

MERCER



London Borough of Waltham Forest Pension Fund

Actuarial valuation report
as at 31 March 2010



March 2011

London Borough of Waltham Forest Pension Fund Actuarial valuation as at 31 March 2010

MERCER

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Summary

An actuarial valuation of the London Borough of Waltham Forest Pension Fund has been carried out as at 31 March 2010.

The key conclusions from the valuation are:

- The Fund showed a deficit of £317.6m at the valuation date based on the assumptions made for calculating its funding target. This measure compares the Fund's assets with the value of the past service benefits at 31 March 2010. It represents a funding level of 60% relative to the Fund's funding target.
- Based on the assumptions made for assessing the cost of future accrual, the Common Contribution Rate (i.e. the average employer contribution rate in respect of future service only) was 11.3% of Pensionable Pay.
- If the actuarial assumptions were to be based purely on the returns available on conventional and index-linked gilts (a so-called "least risk" basis) the deficiency would have increased to £560m.
- If the deficit is recovered through additional employer contributions over a 25 year period then the employer contribution rate required to meet the deficit emerging from the valuation is 12.5% of Pensionable Pay per annum.
- The required overall average employer contribution rate is 23.8% of Pensionable Pay subject to any transitional phasing arrangements in accordance with the Funding Strategy Statement (FSS). Where an additional allowance has been made for certain employers for an increased investment return assumption over the duration of the recovery plan, this has offset the certified employer contribution requirement, as specified in the FSS. Employers had the option of paying contributions as a percentage of payroll encompassing both future service and deficit recovery, or as a percentage of payroll in respect of future accrual of benefits and £s amounts in respect of deficit contributions under the recovery plan (with the agreement of the Administering Authority). These contributions will commence from 1 April 2011.

- The recommended employer contributions for the period 1 April 2011 to 31 March 2014 are set out in Appendix I to this report. Employee contributions are payable in addition to the employer contributions. These contributions are adequate to meet the funding objective based on the actuarial assumptions detailed in this report. No additional contributions are required from employers to meet normal scheme expenses since allowance for these are included in the recommended contributions.
- Additional capital contributions will be paid on top of the rates shown in respect of all early retirements, including those on the grounds of ill health.
- Any further possible adjustments to contributions for employers in the inter-valuation period are noted on the Certificate in Appendix H.

Signature



Fund Actuary

Ian Kirk

Date of signing

31 March 2011

Qualification

Fellow of the Institute and Faculty of Actuaries

Compliance Statements

This report is addressed to the Administering Authority and has been prepared in accordance with the version of the Board for Actuarial Standards' 'Guidance Note 9: Funding Defined Benefits – Presentation of Actuarial Advice' current at the date this report is signed. Technical Actuarial Standard R: Reporting Actuarial Information and Technical Actuarial Standard D: Data issued by the Board for Actuarial Standards also apply to this report and the report complies with their requirements, where relevant.

However the following aspects of GN9 are not relevant to the LGPS in the current circumstances and so have not been reported on:

- Paragraph 3.4.16 of GN9 requires the actuary to include the certification of technical provisions 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
- Paragraph 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. Accordingly, this report does not comply with paragraph 3.5 of GN9.

The calculations in the report use methods and assumptions appropriate for reviewing the financial position of the Scheme and determining the appropriate contribution rate for the future. Mercer does not accept liability to any third party in respect of this report; nor does Mercer accept liability to the Administering Authority if the advice is used for any purpose other than that stated (for example for accounting disclosures or corporate mergers/acquisitions).

The data for the actuarial valuation was provided by the Administering Authority and its accuracy has been relied upon. Whilst reasonableness checks on the data have been carried out, they do not guarantee the completeness or the accuracy of the data. Consequently Mercer does not accept any liability in respect of its advice where it has relied on data which is incomplete or inaccurate.

The report may be disclosed to participating employers and others who have a statutory right to see it. It may also be disclosed, if the Administering Authority and Mercer consent, to any other third parties.

Contents	Page
1. Introduction.....	1
2. Funding results – funding target.....	3
3. Funding results – contribution requirements	6
4. Method and assumptions	8
5. Least risk funding results.....	11
6. Variability and risks	13

Appendices

- A. Summary of benefits
- B. Summary of membership data
- C. Distribution of membership by employing bodies
- D. Actuarial assumptions used
- E. Summary of assets
- F. Summary of income and expenditure
- G. Experience analysis of the membership of the Fund for the period 1 April 2007 to 31 March 2010
- H. Rates and Adjustments Certificate issued in accordance with Regulation 36 of the Administration Regulations
- I. Schedule to the Rates and Adjustment Certificate dated 31 March 2011

1

Introduction

1.1 This report sets out the results of the actuarial valuation of the London Borough of Waltham Forest Pension Fund ('the Fund') as at 31 March 2010. The valuation has been carried out on the instructions of London Borough of Waltham Forest (the "Administering Authority") in accordance with the requirements of Regulation 36 of the Local Government Pension Scheme (Administration) Regulations 2008, as amended (the "Administration Regulations").

Purpose of valuation

1.2 The primary aims of the valuation are to review the financial position of the Fund and to determine appropriate employer contributions to the Fund for the future.

1.3 In particular, the valuation aims:

- to assess the Fund's funding position relative to its funding objective;
- taking the above into account, to determine the appropriate future level of employer contributions.

1.4 Under the provisions of the Administration Regulations employer contributions are calculated by the actuary having regard to the assumptions and methodology set out in the Fund's Funding Strategy Statement (FSS). In accordance with the LGPS Regulations, the FSS has been determined by the Fund's Administering Authority, having taken the advice of the Fund's Actuary and after consultation with those parties as it considers appropriate.

Funding objective

1.5 The Administering Authority has reviewed its approach to funding strategy and this is published in the Funding Strategy Statement. Consistent with the FSS the funding objective for the valuation is to achieve and then maintain assets equal to the funding target. The funding target is the present value of 100% of projected

accrued liabilities, including allowance for projected final pay. This approach is also considered appropriate to comply with the requirement of the Administration Regulations to secure the solvency of the Fund.

- 1.6 The funding objective is the same as at the previous valuation.
- 1.7 The methodology and assumptions by which the funding target and contribution rates are calculated have also been determined in accordance with the Fund's FSS.
- 1.8 The FSS specifies a maximum period for achieving full funding of 25 years. This compares to a maximum period of 20 years adopted at the 2007 valuation in accordance with the then published FSS. A 'default' deficit recovery period of 17 years has been introduced, with employers required to adopt a minimum period of this before any reduction in contributions is granted. The maximum period has been extended as a means of stabilising contribution requirements. For each individual employer, the funding objective, method and assumptions depend on the particular employer's circumstances and different approaches have been adopted where applicable, in accordance with the FSS. The FSS also specifies any transitional arrangements ("phasing") for the implementation of revised employer contribution requirements.

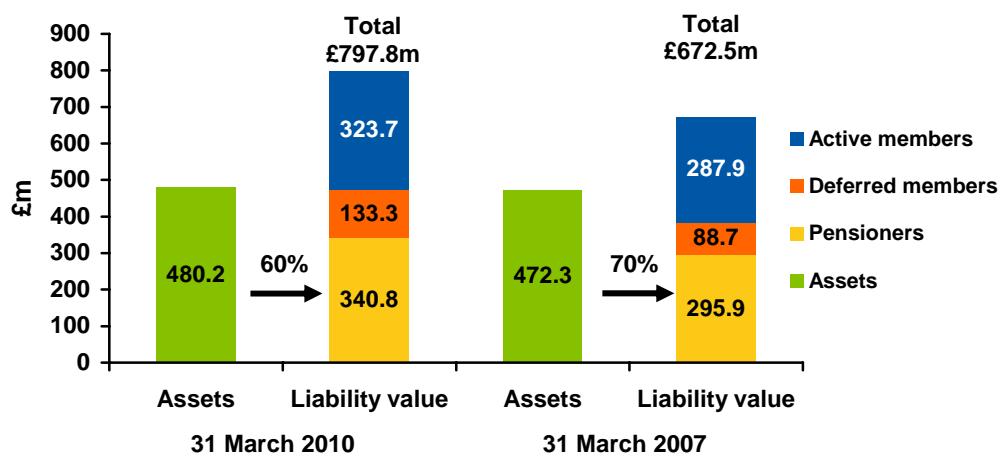
Previous actuarial valuation

- 1.9 The previous actuarial valuation of the Fund was carried out as at 31 March 2007 by ourselves.
- 1.10 At the previous valuation an average employer contribution rate of 21.3% of Pensionable Pay was determined, made up of a normal contribution rate for benefits and expenses of 11.4% of Pensionable Pay plus deficiency recovery contributions of 9.9% of Pensionable Pay. The report on the 2007 actuarial valuation sets out the agreed contribution rates for individual employers for the period 1 April 2008 to 31 March 2011 (the corresponding rates for the year to 31 March 2008 being shown in the 2004 actuarial valuation report). Appendix F includes the amounts of employer contributions which have actually been paid since the last actuarial valuation.

2

Funding results – funding target

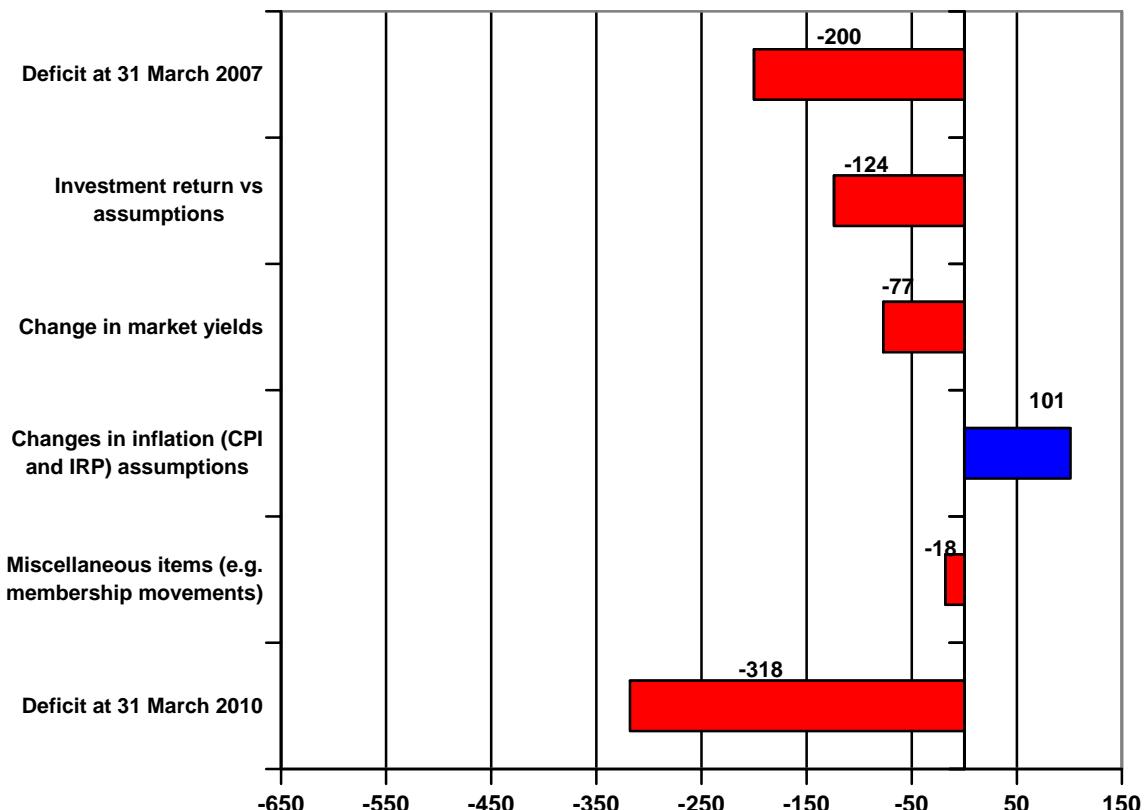
2.1 The market value of the Fund's assets at the valuation date is compared with the value of the Fund's past service liabilities (the funding target) below. The funding position at the previous valuation is shown for comparison.



2.2 The shortfall against the funding target at the valuation date was £317.6 million (£200.2 million at 2007). This represents a funding level of 60% (70% at 2007) relative to the funding target.

Analysis of change in funding position

2.3 The key factors influencing the change in the value of the liabilities since the previous valuation are shown below (figures in £m):



2.4 The above analysis highlights a number of material developments affecting the Fund since the previous valuation:

- The change from RPI to CPI indexation for pension increases has beneficially impacted funding.
- The introduction of an Inflation Risk Premium (IRP) into the determination of the pension increase assumption used for the valuation has offset to a

degree the adverse impact of the falls in real yields since the last valuation. Indeed the effect of the IRP in conjunction with the change from RPI to CPI indexation more than offsets the negative impact of the yields change.

In addition, the assumptions for the base rates and future improvements of mortality, real salary growth and allowance for dependants' benefits have been revised for the 2010 valuation. The combined effect of these revisions is neutral on the valuation outcome.

2.5 It also highlights the key differences between what was assumed at the previous valuation and experience since then:

- Investment returns have been below the level required to keep pace with the assumptions adopted at the previous valuation.
- Liabilities have increased due to changes in market yields

3

Funding results – contribution requirements

- 3.1 This section provides details of the contribution requirements assessed for the Fund as a whole. The contributions payable by the employers for the period 1 April 2011 to 31 March 2014, and the timing and frequency of the contributions, have been certified in Appendices I and H respectively, as is required in accordance with the Administration Regulations.
- 3.2 These contributions have been determined using the funding objective described in Section 1, and are made up of the following elements:
 - a contribution to cover the cost of the future service accrual (including death benefits and expenses), known as the “Common Contribution Rate”;
 - an adjustment to address any imbalance of assets relative to the funding target.
- 3.3 In practice, each employer’s position is assessed separately. The individual rates shown in Appendix I take into account the differing circumstances of each employer and the funding plan, as laid down in the Funding Strategy Statement, in particular in relation to deficit recovery period, assumed level of investment returns over the deficiency recovery period, and implementation of changes in employer contributions where these are required.

Common Contribution Rate (CCR)

- 3.4 The table below shows the first of these elements. This cost is calculated as the value of benefits expected to accrue to the membership in respect of one year’s service based on projected salaries. To this is added an allowance for expenses. The figures are expressed as percentages of Pensionable Pay (as defined in Appendix H) and apply for the period to the next formal actuarial valuation.

	2010 %	2007 %
Normal contribution rate for retirement and death benefits	17.3	17.6
Allowance for administrative expenses	0.5	0.5
Total normal contribution rate	17.8	18.1
Average member contribution rate	6.5	6.7
Employer normal contribution	11.3	11.4

Contributions to address shortfall

3.5 The funding objective is to achieve and maintain a funding level of 100% of liabilities (the funding target). Adopting the same method and assumptions as used for calculating the funding target, the deficit of £317.6 million could be eliminated by an average contribution addition of 12.5% of Pensionable Pay for 25 years. This would imply an average employer contribution rate of 23.8% (21.3% at the previous valuation over 20 years) of Pensionable Pay.

3.6 The Schedule to the Rates and Adjustments Certificate (attached as Appendix I) sets out the contributions for each employer over the three year period to 31 March 2014 towards the shortfall against the funding target. The corresponding figures for 2010/11 are set out in the report on the actuarial valuation of the Fund as at 31 March 2007. Contribution requirements for the period from 1 April 2014 onwards will be revised as part of the next actuarial valuation as at 31 March 2013 and will be confirmed in the Rates and Adjustments Certificate and Schedule accompanying that valuation report.

4

Method and assumptions

Funding method

- 4.1 The funding method adopted is known as the projected unit method under which the salary increases assumed for each member are projected until the member is assumed to leave active service.
- 4.2 Under the projected unit method, if the membership profile remains stable in terms of age and sex, and the assumptions are borne out, then the normal future service contribution rate (as a percentage of salaries) will remain stable. The method therefore implicitly allows for new entrants replacing leavers.
- 4.3 For those employers which are closed to new entrants an alternative method is adopted, known as the attained age method. This method makes advance allowance for the anticipated future ageing of the current closed membership group.
- 4.4 The method as specified above is the same as was used at the previous valuation.

Assumptions

- 4.5 The financial and demographic assumptions used to assess the funding target, the normal cost of benefit accrual and the recovery plan are set out in Appendix D. A number of changes have been made to the assumptions used, compared with the previous valuation, as noted below and in Appendix D.
- 4.6 The table below sets out a summary of the market (gilts) yields at the valuation date, implied inflation and inflation adjustment assumptions, together with the equivalent details at the date of the previous valuation:

	31 March 2010	31 March 2007
Long-dated gilt yield	4.5%	4.4%
Long-dated index-linked gilt yield	0.7%	1.3%
Market expectation for long-term inflation (RPI basis)	3.8%	3.1%
Adjustment for Inflation Risk Premium (IRP) and CPI Indexation	-0.8%	0.0%
Adjusted CPI inflation	3.0%	n/a

4.7 The assumptions to which the valuation results are particularly sensitive are shown below.

	2010 funding target	2010 normal cost	2007 funding target	2007 normal cost
Investment return pre-retirement	6.5% p.a.	6.75% p.a.	6.4% p.a.	6.5% p.a.
Investment return post-retirement	5.5% p.a.	6.75% p.a.	5.4% p.a.	6.5% p.a.
Salary increases	4.5% p.a.	4.5% p.a.	4.6% p.a.	4.25% p.a.
Pension increases in payment	3.0% p.a.	3.0% p.a.	3.1% p.a.	2.75% p.a.
Retired members' mortality – base tables	CMI Self Administered Pension Schemes (SAPS) tables with scheme and member category specific adjustments		PA92 YoB tables +2 years	
Retired members' mortality – future improvements	CMI 2009 model methodology with 1% p.a. long term trend		CMI Medium Cohort model	

4.8 The mortality rates shown above relate to members retiring in normal health. At this valuation, members retiring in ill-health are assumed to be 3 years older than the above tables (5 years older assumed at the 2007 valuation).

Employers, with the agreement of the Administering Authority, had the option of paying deficit recovery contributions as a percentage of payroll or as £ amounts, in line with the FSS.

4.9 At this valuation, it has been assumed that, on average, 50% of retiring members will take the maximum tax-free cash available at retirement and 50% will take the standard 3/80ths cash sum. The option which members have to commute part of their pension at retirement in return for a lump sum is a rate of £12 cash for each £1p.a. of pension given up. This assumption is unchanged from the last actuarial valuation.

4.10 The contributions payable under the recovery plan are calculated using the same assumptions as those used to calculate the funding target, with the exception that, during the period of the recovery plan, for certain employers an increased investment return on existing assets and future contributions is assumed, as specified in Appendix D.

4.11 As an illustration of the mortality rates adopted for the valuation, the future life expectancies for a male/female at age 65 are shown in the table below:

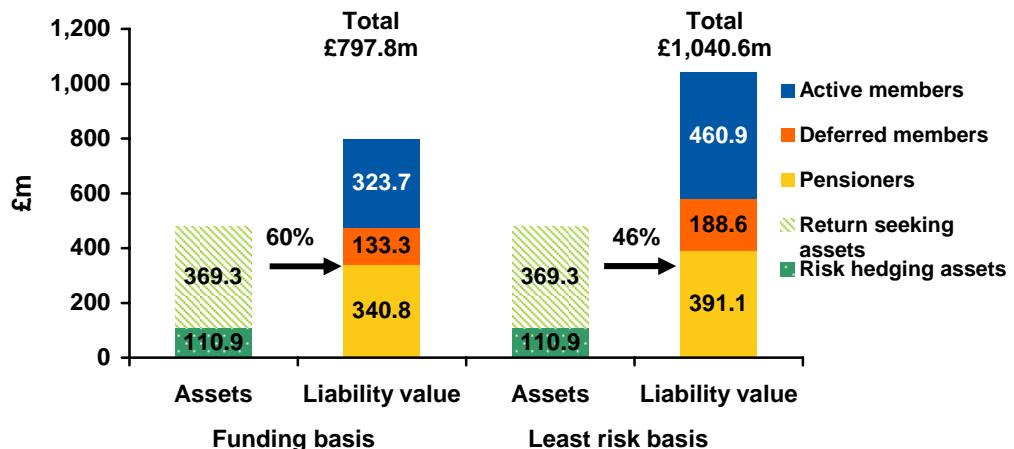
Pensioners	Life expectancy currently aged 65	
	2007 valuation	2010 valuation
Males normal health	20.4	21.2
Female normal health	23.2	24.0
Males ill health	16.3	18.8
Female ill health	19.0	21.4
Male dependants	20.4	19.7
Female dependants	23.2	23.0

4.12 The basis of valuing the assets (market value) is consistent with the assumptions used in assessing the funding target liabilities and the recovery plan.

5

Least risk funding results

- 5.1 The results of the 2010 valuation show the funding target to be 60% covered by the current assets.
- 5.2 In assessing the value of the Fund's liabilities (the funding target), allowance has been made for asset out-performance as described in Section 4, taking into account the investment strategy adopted by the Fund, as set out in the Fund's Statement of Investment Principles (SIP).
- 5.3 It is not possible to construct a portfolio of investments which produces a stream of income exactly matching the expected liability outgo. However, it is possible to construct a portfolio which closely matches the liabilities and represents the least risk investment position. Such a portfolio would consist mainly of a mixture of long-term index-linked and fixed interest gilts. Investment of the Fund's assets in line with the least risk portfolio would minimise fluctuations in the Fund's ongoing funding level between successive actuarial valuations.
- 5.4 If, at the valuation date, the Fund had been invested in this portfolio, then in carrying out the valuation it would not be appropriate to make any allowance for out-performance of the Fund investments. On this basis of assessment, the assessed value of the Fund's liabilities at the 2010 valuation would have been significantly higher, by approximately 30% and the declared funding level would be correspondingly reduced to approximately 46%. This is illustrated in the following chart, which also shows the assets of the Fund broken down into return seeking and risk hedging classes, giving a broad indication of the degree to which a risk based investment strategy is being adopted in funding for the liabilities.



5.5 On a least risk basis the deficiency at the valuation date is £560.4 million which compares to a deficit on the ongoing basis of £317.6 million.

5.6 Departure from a least risk investment strategy, in particular to include equity and other risk based return seeking investments, gives the prospect that out-performance by the assets will, over time, reduce the contribution requirements. The funding target might in practice therefore be achieved by a range of combinations of funding plan, investment strategy and investment performance.

6

Variability and risks

- 6.1 The employer contributions set out in the Schedule to the Rates and Adjustments Certificate have been determined as described in section 3 of this report. These in turn depend on the financial and demographic assumptions used as described in section 4.
- 6.2 The funding of defined benefits is by its nature uncertain. When actual experience is not in line with the assumptions adopted a surplus or shortfall will emerge at the next actuarial assessment and will require a subsequent contribution adjustment to bring the funding back into line with the target.
- 6.3 It is likely, especially in the short-term, that the assumptions will not be borne out in practice. It is therefore important to consider the potential impact on the employer contribution rates of actual experience differing from what has been assumed. The details in this section do this, based on the valuation results for the Fund as a whole.

Sensitivity to key assumptions

- 6.4 Real investment return, salary increase and life expectancy assumptions impact significantly on the funding position and the following table illustrates the sensitivity to variations in these key assumptions over the long term. The base point is the funding level of 60%. Each row of the table considers one change in isolation, with all other assumptions being unaltered. An equivalent change in the assumption in the opposite direction would change the funding level value by the equivalent amount in the opposite direction.

Change in assumption	Revised funding level at 31 March 2010
Inflation increased by 0.25% p.a.	58%

Change in assumption	Revised funding level at 31 March 2010
Real salary growth increased by 0.25% p.a.	60%
Life expectancy increased by 1 year	59%

6.5 Similarly these assumptions impact significantly on the cost of the benefits accruing over the year. The following table illustrates the sensitivity to variations in these key assumptions over the long term. The starting point is the normal contribution rate of 11.3% of Pensionable Pay. Each row of the table considers one change in isolation, with all other assumptions being unaltered. As before, a change in the assumption in the opposite direction would give rise to a change in the employer normal contribution rate of an equivalent amount in the opposite direction.

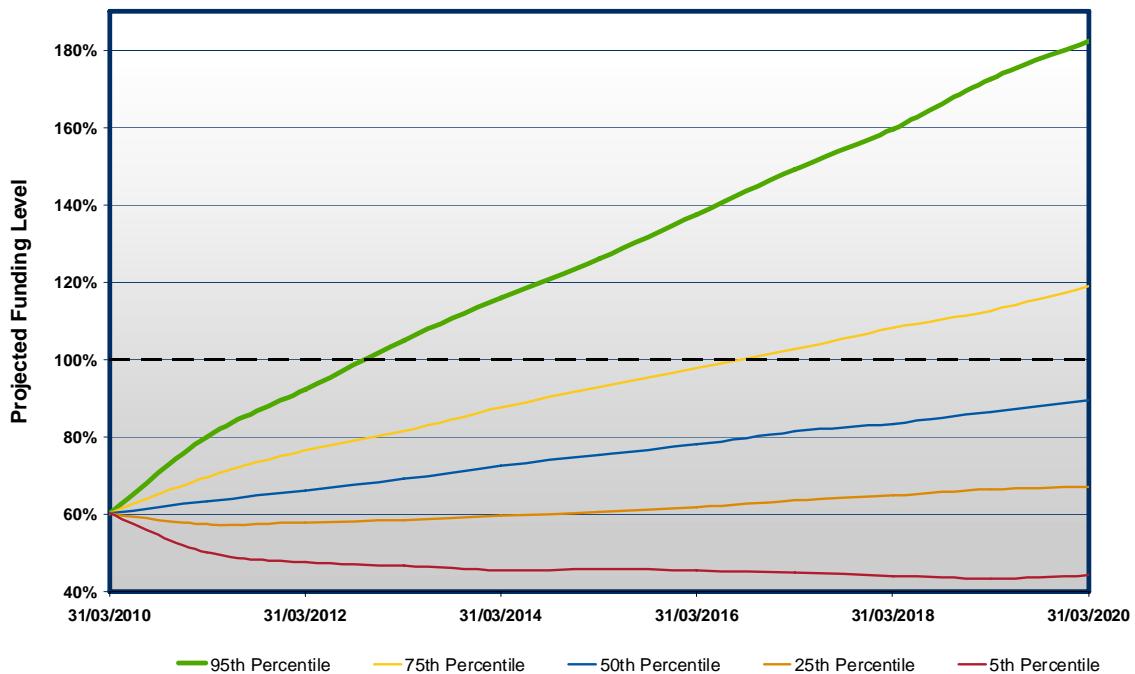
Change in assumption	Revised employer normal contribution rate at 31 March 2010 (% of Pensionable Pay)
Inflation increased by 0.25% p.a.	12.3
Real salary growth increased by 0.25% p.a.	11.8
Life expectancy increased by 1 year	11.5

Funding level sensitivity to investment markets

6.6 The chart below shows a “funnel of doubt” funding level graph. This illustrates the range and uncertainty in the future progression of the funding level, relative to the funding target adopted at the valuation, due to possible changes in various risk factors such as investment markets and interest rates.

6.7 Using a simplified model, the chart shows the probability of exceeding a certain funding level over a 10 year period from the valuation date. For example, the top line shows the 95th percentile level (i.e. there is a 5% chance of the funding level at each point in time being better than the funding level shown, and a 95% chance of the funding level being lower).

6.8 The chart adopts the 2010 actuarial valuation results as a starting point, and allows for the planned contributions into the Fund based on the valuation and funding strategy. The chart assumes median investment returns in line with “best estimate” market expectations and variability of those returns broadly in line with historic experience. It assumes continuation of the Fund’s current investment strategy, over the projection period.



Risks that the funding objective will not be met

- 6.9 The Administering Authority's policy for meeting the funding objective carries a number of risks outside of the Administering Authority's control. The following paragraphs comment on some potentially material risks.
- 6.10 If any employer becomes unable to pay contributions or to make good deficits in the future, the Fund's assets will be lower than expected and the funding level will be worse than expected. If the reason for the employer not paying the agreed contributions is one of financial difficulties, then the Administering Authority's focus would switch to the need to secure as far as possible that any debt from the employer on it exiting the fund can be recovered. This risk can be mitigated by regular employer covenant review, strengthening of covenant as appropriate, and monitoring of changes in employer covenant. In the ultimate default of an employer any shortfall would then become the responsibility of a guarantor or all other employers in the Fund.
- 6.11 If the future investment return on assets falls short of the rates assumed in the calculation of the funding target and recovery plan, the funding position will be worse than expected. It is likely that an increase in future employer contributions will be required. The analysis shown earlier in this section illustrates the potential volatility of contribution rates and funding levels to future investment returns.
- 6.12 If market levels and/or market yields change such that the liability values increase by more than the assets, or decrease by less than the assets, the funding position would be worse than expected. An increase in employer contributions would be expected as a result. The same comments would apply if general population mortality studies and analysis of the Fund show that pensioners are

living longer, or if improvements in mortality are found to be at a faster rate than allowed for. The analysis shown earlier in this section illustrates the quantitative impact of such changes.

- 6.13 If members make decisions around their options such that those decisions increased the Fund's liabilities (e.g. by not commuting pensions for cash to the extent assumed), the funding position would be worse than expected. As a result, future employer contributions might then need to be increased.
- 6.14 There is a specific investment matching risk that is particularly relevant for the Fund. This is the risk inherent in the predominantly equity-based strategy, such that actual asset out-performance between successive valuations could diverge significantly from the investment return assumptions made, as set out in Appendix D.
- 6.15 As mentioned in Section 5, alternative investment strategies could be followed that would minimise the risk of deterioration in the funding position assessed relative to the funding target, for example by raising the proportion of bond investment. Such a strategy would lead to a potentially significant increase in the contributions required but would reduce the risk of volatility in the Fund's funding position that changing economic conditions would cause, producing a more stable (albeit higher) contribution requirement than indicated in Section 3.

Appendix A

Summary of benefits

[Local Government Pension Scheme Regulations](#)

The benefits and contributions payable under the Fund are set out in the Local Government Pension Scheme (Benefits, Membership and Contributions) Regulations 2007 (as amended). These regulations have replaced the Regulations as were in force at the previous valuation, except for a number of saved regulations as specified by the Local Government Pension Scheme (Transitional Provisions) Regulations 2008.

With effect from 1 April 2008 new rules were introduced replacing the 1997 scheme, under the provisions of the Local Government Pension Scheme (Benefits, Membership and Contributions) Regulations 2007 (SI2007/1166). The principal changes were: the replacement, for future service, of the existing benefits structure based on a pension of 1/80th of Pensionable Pay for each year of pensionable service plus an automatic lump sum of three times this amount by one based on 1/60th of Pensionable Pay for each year of pensionable service; and an increase in the average level of employee contributions from that date. These changes were taken into account at the 2007 valuation.

The following supplementary Regulations have also been laid in relation to the new scheme:

- The Local Government Pension Scheme (Transitional Provisions) Regulations 2008 (SI2008/238)
- The Local Government Pension Scheme (Administration) Regulations 2008 (SI2008/239)
- The Local Government Pension Scheme (Management and Investment of Funds) Regulations 2009 (SI2009/3150)

The following further amendments to the above Regulations have subsequently been issued:

- The Local Government Pension Scheme (Benefits, Membership and Contributions) (Amendment) Regulations 2011 Statutory Instrument No. 561
- The Local Government Pension Scheme (Miscellaneous) Regulations 2010 Statutory Instrument No. 2090
- The Local Government Pension Scheme (Amendment) Regulations 2010 Statutory Instrument No. 528
- The Local Government Pension Scheme (Miscellaneous) Regulations 2009 Statutory Instrument No. 3150
- The Local Government Pension Scheme (Amendment) Regulations 2009 Statutory Instrument No. 1025
- The Local Government Pension Scheme (Administration) (Amendment) Regulations 2009 Statutory Instrument No. 447
- The Local Government Pension Scheme (Administration) (Amendment) Regulations 2008 Statutory Instrument No. 3245
- The Local Government Pension Scheme (Amendment) (No.2) Regulations 2008 Statutory Instrument No. 2989
- The Local Government Pension Scheme (Miscellaneous) Regulations 2008 Statutory Instrument No. 2425
- The Local Government Pension Scheme (Amendment) Regulations 2008 Statutory Instrument No. 1083 (including amendments as per Correction Slip issued in September 2009)

We have made no allowance for other changes which may be introduced in the future.

Benefits recharged to individual employers on a £ for £ basis have been excluded from the calculation of the valuation liabilities.

The benefits that will emerge from money purchase AVCs paid by members, and SCAVCs paid by employers, and the corresponding invested assets in respect of these AVCs and SCAVCs, have been excluded from the valuation.

UK and European law requires pension schemes to provide equal benefits to men and women in respect of service after 17 May 1990 (the date of the “Barber” judgement) and this includes providing equal benefits accrued from that date to reflect the differences in GMPs. There is no consensus or legislative guidance as to what adjustments have to be made to scheme benefits to correct these inequalities for ongoing schemes (i.e. for schemes other than those which are in the Pension Protection Fund). The valuation

makes no allowance for removal of these inequalities. It is consequently possible that additional funding will be required for equalisation once the law has been clarified. It is recommended that the Administering Authority seek further professional advice if it is concerned about this issue.

The Government announced in June 2010 that the rate of increase and revaluation that applies to pensions in payment and deferment in the LGPS and the other public sector schemes will in future be determined by reference to the Consumer Price Index (CPI) rather than the Retail Prices Index (RPI). Historically, CPI increases have on average been lower than RPI increases and, due to the nature of the two calculations, they are expected to remain so over the long term. The change is expected, therefore, to lead to lower increases to pensions, both in deferment and once in payment. This change has been taken into account in determining the financial assumptions adopted at this valuation.

Appendix B

Summary of membership data

Pensionable Employees

	At 31 March 2007	At 31 March 2010	Increase (%)
Number	5,373	5,708	6.2
Annual Pensionable Pay ¹ (£000s)	109,849	116,661	6.2
Average Pensionable Pay (£)	20,445	20,438	0.0
Average Age ² (years)	49.5	50.7	N/A
Average Pensionable Service ³ (years)	10.9	11.7	7.3

Notes: 1 - Pensionable Pay figures include actual pay for part-time employees.

2 – Weighted by accrued pension.

3 – Weighted by salary.

Preserved Pensioners*

	At 31 March 2007	At 31 March 2010	Increase (%)
Number	4,062	3,553	-12.5
Annual Pensions inclusive of Pension Increase (£000s)	6,688	8,303	24.1
Average Pension including Pension Increase (£)	1,647	2,337	41.9
Average Age ² (years)	49.6	50.6	N/A

* including frozen refunds and leaver options pending

Current Pensioners

	At 31 March 2007	At 31 March 2010	Increase (%)
Number	4,575	4,912	7.4
Annual Pensions inclusive of Pension Increase (£000s)	18,224	21,463	17.8
Average Pension including Pension Increase (£)	3,983	4,369	9.7
Average Age ² (years)	68.2	69.2	N/A

Current Widow/Widower Pensioners etc.

	At 31 March 2007	At 31 March 2010	Increase (%)
Number	782	792	1.3
Annual Pensions inclusive of Pension Increase (£000s)	1,823	2,005	10.0
Average Pension including Pension Increase (£)	2,331	2,532	8.6
Average Age ² (years)	73.8	75.5	N/A

In addition there were 50 current dependant pensioners as at 31 March 2010 with pensions in payment totalling £68,000 per annum.

A number of inconsistencies have been identified in relation to the data provided by the Fund's administrators for the 2007 and 2010 actuarial valuations. In particular due to data cleansing performed by the administrators, a large number of members are now included in the 2010 valuation data who were missing from the data used for the 2007 actuarial valuation. The data cleansing exercise is an ongoing process and it is

recognised that there is likely to be an effect on the liabilities and contribution rates emerging at the next valuation once the data has been cleansed further and administration records are updated.


 Appendix C

Distribution of membership by employing bodies

Employing Body	Pensionable Employees	Preserved Pensioners	Pensioners
Ascham Homes Ltd	122	17	28
Community Transport Plus	21	0	4
EduAction (Waltham Forest) Ltd	8	154	47
Ellingham Employment	1	1	0
Frederick Bremer	7	0	0
JB Riney	12	0	0
Kier Facilities	26	2	6
Kier Support / Street Services	99	5	4
Leyton Sixth Form College	46	26	11
London & Quadrant Housing Trust	7	8	6
London Borough of Waltham Forest	4,995	3,068	5,494
M&E Solutions Ltd	1	4	5
May Gurney	6	1	0
May Gurney Recycling	4	5	0
Orient Regeneration Trust	14	20	2
Outlook Care - Canopy (Housing Consortium)	5	5	21
Ramesys (Capita IT)	1	0	0
Sir George Monoux Sixth Form College	54	16	20
VT Group	47	5	4
Waltham Forest College of Further Education	207	182	89
Walthamstow Academy	25	5	0
<i>Former Employers with no active members</i>	<i>0</i>	<i>29</i>	<i>13</i>
Totals	5,708	3,553	5,754

Appendix D

Actuarial assumptions used

Funding target and recovery plan assumptions

Financial assumptions

Investment return (discount rate)

A yield based on market returns on UK Government gilt stocks and other instruments which reflects a market consistent discount rate for the profile and duration of the Scheme's accrued liabilities, plus an Asset Out-performance Assumption ("AOA") of 2.0% p.a. for the period pre-retirement and 1.0% p.a. post-retirement.

The asset out-performance assumption represents the allowance made, in calculating the funding target, for the long term additional investment performance on the assets of the Fund relative to the yields available on long dated gilt stocks as at the valuation date. The allowance for this out-performance is based on the liability profile of the Scheme, with a higher assumption in respect of the "pre-retirement" (i.e. active and deferred pensioner) liabilities than for the "post-retirement" (i.e. pensioner) liabilities. This approach thereby allows for a gradual shift in the overall equity/bond weighting of the Fund as the liability profile of the membership matures over time.

Individual Employers

Having determined the AOAs as above for the Fund overall, it is important to consider how the financial assumptions in particular impact on individual participating employers. As employers in the Fund will have different mixes of active, deferred and pensioner members, adopting a different pre/post retirement investment return approach is equivalent to hypothecating a different equity/bond mix investment strategy for each employer. Such an approach would be inconsistent with the Fund practice, as set out in the FSS, of allocating investment performance pro rata across all employers based on a "mirror image" investment strategy to the whole Fund (other than for any employers adopting a bespoke investment strategy in accordance with the FSS). In completing the

calculations for individual employers therefore, a single, composite, pre and post retirement asset out-performance assumption of 1.4% p.a. has been calculated which, for the Fund as a whole, gives the same value of the funding target as the separate pre and post retirement AOAs.

Inflation (Consumer Prices Index)

The inflation assumption will be taken to be the investment market's expectation for RPI inflation as indicated by the difference between yields derived from market instruments, principally conventional and index-linked UK Government gilts as at the valuation date, reflecting the profile and duration of the Scheme's accrued liabilities but subject to the following two adjustments.

- An allowance for supply/demand distortions in the bond market is incorporated and
- Due to retirement pensions being increased annually by the change in the Consumer Price Index rather than the Retail Price Index, as announced in June 2010. This change will apply from April 2011 and the assumptions make due allowance for this revision as advised by the Actuary.

The overall reduction to market implied RPI inflation at the valuation date is 0.8% per annum.

Salary increases

The assumption for real salary increases (salary increases in excess of price inflation) will be determined by an allowance of 1.5 % p.a. over the CPI inflation assumption as described above. This includes allowance for promotional increases. This has been modified from the assumption at the previous valuation (of 1.5 % above the RPI inflation assumption) to reflect future expectations, averaged over the long-term, for real salary increases, and the change in inflation assumption from RPI to CPI.

Pension increases

Increases to pensions are assumed to be in line with the inflation (CPI) assumption described above. The pension increase assumption is modified appropriately to reflect any benefits which are not fully indexed in line with inflation (e.g. Guaranteed Minimum Pensions in respect of service prior to April 1997).

Demographic assumptions

Mortality

The mortality assumptions will be based on the most up-to-date information in relation to self-administered pension schemes published by the Continuous Mortality Investigation CMI, making allowance for future improvements in longevity and the experience of the scheme. The mortality tables used reflect the Fund's membership profile, and are set out in the summary section below. Members who retire on the grounds of ill health are assumed to exhibit average mortality equivalent to that for a good health retiree at an age 3 years older. For all members, it is assumed that the accelerated trend in longevity

seen in recent years will continue in the longer term and as such, the assumptions build in a minimum level of longevity 'improvement' year on year in the future in line with the CMI projections subject to a minimum rate of improvement of 1% per annum.

Early retirement

Some members are entitled to receive their benefits (or a part of their benefits) unreduced from an age prior to the Fund's normal pension age under the "Rule of 85" provisions of the Regulations. This age will be at some point between ages 60 and 65, depending on the length of a member's pensionable service. The calculations in respect of the relevant service to which these terms apply (basically pre April 2008 service but with transitional protections for certain members) allow for a proportion of the active membership to retire in normal health prior to age 65, as set out below.

Age	% retiring per annum	
	Males	Females
60	24	41
61	15	20
62	21	20
63	22	19
64	26	23

For post April 2008 service (other than protected service) the situation is different since the "Rule of 85" rule has been removed (and for post October 2006 service for new entrants to the Scheme from that date). For this service we have assumed the earliest age at which unreduced benefits become an entitlement is 65, except for those members who have protected status under the transitional provisions.

No allowance has been made for any early retirements (including those on the grounds of ill health) prior to the ages specified above. Additional capital contributions will be paid by employers in respect of the cost of these retirements,

Withdrawals

This assumption relates to those members who leave the scheme with an entitlement to a deferred pension or transfer value. It has been assumed that active members will leave the Scheme at the following sample rates:

Age	% leaving per annum	
	Males	Females
25	13.50	14.92
35	3.39	4.18
45	1.69	2.59

Commutation

It has been assumed that, on average, 50% of retiring members will take the maximum tax-free cash available at retirement and 50% will take the standard 3/80ths cash sum. The option which members have to commute part of their pension at retirement in return for a lump sum is a rate of £12 cash for each £1p.a. of pension given up.

Proportion married/in civil partnership and age difference

It has been assumed that the proportions of members below will on death give rise to a spouse's/civil partner's/dependant's pension, and that spouses/partners of female (male) members are three years older (younger), on average than the member.

Age	% spouse/partner	
	Males	Females
25	45	25
35	45	47
45	54	55

Expenses

Expenses are met out of the Fund, in accordance with the Regulations. This is allowed for by adding 0.5% of Pensionable Pay to the contributions as required from participating employers. This addition is reassessed at each valuation. Investment expenses have been allowed for implicitly in determining the discount rates.

Discretionary Benefits

The costs of any discretion exercised by an employer in order to enhance benefits for a member through the Fund will be subject to additional contributions from the employer as required by the Regulations as and when the event occurs. As a result, no allowance for such discretionary benefits has been made in the valuation.

Assumptions used in calculating the cost of future accrual

The cost of future accrual (the common contribution rate) has been calculated using the same actuarial assumptions as used to calculate the funding target as set out above except that the financial assumptions adopted are as described below.

The financial assumptions for assessing the future service contribution rate should take account of the following points:

- contributions will be invested in market conditions applying at future dates, which are unknown at the effective date of the valuation, and which are not directly linked to market conditions at the valuation date; and
- the future service liabilities for which these contributions will be paid have a longer average duration than the past service liabilities.

The financial assumptions in relation to future service are not specifically linked to investment conditions as at the valuation date itself, and are based on an overall assumed real return (i.e. return in excess of price inflation) of 3.75% per annum, with a long term average assumption for price inflation of 3.0 % per annum. These two assumptions give rise to an overall discount rate of 6.75% p.a.

Adopting this approach the future service rate is not subject to variation solely due to different market conditions applying at each successive valuation, which reflects the requirement in the Regulations for stability in the common rate of contributions. In market conditions at the effective date of the 2010 valuation this approach gives rise to a somewhat more optimistic stance in relation to the cost of accrual of future benefits compared to the market related basis used for the assessment of the funding target.

At each valuation the cost of the benefits accrued since the previous valuation will become a past service liability. At that time any mismatch against gilt yields and the asset out-performance assumptions used for the funding target is fully taken into account in assessing the funding position.

Summary of key assumptions used for calculating funding target and cost of future accrual for the 2010 actuarial valuation

Long-term gilt yields

Fixed interest	4.5% p.a.
Index linked	0.7% p.a.

Past service Funding Target financial assumptions

Investment return pre-retirement	6.5 % p.a.
Investment return post-retirement	5.5 % p.a.
CPI price inflation	3.0% p.a.
Salary increases	4.5 % p.a.
Pension increases	3.0 % p.a.

Future service accrual financial assumptions

Investment return	6.75% p.a.
CPI price inflation	3.0% p.a.
Salary increases	4.5 % p.a.
Pension increases	3.0 % p.a.

Post retirement mortality

	Table	Adjustment*
Males normal health pensioners	S1PMA CMI_2009_M [1%]	107%
Female normal health pensioners	S1PFA CMI_2009_F [1%]	98%
Males ill health pensioners	As for male normal health pensioners +3 years	
Female ill health pensioners	As for female normal health pensioners +3 years	
Male dependants	S1PMA CMI_2009_M [1%]	129%
Female dependants	S1DFA CMI_2009_F [1%]	107%
Male future dependants	S1PMA CMI_2009_M [1%]	113%
Female future dependants	S1DFA CMI_2009_F [1%]	103%

* An **age rating** applied to an actuarial table has the effect of assuming that beneficiaries have a life expectancy equal to those older (or younger) than their actual age.

For example, a “+1 year” rating would mean beneficiaries are assumed to have the mortality of someone one year their senior which has the effect of reducing their life expectancy and hence reducing the assessed value of the corresponding liabilities.

A **weighting** applied to an actuarial table has the effect of increasing or reducing the chance of survival at each age, which increases or reduces the corresponding life expectancy.

For example, a “106%” weighting would mean beneficiaries have mortality rates 6% higher than the unadjusted table which reduces the assessed value of the corresponding liabilities.

Other Demographic assumptions

Pre-retirement mortality	PA92 MC YoB tables + 2 years
Commutation	One half of members take maximum lump sum, others take 3/80ths
Proportions married/civil partnerships	Revised at the 2010 valuation based on up to date detailed analysis of general LGPS experience
Withdrawal and other demographics	As for 2007 Valuation

Assumptions used in calculating contributions payable under the recovery plan

The contributions payable under the recovery plan are calculated using the same assumptions as those used to calculate the **funding target**, with the exception that, for certain employers, the required contributions are adjusted to allow for the following variation in assumptions during the period of the recovery plan:

Short term salary growth

When determining deficit contributions, expressed as a percentage of salaries, adjustments have been made to allow for anticipated active membership headcount reductions and lower salary growth during the first three years of the recovery plan. Further details can be found in the Funding Strategy Statement adopted by the Administering Authority on 18 January 2011.

Investment return on existing assets and future contributions

An overall additional return of 2.5% p.a. above the liabilities consistent gilt yield of 4.5% p.a. effective as at the valuation date, reflecting the underlying investment strategy of the scheme and, in particular, including the assets of the scheme that underlie the pensioner as well as the non-pensioner liabilities.

This is equivalent to a total rate of investment return of 7.0% p.a. effective as at the 2010 valuation date.

The investment return assumed for the contributions under the recovery plan is taken to apply throughout the recovery period. As a result, any change in investment strategy which would act to reduce the expected future investment returns could invalidate these assumptions and therefore the funding strategy.

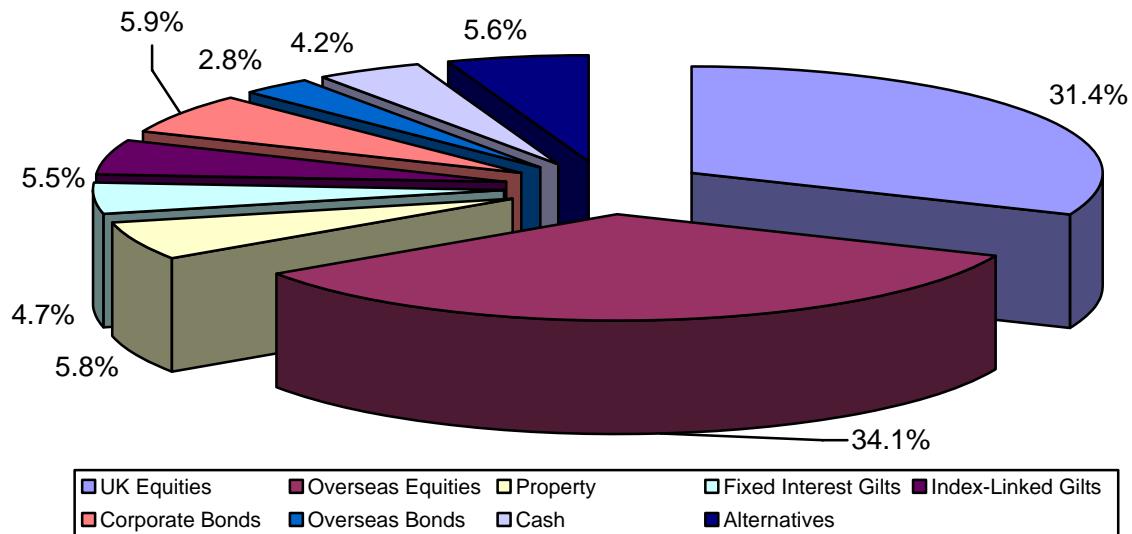
The above variation to assumptions in relation to the recovery plan can only be applied for those employers which the Administering Authority deems to be of sufficiently high covenant to support the anticipation of investment returns, based on the current investment strategy, over the entire duration of the recovery period. No such variation in the assumptions will apply in any case to any employer which does not have a funding deficit at the valuation (and therefore for which no recovery plan is applicable). Where the variation in the assumptions does apply, the resultant total contribution rate(s) implemented following the 2010 valuation will be subject to a minimum of both:

- the contribution rate(s) originally planned for 2011/12 onwards based on the 2007 actuarial valuation, and
- the normal future service contribution rate for the employer concerned.

Appendix E

Summary of assets

Based on the information supplied, the market value of the assets of the Fund (excluding those additional voluntary contribution funds (AVCs) which are separately invested) was £480.2 million on the valuation date. The target distribution of assets by asset class based on the benchmark allocation of the strategy in force as at 31 March 2010 was as follows:-



The details of the assets at the valuation date and the financial transactions during the inter-valuation period (as summarised in Appendix F) have been obtained from the audited accounts for the Scheme.


 Appendix F

Summary of income and expenditure

INCOME	Year ending 31 March			
	2008 £000s	2009 £000s	2010 £000s	Total £000s
Fund at beginning of year	472,287	445,707	340,179	472,287
Contributions to Fund:				
Employees	6,878	7,652	7,545	22,075
Employers	21,694	27,400	25,780	74,874
Transfer Values received	4,314	3,820	2,449	10,583
Investment income	8,144	10,828	7,451	26,423
Change in market value of investments	-35,823	-119,591	138,907	-16,507
TOTAL:	477,494	375,816	522,311	589,735

EXPENDITURE	Year ending 31 March			
	2008 £000s	2009 £000s	2010 £000s	Total £000s
Pensions for members/spouses/partners/dependants	21,290	22,967	23,872	68,129
Lump sum benefits	4,477	4,803	5,613	14,893
Refunds on withdrawal	3	0	1	4
Transfer values paid	3,490	4,609	9,727	17,826
Investment expenses	1,853	2,697	2,057	6,607
Administration expenses	674	561	841	2,076
Fund at end of year	445,707	340,179	480,200	480,200
TOTAL:	477,494	375,816	522,311	589,735

Appendix G

Experience analysis of the membership of the Fund for the period 1 April 2007 to 31 March 2010

The analysis below compares the actual experience over the 3 year period with the assumptions used for the 2010 valuation.

1. Withdrawals

	Actual	Expected	%
Males	295	102	289
Females	624	350	178
Total	919	452	203

Note that actual withdrawals include members moving to another LGPS Fund, bulk transfers and also transfers under the special transfer club terms.

2. Pensioner Deaths

a. Based on amounts of pension payable

	Actual (£000s)	Expected (£000s)	%
Males	977	921	106
Females	775	775	100
Total	1,751	1,695	103

b. Based on number of pensions in payment

	Actual	Expected	%
Males	221	181	122
Females	306	286	107
Total	527	467	113

Appendix H

Rates and Adjustments Certificate issued in accordance with Regulation 36 of the Administration Regulations

Name of Fund

London Borough of Waltham Forest Pension Fund

Primary Contribution Requirements

I hereby certify that, in my opinion, the common rate of employers' contributions payable in each year of the period of three years beginning 1 April 2011 should be at the rate of 11.3 per cent of Pensionable Pay.

I hereby certify that, in my opinion, the amount of the employers' contributions payable in each year of the period of three years beginning with 1 April 2011, as set out above, should be individually adjusted as set out in the attached schedule.

Contributions will be payable monthly in arrears with each payment normally being due by the 19th of the following month. Pensionable Pay is pay as determined under the LGPS regulations for the calculation of employee contributions.

Further Adjustments

A further individual adjustment shall be applied in respect of each early retirement including those on the grounds of ill health occurring in the period of three years covered by this certificate. This further individual adjustment will be calculated in accordance with methods agreed from time to time between the Fund's actuary and the Administering Authority.

The contributions set out in the attached schedule represent the minimum contribution which may be paid by each employer. Additional contributions may be paid if requested by the employer concerned. The total contributions payable by each employer in each year will be subject to a minimum of zero.

The contributions may be varied as agreed by the Actuary and Administering Authority to reflect any changes in contribution requirements as a result of any benefit costs being insured against a third party.

Regulation 36(8)

No allowance for early retirements, including on grounds of ill health, has been made in determining the results of the valuation, on the basis that the costs arising will be met by additional contributions.

Signature**Name** Ian Kirk**Date of signing** 31 March 2011**Qualification** Fellow of the Institute and Faculty of Actuaries

Appendix I

Schedule to the Rates and Adjustment Certificate dated 31 March 2011

Employers	2011/12		2012/13		2013/14	
	Individual Adjustment	Future Service Rate (% of pay)	Individual Adjustment	Future Service Rate (% of pay)	Individual Adjustment	Future Service Rate (% of pay)
London Borough of Waltham Forest	12.1%	23.4%	13.9%	25.2%	15.9%	27.2%
Ascham Homes Ltd	1.7%	13.0%	2.0%	13.3%	2.1%	13.4%
Community Transport Plus	TBC	TBC	TBC	TBC	TBC	TBC
Ellingham Employment	TBC	TBC	TBC	TBC	TBC	TBC
Frederick Bremer	0.2%	11.5%	0.2%	11.5%	0.2%	11.5%
JB Riney	-5.0%	6.3%	-5.0%	6.3%	-5.0%	6.3%
Kier Facilities	2.3%	13.6%	2.8%	14.1%	3.1%	14.4%
Kier Support / Street Services	1.4% less £5,000	12.7% less £5,000	1.4% less £5,000	12.7% less £5,000	1.4% less £5,000	12.7% less £5,000
Leyton Sixth Form College	-0.3% plus £31,000	11.0% plus £31,000	-0.3% plus £34,000	11.0% plus £34,000	-0.3% plus £36,000	11.0% plus £36,000
London & Quadrant Housing Trust	1.4%	12.7%	1.6%	12.9%	2.0%	13.3%
May Gurney	-5.2%	6.1%	-5.2%	6.1%	-5.2%	6.1%
May Gurney Recycling	5.6% plus £2,000	16.9% plus £2,000	5.6% plus £5,000	16.9% plus £5,000	5.6% plus £9,000	16.9% plus £9,000
Orient Regeneration Trust	TBC	TBC	TBC	TBC	TBC	TBC
Outlook Care - Canopy (Housing Consortium)	TBC	TBC	TBC	TBC	TBC	TBC

Employers	2011/12		2012/13		2013/14	
	Individual Adjustment	Future Service Rate (% of pay)	Individual Adjustment	Future Service Rate (% of pay)	Individual Adjustment	Future Service Rate (% of pay)
Ramesys (Capita IT)	-6.2% less £400	5.1% less £400	-6.2% less £500	5.1% less £500	-6.2% less £500	5.1% less £500
Sir George Monoux Sixth Form College	-1.4% plus £43,000	9.9% plus £43,000	-1.4% plus £49,000	9.9% plus £49,000	-1.4% plus £53,000	9.9% plus £53,000
VT Group	0.2% less £32,000	11.5% less £32,000	0.2% less £29,000	11.5% less £29,000	0.2% less £26,000	11.5% less £26,000
Waltham Forest College of Further Education	8.7%	20.0%	9.9%	21.2%	11.2%	22.5%
Walthamstow Academy	3.8%	15.1%	4.1%	15.4%	4.4%	15.7%

Notes:

In cases where an element of an existing Scheme employer's deficit is transferred to a new employer on its inception, the Scheme employer's deficit recovery contributions shown on this certificate may be reallocated between the Scheme employer and the new employer to reflect this, on advice of the Actuary.

Argentina	Mexico
Australia	Netherlands
Austria	New Zealand
Belgium	Norway
Brazil	Philippines
Canada	Poland
Chile	Portugal
China	Saudi Arabia
Colombia	Singapore
Czech Republic	South Korea
Denmark	Spain
Finland	Sweden
France	Switzerland
Germany	Taiwan
Hong Kong	Thailand
India	Turkey
Indonesia	United Arab Emirates
Ireland	United Kingdom
Italy	United States
Japan	Venezuela
Malaysia	

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