

# London Borough of Barnet Pension Fund

**Actuarial valuation as at 31 March 2007  
31 March 2008**

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For and on behalf of Hymans Robertson LLP

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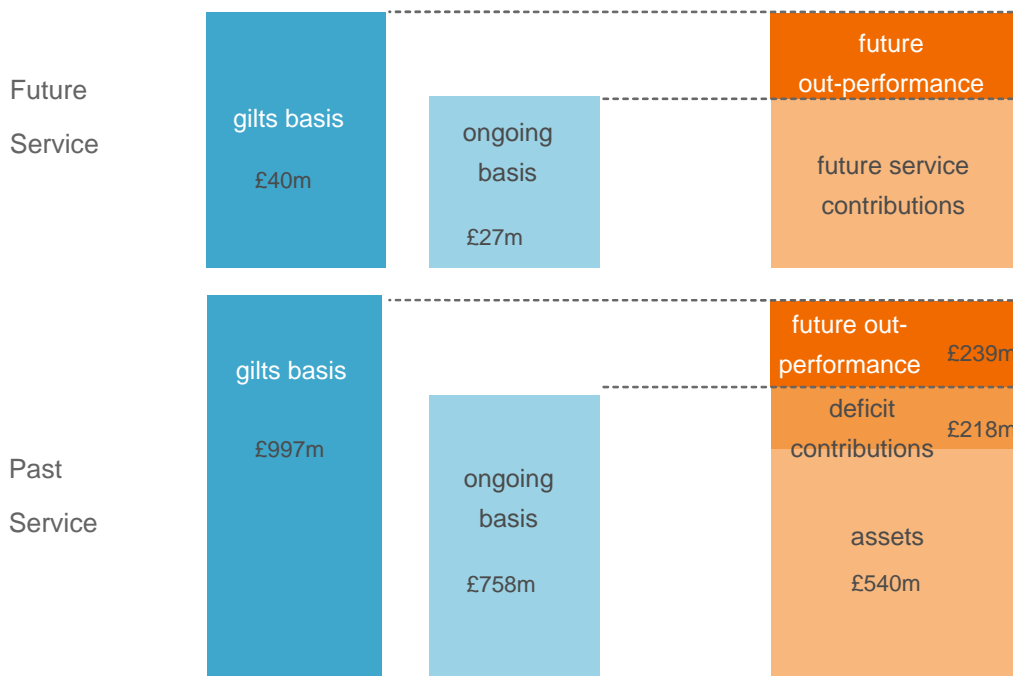
## Executive summary

We have carried out an actuarial valuation of the London Borough Of Barnet Pension Fund ('the Fund') as at 31 March 2007 ('the valuation date'). The results are presented in this report and summarised below.

The Fund's objective of holding sufficient assets to meet the estimated current cost of providing members' past service benefits) was not met at the valuation date. The funding level was 71% (compared to 66% at 31 March 2004) and there was a funding shortfall of £218m.

Without anticipating an element of future equity out-performance, the 'gilt-based' funding level would be 54% at the valuation date, and there would be a shortfall of £457m.

The Fund's financial position at the valuation date is illustrated graphically in the chart below.



The employers' average future service contribution rate as at 31 March 2007 (ignoring the past service shortfall) is 14.4% of pensionable pay. Assuming that a funding level of 100% is to be targeted over a period of 20 years, the common employers' contribution rate is 23.4% of pensionable pay. These figures take advance credit from outperformance of the Fund's assets relative to gilt yields on the valuation basis, as set out in the Funding Strategy Statement. Ignoring this credit for outperformance the funding position would be 54%, and the common contribution rate would be 40.4% of pay.

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Adjustments have been made to the common rate of employers' contribution to take account of certain circumstances that are peculiar to individual employers, as required by Regulation 77(6). The minimum contributions to be paid by each employer from 1 April 2008 to 31 March 2011 are shown in the Rates and Adjustment Certificate at Appendix H.


The results of the valuation are very sensitive to the actuarial assumptions made. If actual future demographic and economic experience does not match the assumptions, the financial position of the Fund could deteriorate materially.



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31 March 2008



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## 1 Introduction

We have carried out an actuarial valuation of the London Borough Of Barnet Pension Fund ('the Fund') as at 31 March 2007 ('the valuation date') and this is our report to London Borough Of Barnet ('the Administering Authority') on the results of the valuation.

The main purposes of this valuation are:

- to assess the extent to which the Administering Authority's funding objectives were met at the valuation date;
- to identify the contributions payable by the employers to the Fund in future in order to meet the Administering Authority's funding objectives;
- to enable completion of all relevant certificates and statements in connection with the Local Government Pension Scheme Regulations 1997 ('the Regulations'), and other relevant regulations (see Appendix A); and
- to comment on the circumstances that may give rise to future volatility in the funding level of the Fund or employers' contributions.

This report is provided solely for the purpose of the Administering Authority to consider the management of the Fund and in particular to fulfil their and our statutory obligations. It should not be used for any other purpose. It should not be released or otherwise disclosed to any third party except as required by law or with our prior written consent, in which case it should be released in its entirety. This report can be passed to Fund employers for the purpose of providing information on the funding of the Fund.

Neither we nor Hymans Robertson LLP accept any liability to any other party unless we have expressly accepted such liability in writing.

## 2 About the Fund

The Fund is part of the Local Government Pension Scheme (LGPS) and is a multi-employer defined benefit pension scheme. It is contracted out of the State Second Pension.

### The Funding Strategy Statement

The Administering Authority prepares a Funding Strategy Statement (FSS) in respect of the Fund, in collaboration with us (the Fund's actuarial advisers) and after consultation with the Fund's employers and investment adviser. The FSS has been reviewed as part of the 2007 triennial valuation exercise. We are required to have regard to this statement when carrying out our valuation.

### Funding objectives

The objectives of the Fund's funding policy, as set out in the FSS are as follows:

- to ensure the long-term solvency of the Fund as a whole and that of the share of the Fund allocated to individual employers;
- to ensure that sufficient funds are available to meet all benefits as they fall due for payment;
- not to restrain unnecessarily the investment strategy of the Fund so that the Administering Authority can seek to maximise investment returns (and hence minimise the cost of the benefits) for an appropriate level of risk;
- to help employers recognise and manage pension liabilities as they accrue;
- to minimise the degree of short-term change in the level of employers' contributions where the Administering Authority considers it reasonable to do so;
- to use reasonable measures to reduce the risk to other employers and ultimately to the Council Tax payer from an employer defaulting on its pensions obligations;
- to address the different characteristics of the disparate employers or groups of employers to the extent that this is practical and cost-effective; and
- to permit new employers to join the Fund on terms that do not adversely affect the interests of existing employers.

### What are the Fund's liabilities?

The Fund's liabilities are essentially the benefits promised to Fund members (past and current contributors) and to members' dependants on their death. The valuation places a current or present value on these liabilities on the valuation date.

The cost of members' benefits depends on three main factors:

(i) **The benefits promised to members.**

The Fund provides pensions and other benefits to members and their beneficiaries. The benefits in force on the valuation date are set out in the Local Government Pension Scheme (LGPS) Regulations 1997, as amended ("the Regulations"). Employee members are required to pay contributions to the

Fund, generally at the rate of 6% of pensionable pay<sup>1</sup>. The principal elements of the Fund's benefit structure are summarised in Appendix B. These benefits are common to all employers participating in the Fund.

Subsequent to the valuation date, the benefits and member contributions payable by and to the LGPS respectively, have been amended, with effect from 1 April 2008. As the Rates and Adjustments certificate specifies employer contributions from 1 April 2008 to 31 March 2011, we have allowed for the changes in assessing the cost of future service benefits. The allowance made is based on our understanding of the provisions of the new scheme and is subject to change as any changes are made to the new scheme. A summary of the changes is set out in Appendix B.

There are a small number of discretionary powers that may be exercised by the Administering Authority or by individual employers. The principal discretions are also summarised in Appendix B. With the exception of the employers' powers to pay early unreduced benefits or augment benefits, normally on early retirement, we would not expect the exercise of these powers to have a material effect on the valuation results. In any event, we would expect additional employer payments, in addition to the employer contributions set out in the rates and adjustments certificate, to be made in respect of such early retirements unless agreed otherwise.

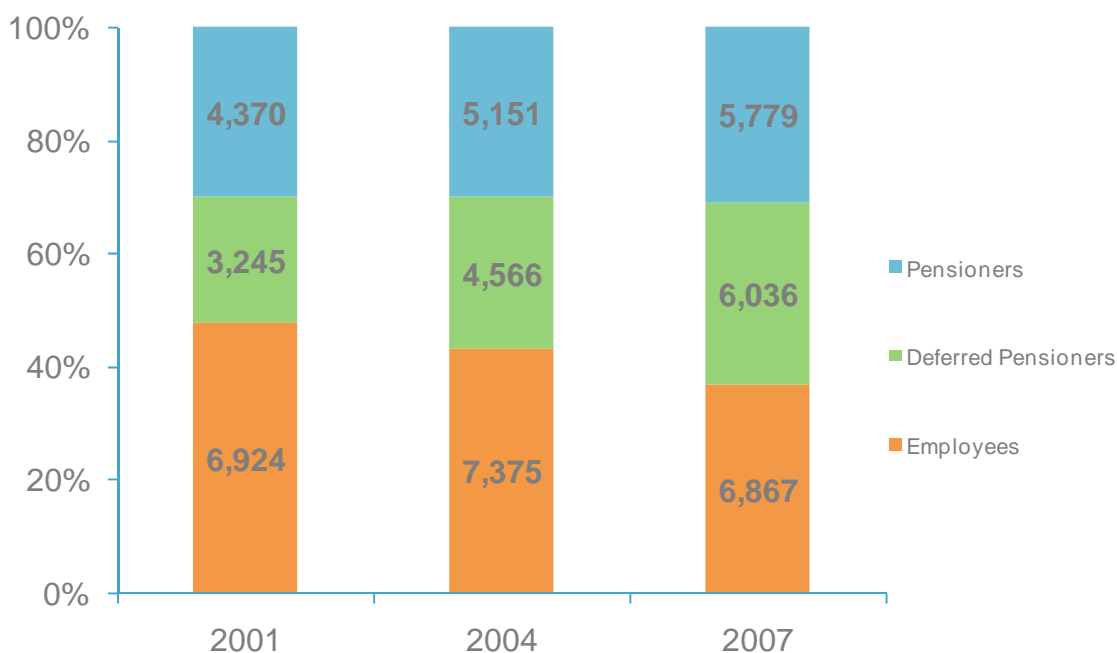
The requirements of sex-equality legislation (for example in respect of differences in the guaranteed minimum pensions for men and women) and age-equality legislation are not clear cut. In this valuation, we have not taken account of any additional costs which may arise from any future requirement to amend the LGPS benefit structure in respect of these issues.

(ii) [The profile of the members.](#)

The membership of the Fund at the current and previous two valuations are summarised in the chart below and described in more detail in Appendix C.

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<sup>1</sup> A closed group of manual workers who joined before April 1998 contribute 5% of pay.



The cost of the benefits is expressed as a percentage of the pensionable pay of employee members. As the proportion of pensioner and deferred members increases, so the contribution rate (as a percentage of pay) becomes more sensitive to the past service position. The profile of the employee members (age, sex and category) also affects how much future benefits will cost.

(iii) **When and for how long will the benefits be paid.**

The timing and amount of benefit payments depends on future experience, such as when members will retire and how long they will live in retirement. In assessing the expected cost of members' benefits, we need to use actuarial assumptions about such experience. We explain the actuarial assumptions later in this report.

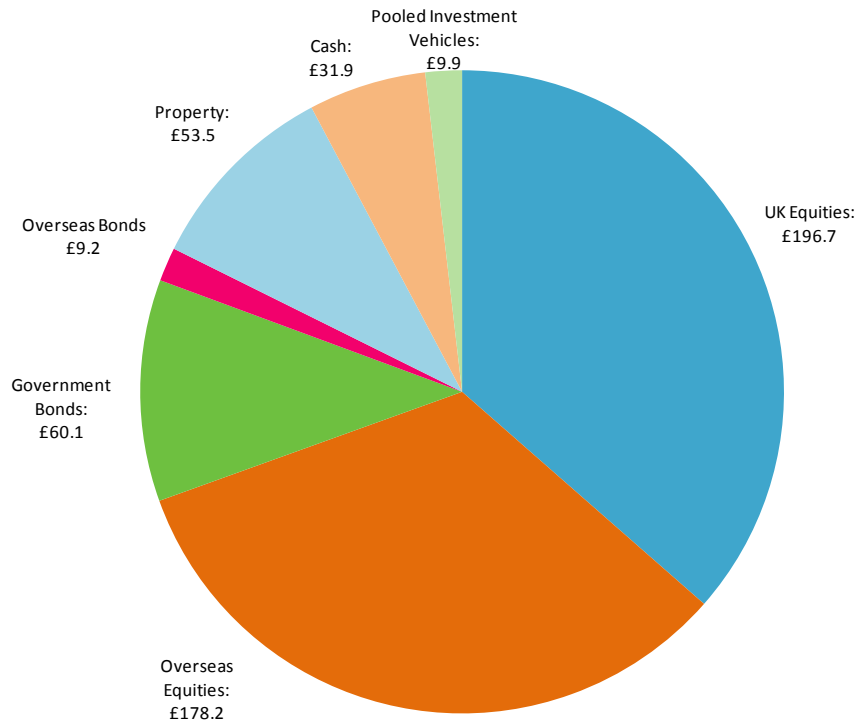
It should be noted that the actual future cost of providing members' benefits is not known in advance. The purpose of the valuation is to assess how much the Fund needs to hold now to pay those benefits, taking account the above factors and its funding objectives.

**What are the Fund's assets?**

The Fund's assets are invested by the Administering Authority. The market value of assets at the valuation date (excluding money purchase AVC funds) was £539.5m as shown in the audited accounts for the Fund for the period ending on 31 March 2007. No part of the Fund is comprised of insurance policies.

The Fund's assets at 31 March 2007 are summarised in the chart below and in more detail in Appendix C. The consolidated Revenue Account for the three year period to 31 March 2007 is also summarised in Appendix C.

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- Notes: (1) Cash includes net current assets (liabilities).
- (2) The assets taken into account for valuation purposes include the present value of future contributions scheduled to be made by employers in respect of early retirements granted before the valuation date.

The membership and accounting data has been provided by the Administering Authority and we have relied on the accuracy of the information provided.

### 3 Funding method and assumptions

We have used a funding method and assumptions for this valuation consistent with the Administering Authority's funding objectives set out in its Funding Strategy Statement. The methodology and assumptions are described below, and in more detail in Appendices D and F.

#### Methodology

For this valuation, as for the previous valuation, we have used a funding method which identifies separately the expected cost of members' benefits in respect of scheme membership completed before the valuation date ('past service') and in respect of scheme membership expected to be completed after the valuation date ('future service').

The method we have chosen compares the value of assets with the value of past service benefits, taking account of all expected future salary increases. The funding level is the value of the assets divided by the value of the past service liabilities. Where the funding level is greater than 100% there is a surplus in the Fund (i.e. where assets are greater than the value of the past service benefits). Where the funding level is less than 100% there is a shortfall (i.e. where the assets are lower than the value of the past service benefits). The funding target is to achieve a funding level of 100% over a specific period. The "past service adjustment" is the additional employer contribution calculated to be required to target 100% over that period if there is a deficit (a contribution reduction will be calculated if there is a surplus). The past service adjustments can be expressed as a monetary amount or as a percentage of the value of the members' pensionable pay over the period.

To determine the employer contribution requirement for future service for the Fund as a whole, and for employers who continue to admit new members, we have assessed the cost of future service benefits for the year following the valuation date, taking account of expected future salary increases. The contribution rate required to meet the expected cost of future service benefits is derived as this value less expected member contributions expressed as a percentage of the value of members' pensionable pay over the year. This is known as the 'Projected Unit method' and is explained in further detail in Appendix D.

To determine the employer contribution requirement for future service for employers who no longer admit new members, we have assessed the cost of future service benefits over the expected remaining period of contributory membership of employee members, again taking account of expected future salary increases. The contribution rate required to meet the expected cost of future service benefits is derived as this value less expected member contributions expressed as a percentage of the value of members' pensionable pay over their expected future working lives. This is known as the 'Attained Age method' and is explained in further detail in Appendix D.

Finally, an allowance for expenses is added to the Employer contribution rate.

#### Actuarial assumptions

In the actuarial valuation, we must use assumptions about the factors affecting the Fund's finances in the future. The assumptions to which the valuation is most sensitive are described here and a full statement of the assumptions is given in Appendix F.

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The main financial assumptions we have adopted for the valuation of members' benefits are shown below.

Assumption	Derivation	Rate at 31 March 2007	
		Nominal	Real
Price Inflation (RPI)	Market expectation of long term future inflation as measured by the difference between yields on fixed and index-linked Government bonds as at the valuation date	3.2%	-
Pay Increases *	Assumed to be 1.5% p.a. in excess of price inflation	4.7%	1.5%
'Gilt-based' discount rate	The yield on fixed-interest (nominal) and index-linked (real) Government bonds	4.5%	1.3%
Funding basis discount rate	Assumed to be 1.6% p.a. above the yield on fixed interest Government bonds	6.1%	2.9%

\* Plus an allowance for promotional pay increases.

### Discount rate

In order to place a current value on the future benefit cashflows expected to be paid from the Fund, we need to 'discount' the future cashflows to the valuation date at a suitable rate. Different valuations can be categorised by the approach taken to setting the discount rate. For example, under the accounting standard FRS17, the discount rate is determined as the yield on AA-rated corporate bonds. By comparison, a 'gilt-based' valuation will use the yield on suitably dated Government bonds. These valuations are intended to place a 'value' on the pension promise.

The funding valuation is effectively a budgeting exercise, to assess the funds needed to meet the benefits as they fall due. For this purpose, we have set the discount rate taking into account the Fund's current and expected future investment strategy and assumed an asset outperformance assumption of 1.6% p.a. One way of measuring the degree of prudence in the funding strategy is to measure the extent to which advance credit is taken for expected future investment returns over and above gilt returns. Funding strategy should not however be considered in isolation and the degree of risk inherent in the Fund's investment strategy should also be considered.

### Longevity

In addition to the financial assumptions, the main assumption to which the valuation results are most sensitive is that relating to future longevity. For this valuation, we have adopted assumptions which give the following average future life expectancies for pensioners aged 65 at the valuation date:

	Assumptions to assess funding position and 'gilt based' position at 31 March 2007		Assumptions to assess funding position at 31 March 2004	
	M	F	M	F
Males (M) or Females (F)				
Average future life expectancy (in years) for a pensioner aged 65 at the valuation date	19.6	22.5	18.4	21.3
Average future life expectancy (in years) at age 65 for a non-pensioner aged 45 at the valuation date	20.7	23.6	18.4	21.3
Average future life expectancy (in years) at age 45 for a non-pensioner aged 45 at the valuation date	40.1	43.0	37.2	40.2

Note: these figures make no allowance for the age ratings shown in Appendix F.

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### Assets

We have taken the assets of the Fund into account at their market value as indicated in the audited accounts for the period ended 31 March 2007.

We have included an allowance for the future expected payments in respect of early retirement strain and augmentation costs granted prior to the valuation date in the value of assets, for consistency with the liabilities and with the previous valuation.

In our opinion, the basis for placing a value on members' benefits is compatible with that for valuing the assets: both are related to market conditions at the valuation date.

## 4 Funding position: Are the objectives met?

As we noted earlier, the Administering Authority has prepared a Funding Strategy Statement which sets out its funding objectives for the Fund. In broad terms, the main 'past service' objective is to hold sufficient assets in the Fund to meet the assessed cost of members' past service benefits and the main 'future service' objective is to maintain a relatively stable employer contribution rate. These objectives are potentially conflicting.

### Past service

In assessing the extent to which the funding objective was met at the valuation date, we have used the funding method and actuarial assumptions described in the previous section of this report. Our results are presented in the form of a 'funding level' which is the ratio of the value of assets to the assessed cost of members' past service benefits (based on service to the valuation date). A funding level of 100% would correspond to the objective being exactly met. The table below compares the value of the assets and liabilities at the valuation date.

Valuation date	2007
Past Service Liabilities	£m
Employees	304.2
Deferred Pensioners	122.2
Pensioners	331.3
Total Liabilities	757.7
Assets	539.5
Surplus/(Deficit)	(218.2)
Funding Level	71%

At the valuation date the funding level was 71%.

The main funding objective was not met: there was a shortfall of assets to the assessed cost of members' benefits of £218m. More details of the funding position are given in Appendix G.

### Future service

We have calculated the long-term contribution rate that the Fund employers would need to pay to meet the assessed cost of members' benefits as they are built up in the future (the 'future service contribution rate'). Again, we have used the method and assumptions set out in the previous section of this report and therefore the resulting contribution rate is that which should (if the actuarial assumptions match actual experience) ensure that the Administering Authority's main funding objective is met for benefits earned after the valuation date. It ignores the shortfall in the Fund at the valuation date.

The combined employers' future service contribution rate (after deducting employee members' contributions) is 14.4% of pensionable pay, payable with effect from 1 April 2008. This contribution rate includes expenses and the expected cost of lump sum death benefits, but excludes early retirement strain and augmentation costs which are payable by Fund employers in addition to the contribution rate.

The total employer contribution rate requirement is given in section 6, with further detail, including a comparison with 2004 rates, shown in Appendix G.

## 5 Changes since the previous valuation

The previous formal actuarial valuation of the Fund was carried out with an effective date of 31 March 2004. Since then, there have been changes to the Fund and its membership, to the economic environment in which the Fund operates and to the valuation process. Many of these changes have affected the valuation results. The relevant changes, and their effects on the actuarial valuation, are described in Appendix E and summarised below.

### Changes to the Fund's benefit structure

Since the previous valuation, a number of changes have been made to the LGPS benefit structure. Full details of the scheme benefits are set out in Appendix B and the changes and their effect on the valuation are detailed in Appendix E.

The overall effect of these changes is to reduce the cost of the benefits.

### Changes to the assumptions

The financial assumptions have changed since the previous valuation. The financial assumptions used in this and the previous valuation are shown in Appendix F. Further detail on the changes is included in Appendix E

### Changes to the economic environment

Since the previous valuation, equity markets have risen and bond markets have risen (so yields have fallen). Market expectations of inflation have risen. Overall, changes in economic factors have been favourable in terms of their effect on the funding level. Lower real gilt yields have however increased the assessed cost of future service benefits.

### Changes to the Fund membership

The Fund membership has changed since the previous valuation, as new employee members have joined the Fund and members have left the Fund, retired and died. Whilst membership changes were anticipated at the previous valuation, the actual changes have inevitably not exactly matched the assumptions made at the previous valuation.

Further details of the Fund membership and its changes since the previous valuation are given in Appendix C.

### Changes to the Fund's assets

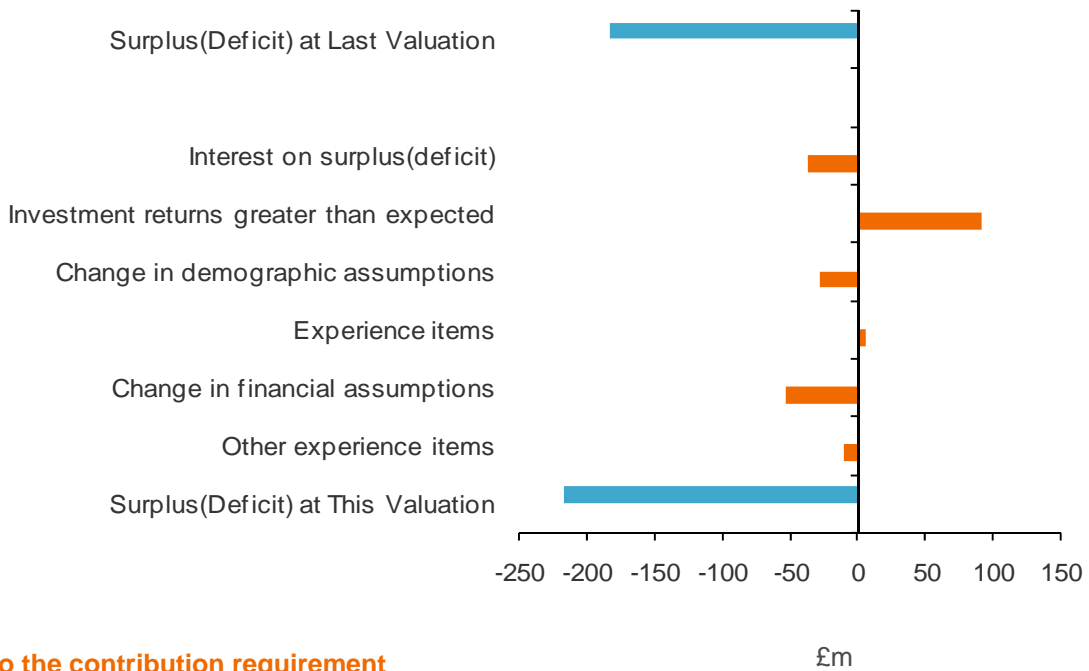
The Fund's assets have been augmented by employer and employee contributions paid in, transfer values received, and interest and investment gains. Conversely, the assets have been depleted by benefit payments to members and their beneficiaries, transfer values and refunds paid and payment of administration and other expenses. Overall, there has been a net increase in the market value of the Fund's assets, only some of which was anticipated in the previous valuation.

In the report on the previous actuarial valuation it was recommended that contributions be paid in line with the rates shown in the Rates and Adjustment certificate appended to that report over the period from 1 April 2005 to 31 March 2008. The Fund employers have paid contributions over the period from 1 April 2005 at least in line with those recommended rates.

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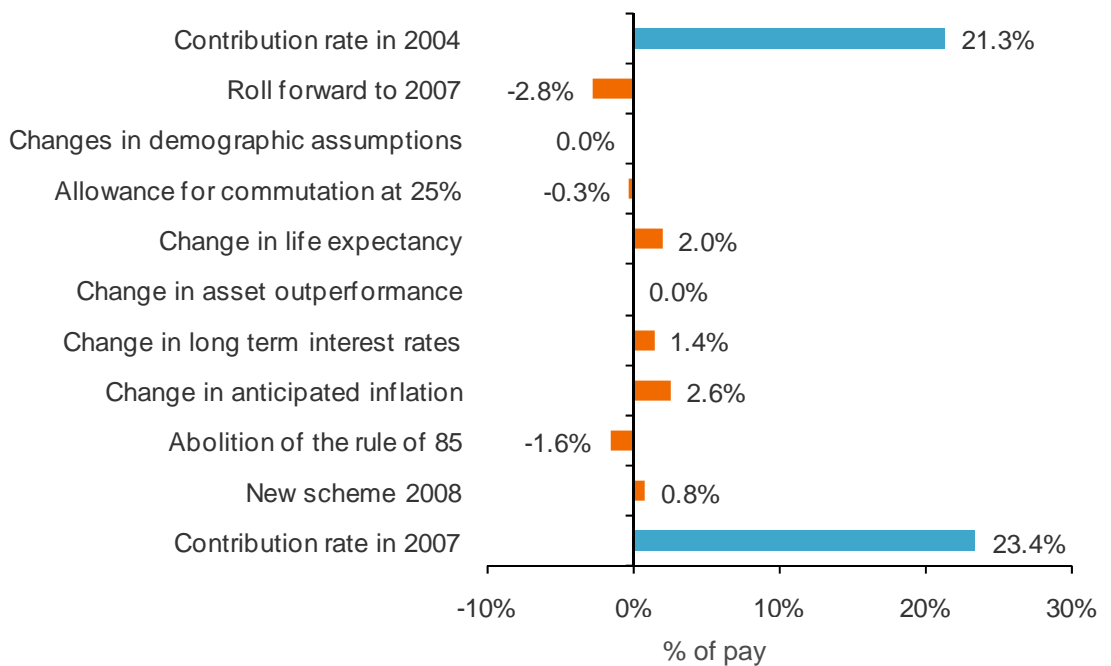
**Changes to the funding position**

The changes described above have combined to improve the Fund’s funding position since the previous valuation. The chart below illustrates the effect of the various factors on the funding position.



**Changes to the contribution requirement**

The chart below illustrates the effect of the above factors on the employers’ contribution rate.



Further detail on the funding level and contribution requirements is shown in section 6.

## 6 Employer contributions payable

### Whole Fund position

The employers' average cost of future service benefits (i.e. ignoring the past service shortfall) is 14.4% of pensionable pay (as defined in Appendix B). This is the future contribution rate payable over the long term by the Fund employers to meet the Administering Authority's funding objectives, based on the assumptions set out in this report.

The common contribution rate payable is the cost of future benefit accrual, increased by an amount to bring the funding level back to 100% over a period of 20 years as set out in the Funding Strategy Statement.

We have calculated the additional contribution rate in respect of the past service shortfall to be 9.1% of pensionable pay. This represents the cost of the past service shortfall spread over a period of 20 years.

The employer common contribution rate based on the funding position as at 31 March 2007 is as follows:

Employer contribution rates	31 March 2007
	% pensionable payroll
Total future service cost	20.4%
Employee contributions (excluding AVCs)	6.7%
Expenses	0.7%
Net employer future service cost	14.4%
Past service adjustment - 20 year spread	9.1%
Employer contribution rate	23.4%

In order to achieve some stability of contributions, the required contribution increases for some employers may be phased in over a period as specified in the Fund's Funding Strategy Statement.

### Employer contribution rates

I have made adjustments to the common rate of employers' contribution to take account of certain circumstances that are peculiar to individual employers, or groups of employers.

To formally confirm these contribution rates, a Rates and Adjustment Certificate is included as Appendix H, detailing the minimum contributions to be paid by each Fund employer from 1 April 2008 to 31 March 2011 after allowing for any individual adjustments.

Employers may make voluntary additional contributions to recover any shortfall over a shorter period.

Further sums should be paid to the Fund by employers to meet the capital costs of any unreduced early retirements, reduced early retirements before age 60 and/or augmentation (i.e. additional membership or additional pension) using the methods and factors issued by us from time to time or as otherwise agreed.

In addition, payments may be required to be made to the Fund by employers to meet the capital costs of any ill-health retirements that exceed those allowed for within our assumptions.

The contributions shown in the Rates and Adjustment Certificate include expenses and the expected cost of lump sum death benefits, but excludes early retirement strain and augmentation costs which are payable by Fund employers in addition.

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## Recommendations

### Valuation frequency

Under the provisions of the Regulations, the next formal valuation of the Fund is due to be carried out as at 31 March 2010. In light of the uncertainty of future financial conditions we recommend that the financial position of the Fund (and for individual employers in some cases) is monitored by means of interim funding reviews in the period up to the next triennial valuation. This will give early warning of changes to funding positions and possible contribution rate changes.

### Investment strategy and risk management

I recommend that the Administering Authority reviews its investment strategy and ongoing risk management programme.

### New employers joining the Fund

Any new employers or admission bodies joining the Fund should be referred to us as actuaries to the Fund for individual calculation as to the required level of contribution. They should also agree to pay the capital costs (as a one-off lump sum payment) of any early retirements or augmentation based on our advice and using methods and factors issued by the actuary from time to time, together with any additional contributions that may be required if their ill-health early retirement experience is worse than assumed.

### Other matters

Any Admission Body who ceases to participate in the Fund should be referred to us in accordance with Regulation 78 of the Regulations.

Any bulk movement of scheme members:

- involving 10 or more scheme members being transferred from or to another LGPS fund, or
- involving 2 or more scheme members being transferred from or to a non-LGPS pension arrangement

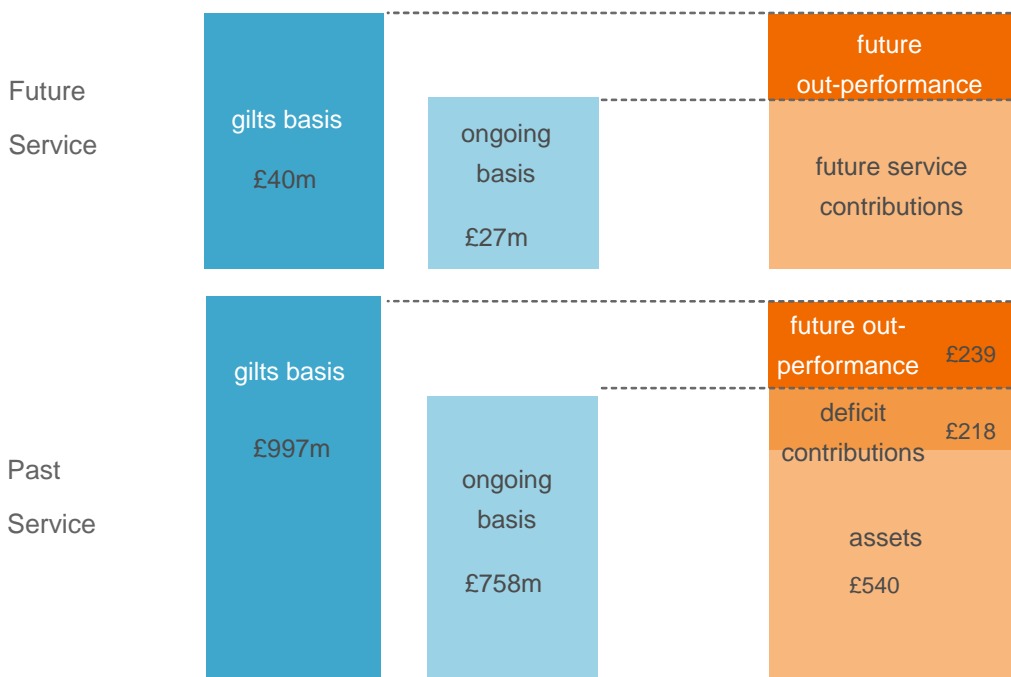
should be referred to us to consider the impact on the Fund.

## 7 Actuarial risk analysis

The valuation results depend critically on the actuarial assumptions made, in particular the net discount rate (the gap between the discount rate and the rate at which benefits and pensionable pay increase in future), and the assumptions for future life expectancy.

In section 4, in order to place a current value on the liabilities, we discounted the future cashflows to the valuation date assuming that the assets held by the Fund will outperform index-linked gilts by 1.6% p.a. One way of measuring the degree of prudence in the funding strategy is to measure the extent to which advance credit is taken for expected future investment returns over and above gilt returns. While the current investment strategy is expected to yield investment returns in excess of those available on closely matching Government bonds, such returns cannot be guaranteed and can only be achieved with a higher level of risk of underperformance. To illustrate the potential costs of reducing this mismatching risk, we have also calculated the amount of assets that would be needed at the valuation date to enable the Administering Authority to invest in closely matching Government bonds.

The following chart summarises the effect on the valuation results if no advance credit was taken for additional outperformance above gilt returns (i.e. a 'gilts basis' was used to value the liabilities).



On this basis, the Administering Authority would need assets of some £997m resulting in a shortfall of £457m at the valuation date. Looked at another way, the assessed cost of members' past service benefits of £758m shown in Section 4 of this report implicitly assume that the Administering Authority's investment strategy will generate investment growth of £239m in excess of that available on closely matching Government bonds.

Over time, the funding position and the contributions required will depend on the extent to which future experience matches the assumptions made. In the previous section, we showed the extent to which the assumptions made at the previous valuation did not reflect actual experience over the period to 31 March 2007. The valuation results do not include explicit contingency reserves for other unexpected financial and

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demographic effects. In this section we discuss the potential implications of the actuarial assumptions not being met in the future.

### Investment risk

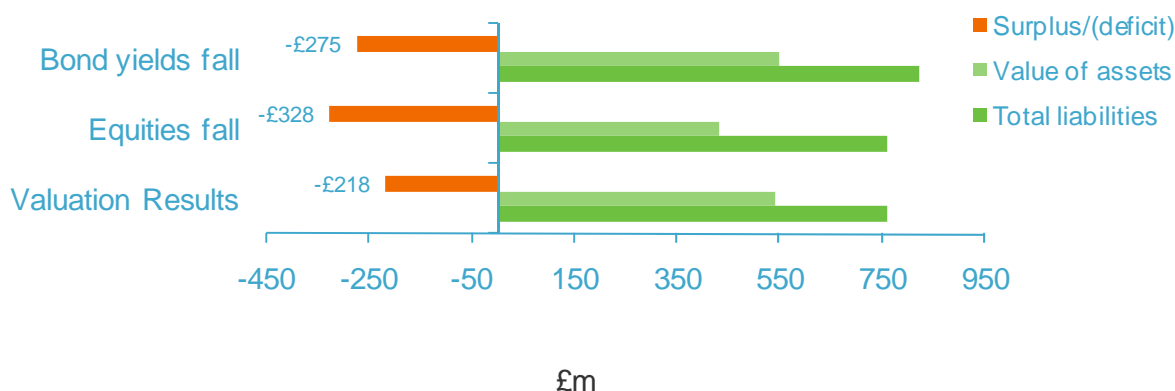
The valuation results are particularly sensitive to the assumed discount rate (i.e. the assumed future investment returns). If future investment returns are less than the assumed discount rate, the funding level will deteriorate. To illustrate the sensitivity of the funding level to changes in equity and bond markets, we have considered the impact of the following events occurring soon after 31 March 2007:

- Equities and equity-type investments (such as property) fall by 25%, with no change in bond markets;
- The price of bonds rises so that there is a 1% fall in the nominal redemption yields available on fixed interest bonds and a 0.5% fall in the real yield available on index-linked bonds, with no change in equity markets.

The events illustrated are by no means exhaustive. They should not be taken as the limit of how extreme future experience could be.

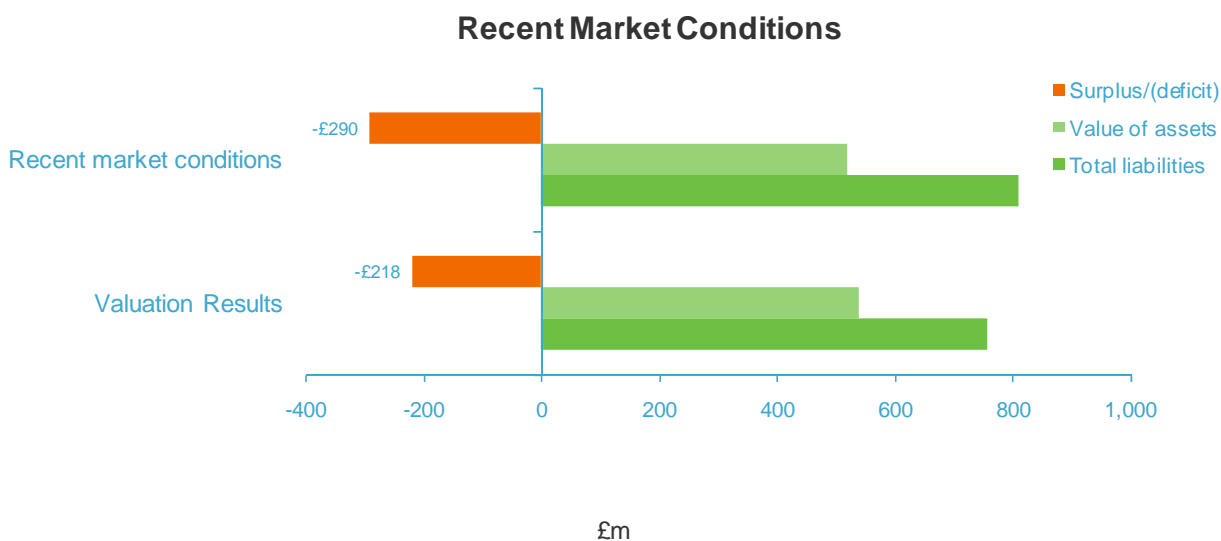
The chart below shows how the funding level would be affected if those events occurred on 31 March 2007.

## Sensitivity to Market Conditions



In fact, over the period from 31/3/07 to 12/03/08, UK equity markets have fallen by around 7% and there have also been falls in the yields available on index-linked UK government bonds. If these market conditions had applied at 31 March 2007, the funding position would have been as shown in the chart below.

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### Longevity risk

The valuation results are very sensitive to unexpected changes in future longevity. If longevity improves in the future at a faster pace than allowed for in the valuation assumptions, the Fund's funding level will decline and the required employer contribution rate will increase. Recent medical advances, changes in lifestyles and generally greater awareness of health-related matters have resulted in longevity improving in recent years at a faster pace than most experts had foreseen. It is unknown whether such improvements will continue in the future. Certain factors, such as advancements in genetic medicine would point towards even greater improvements in longevity in the future; conversely, the increase in childhood obesity may result in a decline in longevity in future generations.

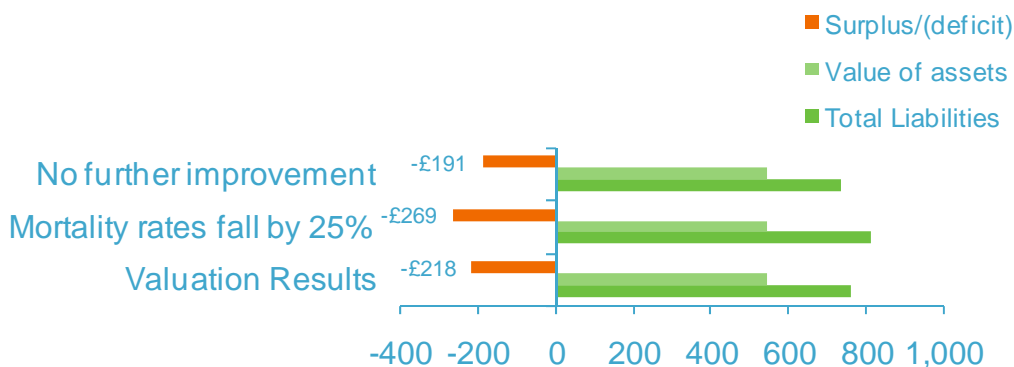
As a measure of the sensitivity of the valuation to future life expectancy we have considered the results which would arise if we assumed that

- mortality rates at all ages immediately fall by 25%;
- that the improvements in longevity of pensioners seen recently cease altogether so that future mortality rates are the same as current ones.

The events illustrated are by no means exhaustive. They should not be taken as the limit of how extreme future experience could be.

The chart below shows how the funding level would be affected if those events occurred on 31 March 2007.

## Sensitivity to Improvements in Life Expectancy



£m

### Other risks and sensitivities

The other main assumptions to which the valuation results are sensitive, together with their associated risks, are described below.

Risk	Effect on funding level	Effect on future service benefits
Fund assets fail to deliver returns in line with the anticipated returns underpinning valuation of liabilities over the long-term	Reduction	None
Fall in risk-free returns on Government bonds, leading to rise in value placed on liabilities	Reduction	Increase if future returns are expected to be lower than previously assumed
Pay and price inflation more than anticipated	Reduction	Increase if expected to continue
Pensioners living longer than anticipated in the valuation assumptions.	Reduction	Increase if expected to continue
More members retiring early on ill-health grounds, and/or retiring at a younger age than assumed	Reduction	Increase if expected to continue
Fewer active members withdrawing from pensionable service (with refunds of contributions or deferred pensions) than assumed	Reduction	Increase if expected to continue

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Members convert less pension to cash at retirement than assumed	Reduction	Increase if expected to continue
Average age of the employee membership rises	Marginal effect	Increase
Changes to regulations to be more favourable in respect of benefits package	Reduction if changes affect past service	Increase
Changes to national pension requirements and/or HMRC rules to be more favourable to members e.g. effect of abolition of earnings cap for post 1989 entrants from April 2006	Reduction if changes affect past service	Increase



W Douglas B Anderson FIA

for and on behalf of Hymans Robertson LLP

31 March 2008



David Cumming FFA

## Appendix A – About the actuarial valuation

This valuation is carried out in accordance with Regulation 77 of the Local Government Pension Scheme Regulations 1997, as amended, ('the Regulations'), which specifies that the Administering Authority must obtain:

- an actuarial valuation of the assets and liabilities of the Fund as at 31 March 1998 and every three years thereafter;
- a report by an actuary; and
- a rates and adjustments certificate.

Within the rates and adjustment certificate we are required to specify:

- the employers' common contribution rate which, in our opinion, should be paid by all employers so as to ensure the Fund's solvency, and
- any individual adjustments (increases or decreases) to the common contribution rate which, in our opinion, are required by reason of any circumstances peculiar to that employer,

which for this valuation apply for each year of the period of three years beginning with 1 April 2008.

Under the provisions of the Regulations, we are required to have regard to:

- the existing and prospective liabilities of the Fund arising from circumstances common to all those bodies participating in the Fund,
- the desirability of maintaining as nearly constant a rate as possible, and
- the Administering Authority's funding strategy statement.

This report has been prepared in accordance with version 8.1 of the guidelines 'GN9: Funding Defined Benefits - Presentation of Actuarial Advice' as adopted and amended by the Board for Actuarial Standards. However the following aspects of GN9 are not relevant to the LGPS 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 LGPS, 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 LGPS 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.

The previous formal actuarial valuation was carried out as at 31 March 2004 by W Douglas B Anderson and Lorna Tonner and the results were set out in the report dated 29 March 2005.

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## Appendix B – Summary of the Fund's benefits

The non-discretionary Fund benefits that we have taken into account in this valuation for active members are summarised below.

Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008
Normal retirement age (NRA)	Age 65.	Age 65.
Earliest retirement age (ERA) on which immediate unreduced benefits can be paid on voluntary retirement	<p>As per NRA (age 65).</p> <p>Protections apply to active members in the scheme immediately prior to 1 October 2006 who would have been entitled to immediate payment of unreduced benefits prior to 65, due to:</p> <p>(a) having previously had an NRA of age 60 (or after age 60 on attaining 25 years of scheme membership), due to being a member of the scheme immediately prior to 1 April 1998; or</p> <p>(b) having the potential to satisfy the rule of 85 prior to age 65 (if the sum of age (whole years) and membership (whole years) is 85 or more).</p> <p>The benefits relating to various segments of scheme membership are protected as follows, which means their benefits are calculated based on the above definitions of earliest retirement age in relation to these protected periods of scheme membership:</p> <p>(a) A member born on 31 March 1956 or earlier – membership up to 31 March 2016 protected;</p> <p>(b) A member born between 1 April 1956 and 31 March 1960 inclusive and who would reach their Earliest Retirement Age by 31st March 2020 – Membership prior to 31 March 2008 fully protected and membership between 1 April 2008 and 31 March 2020 subject to some protection (tapered);</p> <p>(c) All other members in the scheme immediately prior to 1 October 2006 – membership up to 31 March 2008 protected.</p>	
Member contributions	<p>Officers - 6% of pensionable pay</p> <p>Manual Workers – 5% of pensionable pay if has protected lower rates rights or 6% for post 31 March 1998 entrants or former entrants with no protected rights.</p>	<p>Banded rates (5.5%-7.5%) depending upon level of full-time equivalent pay. This will apply to all members formerly paying 6%. Protected manual workers will be subject to transitional rates. From 2010 a mechanism for sharing any increased scheme costs between employers and scheme members may be implemented.</p>

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Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008
Pensionable pay	<p>All salary, wages, fees and other payments in respect of the employment, excluding non-contractual overtime and some other specified amounts.</p> <p>Some scheme members may be covered by special agreements.</p>	
Final pay	<p>The pensionable pay in the year up to the date of leaving the scheme. Alternative methods used in some cases, e.g. where there has been a break in service or a drop in pensionable pay.</p>	
Period of scheme membership	<p>Total years and days of service during which a member of the Fund. Additional periods may be granted (e.g. transfers from other pension arrangements, augmentation, or from April 2008 the award of additional pension).</p>	
Normal retirement benefits at NRA	<p>Annual Retirement Pension - 1/80th of final pay for each year of scheme membership.</p> <p>Lump Sum Retirement Grant - 3/80th of final pay for each year of scheme membership. Additional lump sum can be provided by commutation of pension (within overriding limits) on a basis of £12 additional lump sum for each £1 of pension surrendered.</p>	<p>Scheme membership to 31 March 2008:</p> <p>Annual Retirement Pension - 1/80th of final pay for each year of scheme membership.</p> <p>Lump Sum Retirement Grant - 3/80th of final pay for each year of scheme membership. Additional lump sum can be provided by commutation of pension (within overriding limits) on a basis of £12 additional lump sum for each £1 of pension surrendered.</p> <p>Scheme membership from 1 April 2008:</p> <p>Annual Retirement Pension - 1/60th of final pay for each year of scheme membership.</p> <p>Lump Sum Retirement Grant – none except by commutation of pension</p>

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Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008
Option to increase or decrease retirement lump sum benefit	At the time that benefits come into payment, members have the option to exchange ('commute') some of the retirement pension into additional lump sum. The terms for the conversion of pension in to lump sum is £12 of lump sum for every £1 of annual pension surrendered.	Scheme membership to 31 March 2008: At the time that benefits come into payment, members have the option to exchange ('commute') some of the retirement pension into additional lump sum. The terms for the conversion of pension in to lump sum is £12 of lump sum for every £1 of annual pension surrendered.  Scheme membership from 1 April 2008: No automatic lump sum. Any lump sum is to be provided by commutation of pension. The terms for the conversion of pension in to lump sum is £12 of lump sum for every £1 of annual pension surrendered.
Voluntary early retirement benefits (non ill-health)	On retirement after age 60 a pension and lump sum based on actual scheme membership completed may be paid, subject to reduction on account of early payment in some circumstances (in accordance with ERA protections).	
Employer's consent early retirement benefits (non ill-health)	On retirement after age 50 with employer's consent a pension and lump sum based on actual scheme membership completed may be paid.  Benefits paid on redundancy or efficiency grounds are paid with no actuarial reduction.  Otherwise, benefits are subject to reduction on account of early payment, unless this is waived by the employer.	On retirement after age 55 with employer's consent a pension and lump sum based on actual scheme membership completed may be paid.  Benefits paid on redundancy or efficiency grounds are paid with no actuarial reduction.  Otherwise, benefits are subject to reduction on account of early payment, unless this is waived by the employer.  Active members in the scheme immediately prior to 1 April 2008 who leave before 31 March 2010 have a protected earliest retirement age of 50.

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Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008
Ill-health benefits	<p>In the event of premature retirement due to permanent ill-health or incapacity, an immediate pension and lump sum are paid based on actual scheme membership plus an enhancement period of scheme membership.</p> <p>The enhancement period is dependent on scheme membership at date of leaving and is seldom more than 6 years 243 days.</p> <p>No reduction is applied due to early payment.</p>	<p>In the event of premature retirement due to permanent ill-health or incapacity and a reduced likelihood of obtaining gainful employment (local government or otherwise) before age 65, an immediate pension and lump sum are paid based on actual scheme membership plus an enhancement period of scheme membership.</p> <p>The enhancement period is:</p> <ul style="list-style-type: none"> <li>• 25% of the period to age 65, if there is some likelihood of obtaining gainful employment prior to age 65; or</li> <li>• 100% of the period to age 65, if there is no likelihood of obtaining gainful employment prior to age 65.</li> </ul> <p>No reduction is applied due to early payment. A third tier, with no enhancement, is expected to apply in the event that there is an immediate likelihood of gainful employment.</p>
Flexible retirement	<p>After 5th April 2006, a member who has attained the age of 50, with his employer's consent, reduces the hours he works, or the grade in which he is employed, he may elect in writing to the appropriate administering authority and such benefits may, with his employer's consent, be paid to him notwithstanding that he has not retired from that employment.</p> <p>Benefits are paid immediately and subject to actuarial reduction unless the reduction is waived by the employer.</p>	<p>A member who has attained the age of 55 and who, with his employer's consent, reduces the hours he works, or the grade in which he is employed, may make a request in writing to the appropriate administering authority to receive <b>all or part</b> of his benefits under these Regulations, and the authority may pay those benefits to him notwithstanding that he has not retired from that employment.</p> <p>Benefits are paid immediately and subject to actuarial reduction unless the reduction is waived by the employer.</p>
Pension increases	<p>All pensions in payment, deferred pensions and dependant's pensions other than benefits arising from the payment of additional voluntary contributions are increased annually. Pensions are increased partially under the Pensions (Increases) Act and partially in accordance with statutory requirements (depending on the proportions relating to pre 88 GMP, post 88 GMP and excess over GMP).</p>	

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Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008
Death after retirement	<p>A spouse's or civil partner's pension of one half of the member's pension (generally post 1 April 1972 service for widowers' pension and post 6 April 1988 for civil partners) is payable; plus</p> <p>If the member dies within five years of retiring and before age 75 the balance of five years' pension payments will be paid in the form of a lump sum; plus</p> <p>Children's pensions may also be payable.</p>	<p>A spouse's, civil partner's or nominated cohabiting partner's pension payable at a rate of 1/160th of the member's total membership multiplied by final pay (generally post 1 April 1972 service for widowers' pension and post 6 April 1988 for civil partners and nominated cohabiting partners) is payable; plus</p> <p>If the member dies within ten years of retiring and before age 75 the balance of ten years' pension payments will be paid in the form of a lump sum; plus</p> <p>Children's pensions may also be payable.</p>
Death in service	<p>A lump sum of two times final pay; plus</p> <p>A spouse's or civil partner's pension of one half of the ill-health retirement pension that would have been paid to the scheme member if he had retired on the day of death (generally post 1 April 1972 service for widowers' pension and post 6 April 1988 for civil partners); plus</p> <p>Children's pensions may also be payable.</p>	<p>A lump sum of three times final pay; plus</p> <p>A spouse's, civil partner's or cohabiting partner's pension payable at a rate of 1/160th of the member's total (augmented to age 65) membership (generally post 1 April 1972 service for widowers' pension and post 6 April 1988 for civil partners and nominated cohabiting partners), multiplied by final pay; plus</p> <p>Children's pensions may also be payable.</p>
Leaving service options	<p>If the member has completed three months' or more scheme membership, deferred benefits with calculation and payment conditions similar to general retirement provisions ; or</p> <p>A transfer payment to either a new employer's scheme or a suitable insurance policy, equivalent in value to the deferred pension; or</p> <p>If the member has completed less than three months' scheme membership, a return of the member's contributions with interest, less a State Scheme premium deduction and less tax at the rate of 20%.</p>	
State pension scheme	<p>The Fund is contracted-out of the State Second Pension and the benefits payable to each member are guaranteed to be not less than those required to enable the Fund to be contracted-out.</p>	

Note: Certain categories of members of the Fund are entitled to benefits that differ from those summarised above.

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**Discretionary benefits**

The Regulations give employers a number of discretionary powers, including:

- the awards of periods of augmentation under Regulation 52;
- the payment of benefits on employer's consent prior to age 60 under Regulation 31;
- the payment of benefits due to flexible retirement under Regulation 35;
- not applying the suspension of spouses' pensions on remarriage or cohabitation for members who retired before 1 April 1998.

From 1 April 2008, the employers will also be able to award additional pension.

The effect on benefits or contributions as a result of the use of these provisions prior to 1 April 2007 has been allowed for in this valuation to the extent that this is reflected in the membership data provided. No allowance has been made for the future use of discretionary powers. Our assumptions do not anticipate any saving from the suspension of spouses' pension; to the extent that this continues, there will be a saving.

**Changes to the Fund's benefit structure**

Since the previous valuation, there have been a number of changes to the benefit structure of the LGPS, including:

- A reduction of the total periods of membership required for an entitlement to deferred LGPS benefits from two years to three months with effect from 1 April 2004;
- The requirement for elections to aggregate former scheme membership with current membership to be made within 12 months of becoming an active member with effect from 1 April 2004 (this option was previously open-ended);
- The removal of the right for re-employed pensioners to elect to aggregate former LGPS membership on ceasing the re-employment (limited transitional arrangements were included for existing members who might be affected);
- The introduction of survivor benefits for civil partners, effective from 5 December 2005. This change entitled a surviving civil partner to receive survivor benefits on the same basis and calculated in the same manner as spouses benefits, albeit that account is only taken of scheme membership from 5 April 1988;

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- Members in the scheme prior to 1 October 2006 are entitled to take benefits relating to service to 1 April 2008 at their 'rule of 85' age, with benefits relating to service thereafter payable from 65. There are some transitional protections in place for some older members which will provide full or partial protection for those reaching the age of 60 by 2020;
- The option for members to exchange part of their retirement pension for additional lump sum benefits, with effect from 6 April 2006;
- Other changes were also introduced with effect from 6 April 2006 in relation to the Finance Act 2004. Notably the removal of Schedule 4 (Revenue Restrictions) including removal of the earnings cap and maxima restrictions relating to membership, pension and lump sum;
- Flexible retirement, with effect from 6 April 2006, whereby a member who has attained the age of 50, with his employer's consent, reduces the hours he works, or the grade in which he is employed, may elect in writing to the appropriate administering authority and such benefits may, with his employer's consent, be paid to him notwithstanding that he has not retired from that employment. Flexible retirement before a member's earliest retirement age results in actuarially reduced benefits unless the reduction is waived by the employer.

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## Appendix C – Membership data and assets

### Membership data - employee members

	31-Mar-07		31-Mar-04	
	Number	Pensionable pay [£000]p.a.	Number	Pensionable pay [£000]p.a.
<b>Full-time members</b>				
Male officers	414	13,869	687	20,576
Female officers	750	20,443	1,072	25,586
Male manuals	223	4,686	274	5,348
Female manuals	19	383	25	466
Post April 1998 males	1,083	28,457	1,035	23,067
Post April 1998 females	1,398	36,527	1,166	25,601
<b>Total full-time members</b>	<b>3,887</b>	<b>104,365</b>	<b>4,259</b>	<b>100,644</b>
<b>Part-time members</b>				
Male officers	23	329	46	564
Female officers	526	7,641	680	8,310
Male manuals	10	100	16	164
Female manuals	213	1,815	300	2,252
Post April 1998 males	162	1,743	189	1,866
Post April 1998 females	2,046	21,111	1,885	16,014
<b>Total part-time members</b>	<b>2,980</b>	<b>32,738</b>	<b>3,116</b>	<b>29,170</b>
<b>Total members</b>	<b>6,867</b>	<b>137,102</b>	<b>7,375</b>	<b>129,814</b>

The average age of employee members is 50.4. The average expected future working life of existing employee members is 8.3 years. All of these figures are weighted by liability.

Note that the numbers in the above table refer to the number of records and so will include 'double counting' of members in more than one employment.

### Membership data - pensioners, spouses and children

	31-Mar-07		31-Mar-04	
	Number	Pensions [£000] p.a.	Number	Pensions [£000] p.a.
<b>Normal/early retirements</b>				
Male officers	995	8,172	779	5,351
Female officers	1,690	6,182	1,198	3,466
Male manuals	527	1,434	522	1,258
Female manuals	524	538	530	516
<b>Ill-health retirements</b>				
Male officers	237	1,970	245	1,773
Female officers	449	2,184	509	2,263
Male manuals	358	1,415	382	1,353
Female manuals	157	274	180	315
<b>Dependants</b>				
Widows	696	1,645	685	1,498
Widowers	95	112	70	69
Children	51	64	51	55
<b>Total</b>	<b>5,779</b>	<b>23,994</b>	<b>5,151</b>	<b>17,917</b>

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The average age of pensioner members (weighted by liability and excluding spouses' and civil partners' pensions and children's pensions in payment) is 64.1. Note that the numbers in the above table refer to the number of records and so will include 'double counting' of members in receipt of, or potentially in receipt of, more than one benefit.

**Membership data - deferred pensioners**

	31-Mar-07		31-Mar-04	
	Number	Pensions [£000] p.a.	Number	Pensions [£000] p.a.
Men	2,126	3,921	1,717	3,497
Women	3,910	4,395	2,849	3,610
Total	6,036	8,316	4,566	7,108

The deferred pension shown includes revaluation up to and including that granted by the 2007 Pension Increase Order. The average age of deferred pensioners (weighted by liability) is 49.3. The figures above also include status 2 and status 9 members as at the valuation date.

Note that the numbers in the above table refer to the number of records and so will include 'double counting' of members in receipt of, or potentially in receipt of, more than one benefit.

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**Membership data – membership split by Fund employer**

Employer Code	Employer	Number of Members			Pensionable Pay
		Employees	Deferreds	Pensioners	PTE (£000s)
1	London Borough of Barnet	4664	4510	4678	89,722
2	Hendon School	46	32	13	562
3	Barnet Magistrates	0	27	19	0
4	Middlesex University	888	678	440	22,152
5	Queen Elizabeth's Boys School	24	13	8	370
6	Barnet Society for Mentally Handicapped	0	1	0	0
8	Mill Hill GM School	53	44	7	804
9	Barnet Borough Voluntary Service Council	0	0	1	0
10	Barnet College	288	231	73	5,743
11	Hendon College	0	30	16	0
12	Woodhouse College	17	14	7	340
13	St Mary's GM High	34	31	9	533
14	Dollis GM Junior	23	17	3	174
15	Osidge GM Primary	21	9	3	199
16	Finchley Catholic GM School	22	14	6	299
17	Ashmole School	32	19	7	626
18	St Michaels RC School	28	18	11	322
19	St James School	37	15	17	495
20	Bishop Douglass RC School	29	23	6	546
21	Hasmonean High School	23	14	8	366
22	Menorah Foundation GM School	16	7	1	207
23	Friends of Moat Mount	1	0	0	30
24	Fremantle Trust	135	68	63	2,586
25	North London Colleges European Network	0	1	1	0
26	Open Learning Partnership	5	3	0	200
27	Housing 21	91	22	21	1,391
28	Greenwich Leisure Ltd	24	22	1	534
29	Barnet Homes	299	56	27	7,823
30	Turners	4	0	0	40
31	KGB	1	2	0	14
32	Enterprise	0	2	1	0
33	Birkins	0	0	0	0
34	MU Ventures	2	0	0	38
35	Teaching Resources	3	1	0	81
36	MU Press	4	1	0	127
37	Argentium Silver Company Ltd	2	0	0	89
38	London Academy	33	6	2	529
39	Accent	2	0	0	14
40	Servite	16	2	0	146
999	Middlesex Polytechnic	0	103	330	0

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**Assets at 31 March 2007**

A summary of the Fund's assets (excluding Members' money-purchase Additional Voluntary Contributions) as at 31 March 2007 is as follows:

	Market Value	Percentage of total Assets
	[£000]	%
UK equities	196,735	36%
Overseas equities	178,198	33%
UK fixed interest bonds	48,187	9%
UK index linked bonds	11,919	2%
UK corporate bonds	0	0%
Overseas bonds	9,180	2%
Property	53,468	10%
Pooled Investment Vehicles	9,906	2%
Cash and net current assets	31,909	6%
<b>Total</b>	<b>539,502</b>	<b>100%</b>

**Revenue account for the three years to 31 March 2007**

Revenue Accounts		£000			
	Year to	31-Mar-07	31-Mar-06	31-Mar-05	Total
<b>EXPENDITURE</b>	Retirement pensions	22,082	20,261	18,452	60,795
	Retirement grants	6,028	5,142	5,013	16,183
	Death benefits	132	438	425	995
	Transfer values	5,150	5,593	3,947	14,690
	Refunds/CEPS	23	105	245	373
	Admin expenses	840	703	1,082	2,625
	Investment expenses	1,424	1,188	1,097	3,709
	Other expenditure				
<b>INCOME</b>	Employee contributions	8,240	7,109	7,940	23,290
	Employer contributions	27,317	20,432	22,206	69,955
	Transfer values	4,313	6,544	7,999	18,856
	Investment income	15,821	14,021	11,795	41,637
	Other income	-321	-14	74	-261
Assets at start of year		499,826	407,455	359,600	359,600
Net cashflow		19,691	14,662	19,754	54,107
Change in value		19,981	77,709	28,101	125,791
Assets at end of year		539,498	499,826	407,455	539,498
<b>ANNUAL RETURNS</b>	Approx rate of return	6.8%	22.2%	10.7%	

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## Appendix D – Funding method

Using the actuarial assumptions described in section 3 (and Appendix F) we estimate the payments which will be made from the Fund throughout the future lifetimes of existing employee members, deferred pensioners, pensioners and their dependants. We then calculate the amount of money which, if invested now, would be sufficient to make these payments in future, assuming that future investment returns are in line with the discount rate. This amount is the estimated cost of members' benefits. We make separate calculations for benefits arising from scheme membership before the valuation date ('past service') and from scheme membership after the valuation date ('future service').

### **Past service funding position**

We compare the value of the assets with the estimated cost of members' past service benefits. The ratio of the asset value to the estimated cost of members' past service benefits is known as the 'funding level'. If the funding level is more than 100% there is a 'surplus'; if it is less than 100% there is a 'shortfall'.

### **Future service contribution rate: Whole Fund and employers admitting new entrants**

We calculate the estimated cost of benefits accruing to existing employee members over the year following the valuation date allowing for all expected future pay and pension increases. This amount is expressed as a percentage of the members' pensionable pay over the year following the valuation date and is known as the 'future service contribution rate'.

This method of assessing the future contribution requirement is applied only to the Fund membership at the valuation date. If new entrants are admitted to the Fund to the extent that the membership profile remains broadly unchanged (and if the actuarial assumptions are unchanged) then the future service contribution rate assessed at future valuations should be reasonably stable. However, if the average age of employee members rises (for example if few or no new entrants are admitted to the Fund), and if the actuarial assumptions are unchanged, then the future service contribution rate will increase.

This funding method is known as the Projected Unit Method.

### **Future service contribution rate: employers not admitting new entrants**

I calculate the estimated cost of benefits accruing to existing employee members over their expected future working life allowing for all expected future pay and pension increases. This amount is expressed as a percentage of the members' pensionable salaries over their expected future working life and is known as the 'future service contribution rate'.

This method of assessing the future contribution requirement is applied only to the Fund membership at the valuation date. If no new entrants are admitted to the Fund, so that the membership profile gradually ages, (and if the actuarial assumptions are unchanged) then the contribution rate assessed at future valuations should be reasonably stable, provided that any surplus or shortfall in the past service position is reflected in the contribution rate.

This funding method is known as the Attained Age Method.

### **Future service contribution rate: all cases**

Under each of the two methods described above to calculate the future service contribution rate, the cost of the lump sum death in service benefit is separately assessed as the amount which is likely to be paid out in an average year, based on the membership structure at the valuation date.

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The total 'future service contribution rate' is then the sum of either the 'Projected Unit Method' rate or the 'Attained Age Method' rate, plus the lump sum death benefit cost. It is the rate at which the Fund employers, together with the employee members, should contribute to the Fund to meet the cost of members' benefits expected to arise from service after the valuation date. For the period from 1 April 2008 to 31 March 2011, employee members will be contributing at fixed rates (albeit with various tiers). Therefore the Fund employers' future service contribution rate is the total future service contribution rate less the member contribution rate. An addition is made to cover the expected future expenses of administering the Fund.

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## Appendix E – Changes since the previous valuation

### Changes to the Fund's benefit structure

Since the previous valuation, a number of changes have been made to the LGPS benefit structure, some of which are listed below. Full details of the scheme benefits are set out in Appendix B.

- removal of the Rule of 85 for some or all service;
- introduction of commutation;
- a reduction to the minimum membership required for entitlement to be deferred benefit;
- restrictions on aggregation of former membership;
- introduction of survivor benefits for civil partners.

The overall effect of these changes is to reduce the cost of the benefits.

### Changes to the Fund's benefit structure from 2008

A new scheme is to be introduced from 1 April 2008. Regulations have been laid but corrective changes are still expected to be made in the lead up to the introduction of the new benefit structure. As a general principle, benefits accrued up to 31 March 2008 will continue to be calculated in accordance with the scheme rules at that date. The details of the benefit structure relating to scheme membership from 1 April 2008 are included in Appendix B and the main changes are summarised below:

- pension calculated as  $1/60 \times \text{final pay} \times \text{period of scheme membership}$ ;
- option to exchange part of retirement pension for lump sum, up to a maximum of 25% of the capital value of benefits;
- employees' contribution rates ranging from 5.5% to 7.5% of pensionable pay, determined by a seven tier structure based on the level of whole-time pensionable pay as at the 1 April in each year, or date of joining the scheme if different, and may also be subject to re-determination on a 'material' change in circumstances;
- earliest retirement age for non ill-health retirements of age 55 (with employer consent) or from age 50 for existing members opting to draw benefits with employer consent before 31st March 2010;
- ill-health benefits if member found to be permanently unfit and has a reduced likelihood of obtaining gainful employment prior to age 65. Enhancement either 25% or 100% of the period to age 65, depending on likelihood of obtaining a gainful employment prior to age 65. A third tier ill health provision, with no enhancement, is also expected to be included in the scheme;
- death grant of 3 times final pay for death in service;
- death grant of 10 times pension less total of pension payments already paid for death after retirement;
- introduction of pensions to nominated co-habiting partners on the death of a scheme member;

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- spouses, civil partners and co-habiting partners pensions calculated using a 1/160 accrual rate; and
- changes to the options for members to purchase or employers to award extra scheme pension.

In addition, a cost sharing mechanism is to be introduced. This, however, will only be effective from April 2010 and therefore does not need to be considered as part of this actuarial valuation.

**Changes to the assumptions**

The financial assumptions have changed since the previous valuation. The differences between the financial assumptions used for this and the previous valuation reflect a change in the economic environment between the two valuations, rather than being a change in funding policy or a change in investment policy. The financial assumptions used in this and the previous valuation are shown in Appendix F.

The assumptions relating to the mortality of current and future pensioners have changed since the previous valuation, to reflect more up-to-date standard mortality tables produced by the actuarial profession. The effect of the change in assumptions on the expected future lifespan of Fund members is illustrated in Appendix F.

Some of the other demographic assumptions have also changed since the previous valuation. The changes reflect updated expectations of future experience.

**Changes to the economic environment**

Since the previous valuation, equity markets have risen and bond markets have risen (so yields have fallen). Market expectations of inflation have risen. Overall, changes in economic factors have been favourable in terms of their effect on the funding level. Lower real gilt yields have however increased the assessed cost of future service benefits.

**Changes to the Fund membership**

The Fund membership has changed since the previous valuation, as new employee members have joined the Fund and members have left the Fund, retired and died. Whilst membership changes were anticipated at the previous valuation, the actual changes have inevitably not exactly matched the assumptions made at the previous valuation.

**Changes to the Fund's assets**

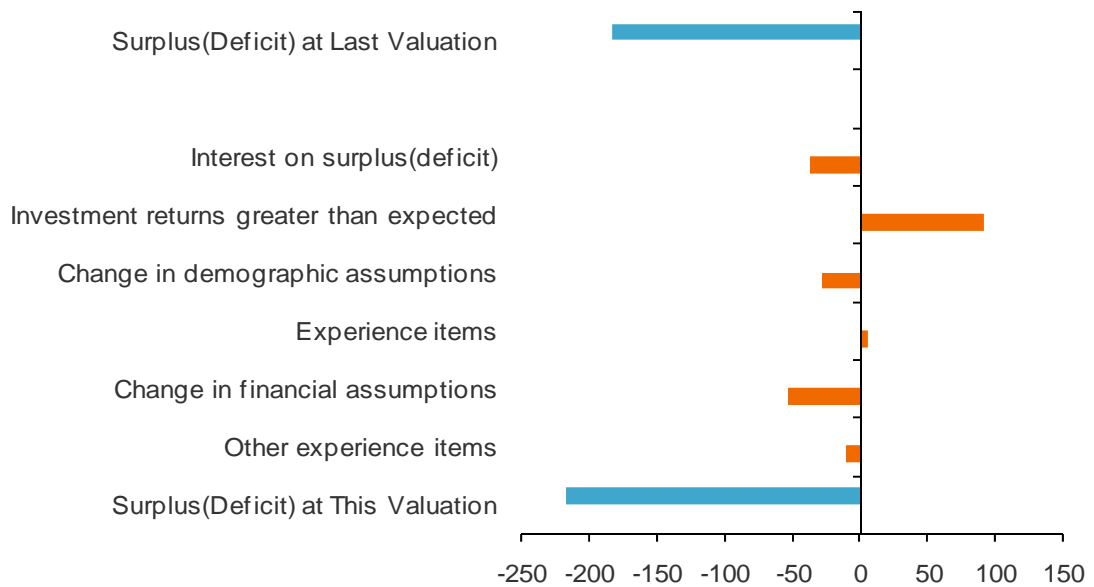
The Fund's assets have been augmented by employer and employee contributions paid in, transfer values received, and interest and investment gains. Conversely, the assets have been depleted by benefit payments to members and their beneficiaries, transfer values and refunds paid and payment of administration and other expenses. Overall, there has been a net increase in the market value of the Fund's assets, only some of which was anticipated in the previous valuation.

In the report on the previous actuarial valuation it was recommended that contributions be paid in line with the rates shown in the Rates and Adjustment certificate appended to that report over the period from 1 April 2005 to 31 March 2008. The Fund employers have paid contributions over the period from 1 April 2005 at least in line with those recommended rates.

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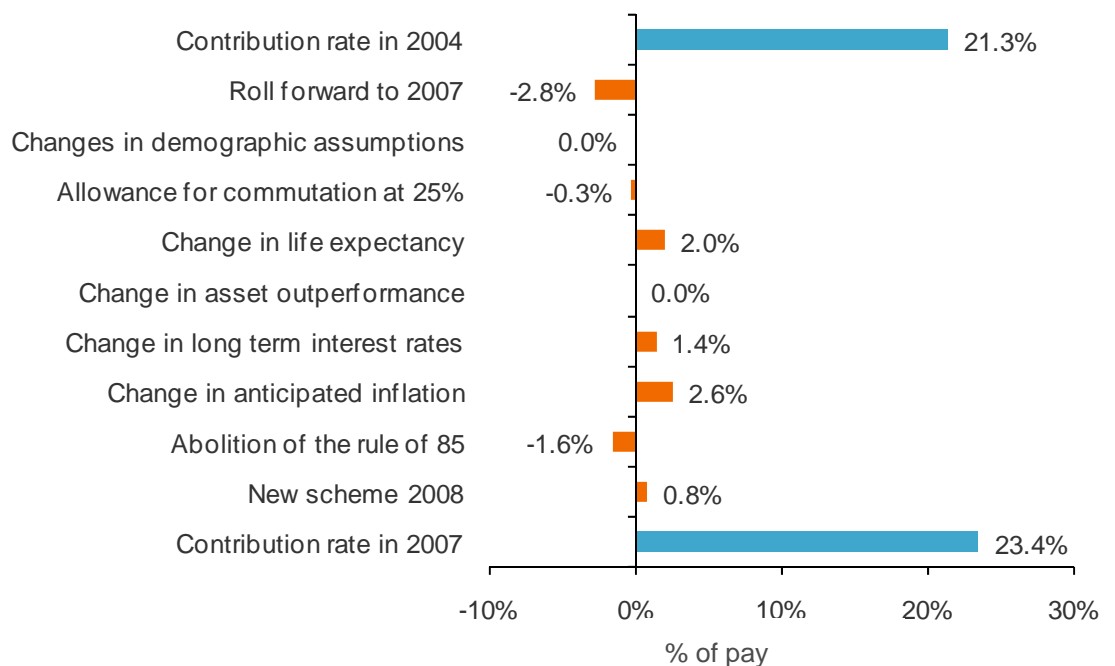
**Changes to the funding position**

The changes described above have combined to improve the Fund’s funding position since the previous valuation. The chart below illustrates the effect of the various factors on the funding position.



**Changes to the contribution requirement**

The chart below illustrates the effect of the above factors on the employers’ contorbuption rate.



Further detail on the funding level and contribution requirements is shown in section 6.

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## Appendix F – Actuarial assumptions

### Financial assumptions

	Assumptions to assess funding position at 31 March 2004	Assumptions to assess funding position at 31 March 2007	Assumptions to assess 'gilt based' position at 31 March 2007
Annual rate of price inflation	2.9%	3.2%	3.2%
Annual rate of pension increases			
- on pensions in excess of GMPs	2.9%	3.2%	3.2%
- on pensions accrued after April 1997	2.9%	3.2%	3.2%
- on post-88 GMPs in payment	2.0%	2.8%	2.8%
- on pre-88 GMPs in payment	0.0%	0.0%	0.0%
Annual rate of increase of deferred pensions	2.9%	3.2%	3.2%
Annual rate of pay increases	4.4% <sup>(2)</sup>	4.7% <sup>(1)</sup>	4.7% <sup>(1)</sup>
Discount rate	6.3%	6.1%	4.5%
Expenses	0.6%	0.7%	0.7%

(1) including an allowance for promotional increases (see table below).

(2) including an allowance for promotional increases.

### Mortality assumptions

PMA92/PFA92 tables based on calendar year projections

For current pensioners mortality is projected to Calendar Year 2017, whilst for members yet to retire it is projected to 2033.

Age ratings set out in the table below

	Males	Females
Officers (& post-98 joiners)	No age rating	No age rating
Manuals	+3 years	+2 years

Ill Health Retirement - as above, except rated up by 5 years (6 years for male officers and male post-98 joiners)

Widows – one year older than female pensioners

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### Other demographic valuation assumptions

Retirements in ill health	Allowance has been made for ill-health retirements before Normal Pension Age (see table below).
Withdrawals	Allowance has been made for withdrawals from service (see table below).
Family details	<p>A varying proportion of members are assumed to be married (or have an adult dependant) at retirement or on earlier death. For example, at age 60 this is assumed to be 80% for males and 75% for females.</p> <p>Husbands are assumed to be 3 years older than wives.</p>
Commutation	25% of future retirements elect to exchange pension for additional tax free cash sum up to HMRC limits.

The tables below show details of the assumptions actually used for specimen ages. The promotional pay scale is an annual average for all employees at each age. It is in addition to the allowance for general pay inflation described above. For membership movements, the percentages represent the probability that an (individual at each age leaves service within the following twelve months.

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Age	Incidence per 1000 active members per annum											
	Male Officers & Post 98			Male Manuals			Female Officers & Post 98			Female Manuals		
	Death	Ill Health		Death	Ill Health		Death	Ill Health		Death	Ill Health	
	FT	PT		FT	PT		FT	PT		FT	PT	
20	0.30	0	0	0.38	0	0	0.16	0	0	0.20	0	0
25	0.30	0	0	0.38	2.24	1.79	0.16	0.42	0.34	0.20	2.60	2.08
30	0.36	0.42	0.34	0.45	3.64	2.91	0.24	0.70	0.56	0.30	3.60	2.88
35	0.42	0.56	0.45	0.53	5.46	4.37	0.40	1.40	1.12	0.50	5.20	4.16
40	0.72	0.98	0.78	0.90	7.56	6.05	0.64	1.82	1.46	0.80	7.20	5.76
45	1.20	2.24	1.79	1.50	10.92	8.74	1.04	2.94	2.35	1.30	9.20	7.36
50	1.92	6.16	4.93	2.40	15.96	12.77	1.52	5.74	4.59	1.90	13.60	10.88
55	3.00	12.60	10.08	3.75	25.76	20.61	2.00	15.12	12.10	2.50	25.60	20.48
60	5.40	25.20	20.16	6.75	49.00	39.20	2.56	0	0	3.20	0	0

Age	Promotional Salary Scales								
	Male Officers & Post 98 Males		Male Manuals		Female Officers & Post 98 Females		Female Manuals		
	FT	PT	FT	PT	FT	PT	FT	PT	
20	100	100	100	100	100	100	100	100	100
25	100	100	100	100	100	100	100	100	100
30	123	113	100	100	115	105	100	100	100
35	138	123	100	100	126	110	100	100	100
40	148	128	100	100	136	115	100	100	100
45	158	128	100	100	136	115	100	100	100
50	168	128	100	100	136	115	100	100	100
55	168	128	100	100	136	115	100	100	100
60	168	128	100	100	136	115	100	100	100

Age	Incidence for 1000 active members per annum							
	Male Officers & Post 98 Males Withdrawals		Male Manuals Withdrawals		Female Officers & Post 98 Withdrawals		Female Manuals Withdrawals	
	FT	PT	FT	PT	FT	PT	FT	PT
20	176.26	293.76	293.76	587.52	167.18	232.20	278.64	371.52
25	116.42	194.04	194.04	388.08	112.46	156.20	187.44	249.92
30	82.58	137.64	137.64	275.28	94.25	130.90	157.08	209.44
35	64.51	107.52	107.52	215.04	81.29	112.90	135.48	180.64
40	51.91	86.52	86.52	173.04	67.61	93.90	112.68	150.24
45	42.48	70.80	70.80	141.60	55.66	77.30	92.76	123.68
50	32.90	54.84	54.84	109.68	42.41	58.90	70.68	94.24
55	28.51	47.52	47.52	95.04	32.69	45.40	54.48	72.64
60	17.28	28.80	28.80	57.60	15.19	21.10	25.32	33.76

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## Appendix G – Detailed valuation results

In section 4 of this report, we showed that at the valuation date, the funding level calculated in relation to the Administering Authority's chosen funding objective was 71% and there was a funding shortfall of £218m. The table below shows these results, together with those from the previous valuation, in more detail.

Funding position (£000s)	31-Mar-07	31-Mar-04
<b>A. Value of assets</b>	<b>539,498</b>	<b>359,000</b>
Assessed cost of past service benefits in respect of:		
Employee members	304,173	241,000
Pensioner members	331,287	216,000
Deferred pensioner members	122,245	86,000
<b>B. Total assessed cost of past service benefits</b>	<b>757,705</b>	<b>543,000</b>
Funding surplus/(shortfall) (A minus B)	<b>(218,207)</b>	<b>(184,000)</b>
Funding level (A as a percentage of B)	<b>71%</b>	<b>66%</b>

Section 4 also showed that we calculate the overall 'future service contribution rate' payable by the Fund employers (ignoring the shortfall in the Fund at the valuation date) to be 14.4% of pensionable pay payable with effect from 1 April 2008. The derivation of this contribution rate, together with that calculated at the previous valuation and the past service adjustment, is shown below.

Employer contribution rates	31 March 2007	31 March 2004
	% pensionable payroll	% pensionable payroll
Total future service cost	20.4%	17.8%
Employee contributions (excluding AVCs)	6.7%	6.0%
Expenses	0.7%	0.6%
Net employer future service cost	14.4%	12.4%
Past service adjustment - 20 year spread	9.1%	8.9%
Employer contribution rate	23.4%	21.3%

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## Appendix H – Rates and adjustments certificate

In accordance with Regulation 77 of the Local Government Pension Scheme Regulations 1997, as amended, I have made an assessment of the contributions that should be paid to the Fund by the employing authorities as from 1 April 2008 in order to maintain the solvency of the Fund.

The required contribution rates are set out in the attached statement.

Signature:



Date: 31 March 2008  
Name: W Douglas B Anderson FIA  
Qualification: Fellow of the Institute of Actuaries  
Firm: Hymans Robertson LLP  
20 Waterloo Street  
Glasgow  
G2 6DB

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## Statement to the rates and adjustments certificate

The Common Rate of Contribution payable by each employing authority under Regulation 77 for the period 1 April 2008 to 31 March 2011 is 23.4% of pensionable pay (as defined in Appendix B).

Individual Adjustments are required under Regulation 77 for the period 1 April 2008 to 31 March 2011 resulting in Minimum Total Contribution Rates expressed as a percentage of pensionable pay are as set out below:

Employer code	Employer	Minimum contributions for the year ending		
		31 Mar 2009	31 Mar 2010	31 Mar 2011
1	London Borough of Barnet	23.3%	24.0%	24.8%
2	Hendon School	23.3%	24.0%	24.8%
4	Middlesex University	26.9%	27.7%	28.6%
5	Queen Elizabeth's Boys School	23.3%	24.0%	24.8%
8	Mill Hill GM School	23.3%	24.0%	24.8%
10	Barnet College	21.7%	22.3%	23.0%
12	Woodhouse College	21.7%	22.3%	23.0%
13	St Mary's GM High	23.3%	24.0%	24.8%
14	Dollis GM Junior	23.3%	24.0%	24.8%
15	Osidge GM Primary	23.3%	24.0%	24.8%
16	Finchley Catholic GM School	23.3%	24.0%	24.8%
17	Ashmole School	23.3%	24.0%	24.8%
18	St Michaels RC School	23.3%	24.0%	24.8%
19	St James School	23.3%	24.0%	24.8%
20	Bishop Douglass RC School	23.3%	24.0%	24.8%
21	Hasmonean High School	23.3%	24.0%	24.8%
22	Menorah Foundation GM School	23.3%	24.0%	24.8%
23	Friends of Moat Mount	22.4%	23.1%	23.7%
24	Fremantle Trust	29.9%	29.9%	29.9%
26	Open Learning Partnership	12.0%	12.3%	12.5%
27	Housing 21	19.2%	19.2%	19.2%
28	Greenwich Leisure Ltd	11.4%	11.4%	11.4%
29	Barnet Homes	25.2%	26.5%	27.8%
30	Turners	21.1%	21.1%	21.1%
31	KGB	20.2%	20.2%	20.2%
38	London Academy	22.1%	23.4%	24.6%
39	Accent	18.0%	18.0%	18.0%
40	Servite	21.1%	21.1%	21.1%
41	Connaught	18.7%	18.7%	18.7%

All rates expressed as % of pay.

### Notes

Contributions expressed as a percentage should be paid into London Borough Of Barnet Pension Fund('the Fund') at a frequency in accordance with the requirements of the Regulations.

Further sums should be paid to the Fund to meet the costs of any early retirements and/or augmentation using methods and factors issued by me from time to time.

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Further sums may be required to be paid to the Fund by employers to meet the capital costs of any ill-health retirements that exceed those included within my assumptions.

The certified contribution rates represent the minimum level of contributions to be paid. Employing authorities may pay further amounts at any time and future periodic contributions may be adjusted on a basis approved by the Fund actuary.