

# Actuarial Valuation at 31 March 2010

## Cardiff and Vale of Glamorgan Pension Fund

*28 March 2011*

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Prepared for

City and County of Cardiff  
The Administering Authority of the Cardiff and Vale of Glamorgan Pension Fund

Prepared by

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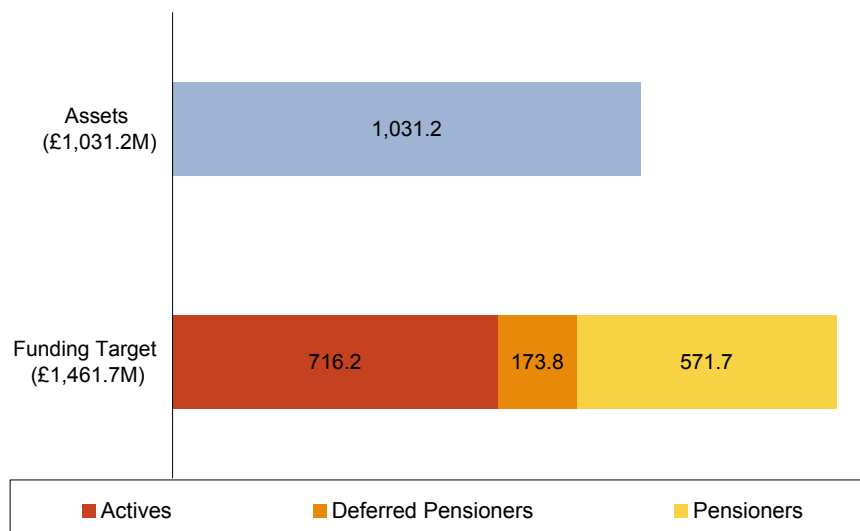
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## Executive Summary

### Valuation results

The financial position of the Fund was assessed against the **funding target** at 31 March 2010.

There is a **shortfall** of £430.5M relative to the **funding target** (i.e. the level of assets agreed by the Authority and the Actuary as being consistent with the **Funding Strategy Statement** appropriate to meet member benefits, assuming the Fund continues as a going concern).



### Contribution rates

The aggregate Employer **future service contribution rate** is calculated to be 14.9% of Pensionable Pay.

The aggregate Employer contribution rate required to restore the **funding ratio** to 100%, using a **recovery period** of 25 years is calculated to be 23.2% of Pensionable Pay before any phasing in or 'stepping' of contribution increases, if the number of Fund members remains about the same and Pensionable Pay increases in line with our assumptions. The comparable figure at the previous valuation was 21.4% of Pensionable Pay (using a **recovery period** of 22 years).

Rates of contributions payable by each Employer may differ, because they take into account their particular membership profiles and **funding ratios** and the assumptions and **recovery periods** are specific to their circumstances.

## Contents

<b>Executive Summary</b>	<b>ii</b>
<b>1. Introduction</b>	<b>1</b>
<b>2. What's Happened Since the Previous Valuation</b>	<b>3</b>
<b>3. Information Used</b>	<b>6</b>
<b>4. Funding Target — The Principles</b>	<b>8</b>
<b>5. Funding Target — Method and Assumptions</b>	<b>10</b>
<b>6. Funding Target — Results</b>	<b>15</b>
<b>7. Other Funding Measures</b>	<b>17</b>
<b>8. Risks and Sensitivity Analysis</b>	<b>19</b>
<b>9. Summary and Conclusions</b>	<b>21</b>
<b>Appendix A — Legal and Actuarial Framework</b>	<b>24</b>
<b>Appendix B — Assets</b>	<b>25</b>
<b>Appendix C — Benefits</b>	<b>26</b>
<b>Appendix D — Membership Data</b>	<b>28</b>
<b>Appendix E — Membership Data by Employer</b>	<b>30</b>
<b>Appendix F — Assumptions for Funding Target</b>	<b>32</b>
<b>Appendix G — Assumptions for Low Risk Funding Measure</b>	<b>35</b>
<b>Appendix H — Details of Employers' Funding Strategies</b>	<b>36</b>
<b>Appendix I — Consolidated Revenue Account</b>	<b>38</b>
<b>Appendix J — Membership Experience</b>	<b>39</b>
<b>Appendix K — Current Contribution Rates</b>	<b>40</b>
<b>Appendix L — Rates and Adjustments Certificate</b>	<b>41</b>
<b>Glossary</b>	<b>44</b>

## 1. Introduction

### Formal valuation

We have carried out an actuarial valuation of the Cardiff and Vale of Glamorgan Pension Fund at 31 March 2010, as required by Regulation 36 of the Local Government Pension Scheme (Administration) Regulations 2008.

The main purpose of the valuation exercise is to review the financial position of the Fund and to recommend the contribution rates payable to the Fund in the future (which is essentially a **planning exercise**).

The valuation process includes setting assumptions. Such matters were considered before this report was produced and are only discussed briefly in this report.

### Defined contribution benefits

Throughout the body of this report we have excluded the assets for defined contribution ('DC') **AVC** accounts from both the assets and from the liability measures, because in our view this provides a clearer picture. If they were to be included it would make no difference to the absolute level of **shortfall**, but it would increase slightly the percentage **funding ratios** from those shown in the main body of this report. Similarly we have excluded **AVCs** from the contribution rates given in this report.

### A snapshot view

The report concentrates on the Fund's financial position at the Valuation Date. As time moves on, the Fund's finances will fluctuate. If you are reading this report some time after the Valuation Date, the Fund's financial position could have changed significantly.

### Words used

Our report includes some technical pension terms. The words shown in bold print are explained further in the glossary and in section 4.

For brevity, we have also used the following shorthand:

Shorthand	What it means
Authority	City and County of Cardiff, in its role as the Administering Authority
Pensionable Pay	Pensionable pay, as defined in the Benefits Regulations
Pensionable Service	Periods of membership, as defined in the Benefits Regulations
Benefits Regulations	The Local Government Pension Scheme (Benefits, Membership and Contributions) Regulations 2007 (as subsequently amended)
1997 Regulations	The Local Government Pension Scheme Regulations 1997 (as subsequently amended)
Administration Regulations	The Local Government Pension Scheme (Administration) Regulations 2008 (as subsequently amended)
Transitional Regulations	The Local Government Pension Scheme (Transitional Provisions) Regulations 2008 (as subsequently amended)
Regulations	The 1997 Regulations, Benefits Regulations or Administration Regulations as appropriate
Fund	Cardiff and Vale of Glamorgan Pension Fund
Employers	All bodies with employees participating in the Fund
Valuation Date	31 March 2010

**Legal and actuarial  
framework**

The report was commissioned by and is prepared solely for the Authority.  
It meets professional guidance requirements. Please see Appendix A  
"Legal and Actuarial Framework" for further details.

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## 2. What's Happened Since the Previous Valuation

### Purpose of section

This section summarises what has happened since the previous valuation.

### Headlines from previous valuation

The previous valuation at 31 March 2007 revealed that:

- There was a **shortfall** of £371.6M relative to the **funding target** for that valuation. This corresponded to a **funding ratio** of 71%.
- The aggregate Employer **future service contribution rate** was 15.5% of Pensionable Pay.

After allowing for short term assumed additional investment returns for some Employers and additional contributions to restore the **funding ratio** to 100% over a period of 22 years, the aggregate Employer contribution rate was calculated to be 21.4% of Pensionable Pay. (Additional amounts were also payable by Employers where **strains** occurred on early retirement).

Following discussion of these results, the Authority agreed that Employers could phase in the new contribution rates by use of up to three annual steps.

City and County of Cardiff has paid the following rates of contribution (expressed as a percentage of Pensionable Pay) since the previous valuation:

Year commencing 1 April 2007	20.8%
Year commencing 1 April 2008	20.9%
Year commencing 1 April 2009	21.0%
Year commencing 1 April 2010	21.0%

The formal report dated 27 March 2008 signed by Christine Rice FIA and Simon Cook FIA of Hewitt Bacon & Woodrow Limited includes further information.

### Key developments

The financial health of the Fund depends fundamentally on how much cash is paid in, how well the assets perform and are expected to perform, and on what benefits are paid out and are expected to be paid out. The key developments since the previous valuation therefore include:

- The amount of contributions paid to the Fund.
- The actual returns on the Fund's investments.
- Any changes to future expectations of benefit payments or investment returns.

These are considered later in this report (sections 5 and 6). The major feature of the last three years has been the deterioration in the economic environment. The impact of this on the key financial items is shown below. In addition:

- Some significant benefit changes were made with effect from 1 April 2008. These were taken into account in the previous valuation.

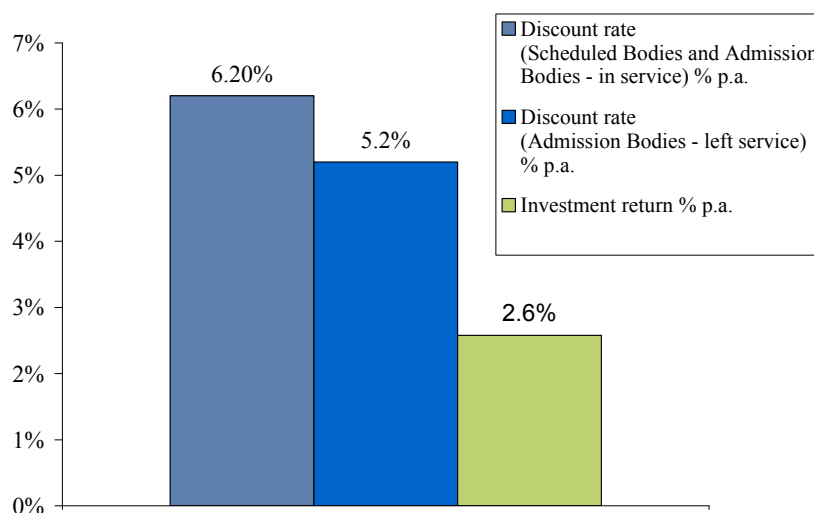
- In the Emergency Budget in June 2010, the Chancellor announced a change to the inflation indexation of pensions and deferred pensions for all Public Sector pension schemes, including the Local Government Pension Scheme. In future, pensions will be linked to increases in the Consumer Prices Index (CPI) rather than the Retail Prices Index (RPI) as previously. We have allowed for this change in this valuation.

## Financial development

A variety of factors affect the financial position of the Fund, including investment returns, changes in the anticipated investment returns as indicated by yields on long dated gilts, pension increases and pay increases. To illustrate the Fund's financial development since the previous valuation, we have compared in the charts below:

- The investment return achieved on the Fund's assets with the **discount rates** used at the previous valuation to calculate the **funding targets** for Scheduled Bodies (which make up the bulk of the Fund's liabilities) and Admission Bodies.
- The yield on long dated index linked government stocks (gilts) and fixed interest gilts at the previous valuation with the yields at this valuation.
- The assumptions made at the previous valuation for pension and pay increases with what actually happened.

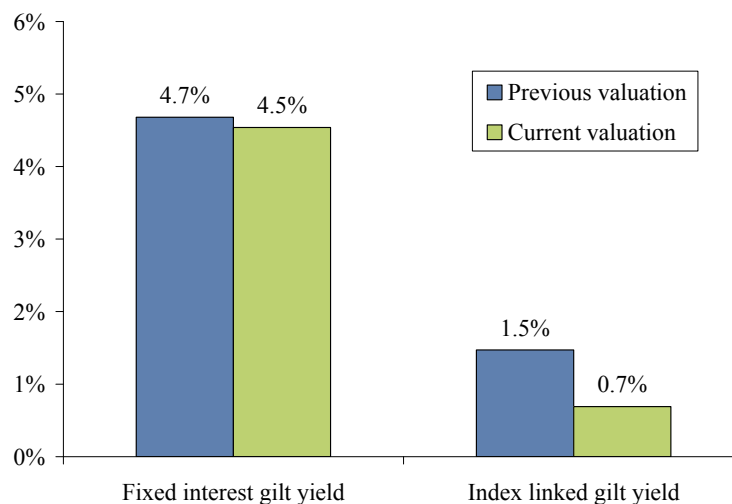
## Key experience items – investment returns



The investment return has been significantly lower than the **discount rates** assumed due to the poor performance of the investment markets.

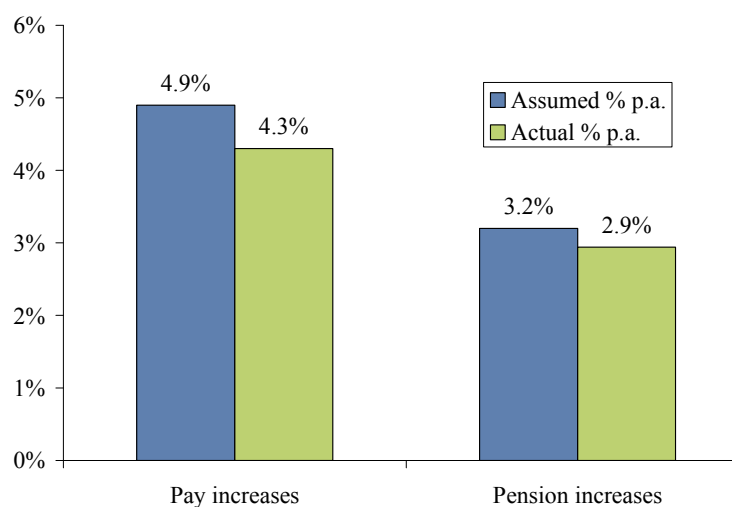


### Key experience items – gilt yields



The yield on long dated fixed interest gilts at the Valuation Date is broadly the same as at the previous Valuation Date. However the yield on index linked gilts has fallen in absolute terms and relative to fixed interest gilt yields leading to an increase in implied price inflation.

### Key experience items – pay and pension increases



Increases to pay and pensions in payment were lower than assumed. Note that the pay analysis above includes the impact of promotional pay increases.

### Impact on results

Where material, the estimated financial impact of the developments described in this section is shown in section 6.

### 3. Information Used

#### Key information

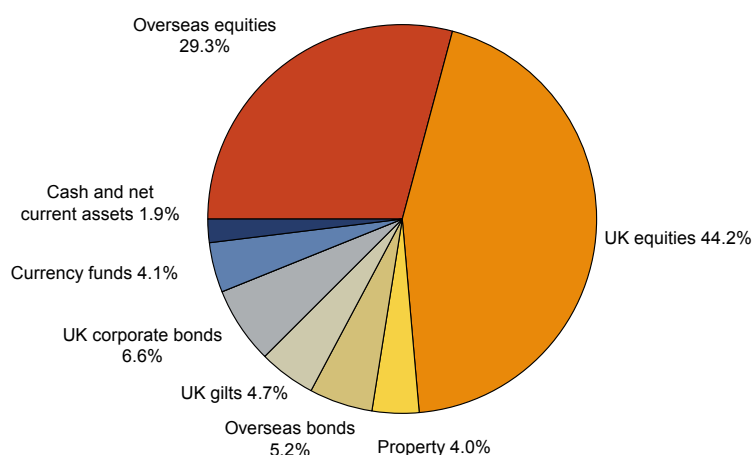
To carry out the valuation, we have obtained information on:

- The assets held by the Fund.
- How benefit entitlements are calculated.
- Member data.

This section sets out a high level summary of the information used. Further details are included in Appendices B, C, D, and E.

#### Assets

The Fund's assets had an audited market value of £1,027.0M (excluding **AVC** accounts) at the Valuation Date, split as follows:



For a more detailed breakdown, please see Appendix B.

For the purposes of our valuation we have adjusted the assets by £5.9M in respect of **strain** payments due to be paid after the Valuation Date in respect of early retirements on redundancy or retirement before the age of 60 that occurred before the Valuation Date. This data was provided to us by the Authority.

We have also reduced the assets by £1.7M to reflect the anticipated payment of a number of bulk transfer amounts by the Fund, in respect of transfers which occurred before the Valuation Date. The corresponding past service liabilities have similarly been excluded from the 2010 **funding target**.

We have therefore taken the market value of assets for the purposes of our valuation to be £1,031.2M (excluding **AVC** accounts) at the Valuation Date.

## Benefits valued

Members are entitled to benefits defined in the Regulations. A summary of the benefits taken into account in this valuation is set out in Appendix C.

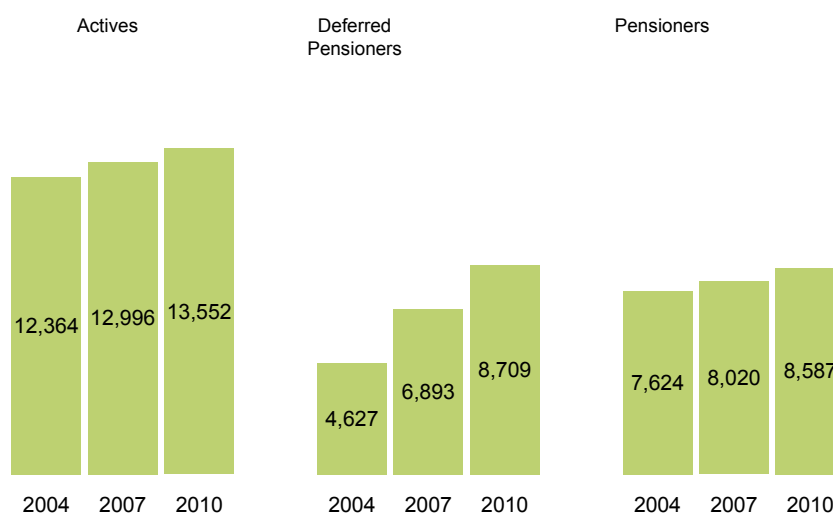
Employers within the Fund have discretion over payment of certain benefits. It is not practical to make allowance for the policies of each Employer in this regard. However, because most of the benefits which are discretionary are financed as they occur, the financial impact on this valuation is minimal. We have therefore made no specific allowance for these discretions.

For the purposes of this valuation, we have assumed that members will remain in the contribution band to which they are currently allocated. Members' current contribution band was supplied to us in the membership data.

## Membership data

The valuation calculations use membership data supplied by the Authority at 31 March 2010.

The following chart illustrates how the membership profile is evolving. Please see Appendices D and E for more comprehensive summaries.



## Reliability of information

We have carried out some general checks to satisfy ourselves that:

- The information used for this valuation is consistent with the information used for the previous valuation and also with that shown in the Fund's Annual Report and Accounts.
- The results of this valuation can be reconciled with the results of the previous valuation.

However, the results in our report rely entirely on the accuracy of the information supplied. If you believe the data we have used may be incomplete or inaccurate, please let us know.

## 4. Funding Target — The Principles

### Terms used in this report

Here is a summary of the main terms used in this report. Further details are set out in the Glossary:

### Summary of Terms

<b>Funding principle</b>	To hold sufficient and appropriate assets to meet the benefits as they fall due.
<b>Funding target</b>	The target level of assets that the Actuary and Authority have agreed is appropriate to meet promised benefits.
<b>Funding objective</b>	To hold sufficient and appropriate assets to meet the <b>funding target</b> .
<b>Funding Strategy Statement</b>	A written statement of the Authority's policy for meeting the <b>funding principle</b> . The Actuary must have regard to the <b>Funding Strategy Statement</b> in carrying out this valuation.
<b>Recovery plan</b>	A plan of action for correcting a <b>surplus or shortfall</b> over an agreed period.
<b>Rates and Adjustments Certificate</b>	A certificate setting out what contributions are payable by each Employer over the three years from 1 April 2011.

### Four principles

The Actuary and the Authority have agreed the following four principles:

#### Principle 1—What funding target to use

To calculate the **funding target**:

- For each year into the future, the benefits paid out by the Fund are estimated.
- A target level of assets is agreed on, that is appropriate to meet the expected benefit payments. The conventional approach here is to 'discount back' the expected benefit payments to the Valuation Date, using an agreed rate of interest known as the **discount rate**.

These two steps require a method to be chosen and assumptions to be made (e.g. how long members live) in order to arrive at a value for the **funding target**. The method and assumptions used for the **funding target** are shown in section 5.

#### Principle 2—What contributions to pay for future benefits

There are several funding methods recognised by the actuarial profession. These result in different calculations of the **future service contribution rate**. The funding methods used are set out in section 5 and explained in the Glossary.

#### Principle 3—How to address any shortfall

As the third principle requiring agreement, a decision must be taken on how any **shortfall** is addressed. Details of the agreed approach are given in section 5.

#### **Principle 4 – How to allow for unanticipated strains on the Fund**

As the fourth principle requiring agreement, a decision must be taken on how any **strains** arising as a result of events such as early retirement will be dealt with. Details of the agreed approach are given in section 9 and in Appendix L.

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## 5. Funding Target — Method and Assumptions

**Purpose of section** Building on the previous section which set out the principles to be agreed, this section fills in some of the key details of the method and assumptions used for the **funding target**, the **future service contribution rate** and the **recovery plan**. These have been agreed by the Authority. The assumptions are expanded further in Appendix F.

We also describe where the approach taken for this valuation differs from that used for the previous valuation. For the purpose of this report, Scheduled Bodies include Resolution Bodies, whilst Admission Bodies include all other Employers participating in the Fund.

**Key financial assumptions** Here is a summary of the key financial assumptions. In our opinion these are compatible with taking the assets at market value.

### Key Financial Assumptions

Assumption	This valuation (% p.a.)	Previous valuation (% p.a.)	Comments on assumptions for this valuation
<b>Long dated gilt yields</b>			
▪ Fixed interest gilts	4.50	4.70	For this valuation, derived from Bank of England yield curves at duration appropriate for the Fund's liabilities. For the previous valuation the yields were derived from the gross redemption yield on published indices.
▪ Index linked gilts	0.70	1.50	
<b>Price inflation</b>			
▪ Retail Prices Index (RPI)	3.80	3.20	This has been set using the level of inflation implied by the gilt markets at the Valuation Date (as measured by the above gilt yields).
▪ Consumer Prices Index (CPI)	3.30	n/a	This has been set as 0.5% p.a. lower than the RPI. This deduction has been set having regard to the estimated difference between RPI and CPI (over 20 years as at 31 March 2010) arising from the difference in the calculation approach between the two indices. Note that this estimate will vary from time to time.

Assumption	This valuation (% p.a.)	Previous valuation (% p.a.)	Comments on assumptions for this valuation
<b>Pension increases</b>			
▪ Pensions in excess of <b>GMPs</b>	3.30	3.20	For this valuation this is equal to the CPI price inflation assumption above.
▪ <b>GMPs</b> accrued after 5 April 1988	2.70	2.70	This is based on the CPI price inflation assumption above, an assumption about how much price inflation varies each year, and the interaction of price inflation with the maximum annual increase of 3% p.a.
▪ <b>GMPs</b> accrued before 6 April 1988	0.00	0.00	
<b>General pay increases</b>	4.80	4.70	For this valuation this is equal to the average future assumed RPI prices inflation plus 1.0% p.a.
<b>Discount rate – in service</b>			
▪ Scheduled Bodies	6.90	6.20	For this valuation this is equal to the yield on long dated gilts, plus 2.4% p.a.
▪ Admission Bodies	6.25	6.20	For this valuation this is equal to the yield on long dated gilts, plus 1.75% p.a.
<b>Discount rate – left service</b>			
▪ Scheduled Bodies	6.90	6.20	For this valuation this is equal to the yield on long dated gilts, plus 2.4% p.a.
▪ Admission Bodies	4.75	5.20	For this valuation this is equal to the yield on long dated gilts, plus 0.25% p.a.
<b>Rationale for discount rate</b>	<p>The <b>discount rate</b> for Scheduled Bodies has been set having regard to the expected return on the Fund assets and the long term financial standing of these bodies. The Fund assets are considered to have a better than even chance of delivering investment returns in excess of the Scheduled Body <b>discount rate</b>.</p> <p>For Admission Bodies, the <b>discount rate</b> has regard to the possibility that participation might cease at any time and anticipates a move to a low risk investment portfolio made up of long dated gilts (of appropriate nature and term) at cessation.</p> <p>Where a Scheduled Body has agreed to <b>subsume</b> the liabilities of the Admission Body at cessation, the Actuary and the Authority have agreed to use the Scheduled Body <b>discount rate</b> for that Admission Body. Details of Admission Bodies to which this applies are given in Appendix H.</p>		
<b>Key demographic assumptions</b>	<p>The key demographic assumption is member mortality, to which the <b>funding target</b> can be particularly sensitive.</p> <p>Since the previous valuation, research has generally shown that life expectancy is improving much faster than previous research envisaged.</p>		

The mortality assumption has been revised in light of this taking into account the results of a review into the Fund's pensioner mortality experience. A 65 year old male pensioner in normal health is now assumed on average to live to 88.7 (rather than 85.2 at the previous valuation). A 65 year old female pensioner in normal health is assumed on average to live to 91.5 (rather than 89.0).

In view of the importance of the mortality assumption, this assumption will need to be carefully monitored in future.

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#### What's changed since previous valuation

The assumptions differ from those used for the previous valuation:

- The financial assumptions have been updated to reflect movements in gilt yields.
- An assumption for CPI price inflation has been made (this was not relevant for the previous valuation).
- The **discount rate** used for Scheduled Bodies has increased relative to gilt yields. This is to meet the principle set out in the **Funding Strategy Statement** of maintaining as nearly constant an overall contribution rate as possible.
- The in service **discount rate** used for Admission Bodies has increased relative to gilt yields, whilst the left service **discount rate** has reduced slightly. This is to reflect better the anticipated returns resulting from the anticipated move to a low risk investment portfolio on cessation.
- The mortality assumption has been changed to allow for research that suggests people are living longer and reflects a review of the Fund's pensioner mortality experience over the period since the previous valuation.
- The allowance for future retirements in ill-health has been reduced following a review of the experience since the previous valuation. We have also increased the proportion of retirements assumed to fall under Tier 1, in the light of the level experienced since this was introduced in 2008.
- We have moved to unisex allowance for future withdrawals from service with deferred pension entitlement. This has little financial impact.

Overall, these changes result in a lower overall **funding target**, i.e. they decrease the value placed on the Fund's liabilities compared with the previous valuation. However some Employer specific funding targets may be higher.

Where material, the overall financial impact of these changes is shown in section 6.

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#### Funding method

As for the previous valuation, the **Projected Unit Method** with a one year control period has been used for most Employers to calculate the **funding target** and the **future service contribution rate**. The **Attained Age Method** has been used for some Employers who do not permit new employees to join the Fund.



In each case no explicit allowance for new entrants has been made.

The resulting **future service contribution rate** can be expected to be broadly stable if

- Experience matches the assumptions underlying the **funding target**.
- The Fund remains closed for those Employers for whom the **Attained Age Method** has been used.
- The membership profile remains stable for those Employers for whom the **Projected Unit Method** has been used.
- Everything else remains the same.

However the following additional influences on the **future service contribution rate** are anticipated:

- Assumed chronological improvements within the life expectancy assumptions incorporated in this valuation can be expected to result in a gradual drift upwards.
- The gradual removal of the right to retire early on unreduced pension (if over age 60 and age plus service is greater than or equal to 85 years) can be expected to gradually reduce the **future service contribution rate**, as the proportion of members with these enhanced retirement rights reduces.
- The impact of an ageing workforce for those Employers closed to new members is expected to gradually increase the **future service contribution rate** for these Employers.

Additionally if the **funding target** changes the contribution rates are likely to change.

## Addressing the shortfall

The Actuary and the Authority have agreed that the **shortfall** relative to the **funding target** at this valuation will be removed through payment of additional contributions by Employers over a range of different **recovery periods** of up to 25 years. The **recovery period** used for each Employer is set out in Appendix H.

For some Employers, the Actuary and the Administering Authority have agreed to phase in any increases in contribution rates over a number of years (or 'steps'). Details of such 'stepping periods' are also shown in Appendix H.

The assumptions used to calculate the additional contributions are the same as those used for calculating the **funding target**.

## Changes to funding objectives

The **funding principle** for this valuation is to hold sufficient and appropriate assets to meet the benefits as they fall due. The **funding objective** is to hold sufficient and appropriate assets to meet the **funding target**. The Actuary and the Authority have agreed that the **funding target** is an appropriate level of assets to hold in order to meet this **funding principle**.

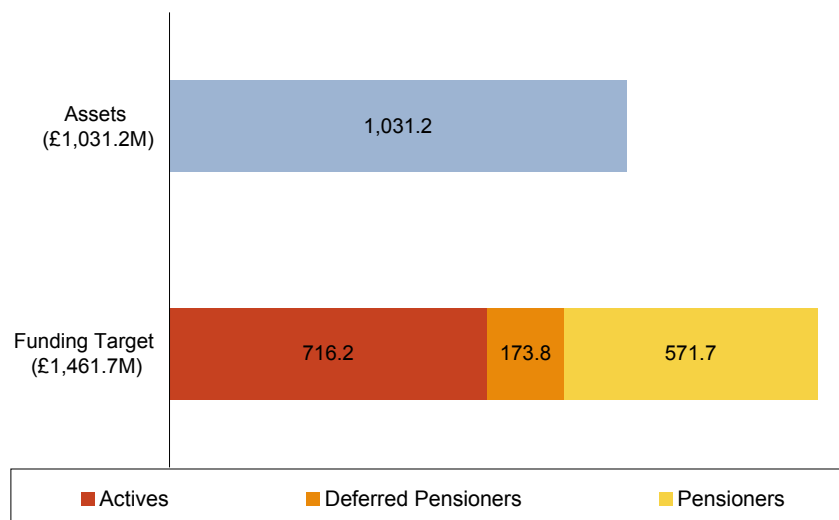
This is a similar approach **to the funding principle** and the **funding objective** in the previous valuation. However, we would draw your attention to the following changes in approach:

- There have been changes to the assumptions used, as summarised in this section.
  - There have been some changes to the **recovery periods** used for some Employers. The average **recovery period** used for the Fund is about 25 years for the current valuation—previously it was about 22 years.
  - The Authority has agreed that some Employers can phase in increases in contribution rates by use of up to six annual steps—previously the maximum was three steps.
-

## 6. Funding Target — Results

### Funding target

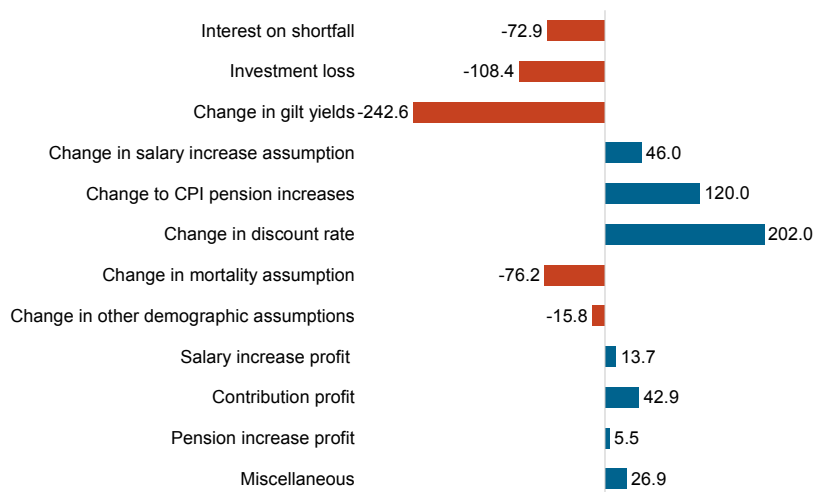
The chart below compares the market value of the assets to our calculation of the **funding target**, using the assumptions agreed with the Authority.



The **shortfall** of the assets relative to the **funding target** is £430.5M. This corresponds to a **funding ratio** of 71%.

### Explanation of change

The funding position has worsened by £58.9M since the previous valuation, explained approximately as follows:



The figures in this chart are in £M.

The analysis shows that the main factors affecting the funding position since the previous valuation are:

- The actual returns on the Fund assets, the reduction in gilt yields, and changes to the mortality assumption, which have worsened the position. These have been partially offset by
- The change in pension indexation from RPI to CPI, the change in the **discount rate** relative to gilt yields, the change in the salary increase assumption relative to the level of RPI inflation, additional Employer contributions paid, and pay and pension increases being slightly lower than assumed.

#### Future service contribution rate

We have also calculated the aggregate Employer **future service contribution rate**. This is the rate of Employer contribution that would normally be appropriate if the Fund had no **surplus** or **shortfall** and the assets were exactly equal to the **funding target**.

	% of Pensionable Pay
New final salary benefits	20.6
Death in service lump sum	0.3
Administration expenses	0.3
Less employee contributions	(6.3)
<b>Net Employer cost</b>	<b>14.9</b>

#### Explanation of change

The future service rate has reduced by 0.6% of Pensionable Pay since the previous valuation.

The main factors affecting the **future service contribution rate** since the previous valuation are:

- The change in pension indexation from RPI to CPI, the change in the salary increase assumption relative to the level of RPI inflation, and the change in the **discount rate** relative to gilt yields, which have reduced the **future service contribution rate**. These have been partially offset by
- The change in financial conditions, as indicated by the gilt yields, and changes to the mortality assumptions.

## 7. Other Funding Measures

### Low risk measure

We have also reviewed the low risk position of the Fund, which considers the position if no allowance is made in the **discount rate** for returns on the Fund's assets to exceed gilt yields.

We show this measure for information purposes to give an indication of the level of risk inherent in the funding and investment strategy adopted by the Authority. This is therefore a **planning exercise**.

This measure is generally used for actuarial assessments required under Administration Regulation 38(2), when an Admission Body ceases to participate in the Scheme where a move to a notional low risk investment portfolio and funding strategy is appropriate (e.g. if **subsumption** does not apply).

### Results

Here is our calculation of the low risk measure in respect of past service.



The **shortfall** of the assets relative to the low risk funding measure is £1,143.2M. This corresponds to a low risk **funding ratio** of 47%.

### Previous low risk funding ratio

At the previous valuation, the corresponding low risk **funding ratio** was 55%. The low risk **funding ratio** has therefore worsened from the previous valuation.

This is largely due to the deterioration in financial conditions since the previous valuation (which resulted in poor returns on the Fund assets and the change in gilt yields) and the change in the mortality assumptions. These have been mitigated by the move to CPI pension indexation and the additional Employer contributions paid since the previous valuation.

**Position on  
discontinuance**

It is a requirement of Actuarial Guidance Note GN9 that formal valuation reports consider the funding position should the Fund have been discontinued as at the Valuation Date. However, there are no provisions covering discontinuance in the Regulations.

We believe that it is the view of all actuaries who have to report on Funds governed by the Regulations that this requirement does therefore not apply in the case of such valuations. We therefore do not cover this specific eventuality in this report.

**Cover for transfer  
values**

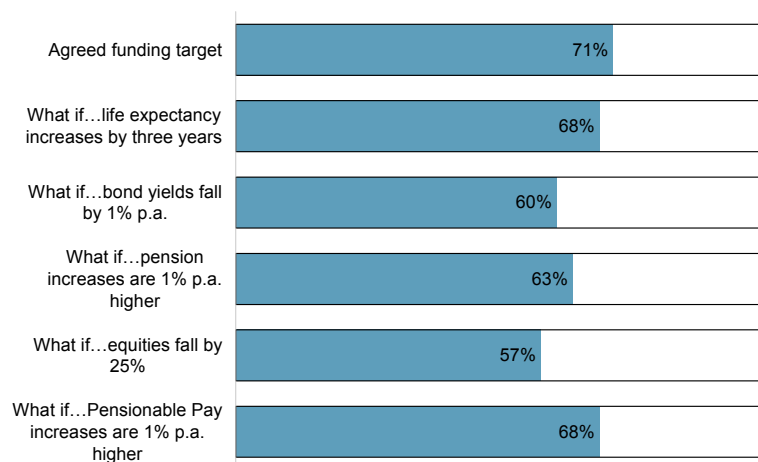
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Actuarial Guidance Note GN9 requires us to consider whether there is likely to be sufficient assets, if the statutory funding objective were met, for the Fund to pay unreduced **transfer values**. However the statutory funding objective does not apply to the Fund. Furthermore there is no provision under the Regulations for **transfer values** or other benefits to be restricted by the amount of the Fund assets. We do not therefore believe this measure is relevant for the Fund.

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## 8. Risks and Sensitivity Analysis

<b>Purpose of section</b>	This section comments on some of the key risks faced by the Fund.
<b>Key risks</b>	<p>Here is a recap of some of the key factors that could lead to <b>shortfalls</b>:</p> <ul style="list-style-type: none"> <li>Investment performance — the return achieved on the Fund's assets may be lower than allowed for in the valuation.</li> <li>Investment volatility — the assets may move differently to the <b>funding target</b>. The Fund may invest in assets (e.g. equities) that are expected to achieve a greater return than the assets (i.e. gilts and investment grade derivatives) that most closely match the expected benefit payments, in the hope of reducing the contributions required. The more mismatched the investment strategy is, the greater the potential risks.</li> <li>Mortality — members could live longer than foreseen, for example, as a result of a medical breakthrough. This would mean that benefits are paid for longer, resulting in a higher cost to the Fund.</li> <li>Options for members (or others) — members may exercise options resulting in unanticipated extra costs. For example, members could swap less of their pension for cash at retirement than is assumed.</li> <li>Retrospective changes in the benefits payable by the Scheme.</li> </ul>
<b>Quantifying the risks</b>	<p>To help the Authority understand the susceptibility of the financial position measured against the <b>funding target</b>, we have considered the approximate impact of the following one-off step changes.</p> <ul style="list-style-type: none"> <li>Life expectancy at age 65 is three years greater than anticipated.</li> <li>Yields on gilts decrease by 1% p.a. (with no change in investment markets). In practice, if yields fell such that the <b>discount rate</b> were reduced, it is possible that there would be some compensating change in asset values, particularly the Fund's bond holdings. This effect is not shown in the chart below.</li> <li>Pension increases (including deferred pension increases) are 1% p.a. higher than assumed.</li> <li>The market values of equities and property fall by 25% (with no change in bond markets).</li> <li>Pensionable Pay increases are 1% p.a. higher than assumed.</li> </ul> <p>Please see the chart below for the results. The scenarios considered are not 'worst case' scenarios, and could occur in combination (rather than in isolation). The low risk funding measure is also highly sensitive to these factors.</p>



## Implications

The above analysis highlights that the Fund is highly susceptible to:

- Equity markets falling, or bond yields falling with no change in investment markets. This risk arises because the Fund is not heavily invested in the assets that most closely match the expected future cashflows (i.e. gilts and investment grade derivatives).
- Members living longer than expected. This risk arises because pension benefits must be paid as long as the beneficiaries are alive.



## 9. Summary and Conclusions

### Headline results

Here are the headlines at the Valuation Date:

- There is a **shortfall** of £430.5M relative to the Fund's **funding target**. This corresponds to a **funding ratio** of 71%.
- The aggregate cost to the Employers of new benefits for members (including lump sums payable on death in service and administration expenses) is 14.9% of Pensionable Pay.
- The low risk **funding ratio** is 47%.

### Developments since the Valuation Date

- As mentioned earlier in this report, in the Emergency Budget in June 2010, the Chancellor announced that Public Sector pensions will be linked to increases in the Consumer Prices Index (CPI). We have allowed for this change in this valuation.
- Since the Valuation Date, equity markets have risen slightly, but gilt and index-linked gilt yields are broadly unchanged. These developments will have had little impact overall on the financial position of the Fund under both the **funding target** and low risk funding measures (calculated with financial assumptions updated in line with market movements).
- In the 2010 Spending Review HM Treasury set out the Government's intention to increase employee contributions into public sector pension schemes. The stated aim was to phase in the increases from April 2012, with the objective of collecting an extra £1.8bn by 2014/15. This would, on average, lead to employee contributions increasing by 3% of pensionable pay. It is not yet clear how this will be implemented. Any changes will be reflected in future valuations once these have been incorporated in the Regulations.
- The Independent Public Service Pensions Commission, chaired by Lord Hutton, has been established to review all aspects of pension provision in the Public Sector. The Commission's final report was issued on 10 March 2011 and proposes a number of changes for all public service pensions, including an increase in normal retirement age and a move from final salary to career average revalued earnings benefits. However no specific changes to the Local Government Pension Scheme have as yet been finalised or incorporated in the Regulations. We have not therefore made explicit allowance for any changes in this valuation. Any changes will be reflected in future valuations once these have been incorporated in the Regulations.

### Addressing the shortfall

Based on the agreed approach set out in section 5, the aggregate additional **shortfall** contributions payable to the Fund from 1 April 2011 would be £22.9M per annum, before any phasing in or 'stepping' of contribution increases. These would increase each year (on 1 April) at about 4.8% p.a. and would be payable for 25 years. These would be equivalent to additional contributions of 8.3% of Pensionable Pay, if the Fund membership were to remain stable and pay were to increase in line with our assumptions.

This would give an aggregate contribution rate of 23.2% of Pensionable Pay.

Contributions paid by individual Employers will reflect their own circumstances and in some cases will reflect agreed stepping of the increase in **shortfall** contributions.

#### Individual Employer rates set by the Actuary

The Employer contribution rates are set by the Actuary taking into account a number of factors including:

- Administration Regulation 36 – which requires the Actuary to have regard to
  - The existing and prospective liabilities
  - The desirability of maintaining as nearly a constant rate as possible and
  - The Authority's **Funding Strategy Statement**.
- The results of the valuation.
- Developments since the Valuation Date.
- Discussions between the Actuary, the Authority and Employers.

Contribution rates for Employers who contribute to the Fund are set out in the **Rates and Adjustments Certificate** in Appendix L.

Rates of contribution payable by individual Employers, or groups of Employers, differ because they take into account their particular membership profiles and **funding ratios** and, in some cases, the assumptions and **recovery periods** are specific to their circumstances. The Actuary and the Authority have agreed that increases in contribution rates for some Employers can be phased in over 'stepping periods' not exceeding 6 years.

For certain Employers, the Actuary and Authority have agreed that **shortfall** contributions will be expressed as a percentage of Pensionable Pay. Where this is the case, rates are expressed in terms of projected Pensionable Pay figures supplied by the Employer.

More details are given in section 5 and Appendix H.

#### Aggregate Employer contribution rate

The aggregate Employer contribution applicable from 1 April 2011, after allowing for stepping of **shortfall** contributions for certain Employers, can be summarised as follows:

##### Aggregate Employer contribution from 1 April 2011

Year	Future service contribution rate (% Pensionable Pay)	Annual shortfall contribution (£Ms)
2011/12	14.9	21.2
2012/13	14.9	22.7
2013/14	14.9	24.4
2014/15	14.9	26.3
2015/16	14.9	27.7
2016/17	14.9	29.5
2017/18	14.9	30.9

Notes:

- The contributions payable by individual Employers are set out in Appendix L. **Strain** payments as a result of early retirements are payable in addition.
- The annual **shortfall** contributions above are the aggregate of the **shortfall** contributions for individual Employers in each year.
- At the end of the seven year period shown above, the annual **shortfall** contributions are anticipated to increase by approximately 4.8% p.a. until the end of the **recovery period**. Thereafter, contributions are anticipated to be in line with the **future service contribution rate**. These contributions will be subject to review at future actuarial valuations.
- Member contributions are payable in addition to the Employer rates set out above and in Appendix L, at the rates set out in the Benefits Regulations. **AVCs** are payable in addition.
- Contributions by active members and Employers should be paid to the Fund at such time and at such frequency as required by the Administration Regulations. Any monetary **shortfall** contributions have been calculated on the basis that they are payable uniformly over the relevant year.

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**Monitoring the Fund**

In the light of the volatility inherent where investments do not match liabilities, we suggest the Authority monitors the financial position in an appropriate manner on a quarterly basis.

The next formal actuarial valuation under Administration Regulation 36 is due to take place as at 31 March 2013.

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**Signed on behalf of  
Aon Hewitt Limited**



**Christine Rice FIA**

**Scott Campbell FIA**

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## Appendix A — Legal and Actuarial Framework

### Scope of advice

It is a legal requirement to carry out a full valuation at least once every three years, and this report is produced in compliance with

- Administration Regulation 36.
- The terms of the agreement between us and the Authority on the understanding that it is solely for the use and benefit of the Authority.

Unless prior written consent has been given by Aon Hewitt Limited, this report should not be disclosed to or discussed with anyone else unless they have a statutory right to see it. In particular we permit the Authority to release copies of this report to the following parties only:

- Any Employer which contributes to the Fund.
- Department of Communities and Local Government.

We also permit the Department of Communities and Local Government to pass our report to the Government Actuary's Department in connection with their statutory duties. None of the above bodies have our permission to pass our report on to any other parties.

Notwithstanding such consent, neither we nor Aon Hewitt Limited accepts or assumes any responsibility to anyone other than the addressees of this report.

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### Professional Guidance Note GN9

We confirm that this report has been prepared in accordance with version 9.0 of Guidance Note 'GN9: Funding Defined Benefits - Presentation of Actuarial Advice' published by the Board for Actuarial Standards. However the following aspects of GN9 are not relevant to the Scheme and its funds in the current circumstances and we have not reported on them:

- Paragraph 3.4.16 of GN9 requires the actuary to include the certification of technical provision in relation to a valuation under Part 3 of the Pensions Act 2004. As Part 3 of the Pensions Act 2004 does not apply to the Scheme, this report does not comply with paragraph 3.4.16 of GN9; and
- Part 3.5 of GN9 requires the actuary to report on the value of the liabilities that would arise had the Fund wound up on the valuation date (based on the cost of buying out the accrued benefits with insurance policies). As the Scheme is a statutory scheme, there is no regulatory provision for scheme wind up and the scheme members have a statutory right to their accrued benefits. Therefore the concept of solvency on a buy-out basis does not apply to the Fund. Accordingly, this report does not comply with part 3.5 of GN9.

For the purposes of compliance with Section 4 of GN9 we have treated the **Rates and Adjustments Certificate** and **shortfall** contributions as analogous to the schedule of contributions and recovery plan referred to in section 4.

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## Appendix B — Assets

### Assets

The audited Fund accounts for the year ended 31 March 2010 show its assets as £1,027.0M, invested as follows:

Asset type	Market value (£M)	% of Total
Overseas equities	301.4	29.3
UK equities	452.6	44.2
Property	41.0	4.0
Overseas bonds	53.9	5.2
UK gilts	48.7	4.7
UK corporate bonds	67.7	6.6
Currency funds	42.1	4.1
Cash and net current assets	19.6	1.9
<b>Total</b>	<b>1,027.0</b>	<b>100.0</b>

The above excludes assets for defined contribution **AVC** accounts.

For the purposes of our valuation we have adjusted the assets by £5.9M in respect of **strain** payments due to be paid after the Valuation Date in respect of early retirements on redundancy or retirement before the age of 60 that occurred before the Valuation Date. This data was provided to us by the Authority.

We have also reduced the assets by £1.7M to reflect the anticipated payment of a number of bulk transfer amounts by the Fund, in respect of transfers which occurred before the Valuation Date. The corresponding past service liabilities have similarly been excluded from the 2010 **funding target**.

We have therefore taken the market value of assets for the purposes of our valuation to be £1,031.2M (excluding **AVC** accounts) at the Valuation Date.

## Appendix C — Benefits

### Introduction

The benefits of the Local Government Pension Scheme (the 'Scheme') are set out in Regulations, the principal Regulations currently being the Local Government Pension Scheme (Benefits, Membership and Contributions) Regulations 2007 as subsequently amended. A broad summary of the benefits currently payable by the Scheme to contributory members as at the Valuation Date is given below.

Readers should refer to the Regulations for further details.

	<b>Benefits provided as at Valuation Date</b>
<b>Normal retirement age</b>	65
<b>Member contributions</b>	<p>Rate between 5.5% of pay and 7.5% of pay dependent on contribution band in which member is situated.</p> <p>Special provisions apply for certain categories of former manual workers.</p>
<b>Final pay</b>	Generally Pensionable Pay over the 12 months prior to retirement or earlier exit or, if higher, in one of the preceding two years.
<b>Normal retirement pension</b>	<p>1/60 of Final Pay for each year of Pensionable Service on or after 1 April 2008.</p> <p>For each year of Pensionable Service before 1 April 2008:</p> <ul style="list-style-type: none"> <li>▪ a pension of 1/80 of Final Pay, plus</li> <li>▪ a lump sum of 3/80 of Final Pay</li> </ul>
<b>Lump sum</b>	<p>Pension can be surrendered for lump sum to a maximum lump sum of one quarter of the total value of benefits.</p> <p>Conversion rate is £12 for each £1 p.a. of pension given up.</p>
<b>Early retirement pension</b>	<p>Reduced pension payable on retirement after age 60, or after age 55 with Employer consent. Pension calculated as for normal retirement but based on Pensionable Service to early retirement date.</p> <p>Certain categories of member eligible for protection can retire on unreduced pension if their age plus Pensionable Service is greater than or equal to 85 years.</p>
<b>Incapacity and ill-health pensions</b>	<p><b>Tier 1</b></p> <ul style="list-style-type: none"> <li>▪ Payable to members with more than 3 months' Pensionable Service based on Final Pay at exit and potential Pensionable Service that would have been completed to age 65.</li> <li>▪ To qualify for this benefit there must be no reasonable prospect of the member being capable of undertaking any gainful employment.</li> </ul>

## Incapacity and ill-health pensions

### Tier 2

- Payable to members with more than 3 months' service based on Final Pay at exit and Pensionable Service completed to date of exit plus 25% of the period from date of exit to normal retirement age.
- To qualify for this benefit the member must be expected to be capable of undertaking gainful employment at some point after 3 years, but before normal retirement age.

### Tier 3

- Payable to members with more than 3 months' Pensionable Service based on Final Pay at exit and Pensionable Service completed to date of exit
- To qualify for this benefit the member must be expected to be capable of undertaking gainful employment at some point in the next 3 years
- Payable for 3 years, or until gainful employment obtained, if earlier

In each case members must be permanently incapable of efficiently discharging their current duties to qualify.

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## Leaving Pensionable Service

Pension payable on retirement at age 65 based on Final Pay at exit and Pensionable Service to date of exit.

Certain categories of member can retire early on unreduced pension if aged 60 or over and their age plus service is greater than or equal to 85 years. Service in this case includes the period between date of exit and normal retirement age.

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## Pension increases

- Pensions in payment in excess of Guaranteed Minimum Pensions are increased each year in line with price inflation. With effect from the increase in April 2011 this will be measured by the annual increase in the Consumer Prices Index (previous increases had reflected the Retail Prices Index).
- Deferred pensions are similarly increased in deferment.
- Guaranteed Minimum Pensions (**GMPs**) increase in deferment in line with State revaluation factors.
- **GMPs** accrued after 6 April 1988 increase in payment each year at the lower of 3% and price inflation, as measured above.

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## Death benefits

- A lump sum of 3 x Final Pay at exit.
- A cohabitee's pension of 1/160 of Final Pay at exit for each year of Pensionable Service, including a service enhancement that would have applied had retirement due to ill-health under Tier 1 occurred at the date of death.

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## State pension scheme

The Scheme is contracted out of the State Second Pension Scheme.

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## Appendix D — Membership Data

### Active members at 31 March 2010 (31 March 2007)

		Number	Average age	Total Pensionable Pay (£000 p.a.)	Average Pensionable Pay (£ p.a.)	Average service (years)
Men	2010	4,627	45.4	107,562	23,247	13.3
	2007	4,629	45.5	100,091	21,623	12.9
Women	2010	8,925	44.1	142,544	15,971	7.6
	2007	8,367	43.7	123,887	14,807	7.1
Total	2010	13,552	44.5	250,106	18,455	9.5
	2007	12,996	44.3	223,978	17,234	9.2

*Note: Pay is that over the year to the Valuation Date. Annualised pay is included for entrants in the last year. Part time pay is included for part-timers.*

*In addition to the numbers above there were 53 (2007: 22) Councillors accruing benefits in the Fund. Allowance has been made for these in our calculations.*

### Deferred pensioners at 31 March 2010 (31 March 2007)

		Number	Average age	Total pension (£000 p.a.)	Average pension (£ p.a.)
Men	2010	3,001	44.1	5,599	1,866
	2007	2,485	48.3	4,795	1,930
Women	2010	5,708	43.6	6,187	1,084
	2007	4,408	46.5	5,038	1,143
Total	2010	8,709	43.8	11,786	1,353
	2007	6,893	47.1	9,833	1,427

*Note: The deferred pensions have been increased to the Valuation Date and include increases granted in April 2010 or April 2007 as appropriate.*

*In addition to the numbers above there were:*

- 1,608 (2007: 1,478) members who had yet to decide whether to take a transfer payment. Suitable allowance has been made for these in our calculations.
- 5 (2007: nil) Councillors entitled to deferred benefits. Allowance has been made for these in our calculations.



**Pensioners at 31 March 2010 (31 March 2007)**

		<b>Number</b>	<b>Average age</b>	<b>Total pensions (£000 p.a.)</b>	<b>Average pension (£ p.a.)</b>
<b>Men</b>	<b>2010</b>	<b>3,428</b>	<b>70.0</b>	<b>24,583</b>	<b>7,171</b>
	2007	3,300	67.9	21,606	6,547
<b>Women</b>	<b>2010</b>	<b>3,753</b>	<b>69.8</b>	<b>12,223</b>	<b>3,257</b>
	2007	3,287	68.0	9,911	3,015
<b>Dependants</b>	<b>2010</b>	<b>1,406</b>	<b>74.1</b>	<b>3,563</b>	<b>2,534</b>
	2007	1,433	75.2	3,353	2,340
<b>Total</b>	<b>2010</b>	<b>8,587</b>	<b>70.6</b>	<b>40,369</b>	<b>4,701</b>
	2007	8,020	69.2	34,870	4,348

*Note: The pensions have been increased to the Valuation Date and include increases granted in April 2010 or April 2007 as appropriate.*

*The 2010 figures include 50 children (2007: 52) who are in receipt of pensions. Suitable allowance has been made for these in our calculations.*

*In addition to the numbers above there was one (2007: nil) former Councillor receiving a pension from the Fund. Allowance has been made for this in our calculations.*

## Appendix E — Membership Data by Employer

Employer name	Number of active members	Total pensionable pay of active members (£000s)	Number of deferred pensioners	Number of pensioner and dependant members
<b>Scheduled and Resolution Bodies</b>				
City and County of Cardiff	8,879	159,052	4,633	2,458
Vale of Glamorgan Council	2,872	49,543	1,521	941
Cowbridge Town Council	4	63	-	3
Llantwit Major Town Council	2	-	4	2
Penarth Town Council	12	219	5	6
Barry Town Council	20	415	6	9
Dinas Powys Community Council	2	-	-	1
Radyr and Morganstown Community Council	1	-	-	-
University of Wales Institute, Cardiff	629	15,432	350	189
Coleg Glan Hafren	159	2,814	104	51
Barry College	166	2,719	88	60
St Davids 6th Form College	20	401	13	8
Stanwell Comprehensive	60	700	11	11
St Cyres Comprehensive	37	553	14	15
Cardiff Bus Company	80	1,937	59	324
Public Services Ombudsman (Wales)	4	167	8	5
<b>Admission Bodies</b>				
Civic Trust for Wales	1	-	-	1
Cardiff Gypsy and Traveller Project	1	-	2	2
Opportunity Housing Trust	6	206	10	8
Children in Wales	26	576	9	4
Cardiff Institute for the Blind	6	80	9	24
Glamorgan Holiday Home	1	-	4	13
Race Equality First	1	-	7	0
Wales and West Housing Association	1	-	2	9
Housing for Wales	1	-	18	15
Royal National Eisteddfod	12	445	10	5
Sports Wales	157	4,896	125	90
Cardiff University (UWC)	89	2,001	115	221
Welsh Council for Voluntary Action	103	2,719	49	9
Cardiff Business Tec	5	76	2	2
Careers Wales (Cardiff & Vale)	132	2,986	45	23
Workers Educational Association	23	565	5	1
CollegesWales	7	285	3	2
Citizens Advice (Cardiff)	7	131	7	1
Play Wales	11	321	3	1
Design Commission for Wales	5	171	-	-
Cardiff & Co	7	220	1	-
One Voice Wales	1	-	-	-
Dimensions	1	-	1	-
Crime Reduction Initiatives	1	-	3	-

<b>Orphan Bodies</b>				
South Glamorgan County Council	-	-	635	2,085
Cardiff City Council	-	-	442	1,392
Vale Of Glamorgan Borough Council	-	-	120	346
Probation Committee	-	-	6	28
Magistrates Court Committee	-	-	149	125
Cardiff Bay Development Corp	-	-	29	29
Catholic Childrens Society (Wales)	-	-	-	1
Channel View Recreation Centre	-	-	-	1
Land Authority for Wales	-	-	17	27
Glamorgan & Gwent Housing Association	-	-	1	3
STAR Recreation Centre	-	-	-	2
Voluntary Action Cardiff (Intervol)	-	-	2	4
Vale Citizens Advice Bureau	-	-	10	5
Royal Welsh College of Music & Drama	-	-	36	15
CBAT (Arts & Regeneration)	-	-	2	2
Wales Youth Agency	-	-	4	3
Youth Link Wales	-	-	1	0
Mary The Immaculate GMS	-	-	1	4
Higher Education Development Wales	-	-	1	0
S E Wales Community Fund	-	-	-	1
Cardiff Old Library Trust	-	-	3	-
Sully Community Council	-	-	3	-
Pentyrch Community Council	-	-	1	-
<b>Total</b>	<b>13,552</b>	<b>250,106</b>	<b>8,709</b>	<b>8,587</b>

*Note: Pay is that over the year to 31 March 2010. Part time pay is included for part-timers.*

*Annualised pay is included for entrants in the last year.*

*For Employers with three or fewer members, pensionable pay is not shown for confidentiality reasons.*

*The above summary excludes*

- *Councillors or former Councillors entitled to benefits from the Fund.*
- *Former members who have not yet decided whether to take a transfer payment.*

## Appendix F — Assumptions for Funding Target

The assumptions used for assessing the **funding target** are summarised below. Different assumptions are used for the low risk funding measure, as explained in Appendix G.

### Financial Assumptions

<b>Yields on long dated gilts</b>	<b>% p.a.</b>
▪ Fixed interest	4.50
▪ Index linked	0.70
<b>In service discount rate</b>	
▪ Scheduled Bodies	6.90
▪ Admission Bodies	6.25
<b>Left service discount rate</b>	
▪ Scheduled Bodies	6.90
▪ Admission Bodies	4.75
<b>Rate of pay increases (in addition to promotional increases)</b>	4.80
<b>Rate of price inflation</b>	
▪ Retail Prices Index	3.80
▪ Consumer Prices Index	3.30
<b>Pension increases</b>	
▪ On benefits in excess of GMPs	3.30
▪ On post-5 April 1988 GMPs	2.70
<b>Deferred pension increases</b>	
▪ Rate of deferred pension increases	3.30
▪ Rate of GMP increases in deferment	4.80

### Demographic Assumptions

<b>Post-retirement mortality</b>	<u>Normal health base rates</u>
	<i>Year of Birth base rates</i>
	Standard SAPS Normal Health tables (Light)
	<i>Scaling factors</i>
	Rates adjusted by scaling factors derived having regard to the Fund's experience:
	Men 100%
	Women 80%

### Ill-health base rates

#### *Year of Birth base rates*

Standard SAPS Ill-Health tables

#### *Scaling factors*

Rates adjusted by scaling factors derived having regard to the Fund's experience:

Men	90%
Women	90%

### Improvements to base rates

An allowance for improvements in line with the CMI 2009 improvements (for men or women as appropriate), with a long term rate of improvement of 1.25% p.a.

#### What does this mean?

A 65 year old male pensioner in normal health is now assumed on average to live to 88.7 (rather than 85.2 at the previous valuation). A 65 year old female pensioner in normal health is assumed on average to live to 91.5 (rather than 89.0).

#### **Pre-retirement mortality**

Base rates of standard SAPS Normal Health (Light) year of birth tables adjusted by a scaling factor of 75% (derived having regard to the Fund's experience).

Allowance has been made for improvements to the base rates in line with the CMI 2009 improvements (for men or women as appropriate), with a long term rate of improvement of 1.25% p.a.

#### **Early retirements**

All members are assumed to retire at the earliest age at which they can retire as of right, with no reduction to benefits accrued prior to 1 April 2008.

Members joining on or after 1 October 2006 are assumed to retire at age 65.

#### **Withdrawals**

Allowance made for withdrawals from service (see sample rates below).

On withdrawal, members are assumed to leave a deferred pension in the Fund, and are not assumed to exercise their option to take a **transfer value**.

#### **Retirement due to ill-health**

Allowance made for retirements due to ill-health (see sample rates below). Proportions assumed to fall into the different benefit tiers applicable after 1 April 2008 are:

Tier 1	80%
Tier 2	10%
Tier 3	10%

<b>Family details</b>	<p>A man is assumed to be three years older than his wife / co-habitee.</p> <p>90% of non-pensioners are assumed to be married or cohabiting (with a person eligible for death benefits) at retirement or earlier death.</p> <p>90% of pensioners are assumed to be / have been married or cohabiting (with a person eligible for death benefits) at the date of the valuation or age 65 if earlier.</p>
<b>Commutation</b>	<p>Each member assumed to exchange 50% of the maximum amount permitted of their past service pension rights on retirement for additional lump sum.</p> <p>Each member assumed to exchange 75% of the maximum amount permitted of their future service pension rights on retirement for additional lump sum.</p>
<b>Promotional salary increases</b>	Allowance made for age-related promotional increases (see sample rates below).
<b>Expenses</b>	0.3% of Pensionable Pay added to the value of future benefit accrual.
<b>Sample rates</b>	The table below illustrates the allowances made for withdrawals from service and ill-health retirement at various ages. Also shown is the allowance included for promotional pay increases, which is shown as the percentage increase over the next year.

Current age	Percentage leaving the Fund in the next year as a result of ill-health		Percentage leaving the Fund in the next year as a result of withdrawal from service	Percentage promotional pay increase over year
	Men	Women	Men and Women	Men and women
20	0.007	0.000	15.0	4.6
25	0.060	0.047	12.5	3.6
30	0.112	0.094	9.9	1.2
35	0.201	0.152	7.6	1.4
40	0.291	0.210	5.3	0.0
45	0.458	0.386	3.5	0.0
50	0.624	0.563	1.8	0.0
55	1.288	1.257	0.0	0.0
60	1.951	1.950	0.0	0.0

## Appendix G — Assumptions for Low Risk Funding Measure

### Derivation of assumptions

We have set the **discount rate** for the low risk measure equal to the yield on fixed-interest gilts of appropriate term at the Valuation Date.

All other assumptions are as used for the **funding target** as set out in Appendix F.

### Summary of assumptions

Here is a summary of the main assumptions underlying our low risk funding measure, where these are different to the **funding target** basis:

Assumption	What is used for low risk measure % p.a.
<b>In service discount rate</b>	
▪ Scheduled Bodies	4.5
▪ Admission Bodies	4.5
<b>Left service discount rate</b>	
▪ Scheduled Bodies	4.5
▪ Admission Bodies	4.5

## Appendix H — Details of Employers' Funding Strategies

### Recovery periods

We show below the **recovery periods** used for Employers in the Fund.

Employer	Recovery period
<b>Scheduled and Resolution Bodies</b>	
City and County of Cardiff	25
Vale of Glamorgan Council	25
Cowbridge Town Council	22
Llantwit Major Town Council	22
Penarth Town Council	22
Barry Town Council	22
Dinas Powys Community Council	22
Radyr and Morganstown Community Council	22
University of Wales Institute, Cardiff	22
Coleg Glan Hafren	22
Barry College	22
St Davids 6th Form College	22
Stanwell Comprehensive	22
St Cyres Comprehensive	22
Cardiff Bus Company	13
Public Services Ombudsman (Wales)	7
<b>Admission Bodies</b>	
Civic Trust for Wales	25
Cardiff Gypsy and Traveller Project	25
Opportunity Housing Trust	25
Children in Wales	25
Cardiff Institute for the Blind	25
Race Equality First	25
Wales and West Housing Association	25
Housing for Wales	13
Royal National Eisteddfod	25
Sports Wales (previously known as Sports Council for Wales)	25
Cardiff University (UWC)	18
Welsh Council for Voluntary Action	25
Cardiff Business Tec	25
Careers Wales (Cardiff & Vale)	25
Workers' Educational Association	25
Colleges Wales (previously known as Fforwm)	25
Citizens Advice (Cardiff)	25
Play Wales	25
Design Commission for Wales	25
Cardiff & Co	25
One Voice Wales	25
Dimensions	1



## Stepping

Where Stepping Periods are used to phase in contribution increases for Employers in the Fund, the relevant Stepping Period is shown below.

Employer	Stepping period (from 1 April 2011)
City and County of Cardiff	3
Vale of Glamorgan Council	3
Cowbridge Town Council	6
Llantwit Major Town Council	6
Penarth Town Council	6
Barry Town Council	6
Public Services Ombudsman (Wales)	2
Civic Trust for Wales	6
Cardiff Gypsy and Traveller Project	6
Opportunity Housing Trust	6
Children in Wales	6
Royal National Eisteddfod	6
Sports Wales (previously known as Sports Council for Wales)	6
Welsh Council for Voluntary Action	4
Careers Wales (Cardiff & Vale)	6
Workers' Educational Association	6
Play Wales	6
Design Commission for Wales	6
One Voice Wales	6

## Subsumption

The following Admission Bodies will be subsumed by City and County of Cardiff at cessation (see section 5 and the Glossary for more details).

Admission Body
Cardiff Bus
Cardiff & Co

## Public Services Ombudsman (Wales)

This Employer participates in the Fund in respect of a declining number of employees who transferred from a predecessor body. Its participation in the Fund is therefore anticipated to cease within a finite period. The Authority has therefore agreed with the Employer the use of the **discount rate** adopted for Admission Bodies, so as to reduce the likelihood (and potential amount) of any additional contributions that might be required when its participation in the Fund ceases.

## Appendix I — Consolidated Revenue Account

		<b>Total £000</b>
<b>Fund at 31 March 2007</b>		<b>899,548</b>
<b>Income</b>		
Contributions	Employer normal	151,841
	Employer additional	2,158
	Employee special	7,244
	Employee	45,214
Transfers-in		16,793
Investment income		42,126
<b>Total income</b>		<b>265,376</b>
<b>Outgo</b>		
Pensions paid		111,566
Lump sums		32,766
Transfers-out		27,019
Refunds of contributions on leaving		157
Expenses of investment		8,485
Expenses of administration		2,829
<b>Total outgo</b>		<b>182,822</b>
<b>Change in market value</b>		<b>44,861</b>
<b>Fund at 31 March 2010</b>		<b>1,026,963</b>

### Note

This excludes members' **AVCs**, and adjustments in respect of anticipated bulk transfer payments and **strain** payments which are due to be paid after the Valuation Date in respect of retirements that occurred before that date (see Appendix B).

## Appendix J — Membership Experience

The table below compares the actual numbers of movements from the Fund over the period 2007 to 2010 with the numbers expected on the basis of the assumptions adopted for the current valuation.

	Males	Females
<b>Death in service:</b>		
Actual	20	17
Expected	23	33
<b>Withdrawals excluding refunds:</b>		
Actual	903	2,127
Expected	632	1,271
<b>Normal and voluntary retirements:</b>		
Actual	197	316
Expected	160	274
<b>Ill-health retirements:</b>		
Actual	58	62
Expected	97	140
<b>Severance and redundancy retirements:</b>		
Actual	75	121
Expected	-	-

## Appendix K — Current Contribution Rates

We show below the contributions payable by each Employer in the year ending 31 March 2011.

Employer	% Pensionable Pay
<b>Scheduled and Resolution Bodies</b>	
City and County of Cardiff	21.0
Vale of Glamorgan Council	21.5
Cowbridge Town Council	23.8
Llantwit Major Town Council	23.8
Penarth Town Council	23.8
Barry Town Council	23.8
Dinas Powys Community Council	19.1
Radyr and Morganstown Community Council	19.1
University of Wales Institute, Cardiff	17.9
Coleg Glan Hafren	17.9
Barry College	17.9
St Davids 6th Form College	18.7
Stanwell Comprehensive	18.7
St Cyres Comprehensive	18.7
Cardiff Bus Company	12.0 <sup>(1)</sup>
Public Services Ombudsman (Wales)	21.0
<b>Admission Bodies</b>	
Civic Trust for Wales	21.1
Cardiff Gypsy and Traveller Project	21.1
Opportunity Housing Trust	21.1
Children in Wales	21.1
Cardiff Institute for the Blind	29.4
Glamorgan Holiday Homes	29.4
Race Equality First	29.4
Wales and West Housing Association	29.4
Housing for Wales	22.1 <sup>(2)</sup>
Royal National Eisteddfod	25.5
Sports Wales (previously known as Sports Council for Wales)	21.9
Cardiff University (UWC)	34.2
Welsh Council for Voluntary Action	18.5
Cardiff Business Tec	24.6
Careers Wales (Cardiff & Vale)	14.3
Workers' Educational Association	18.6
Colleges Wales (previously Fforwm)	16.8
Citizens Advice (Cardiff)	18.5
Play Wales	16.8
Design Commission for Wales	17.7
Cardiff & Co	16.0
One Voice Wales	14.3
Dimensions	20.1

(1) In addition to this rate, Cardiff Bus Company paid £681,200 p.a.

(2) In addition to this rate, Housing for Wales paid £271,600 p.a.

## Appendix L — Rates and Adjustments Certificate

In accordance with Regulation 36 of the Local Government Pension Scheme (Administration) Regulations 2008 (the 'Administration Regulations'), we certify that contributions should be paid by Employers at the following rates for the period 1 April 2011 to 31 March 2014.

- A common rate of 14.9% of Pensionable Pay.
- Individual adjustments which, when added to or subtracted from the common rate, produce the following Employer contribution rates

Employer	Year commencing 1 April		
	2011 % Pensionable Pay	2012 % Pensionable Pay	2013 % Pensionable Pay
<b>Scheduled Bodies</b>			
City and County of Cardiff	22.0	22.9	23.9
Vale of Glamorgan Council	21.5	21.5	21.5
Cowbridge Town Council	26.6	27.7	28.9
Llantwit Major Town Council	26.6	27.7	28.9
Penarth Town Council	26.6	27.7	28.9
Barry Town Council	26.6	27.7	28.9
<b>Admission Bodies</b>			
Civic Trust for Wales	24.0	24.0	24.0
Cardiff Gypsy and Traveller Project	24.0	24.0	24.0
Opportunity Housing Trust	24.0	24.0	24.0
Children in Wales	22.2	22.2	22.2
Careers Wales (Cardiff & Vale)	18.1	18.1	18.1
Workers' Educational Association	22.6	22.6	22.6
Play Wales	23.5	23.5	23.5
Design Commission for Wales	22.2	22.2	22.2
Cardiff & Co	16.0	16.0	16.0
One Voice Wales	20.0	20.0	20.0

Employer	Contribution rate 1 April 2011 to 31 March 2014	Additional Monetary Amount Year commencing 1 April		
	% Pensionable Pay	2011 (£)	2012 (£)	2013 (£)
Scheduled and Resolution Bodies				
Dinas Powys Community Council	18.2	1,300	1,400	1,400
Radyr and Morganstown Community Council	18.2	600	600	700
Coleg Glan Hafren	13.0	158,100	165,800	173,700
Barry College	13.0	152,800	160,200	167,800
University of Wales Institute, Cardiff	13.0	867,100	909,000	952,500
St Davids 6th Form College	15.8	15,800	16,500	17,300
Stanwell Comprehensive	15.8	27,600	28,900	30,300
St Cyres Comprehensive	15.8	21,800	22,900	24,000
Cardiff Bus Company	22.3	521,000	521,000	521,000
Public Services Ombudsman (Wales)	30.3	0	231,300	242,400

Employer	Contribution rate 1 April 2011 to 31 March 2014	Additional Monetary Amount Year commencing 1 April		
	% Pensionable Pay	2011 (£)	2012 (£)	2013 (£)
Admission Bodies				
Cardiff Institute for the Blind	22.7	57,200	59,800	62,800
Race Equality First	22.7	18,900	19,700	20,700
Wales and West Housing Association	22.7	75,900	79,500	83,500
Housing for Wales	22.5	290,400	304,300	318,900
Royal National Eisteddfod	25.3	30,000	40,000	50,000
Sports Wales	21.5	75,000	75,000	75,000
Cardiff University (UWC)	25.7	1,266,000	1,327,000	1,391,000
Welsh Council for Voluntary Action	22.6	125,000	125,000	125,000
Cardiff Business Tec	29.2	7,500	7,800	8,200
CollegesWales	25.9	16,200	17,000	17,800
Citizens Advice (Cardiff)	26.0	6,900	7,300	7,600
Dimensions	24.4	87,900	-	-

In addition

- Any extra liabilities falling on the Fund in respect of retirements under Regulations 18, 19 or 30 of the Local Government Pension Scheme (Benefits, Membership and Contributions) Regulations 2008 (the 'Benefits Regulations') should be financed by additional Employer contributions, calculated in a manner advised by the Actuary, and payable over a period of up to five years.
- Any additional benefits granted under Benefits Regulations 12 or 13 should be financed by additional Employer contributions, under Administration Regulation 40, or as calculated in a manner advised by the Actuary.

The contributions shown above represent the minimum contributions to be paid by each Employer. Employers may choose to pay additional contributions from time to time subject to the Administering Authority's agreement.

Additional contributions may be payable by any Admission Bodies which have ceased to participate in the Fund since 31 March 2010 and will be certified separately.

Contribution rates for Employers commencing participation in the Fund after 31 March 2010 will be advised separately.

This certificate should be read in conjunction with the notes overleaf.

For Aon Hewitt Limited  
Prospect House  
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AL1 2QU  
Prospect House

28 March 2011



**Christine Rice FIA**



**Scott Campbell FIA**

## Notes to Actuary's Certificate

The contribution rates certified overleaf have been assessed using the actuarial methods and assumptions detailed in our report dated 28 March 2011.

These assumptions imply the following levels of new retirement liabilities from active membership status:

Type of Retirement	Anticipated retirements over 4 year period from 1 April 2010 to 31 March 2014	
	Number	New Pension £'000
<b>Normal and voluntary under Regulations 16 or 30 of the Benefits Regulations</b>	1,456	12,202
<b>Comments on Funding</b>	<p>Such retirements are generally 'cost neutral'. Additional funding would not normally be required if actual retirements exceed the number anticipated, unless retirements occur before age 60 and no reduction for early payment applies.</p> <p>The Authority requires separate funding of liabilities arising from such retirements and, as such, the financial impact of these retirements is neutral</p>	
<b>Ill-health under Regulation 20 of the Benefits Regulations</b>	324	2,228
<b>Comments on Funding</b>	<p>Such retirements increase costs due to the early payment of enhanced benefits. If actual retirements exceed the number anticipated, and no action is taken before the next valuation, this would be identified as a source of loss at the next valuation.</p> <p>In accordance with Regulation 38(5)(b) of the Administration Regulations the Authority should monitor the number of ill-health retirements arising over each Fund year and refer the position to the Actuary if numbers exceed the levels implied above.</p>	
<b>Severance and redundancy under Regulation 19 of the Benefits Regulations</b>	Nil	Nil
<b>Comments on Funding</b>	<p>Such retirements increase costs due to the early payment of benefits. Any enhancement of benefits through the Fund would increase costs further. If actual retirements exceed the number anticipated, and no action is taken before the next valuation, this would be identified as a source of loss at the next valuation.</p> <p>The Authority requires separate funding of liabilities arising from such retirements and, as such, the financial impact of these retirements is neutral.</p>	
<b>Flexible retirement under Regulation 18 of the Benefits Regulations</b>	Nil	Nil
<b>Comments on Funding</b>	<p>Such retirements may increase costs due to the early payment of benefits. If actual retirements exceed the number anticipated, and no action is taken before the next valuation, this would be identified as a source of loss at the next valuation.</p> <p>The Authority requires separate funding of liabilities arising from such retirements and, as such, the financial impact of these retirements is neutral.</p>	

## Glossary

<b>Additional Voluntary Contributions (AVCs)</b>	Voluntary contributions paid by members under Administration Regulation 25 to secure defined contribution (DC) benefits. <b>AVCs</b> and any associated Shared Cost <b>AVCs</b> paid by the employer are excluded from the valuation.
<b>Attained Age Method</b>	<p>One of the common methods used by actuaries to calculate a contribution rate to the scheme.</p> <p>This method calculates the present value of the benefits expected to accrue to members over their expected remaining membership of the scheme expressed as a percentage of their expected future pensionable pay. It allows for projected future increases to pay through to retirement or date of leaving service. The method is based on the current membership and takes no account of the possibility of further members joining the scheme. If there are no new members, this method would be expected to result in a stable contribution rate, once surpluses or <b>shortfalls</b> are taken into account, and if all the other assumptions are borne out. However, if more members join the scheme to replace older leavers, the contribution rate can be expected to fall.</p>
<b>Best estimate</b>	This is an estimate of a figure such that the eventual outcome is considered to be equally likely to be higher or lower than the <b>best estimate</b> .
<b>Discount rate</b>	This is used to place a <b>present value</b> on a future payment. A 'low risk' <b>discount rate</b> is usually derived from the investment return achievable by investing in government gilt-edged stock. A <b>discount rate</b> higher than the 'low risk' rate is often used to allow for some of the extra investment return that is expected by investing in assets other than gilts.
<b>Funding objective</b>	To hold sufficient and appropriate assets to meet the <b>funding target</b> .
<b>Funding principle</b>	To hold sufficient and appropriate assets to meet the benefits as they fall due.
<b>Funding ratio</b>	This is the ratio of the value of assets to the <b>funding target</b> .
<b>Funding Strategy Statement</b>	<p>A document produced by the Authority in accordance with Regulation 76A of the Local Government Pension Scheme Regulations 1997, which sets out the funding strategy adopted for the Fund. The statement is produced and maintained in consultation with the Employers and the Actuary.</p> <p>The Actuary must have regard to this statement in preparing the valuation under Administration Regulation 36.</p>



<b>Funding target</b>	An assessment of the <b>present value</b> of the benefits that will be paid from the scheme in the future, normally based on pensionable service prior to the Valuation Date, and agreed by the Actuary and the Authority to be appropriate to meet the promised benefits.
<b>Future service contribution rate</b>	The contribution rate (expressed as a percentage of pensionable pay) required to meet the cost of benefits which will accrue to members in future.
<b>GMPs</b>	Most schemes that were contracted out of the State Earnings Related Pension Scheme (SERPS) before April 1997 have to provide a pension for service before that date at least equal to the Guaranteed Minimum Pension ( <b>GMP</b> ). This is approximately equal to the SERPS pension that the member would have earned had the scheme not been contracted out. <b>GMPs</b> ceased to build up on 6 April 1997 when the legislation changed.
<b>Planning exercise</b>	A planning exercise involves the estimate of an amount for budgeting or target-setting purposes.
<b>Present value</b>	Actuarial valuations involve projections of pay, pensions and other benefits into the future. To express the value of the projected benefits in terms of a cash amount at the Valuation Date, the projected amounts are discounted back to the Valuation Date by a <b>discount rate</b> . This value is known as the <b>present value</b> . For example, if the <b>discount rate</b> was 6% a year and if we had to pay a lump sum of £1,060 in one year's time the <b>present value</b> would be £1,000.
<b>Projected Unit Method (PUM)</b>	<p>One of the common methods used by actuaries to calculate a contribution rate to the scheme.</p> <p>This method calculates the <b>present value</b> of the benefits expected to accrue to members over a control period (often one year) following the Valuation Date. The <b>present value</b> is usually expressed as a percentage of the members' pensionable pay. It allows for projected future increases to pay through to retirement or date of leaving service. Provided that the distribution of members remains stable with new members joining to take the place of older leavers, the contribution rate calculated can be expected to remain stable, if all the other assumptions are borne out. If there are no new members however, the average age will increase and the contribution rate can be expected to rise.</p>
<b>Prudent</b>	Prudent assumptions are assumptions that, if the Fund continues on an ongoing basis, are more likely to overstate than understate the amount of money actually required to meet the cost of the benefits.
<b>Rates and Adjustments Certificate</b>	A certificate setting out what contributions are payable by each Employer over the three years from 1 April 2011.

<b>Recovery period</b>	The period over which any <b>shortfall</b> is to be eliminated.
<b>Recovery plan</b>	Where a valuation shows a funding <b>shortfall</b> against the <b>funding target</b> , the <b>recovery plan</b> sets out how the <b>funding objective</b> will be met.
<b>Shortfall</b>	This is the <b>funding target</b> less the value of assets. If the value of assets is greater than the <b>funding target</b> , then the difference is called the <b>surplus</b> .
<b>Strain</b>	This represents the increase in the <b>present value</b> of a member's benefits as a result of additional benefits granted in certain circumstances. This includes the provision of enhanced benefits on retirement (for example as a result of waiving an actuarial reduction for early payment) or any discretionary benefits granted.
<b>Subsumption</b>	<p>When an Employer ceases participation in the Fund, such that it will no longer have any contributing members, it is possible that another Employer in the Fund will agree to provide a source of future funding in respect of any emerging deficiencies in respect of the liabilities of the ceding Employer. In this document this is referred to as '<b>subsumption</b>'.</p> <p>In such circumstances the ceding Employer's liabilities are known as 'subsumed liabilities' (in that responsibility for them is subsumed by the accepting Employer).</p>
<b>Surplus</b>	The <b>surplus</b> is the value of assets less the <b>funding target</b> . If the <b>funding target</b> is greater than the value of assets, then the difference is called the <b>shortfall</b> .
<b>Transfer value</b>	Members generally have a legal right to transfer their benefits to another pension arrangement before they retire. In taking a transfer, members give up their benefits in the scheme, and a sum of money (called the <b>transfer value</b> ) is paid into another approved pension scheme; this is used to provide pension benefits on the terms offered in that scheme.