

**Barnett  
Waddingham**









## **Kent County Council Pension Fund**

### **2013 Actuarial Valuation Initial Results**

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# Agenda

-  **Purpose of the valuation**
-  **How do we do it?**
-  **Funding models and assumptions**
-  **Valuation Data**
-  **Results**
-  **Next Steps**

# Purpose of valuations

**Approach depends on question being asked**

- Many questions!

**Ongoing triennial funding valuation**

- How much do employers need to pay in future to have enough assets to pay benefits?

**Annual accounting valuations (IAS19/FRS17)**

- Help accountants compare
- If we were a plc how much would we need to borrow to finance liabilities?

**Cessation valuations**

- Have we enough assets to meet liabilities?
- How much risk do we leave on the table?
- Different approaches depending on employer situation

# Triennial Funding Valuation

Set out in LGPS Regulations

- to *certify* levels of employer contributions to secure the *solvency* of the Fund

Also have to look at Funding Strategy Statement

- As determined by administering authority
- With some actuarial help!

Actuary to “have regard to desirability of maintaining as **stable** a contribution rate as possible”

- Function of Funding Model / investment strategy
- Spreading and stepping

Different approaches possible for different employer types

- Statutory/non statutory bodies
- Open or closed admission agreements

# How do we do it?

## Step 1

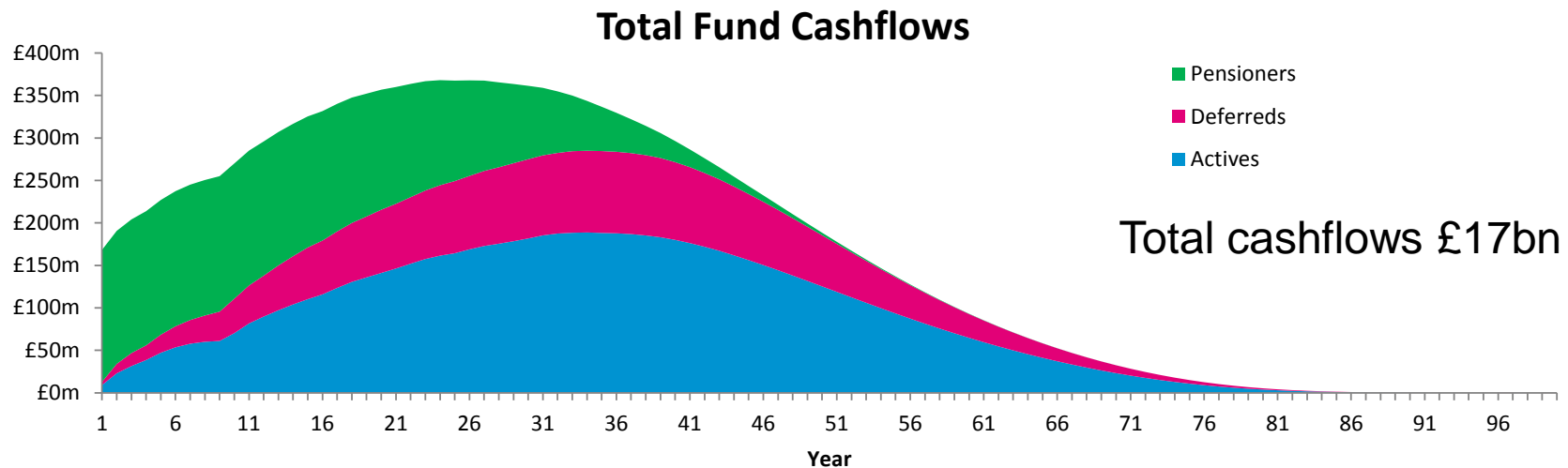
- Projection of all possible benefit payments for each member

## Step 2

- Attach probabilities to each possible payment to get “expected” payments

## Step 3

- Discount “expected” payments to obtain “value”



# How do we do it?



Look at accrued benefits and future benefits separately

## Past Service

- Compare assets with value of accrued benefits

## Future Service

- Determine contribution required to meet value of annual accrual of benefits

## Calculations completed at

- Whole fund level
- At individual employer level to identify any outliers and for accountants!

But maybe pool similar employers to help with stability

- Price of stability is some cross subsidy
- Complete or partial risk sharing possible

# Assumptions

## Price Inflation (RPI)

- Usually difference between fixed interest and index linked gilts
- CPI adjustment required

## Salary Increases

- Long term 1% pa more than price inflation
- Short term adjustment

## Discount rates

- Depends on purpose and objectives of valuation

## Statistical assumptions

- Investigate past experience
- Use national data
- Adjust for actual experience

# Discount Rates

**Choice of discount rate depends on the question being asked**

## **Funding valuation**

- **What contributions are required to build up a fund of assets to meet pension liabilities for a given investment strategy?**

## **Accounting valuation**

- **How much would a corporate body need to borrow to finance their pension liabilities?**

## **Cessation valuation**

- **How much cash would we need to buy gilts to fund liabilities?**



# Discount Rates

## Accounting valuation

- Corporate bond yields / cost of borrowing

## Minimum risk cessation

- Gilt yields

## Ongoing funding valuation

- Expected future investment returns from actual investment strategy

## Gilts and bonds – easy....

- Redemption yields

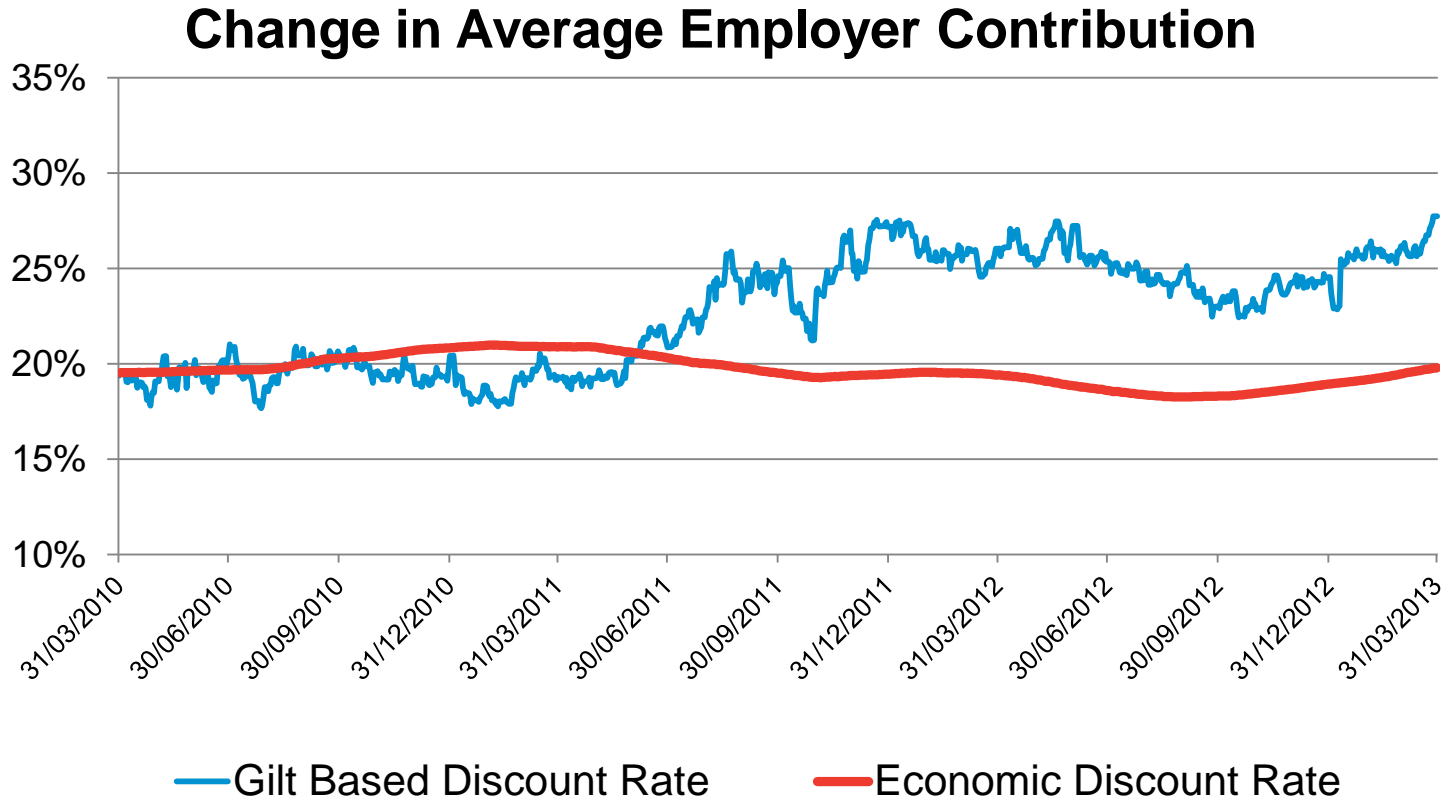
## Equities – less easy....

- Fixed risk premium over gilts (Gilt + model)
- Economic model (BW model)

## Property/alternatives – keep it simple

- Somewhere between equities and gilts

# Change in Employer Contribution



# Financial Assumptions - Summary

Smoothed Investment Returns	31 March 2013	31 March 2010
<b>Central Assumptions</b>	<b>%pa</b>	<b>%pa</b>
Equity type investments	6.9%	7.3%
Gilt type investments	3.3%	4.5%
Bond type investments	3.9%	5.6%
Property type investments	6.0%	5.6%

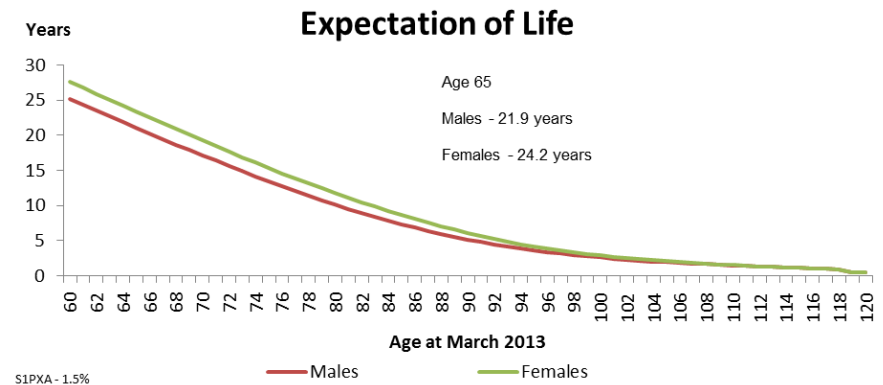
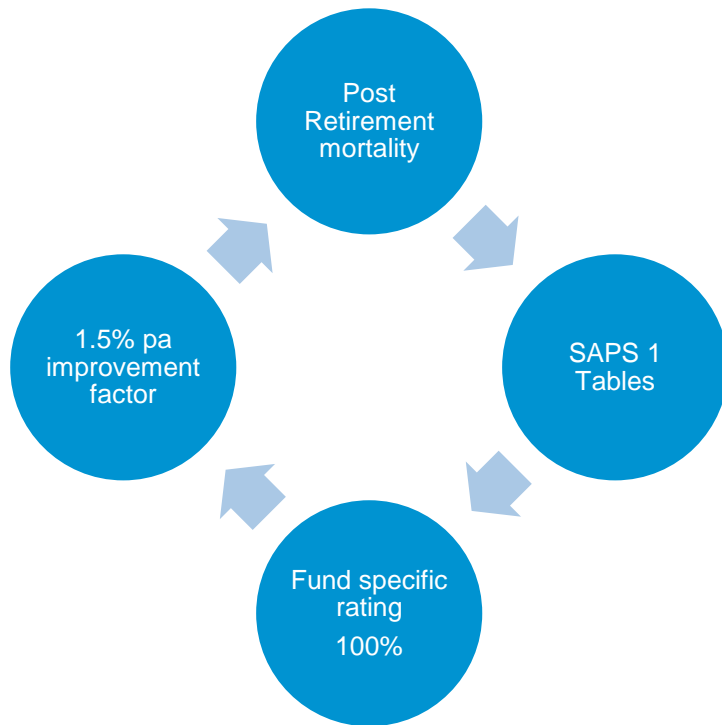
Financial Assumptions	31 March 2013	31 March 2010
	<b>%pa</b>	<b>%pa</b>
<b>Central Discount Rate</b>	6.0%	6.6%
Pay Increases		
Long term	4.5%	5.0%
Short term	2.7%	0% for those over £21,000
Retail Price Inflation	3.5%	3.5%
Pension Increases	2.7%	3.0%

Property returns 75% of equity return and 25% of gilt return

# Statistical Assumptions

Pre retirement

Based on LGPS experience

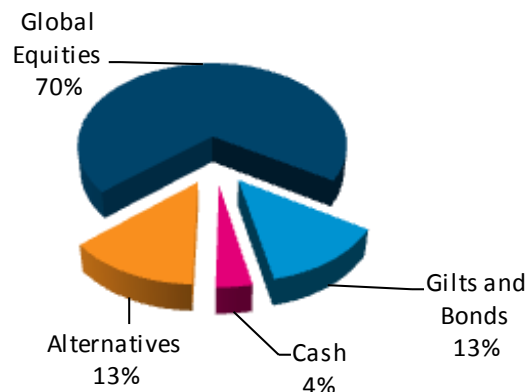


# Valuation Data - Liabilities

Key Stats					This Valuation	
Number of Members	2013	%	2010	%	Average Age	Average Retirement Age
Actives	42,672	36%	43,323	40%	45.7	63.4
Deferred Members	41,829	35%	36,203	33%	45.3	62.6
Pensioners	33,627	28%	29,088	27%	71.0	
<b>Total Members</b>	<b>118,128</b>	<b>100%</b>	<b>108,614</b>	<b>100%</b>		
Actual Pay/Pensions		£ (000)	£ (000)	% Change		
Actives	714,528		734,347	(3%)		
Pensioners	156,006		123,697	26%		
Average Pay/Pensions		£	£	% Change		
Actives	16,745		16,951	(1%)		
Pensioners	4,639		4,253	9%		






# Assets and Fund Accounts

Assets at This Valuation	£(000)
UK Equities	1,345,892
Overseas Equities	1,313,833
Corporate Bonds	235,977
Overseas Bonds	259,898
Property	300,027
Alternatives	215,068
Cash	142,003
<b>Total</b>	<b>3,812,698</b>



Revenue Accounts	Year to	March 2013 £ (000)	March 2012 £ (000)	March 2011 £ (000)	TOTAL £ (000)
Expenditure	Retirement Pensions	150,713	136,256	128,177	415,146
	Retirement Lump Sums	38,553	47,728	35,422	121,703
	Death Benefits	3,197	3,912	3,424	10,533
	Leavers benefits	7,591	8,088	10,619	26,298
	Expenses	2,922	2,956	2,423	8,301
	Other Expenditure	-	-	445	445
<b>Total Outgo</b>		<b>202,976</b>	<b>198,940</b>	<b>180,510</b>	<b>582,426</b>
Income	Employees Ctbns	45,431	46,720	48,866	141,017
	Employers Ctbns	168,282	167,317	180,822	516,421
	Transfer Values	8,840	11,561	13,929	34,330
	Other Income	-	-	-	-
Investment Income		58,341	62,450	50,034	170,825
<b>Total income</b>		<b>280,894</b>	<b>288,048</b>	<b>293,651</b>	<b>862,593</b>
<b>New money for investment</b>		<b>19,577</b>	<b>26,658</b>	<b>63,107</b>	<b>109,342</b>
<b>Fund Value</b>					
Assets at Start of Year		3,310,588	3,202,442	2,885,463	2,885,463
Cashflow		77,918	89,108	113,141	280,167
Change in value		424,192	19,038	203,838	647,068
<b>Assets at End of Year</b>		<b>3,812,698</b>	<b>3,310,588</b>	<b>3,202,442</b>	<b>3,812,698</b>
<b>Annual Returns</b>					
Approx Rate of Return (per annum)		14.5%	2.5%	8.7%	8.5%

# Intervaluation Experience

Intervaluation Experience			
	Actual	Expected	
Investment Return	8.5% pa	6.6% pa	
Pay Increases**	2.5% pa	3.5% pa	
Pension Increases	3.5% pa	3.0% pa	
Deaths	2,874	2,568	
Pension Ceasing	£10,717k	£11,830k	

\*\* includes short term overlay

# Valuation Results

## Last Valuation

- The published 2010 results

## Intervaluation

- Changes in financial conditions and actual experience

## Revised Assumptions

- Pay increases, retirement age, pre retirement leavers and post retirement mortality

## LGPS 2014

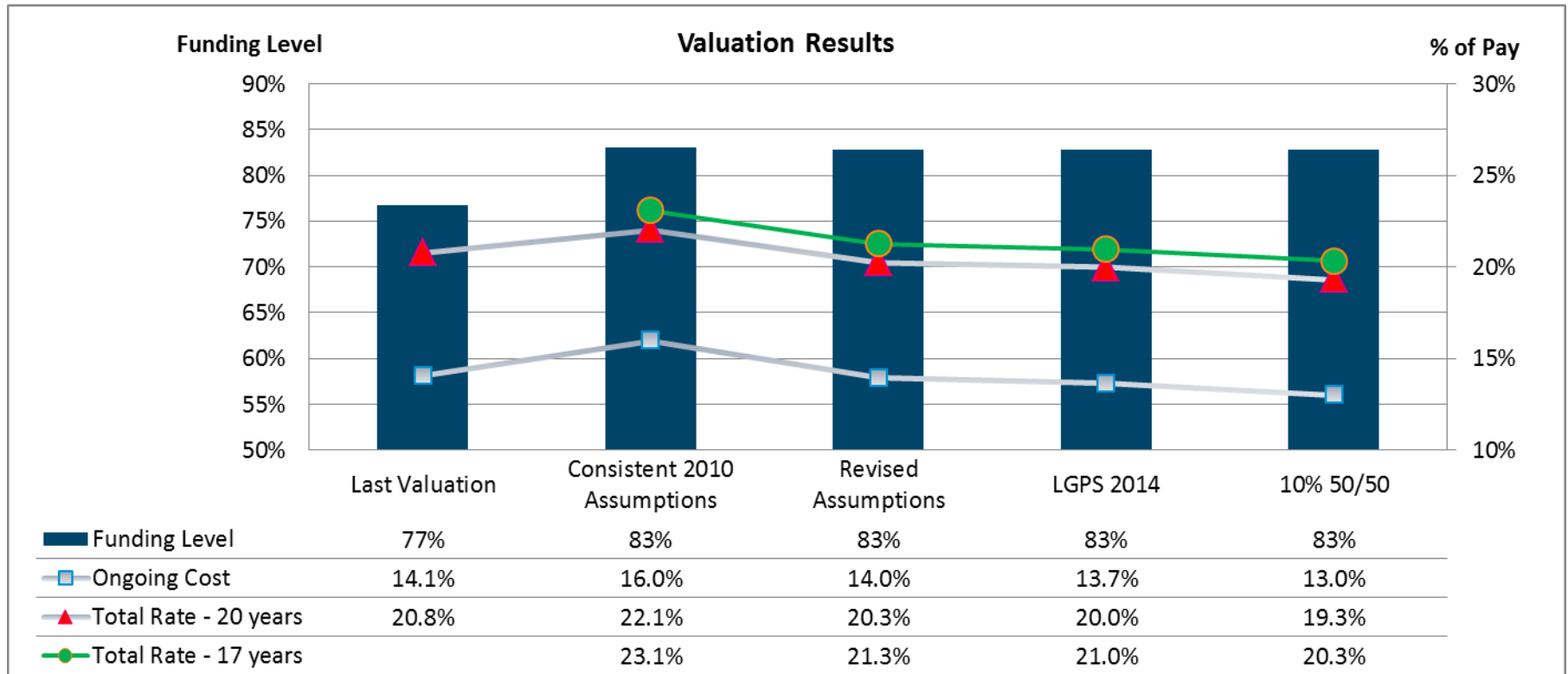
- New scheme benefits from 2014

## 10% 50/50

- Assume 10% of members opt for 50/50 scheme



# Valuation Results – Whole Fund



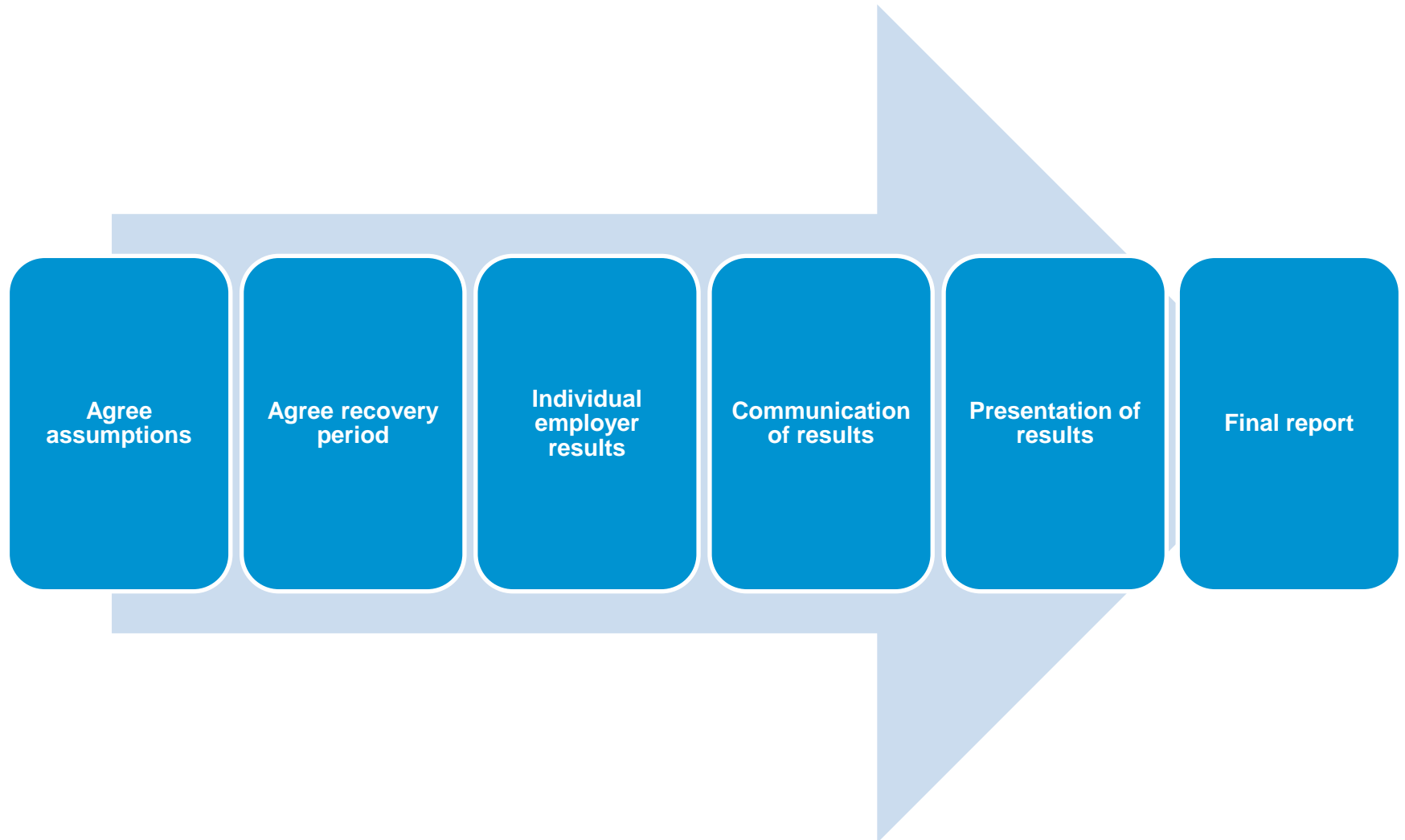
# Major Employers' results

Employer name	Funding level			Deficit			Payroll			Interest on 2013 deficit / payroll	
	March 2010	March 2013	change	March 2010	March 2013	change	March 2010	March 2013	change		
				£000's	£000's	£000's	£000's	£000's	£000's		
Kent County Council	75%	82%	8%	440,920	370,773	(16%)	365,258	312,041	(15%)	22,246	7%
Ashford B.C	73%	72%	(0%)	21,666	26,294	21%	9,473	9,299	(2%)	1,578	17%
Canterbury C.C	76%	73%	(3%)	25,983	33,033	27%	13,708	9,710	(29%)	1,982	20%
Dartford B.C	73%	73%	(0%)	19,817	23,899	21%	7,579	6,470	(15%)	1,434	22%
Dover D.C	72%	69%	(3%)	25,552	30,796	21%	10,222	6,679	(35%)	1,848	28%
Gravesham B.C	76%	78%	2%	19,529	21,585	11%	10,877	10,470	(4%)	1,295	12%
Maidstone B.C	77%	76%	(1%)	19,288	24,348	26%	10,402	9,657	(7%)	1,461	15%
Sevenoaks D.C	69%	72%	3%	23,039	24,922	8%	10,008	8,692	(13%)	1,495	17%
Shepway D.C	72%	71%	(1%)	21,303	26,057	22%	9,812	7,320	(25%)	1,563	21%
Swale B.C	72%	69%	(3%)	17,480	24,155	38%	7,218	7,310	1%	1,449	20%
Thanet D.C	73%	69%	(4%)	29,354	37,034	26%	13,400	9,163	(32%)	2,222	24%
Tonbridge & Malling B.C	74%	74%	(0%)	18,535	22,418	21%	8,235	8,092	(2%)	1,345	17%
Tunbridge Wells B.C	76%	76%	(0%)	15,735	20,438	30%	8,513	8,377	(2%)	1,226	15%
Medway Council	75%	86%	11%	84,462	59,445	(30%)	85,980	74,387	(13%)	3,567	5%
Kent Probation	74%	76%	2%	14,796	17,355	17%	9,765	9,963	2%	1,041	10%
Kent Police Authority	90%	104%	13%	17,254	0	(100%)	63,975	55,342	(13%)	0	0%
Kent Fire Authority	82%	96%	14%	4,765	1,350	(72%)	7,580	7,770	3%	81	1%

# Major Employers' results

Employer name	2010 Valuation results					2013 Valuation results					change in monetary amount based on 2013 payroll £000's	Number of years to recover deficit if 2013/14 total contribution (as monetary amount) is maintained	
	2013/14 contributions		payroll as at 31 March 2013	2013/14 conts as % of current payroll	2013/14 conts as monetary amount based on 2013 payroll £000's	Future service rate	Deficit recovery as % payroll	Deficit recovery as monetary amount £000's	Total cont required as % payroll	Total cont required as monetary amount based on 2013 payroll £000's			change in % payroll
Kent County Council	21.0%	0	312,041	21.0%	65,529	13.9%	6.8%	21,873	20.7%	64,596	(0.3%)	(933)	19
Ashford B.C	13.4%	1,435	9,299	28.8%	2,681	13.4%	16.2%	1,551	29.7%	2,759	0.8%	78	21
Canterbury C.C	13.9%	1,765	9,710	32.1%	3,115	14.2%	19.5%	1,949	33.8%	3,280	1.7%	165	22
Dartford B.C	32.6%	0	6,470	32.6%	2,109	14.7%	21.2%	1,410	35.9%	2,323	3.3%	213	24
Dover D.C	14.2%	1,710	6,679	39.8%	2,658	14.6%	26.5%	1,817	41.1%	2,743	1.3%	84	21
Gravesham B.C	26.2%	0	10,470	26.2%	2,743	14.5%	11.8%	1,273	26.3%	2,753	0.1%	10	20
Maidstone B.C	13.4%	1,325	9,657	27.1%	2,619	13.4%	14.4%	1,427	27.8%	2,686	0.7%	67	21
Sevenoaks D.C	13.7%	1,490	8,692	30.8%	2,681	14.2%	16.5%	1,470	30.6%	2,664	(0.2%)	(17)	20
Shepway D.C	29.3%	0	7,320	29.3%	2,145	12.2%	20.4%	1,537	32.7%	2,393	3.4%	248	25
Swale B.C	29.5%	0	7,310	29.5%	2,156	12.6%	19.0%	1,425	31.5%	2,306	2.0%	149	23
Thanet D.C	13.5%	1,930	9,163	34.6%	3,167	13.8%	23.2%	2,186	37.0%	3,389	2.4%	222	23
Tonbridge & Malling B.C	14.1%	1,270	8,092	29.8%	2,411	14.5%	15.9%	1,322	30.4%	2,462	0.6%	51	21
Tunbridge Wells B.C	12.9%	1,045	8,377	25.4%	2,126	12.0%	14.0%	1,206	26.0%	2,175	0.6%	50	21
Medway Council	19.5%	0	74,387	19.5%	14,506	13.7%	4.6%	3,507	18.3%	13,639	(1.2%)	(867)	15
Kent Probation	23.1%	0	9,963	23.1%	2,301	14.4%	10.0%	1,024	24.4%	2,428	1.3%	127	23
Kent Police Authority	15.3%	0	55,342	15.3%	8,467	11.6%	-	0	11.6%	6,433	(3.7%)	(2,034)	0
Kent Fire Authority	19.5%	0	7,770	19.5%	1,515	12.5%	1.0%	80	13.5%	1,050	(6.0%)	(466)	3

# Next Steps



# Appendix 1 – Detailed Valuation Data

Active Members	Number		Actual Pensionable Pay £ (000)		Average £		This Valuation	
	2013	2010	2013	2010	2013	2010	Average Age	Average Retirement Age
	Males	9,398	9,968	228,471	245,204	24,311	24,599	45.7
Females	33,274	33,355	486,057	489,143	14,608	14,665	45.7	63.4
<b>Total</b>	<b>42,672</b>	<b>43,323</b>	<b>714,528</b>	<b>734,347</b>	<b>16,745</b>	<b>16,951</b>	<b>45.7</b>	<b>63.4</b>

Deferred Pensioners (including "undecideds")	Number		Annual Pensions £ (000)		Average £		This Valuation	
	2013	2010	2013	2010	2013	2010	Average Age	Average Retirement Age
	Males	10,928	9,534	21,588	17,854	1,975	1,873	44.5
Females	30,901	26,669	35,305	25,000	1,143	937	45.6	62.8
<b>Total</b>	<b>41,829</b>	<b>36,203</b>	<b>56,893</b>	<b>42,854</b>	<b>1,360</b>	<b>1,184</b>	<b>45.3</b>	<b>62.6</b>

Pensioners	Number		Annual Pensions £ (000)		Average £		This Valuation	
	2013	2010	2013	2010	2013	2010	Average Age	
	Males	11,076	9,932	83,631	68,522	7,551	6,899	71.2
Females	17,912	14,741	59,594	43,992	3,327	2,984	70.3	
Dependants	4,639	4,415	12,781	11,183	2,755	2,533	73.4	
<b>Total</b>	<b>33,627</b>	<b>29,088</b>	<b>156,006</b>	<b>123,697</b>	<b>4,639</b>	<b>4,253</b>	<b>71.0</b>	

# Appendix 2 - Detailed Valuation Results

Valuation Date	31 March 2010	31 March 2013	31 March 2013	31 March 2013	31 March 2013	31 March 2013
Description	Last Valuation	Consistent 2010 Assumptions	Revised Assumptions	LGPS 2014	10% 50/50	Employer contributions 2012/13
Past Service Funding Position	£(000)	£(000)	£(000)	£(000)	£(000)	£(000)
<b>Smoothed Asset Value</b>	2,780,414	3,785,838	3,785,838	3,785,838	3,785,838	
<b>Past Service Liabilities</b>						
Active Members	1,468,677	1,663,586	1,570,730	1,570,730	1,570,730	
Deferred Pensioners	514,269	784,104	807,779	807,779	807,779	
Pensioners	1,640,063	2,111,937	2,191,230	2,191,230	2,191,230	
<b>Value of Scheme Liabilities</b>	3,623,009	4,559,627	4,569,739	4,569,739	4,569,739	
<b>Surplus (Deficit)</b>	<b>(842,595)</b>	<b>(773,789)</b>	<b>(783,901)</b>	<b>(783,901)</b>	<b>(783,901)</b>	
<b>Funding Level</b>	77%	83%	83%	83%	83%	
<b>Future Service Contribution Rates</b>	<b>% of payroll</b>	<b>% of payroll</b>	<b>% of payroll</b>	<b>% of payroll</b>	<b>% of payroll</b>	
Employer	14.1%	16.0%	14.0%	13.7%	13.0%	
<b>Deficit Contribution</b>	<b>% of payroll</b>	<b>% of payroll</b>	<b>% of payroll</b>	<b>% of payroll</b>	<b>% of payroll</b>	
15 years		7.9%	8.1%	8.1%	8.1%	
17 years		7.1%	7.3%	7.3%	7.3%	
20 years	6.7%	6.1%	6.3%	6.3%	6.3%	
<b>Total Employer Contribution</b>	<b>% of payroll</b>	<b>% of payroll</b>	<b>% of payroll</b>	<b>% of payroll</b>	<b>% of payroll</b>	
15 years		23.9%	22.1%	21.8%	21.1%	
17 years		23.1%	21.3%	21.0%	20.3%	
20 years	20.8%	22.1%	20.3%	20.0%	19.3%	
<b>Deficit Contribution £</b>	<b>£(000)</b>	<b>£(000)</b>	<b>£(000)</b>	<b>£(000)</b>	<b>£(000)</b>	
15 years		56,448	57,877	57,877	57,877	
17 years		50,731	52,161	52,161	52,161	
20 years	49,201	43,586	45,015	45,015	45,015	
<b>Total Contributions £</b>	<b>£(000)</b>	<b>£(000)</b>	<b>£(000)</b>	<b>£(000)</b>	<b>£(000)</b>	<b>£(000)</b>
15 years		170,645	157,586	155,495	150,971	
17 years		164,929	151,869	149,779	145,255	
20 years	152,629	157,784	144,724	142,633	138,110	154,661

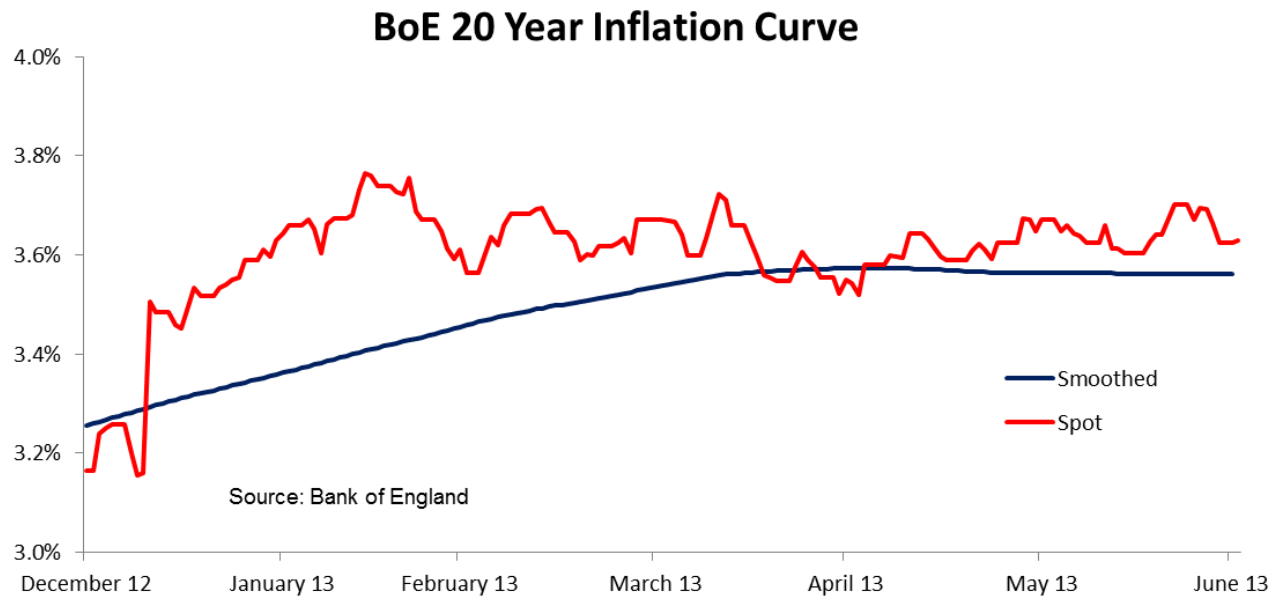
# Appendix 2 – Reconciliation of Results Last Valuation to LGPS 2014

Change in Past Service Position			
	£(000)	£(000)	£(000)
<b>Surplus(Deficit) at 31 March 2010</b>			<b>(842,595)</b>
Benefits Accrued	(472,693)		
Early Retirements	(28,204)		
Contributions Paid	657,438		
<b>Deficit Funded (Use of Surplus)</b>		<b>156,541</b>	
Interest cost	(156,778)		
Asset gain/loss	297,425		
Change in Market Conditions	(219,194)		
<b>Financial Gain(Loss)</b>		<b>(78,547)</b>	
Salary Increases	43,161		
Pension Increases	(37,302)		
Membership Movements	(14,036)		
<b>Experience</b>		<b>(8,176)</b>	
<b>Change in assumptions</b>		<b>(11,123)</b>	
<b>Surplus(Deficit) at 31 March 2013</b>			<b>(783,901)</b>

Change in Future Service Contribution Rate			
		% of pay	% of pay
<b>Average Employer Rate at 31 March 2010</b>			
Change in membership		(0.1%)	14.1%
Change in financial conditions		1.4%	
Change in assumptions		(2.0%)	
LGPS 2014		0.3%	
<b>Average Employer Rate at 31 March 2013</b>			
			13.7%

# Assumptions – Inflation RPI



**Spot inflation number was 3.60% and the smoothed number was 3.54%**



# Assumptions – Inflation (CPI)

**RPI usually less than CPI**

- **Formula effect and what's in the basket**

**Formula effect**

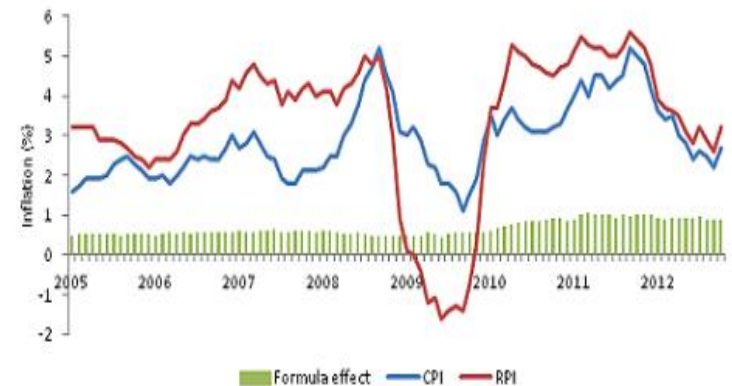
- **0.5% until 2010**
- **0.8% since then**
- **“ladies clothing effect”**

**RPI and CPI “baskets” expected to converge**

- **Formula effect only**

**Assumed 0.8% less than RPI**

- **Consistent with CPI swap market**



Source: Office for National Statistics

# Assumptions – Inflation (Pay)

## Longer term

- 1% to 1.5% above RPI

## Shorter term

- Closer to 1%
- Negative in recent years

## Assumed RPI plus 1.0%

- Equivalent of CPI plus 1.8%
- Less than at 2010

## Short term overlay

- CPI for next 2 years

