

Pensions Committee

2.30 p.m., Wednesday, 25 March 2015

2014 Actuarial Valuation for Lothian Pension Fund

Item number	5.7
Report number	
Executive/routine	
Wards	All

Executive summary

The Lothian Pension Fund is required by law to undertake an actuarial valuation every three years. The pension fund's Actuary assesses the financial health of the pension fund and sets the employer contribution rates required for the next three years. The last actuarial valuation was undertaken as at 31 March 2011.

The actuarial valuation of the Lothian Pension Fund, based on data as at 31 March 2014, has been undertaken.

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2014 Actuarial Valuation for Lothian Pension Fund

Recommendations

The Pensions Committee is requested to:

- 1.1 note the results of the 2014 Actuarial Valuation report for the Lothian Pension Fund; and
- 1.2 agree the investment of an index-linked government bond portfolio alongside the core investment strategy of Lothian Pension Fund, representing the share of assets for certain employers for whom a different investment strategy is to be implemented.

Background

- 2.1 The actuarial valuation of the Lothian Pension Fund, based on data as at 31 March 2014, must be completed by 31 March 2015.
- 2.2 The actuarial valuation of the pension fund has three main purposes:
 - To assess whether the funding strategy and assumptions are appropriate;
 - To assess the financial health of the pension fund; and
 - To set the future rates of contributions payable by the employers.

Main report

- 3.1 The 2014 Actuarial Valuation report for the Lothian Pension Fund is attached as appendix to this paper.
- 3.2 The table below summarises the financial position of the Fund at 31 March 2014 in respect of benefits earned by members up to this date.

Past Service Position	2011	2014
Past Service Liabilities £m	3,619	4,796
Market Value of Assets £m	3,477	4,379
Surplus / (Deficit) £m	(142)	(417)
Funding Level %	96.1%	91.3%

- 3.3 The results show that the Fund had not met its objective of holding sufficient assets to meet the estimated current cost of past service benefits at 31 March 2014. The funding level has fallen from 96.1% at the previous valuation at 31 March 2011 to 91.3% at this valuation. This has resulted in the deficit increasing from £142million at 31 March 2011 to £417million at 31 March 2014.

3.4 The chart at Page 8 of Appendix 1 illustrates the various factors that caused the funding position to fall. Since the 2014 actuarial valuation, the investments of the Fund have performed well and employer contributions have been greater than the cost of new benefits being accrued. These have helped to improve the funding level. However, the fall in bond yields as well as the improvements in longevity have caused the funding level to fall.

Actuarial Valuation method and assumptions

- 3.5 The use of market-related financial assumptions in the actuarial valuation means that the results are likely to be volatile. Bond yields and the financial market's expectation of inflation as at the valuation date are used to value the liabilities. Inflation rates are important as pension liabilities increase with inflation and bond yields are a key determinant of the discount rate.
- 3.6 The use of market-related financial assumptions is considered to be transparent. However this needs to be balanced with the need for stable employer contributions.
- 3.7 The value of the liabilities is very sensitive to the financial assumptions. 1% change in the discount rate can change the value of the liabilities by 15-20%. In the actuarial valuation, the Actuary illustrates how the funding level would be affected under different investment market conditions.
- 3.8 Full details of the funding method and assumptions are provided in Appendix 1. Summaries of the main financial and demographic assumptions adopted for the valuation of members' benefits are shown below.

Financial Assumption	Description	Nominal %p.a.	Real %p.a.
Price Inflation (CPI)	Market expectation of long term future retail prices inflation, as measured by the difference between yields on fixed and index-linked UK Government bonds at the valuation date, less 0.8% p.a.	2.7	-
Pay increases	CPI plus 2.3% p.a.*	5.0	2.3
"Gilt-based" discount rate	Yield on fixed interest (nominal) UK Government Bonds	3.5	0.8
Funding basis discount rate	"Gilt-based" discount rate plus an Asset Outperformance Assumption (AOA) of 1.5% p.a.	5.0	2.3

* 2% p.a. for 2014/15 and 2015/16, reverting to 5.0% p.a. thereafter, plus an allowance for promotional pay increases.

3.9 The demographic assumption to which the valuation results are most sensitive is that relating to the longevity of the Fund's members. The Actuary has increased the expected life expectancy and assumed the following average future life

expectancies for members, taking account, of more specific baseline information from the Fund's membership of the Club Vita longevity data pool.

Assumed life expectancy at age 65	Actives & Deferreds		Current Pensioners	
	Male	Female	Male	Female
2011 valuation – baseline	19.1	21.8	18.9	21.2
2011 valuation - improvements	22.6	25.4	20.4	22.8
2014 valuation – baseline	19.7	22.4	19.7	21.7
2014 valuation - improvements	24.2	26.3	22.1	23.7

Employer Contribution Rates as at 31 March 2014

3.10 The table below summarises the average employer contribution rate that would be required, based on this triennial valuation date.

Contribution Rates	2011	2014
	% of pay	% of pay
Employer Future Service Rate	16.8%	19.8%
Past Service Adjustment (20 year spread)	1.2%	3.3%
Total (Common) Contribution Rate	18.0%	23.1%

- 3.11 The common contribution rate for the Fund at 31 March 2014 is 23.1% of pay. This comprises the anticipated cost of new benefits being earned by members in future (19.8%) plus the amount needed to recover the past service deficit over a 20 year period (3.3%). This rate, which is an actuarial disclosure requirement, is in addition to the contributions that will be made by members. The common contribution rate is very much a theoretical figure for the Fund as a whole. In practice, each employer in the Fund has its own (or pooled) underlying contribution rate.
- 3.12 The Fund aims to ensure that the recovery of any past service deficit is achieved irrespective of any fluctuations in future payroll. As a result, contribution rates will continue to be expressed as a percentage of payroll for future service benefits and as a fixed monetary amount for the recovery of past service adjustment.
- 3.13 The contribution rates to be paid by individual employers from 1 April 2015 are set out in the Rates and Adjustments Certificate in Appendix G (of the Actuary's report which is included as Appendix 1). It should be noted that these are the minimum contribution requirements for each employer.

Bespoke Investment Strategy for Certain Employers

- 3.14 Committee will recall the inclusion of the potential for investment strategy to be more tailored to specific employers in the Funding Strategy Statement when it was reviewed in 2011.

- 3.15 One employer, Forth Estuary Transport Association (FETA) has requested a low-risk investment strategy in order to reduce funding volatility. This is linked to the organisational changes at FETA which are covered elsewhere on the Committee's agenda.
- 3.16 In addition, the change in the funding approach for the closed employers with 4 or fewer members and/or a remaining working lifetime of less than 6 years, proposed that the assets relating to these employers are invested in low-risk investments.
- 3.17 Therefore, the Committee is asked to agree the investment of the assets relating to these employers in index-linked government bonds. These are expected to be of the order of £40m (the current share of the Fund relating to these employers). These would be held separately to the remaining assets of Lothian Pension Fund which will continue to be invested in line with the previously agreed strategy.

Measures of success

- 4.1 The funding strategy should ensure that the Fund has sufficient assets to meet pension obligations in the long term. The minimum contribution rates payable by the employer are certified by the Fund's Actuary in accordance with the professional standards of the Institute and Faculty of Actuaries.

Financial impact

- 5.1 The funding strategy should ensure that the Fund has sufficient assets in the long term to meet its liabilities.
- 5.2 The results of the actuarial valuation have significant financial impact on the Fund's employers. The actuarial valuation sets the minimum contribution rates payable by the employer over the next 3 years.

Risk, policy, compliance and governance impact

- 6.1 The Lothian Pension Fund is required by law to undertake an actuarial valuation every three years. Regular actuarial assessment of the Fund manages the risk of not meeting funding objectives.

Equalities impact

- 7.1 There is no equalities impact.

Sustainability impact

- 8.1 There is no environmental impact.

Consultation and engagement

- 9.1 The Consultative Panel for the Lothian Pension Funds, comprising employer and member representatives, is integral to the governance of the Funds. A training event was held for members of the Committee and Consultative Panel in November 2014. This included an explanatory briefing by the Fund's Actuary on the actuarial valuation and coverage of the draft results.
- 9.2 Formal consultation on the Funding Strategy Statement and the draft valuation results started at the employer seminar in December 2014 with a presentation by the Fund's Actuary.
- 9.3 Further meetings were held with specific groups of employers in January 2014 to discuss the valuation in greater detail particularly those impacted by the changes to the funding approach. In addition, a number of further one-to-one discussions were held with LPF staff, supplemented by telephone calls and e-mail correspondence.

Background reading / external references

None.

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Council outcomes CO26 - The Council engages with stakeholders and works in partnerships to improve services and deliver agreed

Single Outcome Agreement

Appendices Appendix 1: Actuarial Valuation 2014 Lothian Pension Fund

Appendix 1

Hymans Robertson LLP has carried out an actuarial valuation of the Lothian Pension Fund (“the Fund”) as at 31 March 2014, details of which are set out in the report dated **DRAFT** (“the Report”), addressed to City of Edinburgh Council (“the Client”). The Report was prepared for the sole use and benefit of our Client and not for any other party; and Hymans Robertson LLP makes no representation or warranties to any third party as to the accuracy or completeness of the Report.

The Report was not prepared for any third party and it will not address the particular interests or concerns of any such third party. The Report is intended to advise our Client on the past service funding position of the Fund at 31 March 2014 and employer contribution rates from April 2015, and should not be considered a substitute for specific advice in relation to other individual circumstances.

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Lothian Pension Fund
2014 Actuarial Valuation
Valuation Report

HYMANS  ROBERTSON

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1 Executive summary

We have carried out an actuarial valuation of the Lothian Pension Fund ('the Fund') as at 31 March 2014. The results are presented in this report and are briefly summarised below.

Funding position

The table below summarises the financial position of the Fund at 31 March 2014 in respect of benefits earned by members up to this date.

	31 March 2011 (£m)	31 March 2014 (£m)
Past Service Position		
Past Service Liabilities	3,619	4,796
Market Value of Assets	3,477	4,379
Surplus / (Deficit)	(142)	(417)
Funding Level	96.1%	91.3%

The results show that the Fund had not met its objective of holding sufficient assets to meet the estimated current cost of the past service benefits at 31 March 2014. The funding level has decreased from 96% at the 2011 valuation to 91% at this valuation. This has resulted in the deficit rising from £142m at 31 March 2011 to £417m at 31 March 2014.

The increase in deficit reflects the adverse conditions which the Fund has had to contend with since the previous valuation. In particular, the decrease in the real gilt yield has increased the value placed on the Fund's liabilities. This has been partially offset by better than expected returns on the Fund's assets.

Contribution rates

The table below summarises the average employer contribution rate that would be required, based on this triennial valuation.

	31 March 2011 (% of pay)	31 March 2014 (% of pay)
Contribution Rates		
Total future service rate (incl. expenses of 0.3% of pay)	23.4%	25.8%
less employee contribution rate	6.6%	6.0%
Employer future service rate (incl. expenses)	16.8%	19.8%
plus Past Service Adjustment (20 year spread)	1.2%	3.3%
Employer common contribution rate	18.0%	23.1%

The increase in the total employer contribution rate is primarily due to the decrease in the real gilt yields which has increased both the employer future service rate and the past service adjustment.

The common contribution rate is a theoretical figure. In practice, each employer that participates in the Fund has its own underlying funding position and circumstances, giving rise to its own contribution rate requirement. The minimum contributions to be paid by each employer from 1 April 2015 to 31 March 2018 are shown in the Rates and Adjustment Certificate in **Appendix G**.



2 Introduction

Purpose

We have carried out an actuarial valuation of the Lothian Pension Fund as at 31 March 2014.

- This valuation report complies with all of the relevant regulations and professional standards, as set out in **section 7**.
- The figures in this report are based on our understanding of the benefit structure of the LGPS as at 31 March 2014, and changes being implemented from April 2015, details of which are provided in **Appendix B**.
- The results of the valuation are dependent on the quality of the data provided to us by the Administering Authority for the specific purpose of this valuation. This data is summarised in **Appendix D**.
- As part of the valuation, assumptions must be made which are discussed in **section 3** as well as in **Appendix E**. Details of our valuation approach is covered in **Appendix C**.
- The valuation results are then covered in **section 4**.
- We look at some of the risks the Fund faces in **section 5** and consider any post valuation events in **Appendix F**.
- The valuation is just one aspect of the operation of the Fund, and related issues are covered in **section 6**.
- In **Appendix G** we then set out the individual employer contribution requirements from 1 April 2015.

Component reports

This document is an “aggregate” report, i.e. it is the culmination of various “component” reports and discussions, in particular:

- The data report dated (18 September 2014) and mentioned in **section 7**;
- The Initial Results report (dated 24 October 2014) which outlined the agreed actuarial assumptions and whole fund results;
- The stabilisation modelling carried out for certain employers, as detailed in our report and presentation to the Administering Authority on 25 October 2013;
- The Funding Strategy Statement, confirming the different contribution rate setting approaches for different types of employer or in different circumstances.

Note that not all of these documents may be in the public domain.



3 Assumptions

Actuarial assumptions

Assumptions must be made about the factors affecting the Fund's finances in the future. Broadly speaking, our assumptions fall into two categories – financial and demographic.

Demographic assumptions typically try to forecast **when** benefits will come into payment and what form these will take. For example, when members will retire (e.g. at their normal retirement age or earlier), how long they will then survive and whether a dependant's pension will be paid.

Financial assumptions typically try to anticipate the **size** of these benefits. For example, how large members' final salaries will be at retirement and how their pensions will increase over time. In addition, the financial assumptions also help us to estimate how much all these benefits will cost the Fund in today's money.

Financial assumptions

A summary of the main financial assumptions adopted for the valuation of members' benefits is shown below.

Financial assumptions	31 March 2011		31 March 2014	
	Nominal	Real	Nominal	Real
Discount Rate	5.8%	3.0%	5.0%	2.3%
Salary Increases*	5.1%**	2.3%	5.0%***	2.3%
Price Inflation / Pension Increases	2.8%	-	2.7%	-

* Excluding promotional increases

** 1% p.a. for 2011/12 and 2012/13, reverting to 5.1% p.a. thereafter.

*** 2% p.a. for 2014/15 and 2015/16, reverting to 5.0% p.a. thereafter.

Discount rate

The funding valuation is effectively a planning exercise, to assess the funds needed to meet the benefits as they fall due. In order to place a current value on the future benefit payments from the Fund, an assumption about future investment returns is required in order to "discount" future benefit payments back to the valuation date at a suitable rate.

For a funding valuation such as this, the discount rate is set by taking into account the Fund's current and expected future investment strategy and, in particular, how this strategy is expected to outperform the returns from Government bonds over the long term. The additional margin for returns in excess of that available on Government bonds is called the Asset Outperformance Assumption (AOA).

The selection of an appropriate AOA is a matter of judgement and the degree of risk inherent in the Fund's investment strategy should always be considered as fully as possible.

Although there has been a slight downward shift in the expected returns on risky assets since the 2011 valuation, we believe the expected returns in excess of the returns on government bonds to be broadly unchanged since 2011. Therefore, we are satisfied that an AOA of 1.5% p.a. is a prudent assumption for the purposes of this valuation. This results in a discount rate of 5.0% p.a.

Price inflation / pension increases

As was the case at the 2011 valuation, we expect the average long term difference between RPI and CPI to be 0.8% p.a.

At the previous valuation, the assumption for RPI was derived from market data as the difference between the yield on long-dated fixed interest and index-linked government bonds. At this valuation, we have adopted a similar approach.



Salary increases

The assumption for salary increases is 2% p.a. for 2 years, reverting to the long term assumption of RPI plus 1.5% p.a. thereafter. The approach to set the long term salary growth assumption is consistent with that adopted for the 2011 valuation.

Note that this assumption is made in respect of the general level of salary increases (e.g. as a result of inflation and other macroeconomic factors). We also make a separate allowance for expected pay rises granted in the future as a result of promotion. This assumption takes the form of a set of tables which model the expected promotional pay awards based on each member's age and class. Please see **Appendix E**.

Longevity

The main demographic assumption to which the valuation results are most sensitive is that relating to the longevity of the Fund's members. For this valuation, we have adopted assumptions which give the following sample average future life expectancies for members:

Assumed life expectancy at age 65	Actives & Deferreds		Current Pensioners	
	Male	Female	Male	Female
2011 valuation - baseline	19.1	21.8	18.9	21.2
2011 valuation - improvements	22.6	25.4	20.4	22.8
2014 valuation - baseline	19.7	22.4	19.7	21.7
2014 valuation - improvements	24.2	26.3	22.1	23.7

Further details of the longevity assumptions adopted for this valuation can be found in **Appendix E**. Note that the figures for actives and deferreds assume that they are aged 45 at the valuation date.

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 2014. We have also included an allowance for the expected future 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. We have calculated the total value of these expected future payments to be £1.3m at 31 March 2014.

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

Demographic assumptions

We are in the unique position of having a very large local authority data set from which to derive our other demographic assumptions. We have analysed the trends and patterns that are present in the membership of local authority funds and tailor our demographic assumptions to reflect LGPS experience.

Details of these assumptions are set out in **Appendix E**. Further commentary on these was included in the Initial Results report dated 18 September 2014.

Further comments on the assumptions

As required for Local Government Pension Scheme valuations, our proposed approach to this valuation must include a degree of prudence. This has been achieved by explicitly allowing for a margin of prudence in the AOA.

For the avoidance of doubt, we believe that all other proposed assumptions represent the "best estimate" of future experience. This effectively means that there is a 50% chance that future experience will be better or worse than the chosen assumption.



Taken as a whole, we believe that our proposed assumptions are more prudent than the best estimate. The assessed liability value on a “neutral” best estimate (not prudent) basis would perhaps be 15%-20%, lower than the figures shown here.

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4 Results

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 past service funding objective was met at the valuation date, we have used the actuarial assumptions described in the previous section of this report and funding method described in **Appendix C**. The table below compares the value of the assets and liabilities at 31 March 2014. The 31 March 2011 results are also shown for reference.

The results are presented in the form of a “funding level”; this is the ratio of the market value of assets to the assessed cost of members’ past service benefits (“liabilities”).

A funding level of 100% would correspond to the funding objective being met at the valuation date.

Valuation Date	31 March 2011	31 March 2014
Past Service Position	(£m)	(£m)
Past Service Liabilities		
Employees	1,764	2,276
Deferred Pensioners	419	564
Pensioners	1,437	1,956
Total Liabilities	3,619	4,796
Market Value of Assets	3,477	4,379
Surplus / (Deficit)	(142)	(417)
Funding Level	96.1%	91.3%

The main funding objective was not met: there was a shortfall of assets to the assessed cost of members’ benefits of £417m.



Summary of changes to the funding position

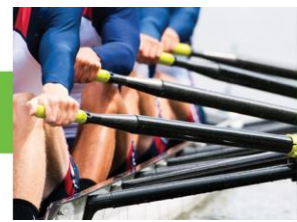
The chart below illustrates the factors that caused the funding position to deteriorate between 31 March 2011 and 31 March 2014:



Further comments on some of the items in this chart:

- There is an interest cost of £27m. This is broadly three years of compound interest at 5.8% p.a. applied to the previous valuation deficit of £142m.
- Investment returns being higher than expected since 2011 led to a gain of £180m. This is roughly the difference between the actual three-year return (roughly 24%) and expected three-year return (roughly 18%) applied to the whole fund assets from the previous valuation of £3,477m, with a further allowance made for cashflows during the period.
- Employer contributions paid to the Fund since 2011 have been greater than the cost of benefits accrued over this period, leading to a gain of £97m.
- Actual experience over the period relates to the specific elements of member experience we are able to analyse and measure. In particular, the combined effect of early leaver, ill health retirement, salary growth, pension increases, pensioner longevity, cash commutation and early retirement experience since 2011 led to a gain of £39m. Please see the Initial Results document for more detail on the observed membership experience at the 2014 valuation.
- The impact of the change in demographic assumptions has been a loss of around £70m. Underlying this figure, changes to the ill health early retirements assumption have had a positive impact but this has been more than offset by assuming fewer withdrawals than at 2011.
- The change in longevity assumptions (baseline and improvements) has given rise to a loss of £98m. This is mainly due to the change in assumed longevity improvements.
- The change in financial conditions since the previous valuation has led to a loss of £429m. This is due to a decrease in the real discount rate between 2011 and 2014.
- Other experience items, such as changes in the membership data, have served to decrease the deficit at this valuation by around £33m.

Note that the benefit changes that come into effect as at 1 April 2015 do not change the funding position as all past service benefits to 31 March 2014 are protected.



Future service

We have calculated the average long-term contribution rate that the Fund employers would need to pay to meet the estimated cost of members' benefits that will be earned after 31 March 2014 (the 'future service contribution rate'). Again, we have used the assumptions set out in the previous section of this report and the method set out in **Appendix C**. The resulting contribution rate is that which should (if the actuarial assumptions about the future are borne out in practice) ensure that the Administering Authority's main future service funding objective is met. The table below details this future service contribution rate for 31 March 2014 and shows the 31 March 2011 rate for comparison.

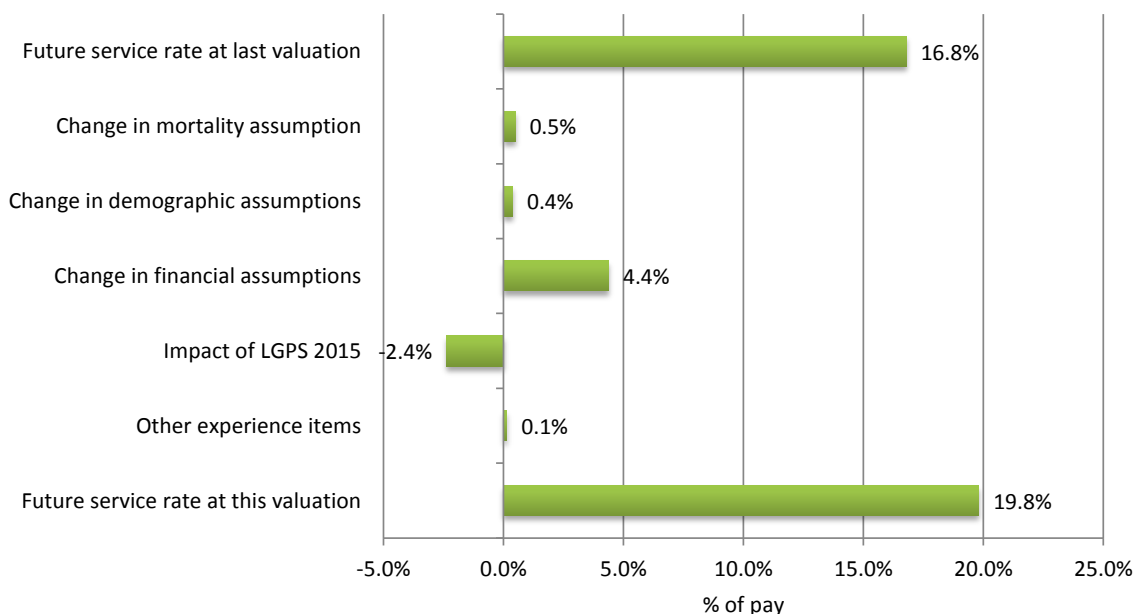
Valuation Date	31 March 2011	31 March 2014
Future service rate	% of pay	% of pay
Employer future service rate (excl. expenses)	16.5%	19.5%
Expenses	0.3%	0.3%
Total employer future service rate (incl. expenses)	16.8%	19.8%
Employee contribution rate	6.6%	6.0%

Note that the employee contribution rate includes any additional contributions being paid by employees as at 31 March 2014 into the Fund. This future service contribution rate makes no allowance for the past service deficit in the Fund described above.

The average future service rate for Fund employers is 19.8% of pay. This rate is calculated as at 31 March 2014 and therefore forms part of the total contribution rate payable by employers from 1 April 2015. Note this rate makes an allowance for changes to the benefit structure that takes effect from 1 April 2015. In practice, a future service rate for each employer has been calculated which is based on their particular circumstances and membership profile. The rate above is an average future service rate for the Fund as a whole.

Summary of changes to the future service rate

The chart below illustrates the factors that caused the future service rate to increase between 31 March 2011 and 31 March 2014:





As can be seen from this chart, the factors that have had the biggest impact on the future service rate between 2011 and 2014 are broadly similar to those discussed for the past service position, other than asset returns. In addition to this, the impact of the LGPS 2015 scheme has resulted in a reduction in contribution rate of 2.4% of payroll.

Contribution rates – total contribution rate

The total (or “common”) contribution rate payable is the average future service rate for Fund employers plus an additional amount to recover the deficit and bring the funding level back to 100% over a period of 20 years, as set out in the Funding Strategy Statement. This additional amount is referred to as the past service adjustment.

The common contribution rate based on the funding position as at 31 March 2014 is detailed below along with the results for 31 March 2011:

Valuation Date	31 March 2011	31 March 2014
Total contribution rate	% of pay	% of pay
Future service rate (incl. expenses)	16.8%	19.8%
Past Service Adjustment (20 year spread)	1.2%	3.3%
Total employer contribution rate	18.0%	23.1%

This does not represent the rate which any one employer is actually required to pay, nor is it the average of the actual employer rates. The actual employer contributions payable from 1 April 2015 are given in **Appendix G**, and these have been devised in line with the Funding Strategy Statement: see **section 6**.



5 Risk Assessment

The valuation results depend critically on the actuarial assumptions that are made about the future of the Fund. If all of the assumptions made at this valuation were exactly borne out in practice then the results presented in this document would represent the true cost of the Fund as it currently stands at 31 March 2014.

However, no one can predict the future with certainty and it is unlikely that future experience will exactly match all of our assumptions. The future therefore presents a variety of risks to the Fund and these should be considered as part of the valuation process. In particular:

- The main risks to the financial health of the Fund should be **identified**.
- Where possible, the financial significance of these risks should be **quantified**.
- Consideration should be given as to how these risks can then be **controlled** or **mitigated**.
- These risks should then be **monitored** to assess whether any mitigation is actually working.

This section investigates the potential implications of the actuarial assumptions not being borne out in practice.

Set out below is a brief assessment of the main risks and their effect on the valuation results, beginning with a look at the effect of changing the main assumptions and then focusing on the two most significant risks – namely investment risk and longevity risk.

Sensitivity of valuation results to changes in assumptions

The table below gives an indication of the sensitivity of the valuation results to small changes in some of the main assumptions used.

Assumption	Change	Impact	
		Deficit (£m)	Future service rate (% of pay)
Discount rate	Increases by 0.5%	Falls by £428m	Falls by 3.0%
Salary increases	Increases by 0.5%	Rises by £113m	-
Price inflation / pension increases	Increases by 0.5%	Rises by £315m	Rises by 3.0%
Life expectancy	Increases by 1 year	Rises by £144m	Rises by 0.8%

This is not an exhaustive list of the assumptions used in the valuation. For example, changes to the assumed level of withdrawals and ill health retirements will also have an effect on the valuation results. However, the table contains those assumptions that typically are of most interest and have the greatest impact.

Note that the table shows the effect of changes to each assumption in isolation. In reality, it is perfectly possible for the experience of the Fund to deviate from more than one of our assumptions simultaneously and so the precise effect on the funding position is more complex.



Investment risk

Sensitivity of valuation results to market conditions and investment performance

As the assets of the Fund are taken at their market value, volatility in investment performance can have an immediate and tangible effect on the funding level and deficit. This is particularly relevant because the Fund is invested predominantly in riskier assets such as equities and equity-type investments (e.g. property). A rise or fall in the level of equity markets has a direct impact on the financial position of the Fund, which may seem obvious.

Less obvious is the effect of anticipated investment performance on the Fund's liabilities (and future service cost). Here it is the returns available on government bonds that are of crucial importance, as the discount rate that we use to place a value on the Fund's liabilities is based on gilt yields at the valuation date plus a margin of 1.5% p.a.

The table below shows how the funding level (top), deficit (middle, in £m) and total contribution rate (bottom, as % of pay) would vary if investment conditions at 31 March 2014 had been different. The level of the FTSE 100 Price index is taken as a suitable proxy for asset performance whilst the index-linked gilt yield is taken as a yardstick for the valuation of liabilities.

Index Linked Gilt Yield	-0.20%	89%	95%	101%
		(524)	(236)	51
		22.6%	20.4%	18.1%
	0.0%	85%	91%	97%
		(705)	(417)	(130)
		25.2%	23.1%	20.8%
	-0.2%	82%	88%	94%
		(893)	(606)	(318)
		27.9%	25.7%	23.6%
		6098	6598	7098
		FTSE 100 Price Index		

The shaded box contains the results for this valuation. Note that this does not take account of the performance of all asset classes held by the Fund (e.g. overseas equities, property, bonds, cash etc.) but it does serve to highlight, in broad terms, the sensitivity of the valuation results to investment conditions at the valuation date.

Note that the scenarios illustrated above are by no means exhaustive. They should not be taken as the limit of how extreme future investment experience could be. The discount rate assumption adopted at this valuation is expected to be appropriate over the long term. Short term volatility of equity markets does not invalidate this assumption.

Longevity risk

The valuation results are also very sensitive to unexpected changes in future longevity. All else being equal, if longevity improves in the future at a faster pace than allowed for in the valuation assumptions, the funding level will decline and the required employer contribution rates will increase.

Recent medical advances, changes in lifestyle and a greater awareness of health-related matters have resulted in life expectancy amongst pension fund members improving in recent years at a faster pace than was originally foreseen. It is unknown whether and to what extent such improvements will continue in the future.

For the purposes of this valuation, we have selected assumptions that we believe make an appropriate allowance for future improvements in longevity, based on the actual experience of the Fund since the previous valuation.



The table below shows how the valuation results at 31 March 2014 are affected by adopting different longevity assumptions.

Longevity assumption	Impact		
	Funding level	Deficit (£m)	Future service rate
2014 valuation (valuation improvements)	91%	(417)	19.8%
2014 valuation (further improvements)	87%	(627)	20.8%
1 year extra	85%	(777)	21.6%

Full details of the longevity improvements adopted at this valuation are set out in **Appendix E**.

The “further improvements” are a more cautious set of improvements that, in the short term, assume the ‘cohort effect’ of strong improvements in life expectancy currently being observed amongst a generation born around the early and mid-1930s will continue to strengthen for a few more years before tailing off. This is known as “non-peaked”.

The “1 year extra” figures relative to a further year of life expectancies beyond those assumed in “further improvements”.

Again, the range of assumptions shown here is by no means exhaustive and should not be considered as the limits of how extreme future longevity experience could be.

Other risks to consider

The table below summarises the effect that changes in some of the other valuation assumptions and risk factors would have on the funding position. Note that these are probably unlikely to have a large financial impact on the Fund and therefore the analysis is qualitative rather than quantitative.

Factor	Impact	
	Funding level	Future service rate
Greater level of ill health retirement	Decreases	Marginal
Reduced level of withdrawals	Decreases	Marginal
Rise in average age of employee members	Marginal effect	Increases
Lower take up of 50:50 option	No impact	Increases

One further risk to consider is the possibility of future changes to Regulations that could materially affect the benefits that members become entitled to. It is difficult to predict the nature of any such changes but it is not inconceivable that they could affect not just the cost of benefits earned after the change but could also have a retrospective effect on the past service position (as the move from RPI to CPI-based pension increases already has).

Managing the risks

Whilst there are certain things, such as the performance of investment markets or the life expectancy of members, that are not directly within the control of the pension fund, that does not mean that nothing can be done to understand them further and to mitigate their effect. Although these risks are difficult (or impossible) to eliminate, steps can be taken to manage them.

Ways in which some of these risks can be managed could be:

- Set aside a specific reserve to act as a cushion against adverse future experience (possibly by selecting a set of actuarial assumptions that are deliberately more prudent).
- Take steps internally to monitor the decisions taken by members and employers (e.g. relating to early / ill health retirements or salary increases) in a bid to curtail any adverse impact on the Fund.



- Pooling certain employers together at the valuation and then setting a single (pooled) contribution rate that they will all pay. This can help to stabilise contribution rates (at the expense of cross-subsidy between the employers in the pool during the period between valuations).
- Carrying out a review of the future security of the Fund's employers (i.e. assessing the strength of employer covenants).
- Carry out a bespoke analysis of the longevity of Fund members and monitor how this changes over time, so that the longevity assumptions at the valuation provide as close a fit as possible to the particular experience of the Fund. This is effectively what Club Vita does.
- Undertake an asset-liability modelling exercise that investigates the effect on the Fund of possible investment scenarios that may arise in the future. An assessment can then be made as to whether long term, secure employers in the Fund can stabilise their future contribution rates (thus introducing more certainty into their future budgets) without jeopardising the long-term health of the Fund. This is exactly what our comPASS tool does.
- Purchasing ill health liability insurance to mitigate the risk of an ill health retirement impacting on solvency and funding level of an individual employer where appropriate.
- Monitoring different employer characteristics in order to build up a picture of the risks posed. Examples include membership movements, cash flow positions and employer events such as cessations.

We would be delighted to set out in more detail the risks that affect the Fund and discuss with you possible strategies for managing them.

Stabilisation of contribution rates (comPASS)

There can be occasions when the market-related employer contribution rate is not affordable or achievable in practice in the short term. This can occur in times of tight fiscal control or where budgets have been set in advance of new employer contribution rates being available.

In view of this possibility, the Administering Authority has carried out extensive modelling to explore the long term effect on the Fund of capping future contribution increases (and decreases). By adopting such a strategy, this effectively means that certain employers will pay a more stable contribution rate, i.e. they will pay a rate less than the market-related contribution rate in "bad" times and a rate more than the market-related rate in "good" times.

The comPASS modelling that we carry out makes an explicit allowance for the possible future investment risks that the Fund may encounter over the period of stabilisation. By doing so, the aim is to justify whether or not the long-term health of the Fund will be adversely impacted by the application of a cap on changes to contribution rates.



6 Related issues

The Fund's valuation operates within a broader framework, and this document should therefore be considered alongside the following:

- the Funding Strategy Statement, which in particular highlights how different types of employer in different circumstances have their contributions calculated;
- the Statement of Investment Principles (e.g. the discount rate must be consistent with the Fund's asset strategy);
- the general governance of the Fund, such as meetings of the Pensions Committee, decisions delegated to officers, the Fund's business plan, etc;
- the Fund's risk register;
- the register of Fund employers.

Further recommendations

Valuation frequency

Under the provisions of the LGPS regulations, the next formal valuation of the Fund is due to be carried out as at 31 March 2017. 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) continues to be monitored by means of interim funding reviews in the period up to this next formal valuation. This will give early warning of changes to funding positions and possible contribution rate changes.

Investment strategy and risk management

We recommend that the Administering Authority continues to regularly review 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 the Fund actuary for individual calculation as to the required level of contribution.

Additional payments

Employers may make voluntary additional contributions to recover any shortfall over a shorter period, subject to agreement with the Administering Authority and after receiving the relevant actuarial advice.

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 me 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.



Cessations and bulk transfers

Any Admission Body who ceases to participate in the Fund should be referred to us in accordance with Regulation 34(1) of the Administration 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.

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7 Reliances and limitations

Scope

This document has been requested by and is provided to City of Edinburgh Council in its capacity as Administering Authority to the Lothian Pension Fund. It has been prepared by Hymans Robertson LLP to fulfil the statutory obligations in accordance with regulation 36 of the Administration Regulations. None of the figures should be used for accounting purposes (e.g. under FRS17, FRS102 or IAS19) or for any other purpose (e.g. a termination valuation under Regulation 34(1)).

This document should not be released or otherwise disclosed to any third party without our prior written consent, in which case it should be released in its entirety. Hymans Robertson LLP accepts no liability to any other party unless we have expressly accepted such liability.

The results of the valuation are dependent on the quality of the data provided to us by the Administering Authority for the specific purpose of this valuation. We have previously issued a separate report confirming that the data provided is fit for the purposes of this valuation and have commented on the quality of the data provided. The data used in our calculations is as per our report of 18 September 2014.

Actuarial Standards

The following Technical Actuarial Standards¹ are applicable in relation to this report and have been complied with where material:

- TAS R – Reporting;
- TAS D – Data;
- TAS M – Modelling; and
- Pensions TAS.

Richard Warden

Fellow of the Institute and Faculty of Actuaries

DRAFT

Steven Scott

Fellow of the Institute and Faculty of Actuaries

DRAFT

¹ Technical Actuarial Standards (TASs) are issued by the Financial Reporting Council (FRC) and set standards for certain items of actuarial work, including the information and advice contained in this report.



Appendix A: About the pension fund

For more details please refer to the Fund's Funding Strategy Statement.

The purpose of the Fund is to provide retirement and death benefits to its members. It is part of the Local Government Pension Scheme (LGPS) and is a multi-employer defined benefit pension scheme.

Defined benefit pension scheme

In a defined benefit scheme such as this, the nature of retirement benefits that members are entitled to is known in advance. For example, it is known that members will receive a pension on retirement that is linked to their salary and pensionable service according to a pre-determined formula.

However, the precise cost to the Fund of providing these benefits is **not** known in advance. The estimated cost of these benefits represents a liability to the Fund and assets must be set aside to meet this. The relationship between the value of the liabilities and the value of the assets must be regularly assessed and monitored to ensure that the Fund can fulfil its core objective of providing its members with the retirement benefits that they have been promised.

Liabilities

The Fund's liabilities are the benefits that will be paid in the future to its members (and their dependants).

The precise timing and amount of these benefit payments will depend on future experience, such as when members will retire, how long they will live for in retirement and what economic conditions will be like both before and after retirement. Because these factors are not known in advance, assumptions must be made about future experience. The valuation of these liabilities must be regularly updated to reflect the degree to which actual experience has been in line with these assumptions.

Assets

The Fund's assets arise from the contributions paid by its members and their employers and the investment returns that they generate. The way these assets are invested is of fundamental importance to the Fund. The selection, monitoring and evolution of the Fund's investment strategy are key responsibilities of the Administering Authority.

As the estimated cost of the Fund's liabilities is regularly re-assessed, this effectively means that the amount of assets required to meet them is a moving target. As a result, at any given time the Fund may be technically in surplus or in deficit.

A contribution strategy must be put in place which ensures that each of the Fund's employers pays money into the Fund at a rate which will target the cost of its share of the liabilities in respect of benefits already earned by members and those that will be earned in the future.

The long-term nature of the Fund

The pension fund is a long-term commitment. Even if it were to stop admitting new members today, it would still be paying out benefits to existing members and dependants for many decades to come. It is therefore essential that the various funding and investment decisions that are taken now recognise this and come together to form a coherent long-term strategy.

In order to assist with these decisions, the Regulations require the Administering Authority to obtain a formal valuation of the Fund every three years. Along with the Funding Strategy Statement, this valuation will help determine the funding objectives that will apply from 1 April 2015.



Appendix B: Summary of the Fund's benefits

Provided below is a brief summary of the non-discretionary benefits that we have taken into account for active members at this valuation. This should not be taken as a comprehensive statement of the exact benefits to be paid. For further details please see the Regulations.

Provision	Benefit Structure To 31 March 2009	Benefit Structure From 1 April 2009 to 31 March 2015	Benefit Structure From 1 April 2015
Normal retirement age (NRA)	Age 65.	Age 65.	Equal to the individual member's State Pension Age (minimum 65).
Earliest retirement age (ERA) on which immediate unreduced benefits can be paid on voluntary retirement	<p>As per NRA (age 65).</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). The minimum age from which the Rule of 85 applies is age 60.</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 1960 or earlier – membership up to 31 March 2020 protected;</p> <p>(b) All other members in the scheme immediately prior to 1 December 2006 – membership up to 31 March 2008 protected.</p>	Age 65.	<p>As per NRA (minimum age 65).</p> <p>Protections apply to active members in the scheme for pensions earned up to 1 April 2015, due to:</p> <p>a) Accrued benefits relating to pre April 2015 service at age 65.</p> <p>b) Continued 'Rule of 85' protection for qualifying members.</p> <p>c) Members within 10 years of existing NRA at 1 April 2012 – no change to when they can retire and no decrease in pension they receive at existing NRA.</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>	Tiered rates (5.5%-12.0%) depending upon level of full-time equivalent pay. A mechanism for sharing any increased scheme costs between employers and scheme members is to be included in the LGPS regulations.	<p>Banded rates varying between 5.5% and 12.0% on five different tranches of actual pay. A mechanism for sharing any increased scheme costs between employers and scheme members will be included in the LGPS regulations in due course.</p> <p>Contribution rates are based on actual pay rather than full-time equivalent pay.</p>
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>		Pay including contractual overtime and additional hours but excluding non-contractual elements.



Provision	Benefit Structure To 31 March 2009	Benefit Structure From 1 April 2009 to 31 March 2015	Benefit Structure From 1 April 2015
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> <p>Will be required for the statutory underpin and in respect of the final salary link that may apply in respect of certain members of the CARE scheme who have pre-April 2015 accrual.</p>		N/A
Period of scheme membership	<p>Total years and days of service during which a member contributes to the Fund. Additional periods may be granted (e.g. transfers from other pension arrangements, augmentation, or from April 2009 the award of additional pension). For part time members, the membership is proportionate with regard to their contractual hours and a full time equivalent.</p>		N/A
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.</p> <p>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 2009:</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.</p> <p>Scheme membership from 1 April 2009:</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>	<p>Scheme membership from 1 April 2015:</p> <p>Annual Retirement Pension - 1/49th of pensionable pay (or assumed pensionable pay) for each year of scheme membership revalued to NRA in line with CPI.</p> <p>Lump Sum Retirement Grant - none except by commutation of pension.</p>



Provision	Benefit Structure To 31 March 2009	Benefit Structure From 1 April 2009 to 31 March 2015	Benefit Structure From 1 April 2015
Option to increase 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.	<p>Scheme membership to 31 March 2009:</p> <p>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.</p> <p>Scheme membership from 1 April 2009:</p> <p>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.</p>	No automatic lump sum. Any lump sum is to be provided by commutation of pension (within overriding HMRC limits). The rule for the conversion of pension 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, subject to reduction on account of early payment in some circumstances (in accordance with ERA protections).		On retirement from age 60, 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.	On retirement after age 55 (or age 50 for active members with certain protections on grounds of redundancy or efficiency) with employer's consent a pension and lump sum based on actual scheme membership completed may be paid.	<p>Benefits paid on redundancy or efficiency grounds (for members aged 55 or over) are paid with no actuarial reduction.</p> <p>Otherwise, benefits are subject to reduction on account of early payment as mentioned in the previous row, unless this is waived by the employer.</p>
	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.		



Provision	Benefit Structure To 31 March 2009	Benefit Structure From 1 April 2009 to 31 March 2015	Benefit Structure From 1 April 2015
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 due based on actual scheme membership plus an enhanced period of scheme membership.</p> <p>The enhancement period is: 25% of the period to age 65, if there is reasonable prospect of undertaking gainful employment before age 65; or 100% of the period to age 65, if there is no likelihood of undertaking gainful employment prior to age 65.</p>	<p>As a result of permanent ill-health or incapacity and a reduced likelihood of obtaining gainful employment (local government or otherwise) before age 65.</p> <p>Immediate payment of unreduced benefits.</p> <p>Enhanced to scheme membership, dependent on severity of ill health.</p> <p>100% of prospective pension to age 65 where no likelihood of undertaking any gainful employment prior to age 65.</p> <p>25% of prospective pension to age 65 where reasonable prospect of undertaking gainful employment before reaching age 65.</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, may elect in writing to the appropriate Administering Authority that 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 all or part of his benefits,</p> <p>Benefits are paid immediately and subject to actuarial reduction unless the reduction is waived by the employer.</p>	



Provision	Benefit Structure To 31 March 2009	Benefit Structure From 1 April 2009 to 31 March 2015	Benefit Structure From 1 April 2015
Pension increases	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 1971 and partially in accordance with statutory requirements (depending on the proportions relating to pre 88 GMP, post 88 GMP and excess over GMP).		
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 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>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, multiplied by final pay; plus</p> <p>Children's pensions may also be payable.</p>	
Leaving service options	<p>If the member has completed two years 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 two years 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>		



Provision	Benefit Structure To 31 March 2009	Benefit Structure From 1 April 2009 to 31 March 2015	Benefit Structure From 1 April 2015
State pension scheme	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.		
Assumed pensionable pay	N/A		This applies in cases of reduced contractual pay (CP) resulting from sickness, child related and reserve forces absence. In these circumstances benefits are based on an assumption of what pay would have been had the reduction not occurred.
50/50 option	N/A		Optional arrangement allowing 50% of main benefits to be accrued on a 50% contribution rate.

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

Discretionary benefits

The LGPS Regulations give employers a number of discretionary powers. The effect on benefits or contributions as a result of the use of these provisions as currently contained within the Local Government Pension Scheme Regulations 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 that will be contained within the scheme from 1 April 2015.



Appendix C: About the valuation

For more details please refer the Fund's Funding Strategy Statement.

It is important to realise that the actual cost of the pension fund (i.e. how much money it will ultimately have to pay out to its members in the form of benefits) is currently unknown. This cost will not be known with certainty until the last benefit is paid to the last pensioner. The core purpose of this valuation is to estimate what this cost will be, so that the Fund can then develop a strategy to meet it.

Such a valuation can only ever be an estimate – as the future cannot be predicted with certainty. However, as actuaries, we can use our understanding of the Fund and the factors that affect it to determine an anticipated cost which is as sensible and realistic as possible. A decision can then be made as to how much is set aside now to meet this anticipated cost. The pace of this funding can vary according to the level of prudence that is built into the valuation method and assumptions.

For this valuation, as for the previous valuation, our calculations identify separately the expected cost of members' benefits in respect of scheme membership completed before the valuation date ("past service") and that which is expected to be completed after the valuation date ("future service").

Past service

The principal measurement here is the comparison at the valuation date of the assets (taken at market value) and the value placed on the Fund's liabilities (calculated using a market-based approach). By maintaining a link to the market in both cases, this helps ensure that the assets and liabilities are valued in a consistent manner. Our calculation of the Fund's liabilities also explicitly allows for expected future pay and pension increases.

The funding level is the ratio of assets to liabilities at the valuation date. A funding level of less/more than 100% implies that there is a deficit/surplus in the Fund at the valuation date.

The funding target is to eliminate any deficit (or surplus) over a specified period and therefore get back to a funding level of 100%. To do so, additional contributions may be required to be paid into the Fund, either via lump sums or by increasing the employer's contribution rate. These additional contributions are known as the past service adjustment.

Future service

In addition to benefits that have already been earned by members prior to the valuation date, employee members will continue to earn new benefits in the future. The cost of these new benefits must be met by both employers and employees. The employers' share of this cost is known as the future service contribution rate.

For the valuation results for the Fund as a whole, we have calculated the future service rate as the cost of benefits being earned by members over the year following the valuation, taking account of expected future salary increases until retirement. If new entrants are admitted to the Fund to the extent that the overall membership profile remains broadly unchanged (and if the actuarial assumptions are unchanged) then the future service rate should be reasonably stable.

This funding method we have used is known as the Projected Unit Method. As well as the whole fund, it is appropriate for individual employers that continue to admit new entrants to the Fund.



However, some participating employers may have a policy of not admitting new entrants. In this case, the membership profile will inevitably begin to age. Under these circumstances, the Projected Unit Method is arguably no longer appropriate and will not promote sufficient stability in the future service rate. For these employers, we will adopt a funding method known as the Attained Age Method, which effectively looks at the cost of benefits that members will earn over the entirety of their remaining working lifetime (rather than just the year following the valuation).

Combining this future service rate with any past service adjustment required to repay a deficit (or reduce a surplus) gives us the total contribution rate. The total rate for the Fund as a whole is known as the common contribution rate. This is really just a notional figure. In practice, each individual employer will have a contribution rate which reflects their own particular circumstances.

The sensitivity of valuation results

The aim of this valuation is not only to determine these important figures but also to demonstrate their sensitivity to a number of key influences. This will promote an understanding of how the expected cost of the Fund may change in response to uncertain future events (e.g. changes in life expectancy or investment returns). Please refer to **section 5** for details of the sensitivity analysis.

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Appendix D: Data

This section contains a summary of the membership, investment and accounting data provided by the Administering Authority for the purposes of this valuation (the corresponding membership and investment data from the previous valuation is also shown for reference). For further details of the data, and the checks and amendments performed in the course of this valuation, please refer to our separate report dated 18 September 2014.

Membership data – whole fund

Employee members

	31 March 2011		31 March 2014	
	Number	Pensionable Pay* (£000)	Number	Pensionable Pay* (£000)
Total employee membership	30,031	632,182	31,536	648,929

*actual pay (not full-time equivalent)

Deferred pensioners

	31 March 2011		31 March 2014	
	Number	Deferred pension (£000)	Number	Deferred pension (£000)
Total deferred membership	15,102	27,236	17,094	32,444

The figures above also include any “frozen refunds and undecided leavers” at the valuation date.

Current pensioners, spouses and children

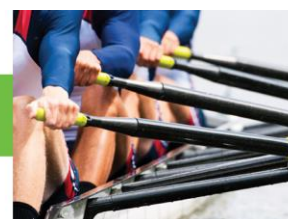
	31 March 2011		31 March 2014	
	Number	Pension (£000)	Number	Pension (£000)
Members	18,250	92,966	20,143	115,476
Dependants	3,511	8,731	3,750	10,645
Children	169	263	162	319
Total pensioner members	21,930	101,960	24,055	126,440

Note that the membership numbers in the table above refer to the number of records provided to us and so will include an element of double-counting in respect of any members who are in receipt (or potentially in receipt of) more than one benefit.

Membership Profile	Average Age (years)		FWL (years)	
	2011	2014	2011	2014
Employees	51.0	51.1	8.2	12.0
Deferred Pensioners	49.9	50.3	-	-
Pensioners	66.1	66.6	-	-

The average ages are weighted by liability.

The expected future working lifetime (FWL) indicates the anticipated length of time that the average employee member will remain as a contributor to the Fund. Note that it allows for the possibility of members leaving, retiring early or dying before retirement.

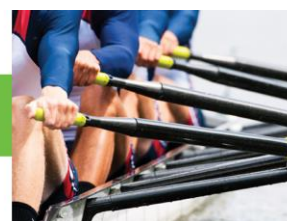


Membership data – individual employers

Employer code	Employer Name	Employees		Deferreds		Pensioners	
		Number	Actual Pay (£000)	Number	Pension (£000)	Number	Pension (£000)
1	Lothian Region Council	0	0	1,146	1,701	5,201	19,932
2	Edinburgh District Council	0	0	495	739	1,564	7,205
3	Midlothian District Council	0	0	51	72	297	1,227
4	West Lothian District Council	0	0	178	261	402	1,565
5	East Lothian District Council	0	0	62	82	311	1,398
6	Leith Nautical College	0	0	0	0	5	28
7	Forth Estuary Transport Authority	59	1,820	32	82	114	688
8	Heriot-Watt University	587	12,060	329	489	508	2,166
9	University of Edinburgh	36	731	123	299	130	675
10	Royal Lyceum Theatre Company Limited	0	0	1	*	4	*
11	Homeless Action Scotland	3	*	11	20	4	*
12	St Joseph's School	0	0	0	0	4	*
13	Castle Rock Housing	0	0	0	0	3	*
14	Tynepark School	0	0	0	0	2	*
15	Newbattle Abbey College	17	282	9	13	17	39
16	Dean Orphanage & Cauvins Trust	4	*	4	*	4	*
17	Donaldson's Trust	31	721	34	90	15	52
18	Scottish Council for Voluntary Organisation	0	0	0	0	9	49
19	Castle Rock Edinvar	0	0	2	*	7	48
20	Family Service Units	0	0	10	34	8	24
21	Audit Scotland	254	9,603	134	480	72	1,436
22	Hanover (Scotland) Housing Association	17	677	1	*	14	196
23	SCRE (Scottish Council for Research in Education)	0	0	13	26	24	138
24	Redhouse Boys Home	0	0	0	0	1	*
25	Wellington School	0	0	0	0	7	17
26	Adult Education Institution	0	0	1	*	2	*
27	Community Learning Scotland	0	0	6	16	12	93
28	Convention of Scottish Local Authorities	61	2,610	38	146	42	775
29	Livingston Development Corporation	0	0	87	241	240	990
30	Queen Margaret University	273	6,389	245	458	176	687
31	Dr Guthrie's School	0	0	2	*	7	16
32	Algrade School	0	0	2	*	4	*
33	Edinburgh Merchant Co	0	0	0	0	1	*
34	St Columba's Hospice	76	1,635	23	49	30	93
35	Lothian Allelon	0	0	3	*	3	*
36	Barony Housing Association Ltd	127	2,386	88	184	40	206
37	Age Scotland	0	0	4	*	9	38
38	Four Square (Scotland)	5	125	46	59	26	108
41	Edinburgh New Town Conservation Committee	0	0	0	0	3	*
42	Nat Joint Council	0	0	0	0	4	*
43	Forth River Purification Board	0	0	9	20	19	134
44	Edinburgh International Festival Society	6	228	11	22	12	57
45	Pilton Youth and Children's Project	2	*	13	38	5	20
46	Museums Galleries Scotland	30	865	37	101	14	102
47	Scottish Council on Disability	0	0	10	20	10	32
48	Mental Welfare Commission for Scotland	1	*	1	*	5	93
49	Lothian Homes Trust	0	0	13	51	4	*
50	Centre for the Moving Image (The)	4	*	6	21	8	52
51	Edinburgh Napier University	980	23,715	696	1,297	455	2,377
52	West Lothian ITEC	0	0	2	*	4	*
53	Edinburgh Cyrenians Trust	9	178	25	54	7	22
54	Edinburgh Old Town Comm	0	0	0	0	1	*
55	Open Door Accommodation Project	4	*	10	36	4	*
56	Victim Support Scotland	2	*	10	24	14	68
57	Lothian Racial Equality Council	0	0	5	9	0	0
59	Penumbra	1	*	3	*	4	*
60	Livingston Vol Org Council	0	0	0	0	0	0



61	Lothian Interpretation & Translating Service Trust	0	0	1	*	0	0
62	Regal Project	0	0	0	0	0	0
64	Citadel Youth Centre	7	199	7	14	3	*
67	B.A.I.T	0	0	1	*	1	*
68	Credit Union Enterprise Services	0	0	2	*	1	*
69	Econ Warmth Ad Project	0	0	0	0	1	*
70	Play and Care Entrust	0	0	2	*	1	*
71	Canongate Youth Project YTS Ltd	0	0	0	0	2	*
72	Family Care	0	0	0	0	1	*
73	Pilton Community Health Project	5	116	7	10	2	*
75	Edinburgh Marketing	0	0	9	24	2	*
76	Bingham & District Older Peoples Project	0	0	0	0	4	*
77	Waverley Care Ltd	41	994	17	25	15	73
78	ELCAP	23	425	48	108	25	82
79	Freespace	9	166	20	42	13	46
80	Lothian Centre for Integrated Living	0	0	15	41	5	14
82	Family Mediation Lothian	0	0	1	*	0	0
84	Haddington & District Day Centre	0	0	0	0	2	*
85	Pilton Opportunities Project	0	0	0	0	1	*
86	Stoneyhill Community Centre	0	0	0	0	1	*
87	Family Advice & Information Resource	7	134	4	*	1	*
88	North Edinburgh Trust	0	0	8	20	4	*
89	North Edinburgh Dementia Care	5	90	0	0	5	11
90	Handicabs (Lothian) Limited	26	429	13	16	7	20
91	EDI Group	10	485	11	36	8	155
95	North Edinburgh Training & Employment Ltd	0	0	1	*	0	0
96	Edinburgh & Lothians Greenspace Trust	0	0	1	*	1	*
97	Craigmillar Auto Resource Centre	0	0	1	*	1	*
98	National Mining Museum Scotland	1	*	4	*	2	*
100	Edinburgh New Town Renewal Trust	0	0	0	0	1	*
101	Jewel & Esk College	0	0	119	253	138	563
102	Edinburgh Telford College	1	*	177	398	138	586
103	Stevenson College	0	0	119	244	105	491
104	Scotland's Rural University College	29	653	31	61	21	103
105	West Lothian College	151	2,879	67	119	63	242
106	Streetwork UK Ltd	3	*	15	44	0	0
107	Pilton Central Association	0	0	0	0	1	*
108	Woman & HIV Aids Network	0	0	1	*	1	*
109	Edinburgh College	678	15,312	34	111	17	104
112	Wester Hailes Representative Council	0	0	7	19	0	0
113	Weslo Housing Management	72	2,180	13	63	22	132
114	Nisus Scotland Ltd	0	0	14	20	3	*
115	Link In	2	*	7	29	0	0
116	Granton Information Centre	3	*	4	*	0	0
117	Scottish Schools Education Research	19	577	1	*	2	*
118	Royal Edinburgh Military Tattoo	22	731	9	14	6	77
119	Family & Community Development West Lothian	12	290	4	*	1	*
121	Edinburgh Development Group	5	97	5	30	2	*
122	Young People Speak Out	0	0	3	*	0	0
123	Scottish Adoption Agency	20	501	5	7	8	54
125	Magic Lantern Van	0	0	1	*	2	*
126	Craigmillar Partnership Initiative	0	0	1	*	2	*
127	Career Development Edinburgh & Lothians	0	0	16	36	19	163
128	Edinburgh Woman's Rape and Sexual Abuse Centre	2	*	7	9	0	0
129	Craigmillar Citizens Participation Project(Festival Society)	0	0	1	*	0	0
130	West Lothian Mobility Initiative	0	0	1	*	0	0
131	West Granton Community Trust	3	*	2	*	0	0
132	Stairway Project	0	0	1	*	0	0



133	Children's Hospice Association Scotland	188	4,505	46	78	21	87
134	Lothian Valuation Joint Board	109	3,143	29	103	49	643
135	Scottish Water	1,144	34,884	617	2,278	1,131	9,793
138	Wester Hailes Partnership Co Ltd	0	0	3	*	0	0
141	Queensferry Churches Care in the Community	4	*	4	*	1	*
142	Lothian Apprenticeship Scheme Trust	0	0	0	0	1	*
143	First Step	11	188	8	9	4	*
146	Lothian Coalition of Disabled People	0	0	0	0	1	*
147	Melville Housing Association	32	1,065	15	51	14	77
148	City of Life Long Learning	0	0	1	*	0	0
149	Access Ability Lothian	0	0	5	5	1	*
151	Almond Housing Association	2	*	0	0	2	*
153	Edinburgh Napier University Ventures Ltd	0	0	4	*	3	*
154	St Andrew's Children's Society Limited	23	618	2	*	4	*
155	Visit Scotland	101	1,679	85	200	19	146
156	Canongate Youth Project	7	178	5	13	2	*
157	West Lothian Leisure	219	2,998	129	121	19	80
158	Royal Society of Edinburgh	33	828	14	22	6	29
159	Edinburgh Leisure	306	5,918	347	508	128	685
160	Edinburgh Business School	12	290	9	15	7	18
161	Festival City Theatres Trust	2	*	2	*	5	26
163	Transnational Construction Project	0	0	0	0	1	*
164	SCRAN	0	0	11	37	1	*
166	Bfriends	0	0	2	*	1	*
168	Children 1st	0	0	3	*	2	*
169	Edinburgh Learning	0	0	1	*	0	0
170	Into Work	9	233	10	11	7	22
171	Edinburgh World Heritage Trust	3	*	1	*	8	74
172	Homes for Life Housing Partnership	5	172	3	*	0	0
173	Pilton Equalities Project	3	*	1	*	2	*
174	Capital City Partnership	17	494	9	32	2	*
175	Edinburgh City Centre Management Trust	0	0	10	63	2	*
177	Scottish Centre for Non-Violence	0	0	2	*	0	0
178	Morrison Facilities Services	2	*	1	*	5	24
179	Mitie Olscot Limited	0	0	0	0	3	*
181	Broomhouse Centre	1	*	0	0	0	0
182	Craigmillar Partnership	0	0	4	*	1	*
183	Young Scot Enterprise	6	218	9	16	0	0
185	Youthlink Scotland	2	*	2	*	1	*
186	Capacity Building Project	0	0	5	16	1	*
187	Stepping Out Project	1	*	0	0	0	0
188	Scotland's Learning Partnership	2	*	3	*	0	0
189	Transport Initiatives Edinburgh Ltd (TIE)	0	0	61	268	18	213
190	Ballast/Wilshire FM	0	0	0	0	1	*
191	Initial Cleaning and Facilities Services	0	0	6	2	8	10
192	ISS UK Ltd	3	*	1	*	8	16
193	Health in Mind	3	*	1	*	3	*
194	Interactive University	0	0	2	*	1	*
195	Keymoves	4	*	1	*	3	*
196	HWU Students Association	32	491	15	30	12	63
197	BAM Construction UK	1	*	0	0	3	*
199	Wester Hailes Land & Property	2	*	0	0	0	0
200	Forth & Oban Ltd	27	383	11	12	12	38
202	The City of Edinburgh Council	12,560	255,354	5,712	10,623	6,331	37,005
203	Midlothian Council	2,829	48,507	1,163	1,755	1,237	6,574
204	West Lothian Council	5,511	101,014	2,025	3,229	2,265	12,134
205	East Lothian Council	3,080	55,918	1,201	1,915	1,420	7,847
208	Edinburgh Convention Bureau	0	0	8	25	1	*



209	SESTRAN	7	238	3	*	2	*
210	Improvement Service	41	1,697	13	15	0	0
211	Scottish Police Services Authority	115	4,108	30	140	14	151
212	Skanska	3	*	1	*	3	*
213	Aspire Housing	0	0	1	*	0	0
214	NSL Services Group	8	141	2	*	1	*
215	Mitie PFI Ltd (West Lothian Council)	0	0	1	*	0	0
216	Andron Contract Services Limited	0	0	0	0	1	*
217	Scottish Legal Complaints Commission (SLCC)	3	*	2	*	1	*
218	Scottish Futures Trust	56	3,684	2	*	0	0
219	Enjoy East Lothian	180	1,432	25	22	7	21
220	Mitie PFI CEC PP2	22	291	4	*	4	*
221	Dawn Group Ltd	10	219	0	0	2	*
222	Compass-Chartwell	8	93	1	*	0	0
223	Children's Hearing Scotland	14	451	2	*	0	0
224	BaxterStorey	9	173	0	0	0	0
898	Lothian & Borders Police Force	880	21,609	461	1,389	603	3,485
899	Lothian & Borders Fire and Rescue Service (Civilians)	139	3,207	68	90	86	620

*Please note that for compliance with data protection legislation the figures in the table above have been blanked out where the number of members for an employer is less than 5 for any status of membership.

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Assets at 31 March 2014

A summary of the Fund's assets (excluding members' money-purchase Additional Voluntary Contributions) as at 31 March 2014 and 31 March 2011 is as follows:

Asset class	Market Value at 31 March 2011 (£000)	Allocation %	Market Value at 31 March 2014 (£000)	Allocation %
UK equities	590,450	17%	200,967	5%
UK fixed interest gilts	4,046	0%	2,574	0%
UK corporate bonds	54,145	2%	128,505	3%
UK index-linked gilts	124,659	4%	156,281	4%
Overseas equities	1,760,928	51%	2,639,642	60%
Overseas bonds	89,842	3%	46,188	1%
Property	332,268	10%	322,037	7%
Private Equity	224,014	6%	604,193	14%
Other Alternatives	160,565	5%	58,539	1%
Cash and net current assets	136,566	4%	218,610	5%
Total	3,477,483	100%	4,377,536	100%

Note that, for the purposes of determining the funding position at 31 March 2014, the asset value we have used also includes the present value of expected future early retirement strain payments (amounting to £1.3m).

Accounting data – revenue account for the three years to 31 March 2014

Consolidated accounts (£000)	Year to			Total
	31 March 2012	31 March 2013	31 March 2014	
Income				
Employer - normal contributions	134,406	128,709	132,669	395,784
Employer - additional contributions	2,197	183	106	2,486
Employer - early retirement and augmentation strain contributions	7,881	8,929	7,947	24,757
Employee - normal contributions	39,065	38,869	40,207	118,141
Employee - additional contributions	1,514	1,325	1,156	3,995
Transfers In Received (including group and individual)	3,171	4,484	4,280	11,935
Other income	0	0	0	0
Total Income	188,234	182,499	186,364	557,097
Expenditure				
Gross Retirement Pensions	104,279	113,181	120,434	337,894
Lump Sum Retirement Benefits	34,523	33,176	34,942	102,641
Death in Service Lump sum	4,306	5,362	5,331	14,999
Death in Deferment Lump Sum	0	0	0	0
Death in Retirement Lump Sum	0	0	0	0
Gross Refund of Contributions	726	338	421	1,485
Transfers out (including bulk and individual)	5,564	6,152	10,392	22,108
Fees and Expenses	1,802	1,925	1,943	5,670
Total Expenditure	151,200	160,134	173,463	484,797
Net Cashflow	37,034	22,365	12,901	72,300
Assets at start of year	3,475,662	3,580,623	4,094,659	3,475,662
Net cashflow	37,034	22,365	12,901	72,300
Change in value	67,927	491,671	269,976	829,574
Assets at end of year	3,580,623	4,094,659	4,377,536	4,377,536
Approximate rate of return on assets	1.9%	13.7%	6.6%	23.5%

Note that the figures above are based on the Fund accounts provided to us for the purposes of this valuation, which were fully audited at the time of our valuation calculations.

We are aware that the 2010/11 Fund Account was restated following the completion of the 2011 valuation. The asset value (shown in the top table) as at 31 March 2011, is that used in the 2011 valuation.

The accounting data table shows the restated Fund asset value as at 31 March 2011.



Appendix E: Assumptions

Financial assumptions

Financial assumptions	31 March 2011 (% p.a.)	31 March 2014 (% p.a.)
Discount rate	5.8%	5.0%
Retail Price inflation	2.8%	3.5%
Pay increases*	5.1%**	5.0%***
Pension increases:		
pension in excess of GMP	2.8%	2.7%
post-88 GMP	2.8%	2.7%
pre-88 GMP	0.0%	0.0%
Revaluation of deferred pension	2.8%	2.7%
Revaluation of accrued CARE pension	-	2.7%
Expenses	0.3%	0.3%

* Excluding promotional increases

** 1% p.a. for 2011/12 and 2012/13, reverting to 5.1% p.a. thereafter.

*** 2% p.a. for 2014/15 and 2015/16, reverting to 5.0% p.a. thereafter.

Mortality assumptions

Longevity assumptions	31 March 2014
Longevity - baseline	Vita curves
Longevity - improvements	
CMI Model version used	CMI_2012
Starting rates	CMI calibration based on data from Club Vita using the latest available data as at December 2012.
Long term rate of improvement	Period effects: 1.25% p.a. for men and women. Cohort effects: 0% p.a. for men and for women.
Period of convergence	Period effects: CMI model core values i.e. 10 years for ages 50 and below and 5 years for those aged 95 and above, with linear transition to 20 years for those aged between 60 and 80. Cohort effects: CMI core i.e. 40 years for those born in 1947 or later declining linearly to 5 years for those born in 1912 or earlier.
Proportion of convergence remaining at mid point	50%

The longevity improvement assumption is based on the latest industry standard and combined information from our longevity experts in Club Vita. The start point for the improvements has been based on observed death rates in the Club Vita data bank over the period.

In the short term we have assumed that the 'cohort effect' of strong improvements in life expectancy currently being observed amongst a generation born around the early and mid-1930s will start to tail off, resulting in life expectancy increasing less rapidly than has been seen over the last decade or two. This is known as 'peaked'.

In the long term (post age 70) we have assumed that increases in life expectancy will stabilise at a rate of increase of 1 year per decade for men and women. This is equivalent to assuming that longer term mortality rates will fall at a rate of 1.25% p.a. for men and women.



However, we have assumed that post age 90 improvements in mortality are hard to achieve, declining between ages 90 and 120 so that no improvements are seen at ages 120 and over.

As a member of Club Vita, the longevity assumptions that have been adopted at this valuation are a bespoke set of VitaCurves that are specifically tailored to fit the membership profile of the Fund. These curves are based on the data you have provided us with for the purposes of this valuation. Full details of these are available on request.

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	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 90% for males and 85% for females. Husbands are assumed to be 3 years older than wives.
Commutation	50% of future retirements elect to exchange pension for additional tax free cash up to HMRC limits for service to 1 April 2009 (equivalent 75% for service from 1 April 2009).
50:50 option	10% of members (uniformly distributed across the age, service and salary range) will choose the 50:50 option.

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.



Death in Service:

Age	Incidence per 1000 active members per annum			
	Male officers and Post 98	Male Manuals	Female officers and Post 98	Female Manuals
	Death	Death	Death	Death
20	0.26	0.32	0.14	0.17
25	0.26	0.32	0.14	0.17
30	0.31	0.38	0.20	0.26
35	0.36	0.45	0.34	0.43
40	0.61	0.77	0.54	0.68
45	1.02	1.28	0.88	1.11
50	1.63	2.04	1.29	1.62
55	2.55	3.19	1.70	2.13
60	4.59	5.74	2.18	2.72
65	7.65	9.56	2.79	3.49

III Health Early Retirements

Tier 1

Age	Incidence for 1000 active members per annum							
	Male Officers & Post 98 Males		Male Manuals		Female Officers & Post 98 Females		Female Manuals	
	III Health		III Health		III Health		III Health	
	FT	PT	FT	PT	FT	PT	FT	PT
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.76	0.60	0.19	0.15	0.99	0.79
30	0.00	0.00	1.39	1.11	0.25	0.20	1.44	1.15
35	0.19	0.15	2.08	1.66	0.50	0.40	1.98	1.58
40	0.32	0.25	3.02	2.42	0.76	0.60	2.88	2.30
45	0.69	0.55	4.16	3.33	1.01	0.81	3.78	3.02
50	1.76	1.41	6.17	4.94	1.89	1.51	5.04	4.03
55	6.91	5.53	14.61	11.69	7.01	5.61	13.54	10.83
60	12.16	9.73	23.42	18.74	14.86	11.89	23.81	19.05
65	23.10	18.48	45.15	36.12	26.71	21.37	45.15	36.12

Tier 2

Age	Incidence for 1000 active members per annum							
	Male Officers & Post 98 Males		Male Manuals		Female Officers & Post 98 Females		Female Manuals	
	III Health		III Health		III Health		III Health	
	FT	PT	FT	PT	FT	PT	FT	PT
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.80	0.64	0.20	0.16	1.05	0.84
30	0.00	0.00	1.47	1.18	0.27	0.21	1.53	1.22
35	0.20	0.16	2.21	1.77	0.54	0.43	2.10	1.68
40	0.33	0.27	3.21	2.57	0.80	0.64	3.06	2.45
45	0.74	0.59	4.42	3.53	1.07	0.86	4.02	3.21
50	2.37	1.90	8.31	6.65	2.54	2.03	6.78	5.43
55	5.34	4.27	11.29	9.03	5.42	4.33	10.47	8.37
60	4.58	3.66	8.82	7.05	5.60	4.48	8.96	7.17
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Withdrawal

Less than 1 year

Age	Incidence for 1000 active members per annum											
	Male Officers		Male Manuals		Female Officers		Female Manuals		Post 98 Males		Post 98 Females	
	Withdrawals		Withdrawals		Withdrawals		Withdrawals		Withdrawals		Withdrawals	
	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT
20	304.04	506.74	304.04	506.74	288.39	400.55	288.39	400.55	557.41	750.00	384.52	640.87
25	200.83	334.72	200.83	334.72	194.00	269.45	194.00	269.45	368.19	736.38	258.67	431.11
30	142.46	237.40	142.46	237.43	162.58	225.80	162.58	225.80	261.17	522.34	216.77	361.28
35	111.28	185.44	111.28	185.47	140.22	194.75	140.22	194.75	204.02	408.04	186.96	311.60
40	89.55	149.18	89.55	149.25	116.62	161.98	116.62	161.98	164.17	328.34	155.50	259.16
45	73.28	121.99	73.28	122.13	96.01	133.34	96.01	133.34	134.34	268.69	128.01	213.35
50	56.76	94.52	56.76	94.60	73.15	101.60	73.15	101.60	104.06	208.12	97.54	162.56
55	49.18	81.86	49.18	81.97	56.39	78.32	56.39	78.32	90.17	180.34	75.18	125.30
60	29.81	49.62	29.81	49.68	26.21	36.40	26.21	36.40	54.65	109.30	34.94	58.24

Between 1-2 years

Age	Incidence for 1000 active members per annum											
	Male Officers		Male Manuals		Female Officers		Female Manuals		Post 98 Males		Post 98 Females	
	Withdrawals		Withdrawals		Withdrawals		Withdrawals		Withdrawals		Withdrawals	
	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT
20	152.02	253.37	152.02	253.37	144.20	200.27	144.20	200.27	278.70	557.41	192.26	320.44
25	100.42	167.36	100.42	167.36	97.00	134.72	97.00	134.72	184.10	368.19	129.33	215.56
30	71.23	118.70	71.23	118.71	81.29	112.90	81.29	112.90	130.59	261.17	108.39	180.64
35	55.64	92.72	55.64	92.74	70.11	97.38	70.11	97.38	102.01	204.02	93.48	155.80
40	44.77	74.59	44.77	74.62	58.31	80.99	58.31	80.99	82.09	164.17	77.75	129.58
45	36.64	60.99	36.64	61.07	48.00	66.67	48.00	66.67	67.17	134.34	64.00	106.67
50	28.38	47.26	28.38	47.30	36.58	50.80	36.58	50.80	52.03	104.06	48.77	81.28
55	24.59	40.93	24.59	40.99	28.19	39.16	28.19	39.16	45.08	90.17	37.59	62.65
60	14.90	24.81	14.90	24.84	13.10	18.20	13.10	18.20	27.32	54.65	17.47	29.12

Greater than 2 years

Age	Incidence for 1000 active members per annum											
	Male Officers		Male Manuals		Female Officers		Female Manuals		Post 98 Males		Post 98 Females	
	Withdrawals		Withdrawals		Withdrawals		Withdrawals		Withdrawals		Withdrawals	
	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT
20	89.89	149.82	89.89	149.82	85.26	118.42	85.26	118.42	164.80	329.60	113.69	189.48
25	59.38	98.96	59.38	98.96	57.36	79.66	57.36	79.66	108.86	217.71	76.48	127.46
30	42.12	70.19	42.12	70.20	48.07	66.76	48.07	66.76	77.22	154.43	64.09	106.81
35	32.90	54.82	32.90	54.84	41.46	57.58	41.46	57.58	60.32	120.64	55.28	92.13
40	26.48	44.10	26.48	44.13	34.48	47.89	34.48	47.89	48.54	97.08	45.97	76.62
45	21.66	36.05	21.66	36.11	28.38	39.42	28.38	39.42	39.72	79.44	37.85	63.08
50	16.78	27.94	16.78	27.97	21.63	30.04	21.63	30.04	30.77	61.53	28.84	48.06
55	14.54	24.19	14.54	24.24	16.67	23.15	16.67	23.15	26.66	53.32	22.23	37.05
60	8.81	14.66	8.81	14.69	7.75	10.76	7.75	10.76	16.16	32.31	10.33	17.22

Promotional salary scale

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
25	135	116	100	100	118	105	100	100
30	169	134	100	100	137	111	100	100
35	192	146	100	100	151	116	100	100
40	208	153	100	100	163	121	100	100
45	222	154	100	100	166	122	100	100
50	236	154	100	100	166	122	100	100
55	239	154	100	100	166	122	100	100
60	239	154	100	100	166	122	100	100
65	239	154	100	100	166	122	100	100



Appendix F: Events since valuation date

Post-valuation events

These valuation results are in effect a snapshot of the Fund as at 31 March 2014. Since that date, various events have had an effect on the financial position of the Fund. Whilst we have not explicitly altered the valuation results to allow for these events, a short discussion of these “post-valuation events” can still be beneficial in understanding the variability of pension funding.

Investment conditions since 31 March 2014

In the period from the valuation date to 31 January 2015, investment markets moved in the following manner:

- asset returns have been between 13-14%
- long term Government bond yields have fallen by more than long term expected price inflation, which is likely to have increased past service liabilities by around 17-20%

It should be noted that the above is for information only: the figures in this report have all been prepared using membership data, audited asset information and market-based assumptions all as at 31 March 2014. In particular, we do not propose amending any of the contribution rates listed in the Rates & Adjustments Certificate on the basis of these market changes, and all employer contribution rates are based on valuation date market conditions. In addition, these rates are finalised within a risk-measured framework as laid out in the Fund’s Funding Strategy Statement (FSS).

Other events

Other than investment conditions changes above, I am not aware of any material changes or events occurring since the valuation date.



Appendix G: Rates and adjustments certificate

In accordance with regulation 32(1) of the Administration Regulations we have made an assessment of the contributions that should be paid into the Fund by participating employers for the period 1 April 2015 to 31 March 2018 in order to maintain the solvency of the Fund.

The method and assumptions used to calculate the contributions set out in the Rates and Adjustments certificate are detailed in the Funding Strategy Statement dated 25 March 2015 and our report on the actuarial valuation dated **DRAFT**

The required minimum contribution rates are set out in the table below.

DRAFT

Signature:

Date:

DRAFT

DRAFT

Name:

Richard Warden

Steven Scott

Qualification:

Fellow of the Institute and
Faculty of Actuaries

Fellow of the Institute and
Faculty of Actuaries

Firm:

Hymans Robertson LLP

Hymans Robertson LLP

20 Waterloo Street

20 Waterloo Street

Glasgow

Glasgow

G2 6DB

G2 6DB



Statement to the rates and adjustments certificate

The Common Rate of Contribution payable by each employing authority under regulation 32(4)(a) of the Administration Regulations for the period 1 April 2015 to 31 March 2018 is 23.1% of pensionable pay (as defined in Appendix B).

Individual Adjustments are required under regulation 32(4)(b) of the Administration Regulations for the period 1 April 2015 to 31 March 2018 resulting in Minimum Total Contribution Rates (expressed as a combination of percentage of pensionable pay and monetary amount) as set out below.

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

Employer code	Employer Name	Contribution Rate paid in 2014/15		Minimum Contributions for the year ending					
		% Payroll	(£000)	31 March 2015		31 March 2016		31 March 2017	
		% Payroll	(£000)	% Payroll	(£000)	% Payroll	(£000)	% Payroll	(£000)
Councils / Large Scheduled Bodies									
202	The City of Edinburgh Council	17.2%	10,113.3	20.1%	3064.3	20.1%	3064.3	20.1%	3064.3
203	Midlothian Council	17.2%	1,629.1	20.2%	339.5	20.2%	339.5	20.2%	339.5
204	West Lothian Council	16.9%	3,270.6	20.0%	404.1	20.0%	404.1	20.0%	404.1
205	East Lothian Council	16.6%	2,725.0	20.4%	503.3	20.4%	503.3	20.4%	503.3
898	Police Service of Scotland	16.3%	-	18.3%	-	18.3%	-	18.3%	-
899	Scottish Fire and Rescue Service	17.1%	64.6	19.0%	-	19.0%	-	19.0%	-
135	Scottish Water	16.6%	1,637.2	19.2%	907.0	19.2%	907.0	19.2%	907.0
Colleges / Universities									
8	Heriot-Watt University	18.0%	616.4	20.6%	385.9	20.6%	385.9	20.6%	385.9
15	Newbattle College	18.9%	-	18.9%	-	18.9%	-	18.9%	-
30	Queen Margaret University	16.0%	153.3	18.5%	31.9	18.5%	31.9	18.5%	31.9
51	Edinburgh Napier University	15.8%	705.2	18.7%	166.0	18.7%	166.0	18.7%	166.0
105	West Lothian College	16.0%	51.4	18.3%	-	18.3%	-	18.3%	-
109	Edinburgh College	15.8%	414.9	17.5%	229.9	17.5%	229.9	17.5%	229.9
Other Large Employers									
21	Audit Scotland	14.4%	343.3	18.2%	13.1	17.2%	76.8	17.2%	76.8
28	Convention of Scottish Local Authorities	15.5%	269.2	16.6%	242.9	16.6%	243.5	16.6%	244.1
36	Barony Housing Association Ltd	16.8%	11.3	18.5%	10.5	17.3%	-	17.3%	-
134	Lothian Valuation Joint Board	17.1%	129.3	17.2%	27.2	20.9%	3.1	20.9%	3.1
155	Visit Scotland	14.1%	66.3	18.6%	119.1	15.2%	75.5	15.2%	75.5
157	West Lothian Leisure	13.1%	40.6	17.8%	81.0	14.7%	-	14.7%	-
Employers with individual rates									
91	EDI Group	15.8%	21.2	18.2%	9.6	18.2%	9.6	18.2%	9.6
133	Children's Hospice Association Scotland	14.7%	-	14.7%	-	14.7%	-	14.7%	-
209	SESTRAN	16.1%	16.6	18.4%	11.1	18.4%	11.1	18.4%	11.1
210	Improvement Service	14.9%	51.1	17.2%	11.7	17.2%	11.7	17.2%	11.7
211	Scottish Police Authority	15.1%	274.0	18.5%	132.7	18.5%	132.7	18.5%	132.7
218	Scottish Futures Trust	12.9%	134.7	-	-	-	-	-	-
219	Enjoy East Lothian	13.6%	-	16.6%	-	16.6%	-	16.6%	-
223	Children's Hearing Scotland	19.1%	-	13.6%	-	13.6%	-	13.6%	-
7	Forth Estuary Transport Authority	17.8%	113.0	21.2%	84.7	21.2%	117.8	21.2%	151.0
9	University of Edinburgh (E.C.A.)	17.3%	123.7	24.9%	174.2	24.9%	280.5	24.9%	386.8
104	SRUC	19.9%	5.5	25.1%	7.9	25.1%	44.2	25.1%	80.5
159	Edinburgh Leisure	16.9%	-	17.4%	-	18.0%	-	18.5%	-
178	Morrison Facilities Services	22.1%	16.3	28.9%	5.2	21.0%	-	0.0%	-
192	ISS UK Ltd	19.8%	0.0	13.2%	-	6.6%	-	0.0%	-
197	BAM Construction UK	23.3%	4.0	28.6%	-	14.3%	-	0.0%	-
200	Forth & Oban Ltd	16.5%	18.7	19.2%	-	17.0%	-	14.8%	-
212	Skanska	19.7%	-	26.8%	3.4	26.8%	10.8	26.8%	18.1
214	NSL Services Group	18.0%	4.8	14.3%	-	7.1%	-	0.0%	-
220	Mitie PFI CEC PP2	21.0%	0.8	22.1%	-	23.0%	-	23.9%	-
221	Dawn Group Ltd	14.5%	14.3	16.7%	2.1	14.2%	-	10.8%	-
222	Compass-Chartwell	19.8%	-	18.1%	-	16.5%	-	14.8%	-
224	BaxterStorey	23.5%	-	21.5%	-	19.5%	-	17.4%	-



Employer code	Employer Name	Contribution Rate paid in 2014/15		Minimum Contributions for the year ending					
		% Payroll	(£)	31 March 2015 % Payroll	(£)	31 March 2016 % Payroll	(£)	31 March 2017 % Payroll	(£)
Small closed CABS with individual rates									
11	Homeless Action Scotland	19.4%	9.5	35.1%	15.8	35.1%	36.5	35.1%	57.3
16	Dean Orphanage & Cauvins Trust	19.4%	11.1	37.1%	18.6	37.1%	47.0	37.1%	75.4
45	Pilton Youth and Children's Project	19.4%	2.9	34.1%	12.8	34.1%	30.1	34.1%	47.5
48	Mental Welfare Commission for Scotland	19.4%	12.0	38.0%	237.4	38.0%	237.4	38.0%	237.4
50	Centre for the Moving Image (The)	19.4%	9.1	35.8%	24.0	35.8%	61.0	35.8%	98.0
55	Open Door Accommodation Project	19.4%	7.9	36.3%	4.2	36.3%	17.7	36.3%	31.2
56	Victim Support Scotland	19.4%	12.2	39.2%	55.0	39.2%	125.6	39.2%	196.3
59	Penumbra	19.4%	3.4	43.6%	51.5	43.6%	116.1	43.6%	180.8
98	Scottish Mining Museum	19.4%	4.6	37.5%	56.7	37.5%	56.7	37.5%	56.7
106	Streetwork UK Ltd	19.4%	8.2	35.9%	2.6	35.9%	12.9	35.9%	23.1
115	Link In	19.4%	5.7	33.1%	4.9	33.1%	11.2	33.1%	17.5
116	Granton Information Centre	19.4%	5.9	33.8%	-	36.6%	4.5	36.6%	11.5
128	Edinburgh Woman's Rape and Sexual Abuse Centre	19.4%	3.1	35.8%	5.3	35.8%	10.8	35.8%	16.3
131	West Granton Community Centre	19.4%	3.0	34.7%	-	37.7%	3.0	37.7%	7.5
141	Queensferry Churches Care in the Community	17.1%	3.1	35.9%	-	36.7%	5.0	36.7%	10.3
151	Almond Housing Association	19.4%	5.1	40.6%	154.5	40.6%	154.5	40.6%	154.5
161	Festival City Theatres Trust	19.4%	3.2	36.3%	8.7	36.3%	24.4	36.3%	40.0
171	Edinburgh World Heritage Trust	19.4%	4.4	38.3%	48.8	38.3%	108.3	38.3%	167.7
173	Pilton Equalities Project	19.4%	6.0	33.4%	-	37.1%	2.7	37.1%	8.7
181	Broomhouse Centre	19.4%	2.2	37.3%	11.1	37.3%	11.1	37.3%	11.1
185	Youthlink Scotland	19.4%	4.6	36.7%	2.5	36.7%	9.9	36.7%	17.2
187	Stepping Out Project	19.4%	1.0	28.0%	-	32.1%	-	36.2%	-
188	Scotland's Learning Partnership	17.1%	4.8	34.7%	1.3	34.7%	14.9	34.7%	28.6
193	Health in Mind	19.4%	8.0	36.1%	6.5	36.1%	19.7	36.1%	32.8
195	Keymoves	19.4%	6.8	35.8%	-	38.8%	8.3	38.8%	20.1
199	Wester Hailes Land & Property	19.4%	4.5	31.8%	-	33.2%	6.3	33.2%	14.0
217	Scottish Legal Complaints Commission (SLCC)	14.5%	-	25.5%	-	33.3%	3.0	33.3%	13.4
Small Community Admission Bodies									
22	Hanover (Scotland) Housing Association	17.1%	5.9	20.4%	142.1	20.4%	142.1	20.4%	142.1
46	Museums Galleries Scotland	17.1%	40.0	16.8%	23.4	16.8%	23.4	16.8%	23.4
64	Citadel Youth Centre	17.1%	12.1	15.2%	8.6	15.2%	8.6	15.2%	8.6
77	Waverley Care Ltd	17.1%	38.0	18.4%	11.0	18.4%	11.0	18.4%	11.0
87	Family Advice & Information Resource	17.1%	6.1	18.0%	2.0	18.0%	2.0	18.0%	2.0
89	North Edinburgh Dementia Care	17.1%	4.4	19.5%	-	19.5%	-	19.5%	-
90	Handicabs (Lothian) Limited	17.1%	24.9	19.5%	-	19.5%	-	19.5%	-
113	Weslo Housing Management	17.1%	91.5	19.5%	-	19.5%	-	19.5%	-
117	Scottish Schools Education Research	17.1%	15.7	19.5%	-	19.5%	-	19.5%	-
118	Royal Edinburgh Military Tattoo	17.1%	25.6	18.2%	9.5	18.2%	9.5	18.2%	9.5
121	Edinburgh Development Group	17.1%	7.3	19.2%	0.3	19.2%	0.3	19.2%	0.3
123	Scottish Adoption Agency	17.1%	21.6	19.5%	-	19.5%	-	19.5%	-
143	First Step	17.1%	8.3	17.1%	4.5	17.1%	4.5	17.1%	4.5
147	Melville Housing Association	17.1%	57.6	19.5%	-	19.5%	-	19.5%	-
154	St Andrew's Children's Society Limited	17.1%	27.8	19.5%	-	19.5%	-	19.5%	-
156	Canongate Youth Project	17.1%	11.4	18.2%	2.3	18.2%	2.3	18.2%	2.3
158	Royal Society of Edinburgh	17.1%	39.3	18.6%	7.5	18.6%	7.5	18.6%	7.5
172	Homes for Life Housing Partnership	17.1%	7.1	19.5%	-	19.5%	-	19.5%	-
174	Capital City Partnership	17.1%	22.2	19.5%	-	19.5%	-	19.5%	-
196	HWU Students Association	17.1%	23.2	15.2%	21.1	15.2%	21.1	15.2%	21.1
119	Family and Community Development West Lothian	17.1%	10.6	19.5%	-	19.5%	-	19.5%	-
17	Donaldson's Trust	17.1%	60.2	22.3%	-	22.3%	-	22.3%	-
34	St Columba's Hospice	17.1%	58.8	22.3%	-	22.3%	-	22.3%	-
38	Four Square (Scotland)	19.4%	17.5	22.3%	-	22.3%	-	22.3%	-
44	Edinburgh International Festival Society	19.4%	11.7	22.3%	-	22.3%	-	22.3%	-
53	Edinburgh Cyrenians Trust	19.4%	15.8	22.3%	-	22.3%	-	22.3%	-
73	Pilton Community Health Project	17.1%	9.4	22.3%	-	22.3%	-	22.3%	-
78	ELCAP	19.4%	38.1	22.3%	-	22.3%	-	22.3%	-
79	Freospace	19.4%	13.7	22.3%	-	22.3%	-	22.3%	-
160	Edinburgh Business School	19.4%	15.8	21.7%	1.8	21.7%	1.8	21.7%	1.8
170	Into Work	19.4%	21.5	22.3%	-	22.3%	-	22.3%	-
183	Young Scot Enterprise	19.4%	14.9	22.3%	-	22.3%	-	22.3%	-



Employer code	Employer Name
Former Employers with no active members	
13	Castle Rock Housing
18	Scottish Council for Voluntary Organisation
19	Castle Rock Edinvar
20	Family Service Units
23	SCRE (Scottish Council for Research in Education)
26	Adult Education Institution
27	Community Learning Scotland
33	Edinburgh Merchant Co
35	Lothian Allelon
37	Age Scotland
40	Nat Joint Council
41	Forth River Purification Board
45	Scottish Council on Disability
47	Lothian Homes Trust
55	Lothian Racial Equality Council
57	Lothian Interpretation & Translating Service Trust
60	Credit Union Enterprise Services
61	Econ Warmth Ad Project
62	Play and Care Entrust
64	Family Care
104	Young People Speak Out
113	Stairway Project
119	Lothian Apprenticeship Scheme Trust
121	Lothian Coalition of Disabled People
136	SCRAN
137	Bfriends
138	Children 1st
146	Scottish Centre for Non-Violence
161	Interactive University

Notes:

- 1 Contributions expressed as a percentage should be paid into Lothian Pension Fund ('the Fund') at a frequency in accordance with the requirements of the Regulations.
- 2 Further sums should be paid to the Fund to meet the costs of any non-ill health early retirements and/or augmentation (i.e. additional pension) using methods and factors issued by me from time to time, or GAD guidance if I consider it to be appropriate.
- 3 In addition, 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.
- 4 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.