

Report to the University and College Union Universities Superannuation Scheme – benefit illustrations

17 September 2014

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Introduction

This report has been prepared at the request of Michael MacNeil, national head of bargaining and negotiations of the University and College Union (“UCU” or the “Union”), to inform discussions around the future benefit design of the Universities Superannuation Scheme (“USS”).

In December 2013, USS produced an engagement report entitled “Scheme funding within USS”. This report was intended to inform discussions about the changes needed to the USS to ensure sustainability of the current provisions.

The report suggests that, in the absence of an injection of assets into the scheme or substantially higher employer contributions, changes to the scheme’s benefit design will be needed in order to ensure a high probability of the required employer contributions remaining affordable.

The purpose of this paper is to illustrate the potential benefits payable to members under a range of possible future scheme designs.

Section 1: Future scheme designs

In March 2014, Universities UK (“UUK”), who represent the sponsoring employers of the USS, issued a response to the USS engagement paper. This response acknowledged the need for benefit reform in the USS.

In July 2014, USS produced a follow up report entitled “An integrated approach to scheme funding”. This report sets out a series of tests which are designed to assess whether the USS Trustee’s guiding principles for scheme funding are satisfied following potential changes in the benefits provided by USS.

The tests also aim to ensure that employer contributions remain within an affordable range, as specified by UUK and set out in the USS report. UUK have put forward a potential option for future benefit design which aims to balance the needs of USS members and employers, as well as being consistent with the principles established by the USS Trustee. This option is included in our benefit illustrations. The other scheme designs modelled are as follows:

- USS Final Salary unchanged
- USS Career Revalued Benefit unchanged
- Teachers’ Pension Scheme
- Employers’ consultation option for a hybrid scheme with a cap

Further details on these scheme designs can be found in Appendix A.

Section 2: Member contributions

In this section we provide a summary of the contributions payable by members from 1 April 2014

Full Time Equivalent pensionable pay	Contribution rate 2014-15		
	Teachers' Pension Scheme	USS Final Salary	USS CRB
Up to £14,999	6.4%	7.5%	6.5%
£15,000 - £25,999	7.2%	7.5%	6.5%
£26,000 - £31,999	8.3%	7.5%	6.5%
£32,000 - £39,999	9.5%	7.5%	6.5%
£40,000 - £44,999	9.9%	7.5%	6.5%
£45,000 - £74,999	11.0%	7.5%	6.5%
£75,000 – £99,999	11.6%	7.5%	6.5%
£100,000 and above	12.4%	7.5%	6.5%

For the Teachers' Pension Scheme, the design, structure and distributional approach for the contribution increases that will apply in 2015-16, and beyond will be discussed with unions and employers.

For scheme designs with a salary cap in place, excess contributions are placed in a Defined Contribution ("DC") fund.

Section 3: High level summary of future scheme designs

In this section we provide a summary of the future scheme designs used for modelling purposes.

Future scheme design	Scheme Design based on	Pension accrual	Cash accrual	In service revaluation	Salary Cap ⁽¹⁾	Normal retirement age	Notes
Current schemes	(a) USS Final Salary	80 ^{ths}	3/80 ^{ths}	-	-	60/65/SPA ⁽⁴⁾⁽⁵⁾	Contractual retirement age: 60
	(b) USS Final Salary	80 ^{ths}	3/80 ^{ths}	-	-	63.5/65/SPA ⁽⁴⁾⁽⁵⁾	Contractual retirement age: 65
	(c) USS Career Revalued Benefits	80 ^{ths}	3/80 ^{ths}	CPI ⁽²⁾	-	65/SPA ⁽⁴⁾⁽⁵⁾	-
TPS	(d) Teachers' Pension Scheme	57 ^{ths}	-	CPI + 1.6%	-	SPA ⁽⁶⁾	-
Hybrid scheme with £40k ⁽¹⁾⁽³⁾ cap	(e) USS Career Revalued Benefits	80 ^{ths}	3/80 ^{ths}	CPI ⁽²⁾	£40,000	SPA ⁽⁴⁾	No salary link on accrued benefits

(1) For salary in excess of the cap, Employers will pay 12%, and the employee 6.5% into a specified Defined Contribution fund

(2) In-service revaluation is in line with the rise in official pensions, up to 5% pa. The rise in official pensions is assumed not to exceed 5% in any year (so in-service revaluation is in line with CPI)

(3) Salary caps are assumed to increase in line with RPI

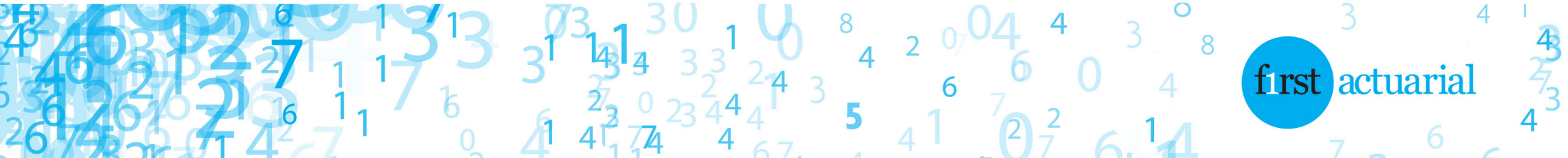
(4) For service before 2011, the normal retirement age ("NRA") in USS depends on the members' contract of employment. For members with a contractual retirement age of 60, benefits before 30 September 2011 have a NRA of 60. For members with a contractual retirement age of 65, benefits before 30 September 2011 have a NRA of 63.5. Benefits earned after this date have a NRA of 65. The USS NRA will also increase in the future, broadly in line with increases to the state pension age ("SPA") for men and women. If and when state pension ages increase, the USS NPA will also increase. It has been assumed that the normal retirement age in the USS Final Salary scheme will rise to 66 in 2020, 67 in 2028 and 68 in 2046, and that different normal retirement ages will apply to each tranche of benefit being built up.

(5) For late retirement, late retirement factors have only been applied to pension at NRA. Service accrued after NRA does not receive a late retirement factor.

(6) NRA equal to State Pension Age, as in the Teachers' Pension Scheme from 2015. If a member's SPA rises, then NRA will do so too for all post-2015 service.



Section 4: Modelling of benefit outcomes



In this section we compare the benefits payable to members of USS under each future scheme design for each of the twelve career profiles provided to us by UCU.

Notes to the Examples

- For each career profile, we have modelled the benefits payable for:
 - Members assumed to have 15 years' past service in the USS Final Salary section (“mid-career”), and
 - Members who join the USS in 2015 (“new joiner”).
- For the mid-career profile we have shown the benefits the member would have built up BEFORE 1 April 2015 and the benefits the member could expect to build up AFTER 1 April 2015, and finally the Total Benefits that would be payable to the member at retirement.
- We then show the total pension payable to the member assuming the lump sum and/or DC fund received from all schemes is converted to pension, at retirement. This enables a like-for-like comparison of the pension payable to the member. This is shown separately for a member with past service and a new joiner. USS lump sums are converted to pension by “reverse commutation” using commutation factors used by the scheme. DC pots are converted to pensions using an annuity factor broadly in line with TM1. Example factors are shown in Appendix A.
- In expressing amounts paid out a long way in the future, we need to allow for the changing value of money. We could add expected rates of inflation to all the amounts we show. But that would mean we'd be showing “telephone number” type figures that wouldn't give people a clear understanding of the standard of living they would expect when they receive that money. To avoid this, we've expressed all our figures in “today's prices”. More accurately, we've expressed numbers in today's RPI price terms. That means that if you expect to receive £100 linked to RPI in twenty years' time, it will appear in our figures as £100. But if you expect to receive £100 linked to CPI in twenty years' time, it would appear in our figures as £85 – reflecting the fact that, as we expect CPI to increase at a lower rate than RPI, this amount would lose value when expressed in current RPI terms.
- We assume general salaries will increase in line with RPI each year. In fact the evidence is that over long periods, pay increases tend to exceed RPI so our approach may undervalue the salary link on USS final salary benefits. But our figures do take into account the effect of any promotion or movement through the pay points associated with the career profile under consideration.

- The assumptions adopted for the pension illustrations can be found in Appendix B.
- The career profiles provided can be found in Appendix C.

Career profile 1: Mid-Career

Joined at age 25, currently age 40 and retires at age 68.

Final salary: £45,954

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£10,167	£10,167	£10,167	£10,167	£8,234	
	Lump sum	£30,502	£30,502	£30,502	£30,502	£24,701	
Benefits built up after 2015	Pension pa	£17,669	£17,669	£15,895	£26,620	£13,836	
	Lump sum	£53,008	£53,008	£47,685	Nil	£41,507	
	DC fund	Nil	Nil	Nil	Nil	£45,946	
Total benefits at retirement (age 68)	Pension pa	£27,837	£27,837	£26,062	£36,788	£22,069	
	Lump sum	£83,510	£83,510	£78,187	£30,502	£66,208	
	DC fund	Nil	Nil	Nil	Nil	£45,946	
Total benefits converted to pension	Pension pa	£33,231	£33,231	£31,112	£38,758	£27,978	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	93.6%	116.6%	84.2%

Career profile 1: New Joiner

Joins now at age 25 and retires at age 68.

Final salary: £45,954

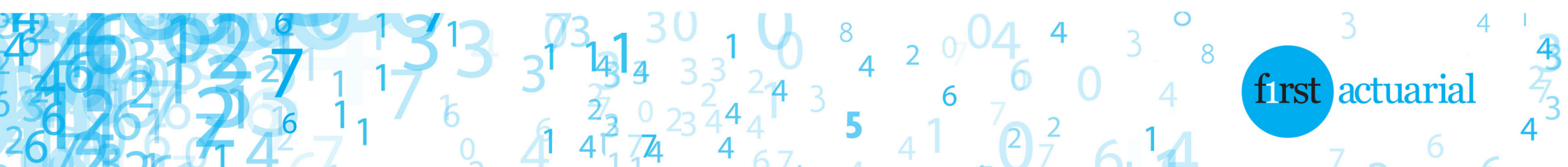
Future scheme design		New joiner					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up after 2015	Pension pa	£26,389	£26,389	£21,912	£39,915	£19,405	
	Lump sum	£79,167	£79,167	£65,736	Nil	£58,216	
	DC fund	Nil	Nil	Nil	Nil	£68,899	
Total benefits at retirement (age 68)	Pension pa	£26,389	£26,389	£21,912	£39,915	£19,405	
	Lump sum	£79,167	£79,167	£65,736	Nil	£58,216	
	DC fund	Nil	Nil	Nil	Nil	£68,899	
Total benefits converted to pension	Pension pa	£31,502	£31,502	£26,158	£39,915	£25,481	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	83.0%	126.7%	80.9%

Career profile 2: Mid-Career

Joined at age 36, currently age 51 and retires at age 68.

Final salary: £45,954

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£10,167	£10,167	£10,167	£10,167	£8,973	
	Lump sum	£30,502	£30,502	£30,502	£30,502	£26,918	
Benefits built up after 2015	Pension pa	£10,972	£10,972	£10,300	£15,469	£8,966	
	Lump sum	£32,915	£32,915	£30,900	Nil	£26,897	
	DC fund	Nil	Nil	Nil	Nil	£23,858	
Total benefits at retirement (age 68)	Pension pa	£21,139	£21,139	£20,467	£25,636	£17,938	
	Lump sum	£63,417	£63,417	£61,402	£30,502	£53,815	
	DC fund	Nil	Nil	Nil	Nil	£23,858	
Total benefits converted to pension	Pension pa	£25,235	£25,235	£24,433	£27,606	£22,299	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	96.8%	109.4%	88.4%



Career profile 2: New Joiner

Joins now at age 36 and retires at age 68.

Final salary: £45,954

Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£20,070	£20,070	£17,254	£28,184	£15,381
	Lump sum	£60,211	£60,211	£51,763	Nil	£46,143
	DC fund	Nil	Nil	Nil	Nil	£41,115
Total benefits at retirement (age 68)	Pension pa	£20,070	£20,070	£17,254	£28,184	£15,381
	Lump sum	£60,211	£60,211	£51,763	Nil	£46,143
	DC fund	Nil	Nil	Nil	Nil	£41,115
Total benefits converted to pension	Pension pa	£23,959	£23,959	£20,597	£28,184	£19,800
% of USS Final salary scheme	Pension pa	100.0%	100.0%	86.0%	117.6%	82.6%

Career profile 3: Mid-Career

Joined at age 25, currently age 40 and retires at age 68.

Final salary: £54,841

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£12,134	£12,134	£12,134	£12,134	£9,826	
	Lump sum	£36,401	£36,401	£36,401	£36,401	£29,478	
Benefits built up after 2015	Pension pa	£21,086	£21,086	£18,969	£31,768	£13,836	
	Lump sum	£63,259	£63,259	£56,907	Nil	£41,507	
	DC fund	Nil	Nil	Nil	Nil	£114,525	
Total benefits at retirement (age 68)	Pension pa	£33,220	£33,220	£31,103	£43,902	£23,662	
	Lump sum	£99,660	£99,660	£93,308	£36,401	£70,985	
	DC fund	Nil	Nil	Nil	Nil	£114,525	
Total benefits converted to pension	Pension pa	£39,657	£39,657	£37,130	£46,253	£32,316	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	93.6%	116.6%	81.5%

Career profile 3: New Joiner

Joins now at age 25 and retires at age 68.

Final salary: £54,841

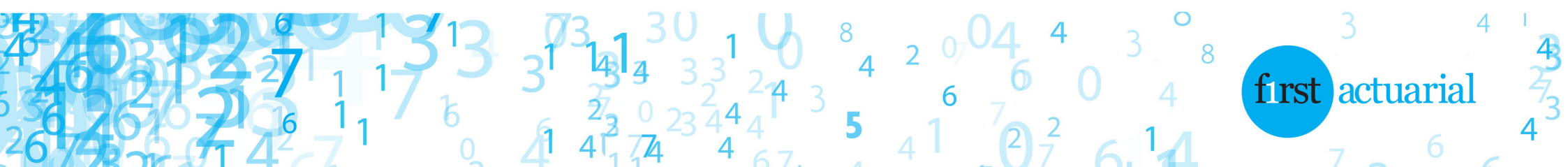
Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£31,492	£31,492	£25,136	£45,441	£19,405
	Lump sum	£94,477	£94,477	£75,407	Nil	£58,216
	DC fund	Nil	Nil	Nil	Nil	£149,916
Total benefits at retirement (age 68)	Pension pa	£31,492	£31,492	£25,136	£45,441	£19,405
	Lump sum	£94,477	£94,477	£75,407	Nil	£58,216
	DC fund	Nil	Nil	Nil	Nil	£149,916
Total benefits converted to pension	Pension pa	£37,594	£37,594	£30,007	£45,441	£28,204
% of USS Final salary scheme	Pension pa	100.0%	100.0%	79.8%	120.9%	75.0%

Career profile 4: Mid-Career

Joined at age 36, currently age 51 and retires at age 68.

Final salary: £54,841

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£12,134	£12,134	£12,134	£12,134	£10,708	
	Lump sum	£36,401	£36,401	£36,401	£36,401	£32,123	
Benefits built up after 2015	Pension pa	£13,093	£13,093	£12,292	£18,460	£8,966	
	Lump sum	£39,280	£39,280	£36,876	Nil	£26,897	
	DC fund	Nil	Nil	Nil	Nil	£59,468	
Total benefits at retirement (age 68)	Pension pa	£25,227	£25,227	£24,426	£30,594	£19,673	
	Lump sum	£75,681	£75,681	£73,277	£36,401	£59,020	
	DC fund	Nil	Nil	Nil	Nil	£59,468	
Total benefits converted to pension	Pension pa	£30,115	£30,115	£29,159	£32,945	£25,690	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	96.8%	109.4%	85.3%



Career profile 4: New Joiner

Joins now at age 36 and retires at age 68.

Final salary: £54,841

Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£23,952	£23,952	£19,486	£31,621	£15,381
	Lump sum	£71,855	£71,855	£58,459	Nil	£46,143
	DC fund	Nil	Nil	Nil	Nil	£86,077
Total benefits at retirement (age 68)	Pension pa	£23,952	£23,952	£19,486	£31,621	£15,381
	Lump sum	£71,855	£71,855	£58,459	Nil	£46,143
	DC fund	Nil	Nil	Nil	Nil	£86,077
Total benefits converted to pension	Pension pa	£28,593	£28,593	£23,262	£31,621	£21,374
% of USS Final salary scheme	Pension pa	100.0%	100.0%	81.4%	110.6%	74.8%

Career profile 5: Mid-Career

Joined at age 25, currently age 40 and retires at age 66.

Final salary: £75,000

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£14,906	£14,906	£14,906	£14,906	£10,627	
	Lump sum	£44,719	£44,719	£44,719	£44,719	£31,880	
Benefits built up after 2015	Pension pa	£24,071	£24,071	£21,053	£35,210	£11,638	
	Lump sum	£72,214	£72,214	£63,160	Nil	£34,915	
	DC fund	Nil	Nil	Nil	Nil	£220,086	
Total benefits at retirement (age 66)	Pension pa	£38,978	£38,978	£35,960	£50,116	£22,265	
	Lump sum	£116,932	£116,932	£107,879	£44,719	£66,795	
	DC fund	Nil	Nil	Nil	Nil	£220,086	
Total benefits converted to pension	Pension pa	£46,050	£46,050	£42,485	£52,821	£33,604	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	92.3%	114.7%	73.0%

Career profile 5: New Joiner

Joins now at age 25 and retires at age 66.

Final salary: £75,000

Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£37,046	£37,046	£27,015	£49,375	£16,798
	Lump sum	£111,139	£111,139	£81,045	Nil	£50,394
	DC fund	Nil	Nil	Nil	Nil	£271,731
Total benefits at retirement (age 66)	Pension pa	£37,046	£37,046	£27,015	£49,375	£16,798
	Lump sum	£111,139	£111,139	£81,045	Nil	£50,394
	DC fund	Nil	Nil	Nil	Nil	£271,731
Total benefits converted to pension	Pension pa	£43,768	£43,768	£31,917	£49,375	£28,389
% of USS Final salary scheme	Pension pa	100.0%	100.0%	72.9%	112.8%	64.9%

Career profile 6: Mid-Career

Joined at age 35, currently age 50 and retires at age 65.

Final salary: £45,954

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£8,616	£8,616	£8,616	£8,616	£6,865	
	Lump sum	£25,849	£25,849	£25,849	£25,849	£20,596	
Benefits built up after 2015	Pension pa	£8,290	£8,290	£7,700	£11,783	£6,829	
	Lump sum	£24,870	£24,870	£23,099	Nil	£20,488	
	DC fund	Nil	Nil	Nil	Nil	£17,027	
Total benefits at retirement (age 65)	Pension pa	£16,906	£16,906	£16,316	£20,400	£13,695	
	Lump sum	£50,719	£50,719	£48,948	£25,849	£41,084	
	DC fund	Nil	Nil	Nil	Nil	£17,027	
Total benefits converted to pension	Pension pa	£19,879	£19,879	£19,186	£21,915	£16,670	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	96.5%	110.2%	83.9%

Career profile 6: New Joiner

Joins now at age 35 and retires at age 65.

Final salary: £45,954

Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£16,114	£16,114	£12,030	£20,295	£11,202
	Lump sum	£48,341	£48,341	£36,089	Nil	£33,607
	DC fund	Nil	Nil	Nil	Nil	£17,027
Total benefits at retirement (age 65)	Pension pa	£16,114	£16,114	£12,030	£20,295	£11,202
	Lump sum	£48,341	£48,341	£36,089	Nil	£33,607
	DC fund	Nil	Nil	Nil	Nil	£17,027
Total benefits converted to pension	Pension pa	£18,948	£18,948	£14,146	£20,295	£13,709
% of USS Final salary scheme	Pension pa	100.0%	100.0%	74.7%	107.1%	72.3%

Career profile 7: Mid-Career

Joined at age 25, currently age 40 and retires at age 66.

Final salary: £54,841

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£10,900	£10,900	£10,900	£10,900	£7,513	
	Lump sum	£32,699	£32,699	£32,699	£32,699	£22,539	
Benefits built up after 2015	Pension pa	£17,601	£17,601	£15,021	£25,078	£11,638	
	Lump sum	£52,804	£52,804	£45,064	Nil	£34,915	
	DC fund	Nil	Nil	Nil	Nil	£75,647	
Total benefits at retirement (age 66)	Pension pa	£28,501	£28,501	£25,921	£35,978	£19,151	
	Lump sum	£85,503	£85,503	£77,763	£32,699	£57,453	
	DC fund	Nil	Nil	Nil	Nil	£75,647	
Total benefits converted to pension	Pension pa	£33,672	£33,672	£30,624	£37,956	£25,135	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	90.9%	112.7%	74.6%

Career profile 7: New Joiner

Joins now at age 25 and retires at age 66.

Final salary: £54,841

Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£27,089	£27,089	£20,567	£38,038	£16,824
	Lump sum	£81,266	£81,266	£61,701	Nil	£50,471
	DC fund	Nil	Nil	Nil	Nil	£97,440
Total benefits at retirement (age 66)	Pension pa	£27,089	£27,089	£20,567	£38,038	£16,824
	Lump sum	£81,266	£81,266	£61,701	Nil	£50,471
	DC fund	Nil	Nil	Nil	Nil	£97,440
Total benefits converted to pension	Pension pa	£32,004	£32,004	£24,299	£38,038	£22,940
% of USS Final salary scheme	Pension pa	100.0%	100.0%	75.9%	118.9%	71.7%

Career profile 8: Mid-Career

Joined at age 35, currently age 50 and retires at age 67.

Final salary: £54,841

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£11,517	£11,517	£11,517	£11,517	£9,033	
	Lump sum	£34,550	£34,550	£34,550	£34,550	£27,100	
Benefits built up after 2015	Pension pa	£12,394	£12,394	£11,442	£17,110	£8,486	
	Lump sum	£37,182	£37,182	£34,326	Nil	£25,459	
	DC fund	Nil	Nil	Nil	Nil	£55,131	
Total benefits at retirement (age 67)	Pension pa	£23,911	£23,911	£22,959	£28,627	£17,519	
	Lump sum	£71,732	£71,732	£68,876	£34,550	£52,558	
	DC fund	Nil	Nil	Nil	Nil	£55,131	
Total benefits converted to pension	Pension pa	£28,392	£28,392	£27,261	£30,785	£22,767	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	96.0%	108.4%	80.2%

Career profile 8: New Joiner

Joins now at age 35 and retires at age 67.

Final salary: £54,841

Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£22,644	£22,644	£16,828	£27,748	£13,776
	Lump sum	£67,932	£67,932	£50,485	Nil	£41,329
	DC fund	Nil	Nil	Nil	Nil	£62,558
Total benefits at retirement (age 67)	Pension pa	£22,644	£22,644	£16,828	£27,748	£13,776
	Lump sum	£67,932	£67,932	£50,485	Nil	£41,329
	DC fund	Nil	Nil	Nil	Nil	£62,558
Total benefits converted to pension	Pension pa	£26,887	£26,887	£19,982	£27,748	£18,465
% of USS Final salary scheme	Pension pa	100.0%	100.0%	74.3%	103.2%	68.7%

Career profile 9: Mid-Career

Joined at age 35, currently age 50 and retires at age 69.

Final salary: £70,000

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£16,275	£16,275	£16,275	£16,275	£8,251	
	Lump sum	£48,825	£48,825	£48,825	£48,825	£24,753	
Benefits built up after 2015	Pension pa	£19,565	£19,565	£16,404	£25,082	£10,414	
	Lump sum	£58,695	£58,695	£49,213	Nil	£31,243	
	DC fund	Nil	Nil	Nil	Nil	£99,719	
Total benefits at retirement (age 69)	Pension pa	£35,840	£35,840	£32,679	£41,357	£18,665	
	Lump sum	£107,520	£107,520	£98,038	£48,825	£55,996	
	DC fund	Nil	Nil	Nil	Nil	£99,719	
Total benefits converted to pension	Pension pa	£43,030	£43,030	£39,235	£44,622	£26,230	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	91.2%	103.7%	61.0%

Career profile 9: New Joiner

Joins now at age 35 and retires at age 69.

Final salary: £70,000

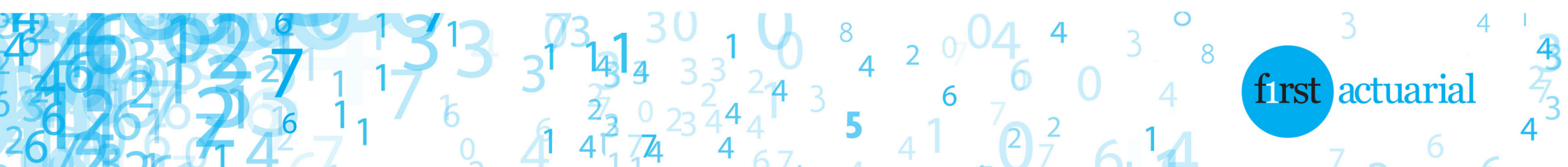
Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£34,108	£34,108	£21,390	£34,574	£15,656
	Lump sum	£102,322	£102,322	£64,170	Nil	£46,969
	DC fund	Nil	Nil	Nil	Nil	£99,719
Total benefits at retirement (age 69)	Pension pa	£34,108	£34,108	£21,390	£34,574	£15,656
	Lump sum	£102,322	£102,322	£64,170	Nil	£46,969
	DC fund	Nil	Nil	Nil	Nil	£99,719
Total benefits converted to pension	Pension pa	£40,950	£40,950	£25,681	£34,574	£22,399
% of USS Final salary scheme	Pension pa	100.0%	100.0%	62.7%	84.4%	54.7%

Career profile 10: Mid-Career

Joined at age 26 and left at age 40. Currently age 41 and retires at age 65.

Final salary: £35,254

This career path has not been modelled as the member would only have accrued service in the USS Final Salary Scheme prior to leaving.



Career profile 10: New Joiner

Joins now at age 26 and leaves at age 40. Retires at age 65.

Final salary: £35,254

Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£5,273	£5,273	£4,897	£7,270	£4,897
	Lump sum	£15,818	£15,818	£14,692	Nil	£14,692
	DC fund	Nil	Nil	Nil	Nil	Nil
Total benefits at retirement (age 65)	Pension pa	£5,273	£5,273	£4,897	£7,270	£4,897
	Lump sum	£15,818	£15,818	£14,692	Nil	£14,692
	DC fund	Nil	Nil	Nil	Nil	Nil
Total benefits converted to pension	Pension pa	£6,200	£6,200	£5,758	£7,270	£5,758
% of USS Final salary scheme	Pension pa	100.0%	100.0%	92.9%	117.3%	92.9%

Career profile 11: Mid-Career

Joined at age 26 and currently age 41. Leaves at age 49 and retires at age 65.

Final salary: £45,954

Future scheme design		Mid-career				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up before 2015	Pension pa	£7,664	£7,664	£7,664	£7,664	£7,199
	Lump sum	£22,991	£22,991	£22,991	£22,991	£21,598
Benefits built up after 2015	Pension pa	£4,500	£4,500	£4,361	£6,265	£3,796
	Lump sum	£13,500	£13,500	£13,082	Nil	£11,387
	DC fund	Nil	Nil	Nil	Nil	£16,701
Total benefits at retirement (age 65)	Pension pa	£12,164	£12,164	£12,024	£13,928	£10,995
	Lump sum	£36,491	£36,491	£36,073	£22,991	£32,985
	DC fund	Nil	Nil	Nil	Nil	£16,701
Total benefits converted to pension	Pension pa	£14,303	£14,303	£14,139	£15,276	£13,466
% of USS Final salary scheme	Pension pa	100.0%	100.0%	98.8%	106.8%	94.1%

Career profile 11: New Joiner

Joins now at age 26. Leaves at age 49 and retires at age 65.

Final salary: £45,954

Future scheme design		New joiner				
		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Benefits built up after 2015	Pension pa	£11,548	£11,548	£9,534	£15,410	£8,793
	Lump sum	£34,645	£34,645	£28,601	Nil	£26,379
	DC fund	Nil	Nil	Nil	Nil	£25,120
Total benefits at retirement (age 65)	Pension pa	£11,548	£11,548	£9,534	£15,410	£8,793
	Lump sum	£34,645	£34,645	£28,601	Nil	£26,379
	DC fund	Nil	Nil	Nil	Nil	£25,120
Total benefits converted to pension	Pension pa	£13,579	£13,579	£11,211	£15,410	£11,107
% of USS Final salary scheme	Pension pa	100.0%	100.0%	82.6%	113.5%	81.8%

Career profile 12: Mid-Career

Joined at age 26, currently age 41 and retires at age 67.

Final salary: £45,954

Future scheme design		Mid-career					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up before 2015	Pension pa	£9,650	£9,650	£9,650	£9,650	£7,938	
	Lump sum	£28,951	£28,951	£28,951	£28,951	£23,814	
Benefits built up after 2015	Pension pa	£15,555	£15,555	£14,099	£23,133	£12,272	
	Lump sum	£46,666	£46,666	£42,297	Nil	£36,817	
	DC fund	Nil	Nil	Nil	Nil	£41,448	
Total benefits at retirement (age 67)	Pension pa	£25,206	£25,206	£23,750	£32,784	£20,211	
	Lump sum	£75,617	£75,617	£71,249	£28,951	£60,632	
	DC fund	Nil	Nil	Nil	Nil	£41,448	
Total benefits converted to pension	Pension pa	£29,929	£29,929	£28,201	£34,592	£25,426	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	94.2%	115.6%	85.0%

Career profile 12: New Joiner

Joined at age 26, currently age 41 and retires at age 67.

Final salary: £45,954

Future scheme design		New joiner					
		Current schemes			TPS	Hybrid scheme with £40k cap	
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link	
Benefits built up after 2015	Pension pa	£23,896	£23,896	£19,316	£35,164	£17,357	
	Lump sum	£71,688	£71,688	£57,949	Nil	£52,071	
	DC fund	Nil	Nil	Nil	Nil	£50,315	
Total benefits at retirement (age 67)	Pension pa	£23,896	£23,896	£19,316	£35,164	£17,357	
	Lump sum	£71,688	£71,688	£57,949	Nil	£52,071	
	DC fund	Nil	Nil	Nil	Nil	£50,315	
Total benefits converted to pension	Pension pa	£28,374	£28,374	£22,936	£35,164	£22,250	
% of USS Final salary scheme		Pension pa	100.0%	100.0%	80.8%	123.9%	78.4%

Summary of results

Mid-Career

		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Career Profile 1	Total Pension pa	£33,231	£33,231	£31,112	£38,758	£27,978
	% of USS Final salary scheme	100.0%	100.0%	93.6%	116.6%	84.2%
Career Profile 2	Total Pension pa	£25,235	£25,235	£24,433	£27,606	£22,299
	% of USS Final salary scheme	100.0%	100.0%	96.8%	109.4%	88.4%
Career Profile 3	Total Pension pa	£39,657	£39,657	£37,130	£46,253	£32,316
	% of USS Final salary scheme	100.0%	100.0%	93.6%	116.6%	81.5%
Career Profile 4	Total Pension pa	£30,115	£30,115	£29,159	£32,945	£25,690
	% of USS Final salary scheme	100.0%	100.0%	96.8%	109.4%	85.3%
Career Profile 5	Total Pension pa	£46,050	£46,050	£42,485	£52,821	£33,604
	% of USS Final salary scheme	100.0%	100.0%	92.3%	114.7%	73.0%
Career Profile 6	Total Pension pa	£19,879	£19,879	£19,186	£21,915	£16,670
	% of USS Final salary scheme	100.0%	100.0%	96.5%	110.2%	83.9%
Career Profile 7	Total Pension pa	£33,672	£33,672	£30,624	£37,956	£25,135
	% of USS Final salary scheme	100.0%	100.0%	90.9%	112.7%	74.6%
Career Profile 8	Total Pension pa	£28,392	£28,392	£27,261	£30,785	£22,767
	% of USS Final salary scheme	100.0%	100.0%	96.0%	108.4%	80.2%
Career Profile 9	Total Pension pa	£43,030	£43,030	£39,235	£44,622	£26,230
	% of USS Final salary scheme	100.0%	100.0%	91.2%	103.7%	61.0%
Career Profile 10	Total Pension pa	-	-	-	-	-
	% of USS Final salary scheme	-	-	-	-	-
Career Profile 11	Total Pension pa	£14,303	£14,303	£14,139	£15,276	£13,466
	% of USS Final salary scheme	100.0%	100.0%	98.8%	106.8%	94.1%
Career Profile 12	Total Pension pa	£29,929	£29,929	£28,201	£34,592	£25,426
	% of USS Final salary scheme	100.0%	100.0%	94.2%	115.6%	85.0%

New Joiner

		Current schemes			TPS	Hybrid scheme with £40k cap
		(a) USS 60	(b) USS 65	(c) CRB	(d) TPS	(e) CRB £40k no salary link
Career Profile 1	Total Pension pa	£31,502	£31,502	£26,158	£39,915	£25,481
	% of USS Final salary scheme	100.0%	100.0%	83.0%	126.7%	80.9%
Career Profile 2	Total Pension pa	£23,959	£23,959	£20,597	£28,184	£19,800
	% of USS Final salary scheme	100.0%	100.0%	86.0%	117.6%	82.6%
Career Profile 3	Total Pension pa	£37,594	£37,594	£30,007	£45,441	£28,204
	% of USS Final salary scheme	100.0%	100.0%	79.8%	120.9%	75.0%
Career Profile 4	Total Pension pa	£28,593	£28,593	£23,262	£31,621	£21,374
	% of USS Final salary scheme	100.0%	100.0%	81.4%	110.6%	74.8%
Career Profile 5	Total Pension pa	£43,768	£43,768	£31,917	£49,375	£28,389
	% of USS Final salary scheme	100.0%	100.0%	72.9%	112.8%	64.9%
Career Profile 6	Total Pension pa	£18,948	£18,948	£14,146	£20,295	£13,709
	% of USS Final salary scheme	100.0%	100.0%	74.7%	107.1%	72.3%
Career Profile 7	Total Pension pa	£32,004	£32,004	£24,299	£38,038	£22,940
	% of USS Final salary scheme	100.0%	100.0%	75.9%	118.9%	71.7%
Career Profile 8	Total Pension pa	£26,887	£26,887	£19,982	£27,748	£18,465
	% of USS Final salary scheme	100.0%	100.0%	74.3%	103.2%	68.7%
Career Profile 9	Total Pension pa	£40,950	£40,950	£25,681	£34,574	£22,399
	% of USS Final salary scheme	100.0%	100.0%	62.7%	84.4%	54.7%
Career Profile 10	Total Pension pa	£6,200	£6,200	£5,758	£7,270	£5,758
	% of USS Final salary scheme	100.0%	100.0%	92.9%	117.3%	92.9%
Career Profile 11	Total Pension pa	£13,579	£13,579	£11,211	£15,410	£11,107
	% of USS Final salary scheme	100.0%	100.0%	82.6%	113.5%	81.8%
Career Profile 12	Total Pension pa	£28,374	£28,374	£22,936	£35,164	£22,250
	% of USS Final salary scheme	100.0%	100.0%	80.8%	123.9%	78.4%

Appendix A: Commutation factors

Retirement age	USS Commutation Factors	Example TM1 Annuity Factor ⁽¹⁾	
		Current age 25	Current age 50
60	19.622	38.1406	35.2088
61	19.118	37.0697	34.1677
62	18.609	36.004	33.1319
63	18.096	34.9442	32.1023
64	17.578	33.8909	31.0796
65	17.058	32.8447	30.0646
66	16.534	31.8061	29.0582
67	16.009	30.7758	28.0609
68	15.482	29.7544	27.0736
69	14.955	28.7426	26.097

(1) Actuarial Standard Technical Memorandum 1 (AS TM1) assumptions have been used to convert DC fund to pension. A copy of these assumptions can be found at the following here: <https://www.frc.org.uk/Our-Work/Publications/Actuarial-Policy-Team/AS-TM1-money-purchase-illustrations-v4-0.pdf>

Appendix B: Assumptions

Financial assumptions	Assumption (pa)
Retail Prices Index ("RPI")	2.8%
Consumer Prices Index ("CPI")	2.0%
Salary growth	2.8%
Investment return on DC fund	5.5%
Employer contributions to DC fund	12.0%
Employee contributions to DC fund	6.5%

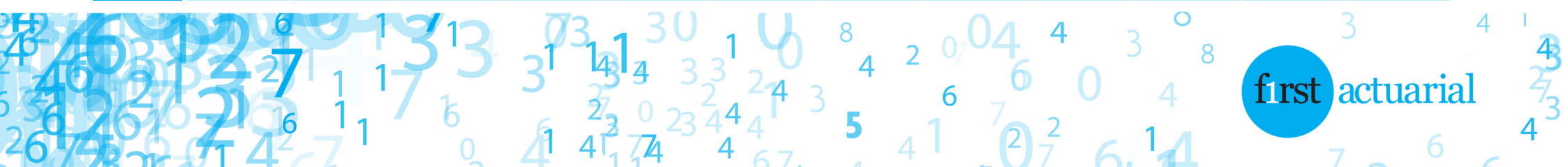
These assumptions are in line with those recommended for the member outcome modelling of the funding and benefits sub-committee of the JNC.

Additional assumptions:

- All amounts are shown in "today's prices".
- The increase in official pensions is assumed to not exceed 5% in any year (therefore CRB increases are all assumed to be in line with CPI).
- All mid-way career profiles are assumed to have 15 years' past service in the USS Final Salary section.
- USS commutation factors for males have been used in all cases to convert cash to pension, other than for the Teachers' Pension Scheme where a factor of 12 has been used.
- USS early and late retirement factors have been used for all scheme designs other than the Teachers' Pension Scheme where the early retirement factor is assumed to be 3% per annum compound.
- No London weighting has been applied to the career profiles
- It is assumed that the link to final salary on accrued benefits in the USS Final Salary section will be broken in the Employers' proposed hybrid scheme.
- New scheme designs are assumed to be implemented in April 2015

Appendix C: Career Profiles

Age	Career Profiles & Salary (£)											
	1	2	3	4	5	6	7	8	9	10	11	12
25	36,309		36,309		36,309		36,309					
26	37,394		37,394		37,394		37,394			31,342	31,342	31,342
27	38,511		38,511		37,394		38,511			32,277	32,277	32,277
28	39,685		39,685		38,511		39,685			33,242	33,242	33,242
29	40,847		40,847		39,685		40,847			34,233	34,233	34,233
30	42,067		42,067		40,847		42,067			35,256	35,256	35,256
31	43,325		43,325		42,067		43,325			35,256	36,309	36,309
32	44,620		44,620		47,328		44,620			35,256	37,394	37,394
33	45,954		45,954		48,743		45,954			35,256	38,511	38,511
34	45,954		47,328		50,200		45,954			35,256	39,685	39,685
35	45,954		48,743		51,702	24,775	45,954	24,775	24,775	35,256	40,847	40,847
36	45,954	36,309	50,200	36,309	53,248	25,513	45,954	25,513	25,513	35,256	42,067	42,067
37	45,954	37,394	51,702	37,394	65,000	26,274	45,954	26,274	26,274	35,256	43,325	43,325
38	45,954	38,511	53,248	38,511	65,000	27,057	45,954	27,057	27,057	35,256	44,620	44,620
39	45,954	39,685	54,841	39,685	65,000	27,864	45,954	27,864	27,864	35,256	45,954	45,954
40	45,954	40,847	54,841	40,847	65,000	28,695	45,954	36,309	28,695	35,256	45,954	45,954
41	45,954	42,067	54,841	42,067	65,000	29,552	45,954	37,394	31,342		45,954	45,954
42	45,954	43,325	54,841	43,325	65,000	30,434	45,954	38,511	32,277		45,954	45,954
43	45,954	44,620	54,841	44,620	65,000	31,342	45,954	39,685	33,242		45,954	45,954
44	45,954	45,954	54,841	45,954	65,000	32,277	45,954	40,847	34,233		45,954	45,954
45	45,954	45,954	54,841	47,328	65,000	33,242	45,954	42,067	35,256		45,954	45,954
46	45,954	45,954	54,841	48,743	65,000	36,309	45,954	43,325	36,309		45,954	45,954
47	45,954	45,954	54,841	50,200	75,000	37,394	47,328	44,620	37,394		45,954	45,954



Career Profiles & Salary (£)												
48	45,954	45,954	54,841	51,702	75,000	38,511	48,743	45,954	38,511		45,954	45,954
49	45,954	45,954	54,841	53,248	75,000	39,685	50,200	47,328	39,685		45,954	45,954
50	45,954	45,954	54,841	54,841	75,000	40,847	51,702	48,743	40,847			45,954
51	45,954	45,954	54,841	54,841	75,000	42,067	53,248	50,200	42,067			45,954
52	45,954	45,954	54,841	54,841	75,000	43,325	54,841	51,702	43,325			45,954
53	45,954	45,954	54,841	54,841	75,000	44,620	54,841	53,248	44,620			45,954
54	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	45,954			45,954
55	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
56	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
57	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
58	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
59	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
60	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
61	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
62	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
63	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
64	45,954	45,954	54,841	54,841	75,000	45,954	54,841	54,841	70,000			45,954
65	45,954	45,954	54,841	54,841	75,000		54,841	54,841	70,000			45,954
66	45,954	45,954	54,841	54,841				54,841	70,000			45,954
67	45,954	45,954	54,841	54,841					70,000			
68									70,000			
69												
70												

For the purposes of the graphs, we have assumed that members continue to accrue service on their final salary until the chosen retirement age.

