Oxfordshire County Council
Actuarial Valuation as at 31 March 2004
Final Results – Whole Fund

Purpose

This paper sets out the results of the actuarial valuation of the Oxfordshire County Council as at 31 March 2004.

This report does not conform to Guidance Note 9: Funding Defined Benefits – Actuarial Reports issued by the Institute and Faculty of Actuaries (GN9). A formal report will be issued by 31 March 2005 which will conform to GN9.

Summary of 2004 valuation results

A summary of the results for the Fund as a whole are set out below. These allow for the Stocktake changes and assume for simplicity that the changes take effect at the valuation date.

The new regulations are scheduled to come into effect from 1 April 2005. These regulations bring in a number of changes to the benefit structure of the LGPS. The most important changes, in terms of costs, are summarised as follows:

- An increase in Normal Retirement Age (NRA) to age 65 for members previously entitled to retire at an earlier age
- An increase in the earliest age at which retirement benefits can be taken from 50 to 55.
- Protections for existing members, particularly those over 50

Results are also given from the 2001 valuation for comparison purposes.

Contribution rates below are shown for the whole Fund. Figures for individual employers are set out in Appendix 1. Each employer has been asked whether they wish to step their contribution rates, in accordance with the Funding Strategy Statement.

Past service position (£m)				
	As at 31 March 2001	**As at 31 March 2004**		
	2001 valuation basis	**2001 valuation basis**	**2004 valuation basis**	**"Low risk" basis (Ultimate solvency measure)**
Pensioners/dependants	305.9	345.8	383.0	403.1
Deferred pensioners	96.1	127.9	176.9	196.5
Contributors	325.0	407.4	477.4	585.0
Total past service liabilities (Funding target)	**727.0**	**881.1**	**1,037.3**	**1,184.6**
Value of assets	**658.0**	**638.3**	**638.3**	**638.3**
Unsmoothed surplus/(deficit) at the valuation date	**-69.0**	**-242.8**	**-399.0**	**-546.3**
Smoothing adjustment	0.0	0.0	32.5	0.0
Surplus/(deficit)	**-69.0**	**-242.8**	**-366.5**	**-546.3**
Funding Level	**91.0%**	**72.4%**	**64.7%**	**53.9%**

Future Service Position (Members' Contributions)				
	As at 31 March 2001	**As at 31 March 2004**		
	2001 valuation basis	**2001 valuation basis**	**2004 valuation basis**	**"Low risk" basis**
Funded benefits		300%	350%	435%
Lump sum on death		5%	5%	5%
Expenses		5%	5%	5%
Members' contributions		-100%	-100%	-100%
Employer future service rate before 2005 changes	205%	210%	260%	345%
Impact of 2005 changes	n/a	-25%	-30%	-35%
Employer future service rate	**205%**	**185%**	**230%**	**310%**

Adjustments to the future service rate (Members' Contributions)				
	As at 31 March 2001	**As at 31 March 2004**		
	2001 valuation basis	**2001 valuation basis**	**2004 valuation basis**	**"Low risk" basis**
Adjustment for short term investment return	-26%	-26%	-75%	0%
Surplus/deficit amortised over 13 years	70%	165%		
Surplus/deficit amortised over 25 years			140%	170%
Total employer contribution rate	**249%**	**324%**	**295%**	**480%**

Description of Bases

2004 valuation basis

Under this approach we assume that the Fund will tend to hold predominantly equity/property type investments for the liabilities in respect of members in service, but would tend to adopt a more bond related investment strategy in respect of the liabilities for members not in service.

This approach reflects a tendency for schemes to invest more heavily in bonds as its membership profile matures. It also recognises the special considerations that apply for admitted bodies, for whom participation is possibly of finite term and where there is no guarantee of a successor body.

Low Risk Basis

Under this approach we assume that the Fund is invested to minimise the risk of additional contributions being needed as economic conditions alter. We assume, for this purpose, that the Fund is invested wholly in government index linked and fixed interest bonds. It provides a measure of solvency on a risk free basis

Funding target

To the extent that this is below the amount evaluated using the Low Risk Basis, this indicates the degree of advance credit we are taking for additional returns on more risky investments. These additional returns are expected, but not guaranteed.

Demographic assumptions

The demographic assumptions used differ from those used at the 2001 valuation as follows:

- We have altered the allowance for pensioner mortality and for mortality before retirement by use of more modern tables. The results of our investigation of pensioner deaths over the last three years showed that rates of mortality were reasonably neutral compared to the assumption used at the 2001 valuation. The new basis still allows for some future improvements in mortality.

- We have reduced the allowance for ill-health retirements from active service to 50% of the 2001 allowance. Retirement rates observed over the period since the last valuation are significantly below those observed in earlier periods, probably as a result of action taken following the 1997 Audit Commission report on early retirement. This change reduces the value placed on the liabilities of the Fund and increases slightly the average future working lifetime of the current membership.

- We have significantly increased the allowance for withdrawals from active service to 200% of the 2001 allowance for all categories. Withdrawal rates observed over the period since the 1998 are significantly above those observed in earlier periods. This change reduces the value placed on the liabilities of the Fund and decreases slightly the average future working lifetime of the current membership.

Reasons for change in funding level

The following chart shows the main reasons for the change in the surplus from the 2001 valuation (£-69.0m) to that revealed at this valuation (£-366.5m).
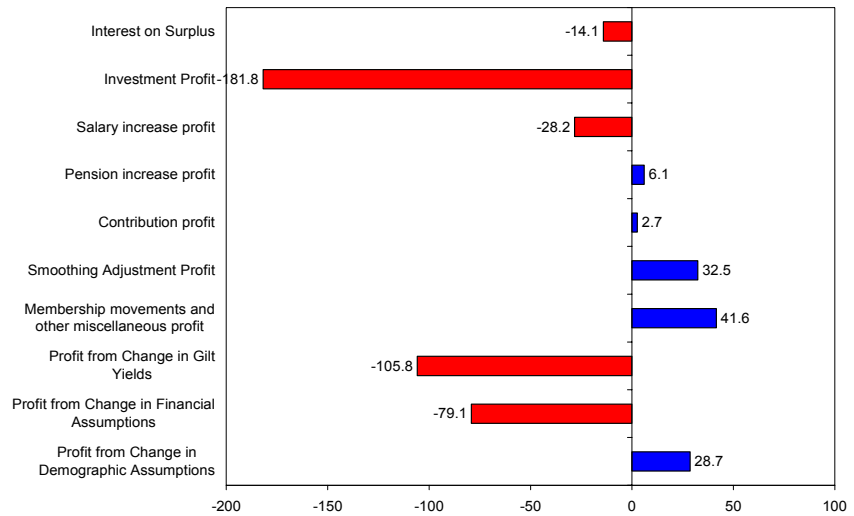
Comments

The primary reasons for this fall are the rate of return earned on the Fund's investments over the period, which has been well below the level assumed in the 2001 valuation, the reduction in gilt yields since 2001 and the change in mortality assumptions.

The miscellaneous profit item includes the profit form membership movements such as higher numbers of withdrawals than expected and lower numbers of ill-health retirements than expected.

Appendix 1 – Employer Contribution Rates

Individual Employer Contribution Rates

Individual employer contribution rates calculated by reference to the 2004 valuation basis are shown below. Stepped contribution rates are shown based on stepping periods of 3 years.

Note that these rates take credit for the 2005 changes, which have now been passed by Parliament.

Employer Contribution Rates (% members' contributions)

Employer	Current Rate	Recovery period	Unstepped Contribution rate from 1 April 2005	Stepped contribution rates Rate 2005/06	Rate 2006/07	Rate 2007/08
Oxfordshire County Council	250%	25	305%	289%	300%	310%
West Oxfordshire District Council	295%	25	310%	305%	310%	315%
South Oxfordshire District Council	275%	25	325%	295%	315%	335%
Cherwell District Council	273%	25	345%	300%	325%	350%
Vale Of White Horse D.C.	244%	25	305%	265%	290%	310%
Oxford City Council	260%	25	310%	280%	300%	320%
Charter Community Housing	300%	25	220%	220%	220%	220%
CfBT Advice and Guidance Ltd	197%	25	280%	225%	255%	285%
Abingdon And Witney College	164%	25	300%	215%	265%	315%
Henley College	189%	25	255%	210%	235%	260%
Oxford and Cherwell College	185%	25	305%	230%	275%	320%
Oxford Brookes University	194%	25	285%	225%	260%	295%
Order of St Johns Care Trust	255%	See note +	430%	335%	410%	485%
Small Admitted Bodies Group 1 *	175%	25	245%	200%	230%	255%
Small Admitted Bodies Group 2 **	150%	25	240%	185%	215%	250%
Small Scheduled Bodies	278%	25	300%	285%	295%	305%
Magistrates Courts Committee	192%	25	305%	235%	280%	320%
The Vale Housing Association	238%	12	465%	330%	425%	515%
West Oxfordshire Housing	211%	25	270%	235%	255%	275%

+ The deficiency has been spread over the expected period till the last member retires

* Employers in Small Admitted Bodies Group 1:

Cherwell Housing Trust	Oxford Women's Training Scheme
Elmore Committee	Banbury Citizen's Advice
Oxford Archaeological Unit LTD	Oxon Co-Operative Dev Agency
Swalcliffe Park School Trust	Abingdon Citizens Advice
Banbury Homes	Witney And District C A B
Oxfordshire Council for Voluntary Action	SOLL Leisure
Oxford Institute Of Legal Practice	Oxon Community Work Agency
Oxfordshire Mental Health (OMHM)	Thames Valley Partnership
ACE Centre Advisory Trust	OXFORD NIGHT SHELTER
Oxon Community Foundation	N O R C A P

** Employers in Small Admitted Bodies Group 2:

S E M L A C
E E M L A C
LONDON MUSEUMS AGENCY

Appendix 2 – Assumptions

Features of 2004 valuation	In preparing the figures in this report we have adopted a similar approach to the 2001 valuation, subject to some changes to ensure that we report results in the manner required by the most recent guidance issued by the Institute and Faculty of Actuaries.

Common features between the 2001 and 2004 valuations are:

- Retention of the same funding approach
- Retention of market led approach

Key changes are

- We have assumed the assets held in respect of pre and post retirement liabilities will yield 1.5% and 0.5% pa more than gilts respectively.
- We have assumed pay increases will be 1.5% above price inflation
- We have applied a smoothing adjustment to the market value of assets, taking account of asset values over the last three years.
- We have amortised the shortfall over 25 years.

Financial assumptions   The main financial assumptions are summarised below:

Assumptions	2001 valuation basis % pa	2004 valuation basis % pa	"Low Risk" basis % pa
Investment Return			
In service	6.75%	6.2%	4.7%
Left service (pre retirement/death)	5.9%	5.2%	4.7%
Left service (post retirement/death)	5.9%	5.2%	4.7%
Short term return on equity/property assets		7.4%	4.7%
Short term return on other assets		5.2%	4.7%
Average short term return on assets	6.77%		
Pay increases (excluding promotional elements)	4.25%	4.4%	4.4%
Pension increases	2.5%	2.9%	2.9%

Demographic assumptions

The demographic assumptions used for this valuation are described below.

Mortality in Retirement		2001 Valuation		2004 Valuation	
		PA M/F 92 tables with the following base years of projection and rated down by age:		PA M/F 92 Short Cohort tables with the following base years of projection and scaling factors applied:	
		Not Retired	*Retired*	*Not Retired*	*Retired*
Normal Health	Male	PMA80C2001 (-2)	PMA80C2001 (-2)	PMA92c2024SC 1.2	PMA92C2014SC 1.2
	Female	PFA80C2001 (-2)	PFA80C2001 (-2)	PFA92c2024SC 1.2	PFA92C2014SC 1.2
Ill Health	Male	PMA80C2001 (+2) subject to a minimum of 1.5%	PMA80C2001 (+2) subject to a minimum of 1.5%	PMA92c2024SC 2.2	PMA92C2014SC 2.2
	Female	PFA80C2001 (+2) subject to a minimum of 1.5%	PFA80C2001 (+2) subject to a minimum of 1.5%	PFA92c2024SC 2.2	PFA92C2014SC 2.2

plus at 2001 an allowance for improvements in mortality of 0.25% per annum.

Mortality before retirement   Allowance has been made for death before retirement.

Retirements   Allowance has been made for voluntary retirements satisfying the '85 Test' between ages 60 and 65 and for other early retirements between ages 50 and 60.

Allowance has been made for retirements due to ill-health.

Withdrawals   Allowance has been made for withdrawals from service.

Family Details   80% of members married at retirement or earlier death. Husbands three years older than their wives.

Commutation   No allowance.

Male	Proportion leaving the Fund in the next year as a result of				
Current Age	Death before retirement	Withdrawal from service	Retirement (ill-health)	Retirement (others)	Promotional pay scale
20	0.0005	0.2000	0.0001	0.0000	100
25	0.0005	0.1660	0.0003	0.0000	134
30	0.0005	0.1320	0.0005	0.0000	167
35	0.0006	0.0930	0.0010	0.0000	183
40	0.0008	0.0540	0.0016	0.0000	199
45	0.0013	0.0270	0.0028	0.0000	195
50	0.0023	0.0000	0.0041	0.0000	192
55	0.0040	0.0000	0.0101	0.0000	187
60	0.0072	0.0000	0.0162	0.0000	183

Female	Proportion leaving the Fund in the next year as a result of				
Current Age	Death before retirement	Withdrawal from service	Retirement (ill-health)	Retirement (others)	Promotional pay scale
20	0.0002	0.2000	0.0000	0.0000	100
25	0.0002	0.1660	0.0004	0.0000	120
30	0.0003	0.1320	0.0007	0.0000	140
35	0.0004	0.0930	0.0012	0.0000	140
40	0.0007	0.0540	0.0017	0.0000	141
45	0.0011	0.0270	0.0032	0.0000	138
50	0.0017	0.0000	0.0047	0.0000	134
55	0.0028	0.0000	0.0112	0.0000	131
60	0.0046	0.0000	0.0177	0.0000	128

Appendix 3 - Setting the Funding Target

The purpose of the LGPS

Before setting the funding target, we need to look at the purpose of the LGPS. There are three key purposes that we can see, and these are borne out by Cipfa's guidance for preparation of the Funding Strategy Statement:

- To prevent cross generational subsidy – this points towards keeping the Fund fully funded from time to time to make sure that each generation has fully funded that generation's benefits

- To smooth the incidence of pension costs – this is best served by having a constant contribution rate. However, at some point the contribution rate will almost certainly have to change: for example, if the rate is too low, eventually the Fund will diminish to zero and become pay as you go - which is hardly a smooth cost.

- To reduce pension costs by achieving higher investment returns than the return that would be achieved elsewhere – this points to investment in volatile asset classes on which higher returns than the risk free rate may be earned (but are not guaranteed). This is, though, a side issue from setting the funding target - whatever the appropriate target is contribution rates will need to alter to focus on the funding target in the light of the impact from time to time of those volatile returns.

You will note that nowhere in this list does provision of security for members' benefits appear, as they are guaranteed by statute, not by the Fund.

The low risk funding target

The rationale above suggests the funding target should be 100% of the liabilities. In the absence of the third purpose, we would define this as holding assets in risk free investments, such that they were sufficient to pay all of the benefit promises made. In an ideal world the Scheme would be able to purchase exactly matching investments, so that whatever happened economically, the Scheme could guarantee to pay the benefits.

In practice although gilts (of appropriate nature and term) come closest to such risk free investments this is not attainable because the gilt market is not diverse enough, and there is always demographic risk which cannot be matched by the investments that are currently available. Hence the best we can do is to construct a "low risk" portfolio of gilts. However, within the constraints of the available gilts we can define the true solvency measure as 100% of the liabilities, where the assets are gilts and the liabilities are discounted using the "low risk" rate of return (gilt yields).

Lower funding targets	It is common for local government pension schemes not to hold assets which are equal to the full amount of the liabilities valued in this way. Instead a lower funding target is often agreed. This recognises the fact that the pension fund is invested in more risky assets, with the hope of achieving higher returns, and uses a higher discount rate than the "low risk" rate.

Such an approach was used for the 2001 valuation of the Oxfordshire County Council Pension Fund.

However, you should note that a financial economist would probably say that the extra return is not guaranteed, and is the price of that extra risk. The liabilities are unaffected by the nature of the assets held and stay the same, so this holding of different assets is immaterial.

For example, consider a simple situation where there is a liability to pay £100 in a year's time. If one year gilts are yielding 5%, we might value the liability at £95, and match it with £95 of gilts. Now suppose we sell the gilts and buy equities - the liability is exactly the same - £100 in a year's time. If we expect equities to yield on average 7%, we could in theory buy £93 of equities, and effectively value the liability at £93. However, what we have actually done is take advance credit for an extra return that may not actually be achieved. If we wish to guarantee it is achieved, we will need to buy an option to accompany our equity. The price of this option would be the cost of the risk, ie £2 - and this will bring the cost back to £95. So, the risk free position is unaltered; the liability is £100 as discounted at the "low risk" rate.

These lower funding targets are analogous to the position described above. The discount rates take advance credit for equity returns in excess of the "low risk" rate, without taking note of the additional cost of protecting the position. The liabilities on this basis will be lower than those calculated for the "low risk" position.

Why set a lower funding target	It is interesting to conjecture about the purpose of a Local Government Pension Scheme invested purely in gilts. In essence, central government would be financing local authorities, which then make promises which are backed by government debt. Ultimately this could be viewed as pointless and the Scheme may as well be pay as you go.

So we therefore conclude that a Local Government Pension Scheme needs to invest in higher risk assets for the long term, and we take account of this in our valuation basis by use of various adjustments to asset values, discount rates etc. In adopting these mechanisms, what is actually happening is that costs are being smoothed from one period to the next. Smoothing is achieved through the subtle effects of choice of discount rate, and the more obvious effects of smoothing adjustments. In essence, whilst the liabilities remain unaltered (ie their value at the "low risk" rate), we are actually amending the funding target (the target we use to set contribution levels) at each valuation by these mechanisms. This approach affects the pace of funding, not the actual liabilities.

Such an approach is not a free lunch. With any smoothing mechanism you are effectively taking a call against the market, and if that call is the wrong one the position will worsen. Taking advance credit for equity returns in excess of the "low risk" rate is an obvious gamble - if returns are actually below the discount rate assumed contributions will have been underpaid for a long period and will have to be much higher later. Using an overt smoothing adjustment is exactly the same in principle, but more obvious as a call on the market.

Funding targets below 100%

It has been suggested in some quarters that a funding target of below 100% be set. Applied to a funding target which is already below the "low risk" target this is simply introducing a larger smoothing adjustment. Mathematically, it is no different to assuming a higher discount rate, or a larger smoothing adjustment to asset values - the resultant contribution rate is the same.

Funding target for 2004

As indicated above, the funding target adopted in 2001 did not adopt a "low risk" approach, but instead recognised the fact that the Fund is invested in more risky assets, with the hope of achieving higher returns, and anticipated these higher returns.

We propose to retain this approach for the 2004 valuation. However we also show in this paper the "low risk" funding target, for comparison purposes, and to demonstrate the risk underlying the proposed funding target.