on pension difficulties.

It is to be hoped that USS, or at least the independent chairman of the negotiating committee, will listen to reasonable concerns of its members and return to the negotiating table to try again. A reasonable outcome might be:

- moving to a uniform normal retirement age of 65 with reduced benefits for those who retire earlier;
- CARE with revaluation by *uncapped* RPI (or better, in line with uncapped HE professional salaries) until retirement (including deferred pensions); the CARE accrual rate should be adjusted to bring only the savings needed to compensate for the increase in longevity since 1996 (when the fund was healthy enough to reduce the employer contributions from 18.55% to 14%);<sup>19</sup>
- retention of the possibility to make additional voluntary contributions (AVCs)

- a requirement that USS provide members with clear annual updates of their pension earned to date and what it is likely to be upon retirement (in current real terms and including any AVCs), so they can make informed decisions on the need to make additional provision.
- use of an uncapped index (with expert advice sought from the Royal Statistical Society as to the relative merits of RPI, CPI or another index) to uplift pensions during retirement.

Comments on this article are welcomed on

<u>https://sharepoint.physics.ox.ac.uk/sites/congregation/</u>. SJC hopes to provide updated information, including graphics, at <u>http://tinyurl.com/35vkmaq</u>.

<sup>10</sup> See <u>http://www.rss.org.uk/pdf/Letter\_RSSPresident\_ChairUKStatisticsAuthority\_CPI\_RPI.pdf</u>.

<sup>11</sup> The average we use is the geometric mean. See also the aforementioned letter from the President of the Royal Statistical Society.

<sup>14</sup> This result for the academic is very similar to the UCU result quoted above, so it may have been calculated with similar assumptions.

- <sup>15</sup> See <u>http://www.hm-treasury.gov.uk/d/hutton\_pensionsinterim\_071010.pdf</u>.
- <sup>16</sup> See <u>http://www.ucu.org.uk/media/pdf/s/f/ucu0411.pdf</u>.

<sup>&</sup>lt;sup>1</sup> A copy of the response form that you can inspect without needing to log in is provided on <u>http://tinyurl.com/2646a63</u>.

<sup>&</sup>lt;sup>2</sup> The "*normal pension age*" is the earliest age at which a member has the right to draw benefits from the scheme without actuarial reduction.

<sup>&</sup>lt;sup>3</sup> Some further useful analysis, which we have made use of, has been provided by the Leeds UCU on <u>http://leedsucu.files.wordpress.com/2010/10/ussucu1.pdf</u>.

<sup>&</sup>lt;sup>4</sup> Our spreadsheet on <u>http://www.physics.ox.ac.uk/users/scooper/uss</u> may provide a starting point for those wanting to make their own calculations, although it is a working document and not a user-friendly calculator. <sup>5</sup> USS rule 15.1: see

http://www.uss.co.uk/SCHEMEGUIDE/PUBLICATIONSPRESENTATIONS/SCHEMERULES/.

<sup>&</sup>lt;sup>6</sup> Mark Duke of Towers Watson: see <u>http://www.bbc.co.uk/news/business-10701442</u>.

<sup>&</sup>lt;sup>7</sup> Laith Khalaf of Hargreaves Lansdown: see

http://www.telegraph.co.uk/finance/personalfinance/pensions/7880179/Millions-to-see-private-sector-pensions-reduced.html.

<sup>&</sup>lt;sup>8</sup> The six explicit references to the RPI in the USS Rules concern *Supplementary Benefits*, *Adjustments to Pensionable Salary*, and *Death in Receipt of an Incapacity Pension*. It is not clear from the consultation documents whether these references to RPI will be changed to CPI.

<sup>&</sup>lt;sup>9</sup> This change would only apply to increases to pensions in payment for future service after 31 March 2011.

<sup>&</sup>lt;sup>12</sup> If academic salaries increase faster than RPI, the difference between the current final-salary scheme and the proposed CARE scheme becomes even larger. Data are available for the annual salary of full-time higher education teaching professionals for the period 1999-2009 (see AHSE Table 14.7a from the Office of National Statistics). In this period academic salaries increased by 45.7%, RPI increased by 29.4% and CPI by 20.1%. However that period may have been unusual.

<sup>&</sup>lt;sup>13</sup> Later in retirement the pension will be further affected by inflation, as described earlier.

<sup>&</sup>lt;sup>17</sup> The reports are available on <u>http://www.uss.co.uk/UssInvestments/Publications/Pages/ActuarialValuation.aspx</u>.

<sup>&</sup>lt;sup>18</sup> John Gill, Times Higher Education, 23 August 2010.

<sup>&</sup>lt;sup>19</sup> In principle it could be reasonable to use CARE uniformly, i.e. also for the service of existing members from April 2011, but it has been suggested to us that it might be difficult to do this in a way that does not result in new members subsidizing the already-earned final-salary pension of existing members.