Pension Committee Agenda Part A

Tuesday 7th March 2017

Pension Committee

Meeting held on Tuesday 6 December 2016 at 10.00am in Room F10, Town Hall, Katharine Street, Croydon, CR0 1NX

DRAFT
MINUTES - PART A

Present:	Councillor S Brew, Ms. G Driver, Councillor S Hall (Vice-Chair), Councillor P Hay-Justice, Councillor M Henson, Councillor Y Hopley, Mr. P Howard, Mr. I Makumbi, Councillor A Pelling (Chair), Councillor J Wentworth
Also present:	Robbie McInroy and Richard Warden (Hymans Robertson), Daniel Carpenter (Aon Hewitt), Nigel Cook (Head of Pensions and Treasury), Richard Simpson (Executive Director - Resources and s151 Officer), Lisa Taylor (Assistant Director of Finance and Deputy 151 Officer).

MINUTES - PART A

A1 Minutes of the last meeting

The following amendments to the minutes were stated:

- At the second paragraph of pack page 2, the word "that" to be changed to "than".
- At the first line of the Section 13 report item, pack page 4, the word "stated" to be changed to "stating"

The Committee **RESOLVED** that, with the aforementioned amendments included, the minutes be agreed as a correct record of the meeting.

A2 Disclosure of Interest

There were none.

A3 Urgent Business (if any)

There was no urgent business to consider.

A4 Exempt Items

The allocation between Part A and Part B of the agenda was agreed as stated.

A5 **Funding Strategy Statement**

The Head of Pensions and Treasury introduced the item by stating that the funding strategy statement was fundamental to the health of the Fund. There were almost 100 scheme employers and therefore consultation was crucial. The consultation process was described to the Committee which included being considered by the Pension Board.

The Committee requested information on how and to what extent instruments such as the Employers' Forum and Pension Board would consider the statement.

The representatives from Hymans Robertson delivered a presentation on the valuation and updated the Committee on four key changes:

1. Use of a risk based approach for all employers.
2. The breakup of the charities pool and the creation of separate funding strategies for the three remaining admitted charities in the scheme.
3. The removal of further education colleges from the Council pool and separate funding strategies for each institution.
4. On average, academy contributions had gone down as calculated into the 22 year deficient recovery plan.

The Committee expressed interest in how the consultation process panned out with the academies. The Committee were informed that by early February 2017 the formal consultation would end and the statement would be finalised in time for the Committee meeting in March. The new rates would take effect from 1 April 2017.

The Committee additionally asked questions surrounding the risks associated with the reclassification of colleges and charities and the potential increase in contribution rates for these employers.

The Committee **RESOLVED** to endorse the proposed consultation exercise on the Funding Strategy Statement.

A6 **Developments to the Regulatory Framework for the LGPS**

The Head of Pensions and Treasury introduced the item and highlighted five key updates for the Committee:

1. The Introduction of new investment regulations.
2. The Scheme Advisory Board had commissioned research on academies in the LGPS.
3. A slight change to the regulations related to outsourcing TUPE arrangements.
4. Changes to exit payments changes, that had previously been

raised with the Committee at earlier meetings.

5. A Financial Instruments Directive due to take effect in January 2018 and would potentially have a large impact on the Fund's future investment opportunities.

The Committee asked questions related to the likely effect the Directive would have on the Fund. Representatives from Aon Hewitt considered it too early to make definitive judgments but it was likely that the Fund would be classed as a retail investor and this would restrict the asset classes available for investment.

The Committee **NOTED** the changes outlined in the body of the report.

A7 Key Performance Indicators for the LGPS

The Head of Pensions and Treasury stated that the item had been prompted by discussion by Members at the last Committee meeting.

The Committee discussed the nature of some of the targets that had been set, including the possibility of bench-marking. It was agreed that the Committee would want to review this bi-annually.

The Committee were informed that maintenance of a breaches log was the responsibility of the Pension Board. Members also asked questions related to auto-enrolment and to ensure all potential scheme members were given the opportunity to join.

The Committee **RESOLVED**:
1.1. To note the Key Performance Indicators set out in the report.
1.2. That the Committee receive an updated KPI report on a bi-annual basis.

A8 Progress Report for Quarter Ended 30 September 2016

The report was introduced by the Head of Pensions and Treasury and particular attention was drawn to the over performance of equities which, despite the Fund moving considerable money into other asset classes, continued to make the Fund overweight in equities.

The representative from Aon Hewitt updated the Committee and highlighted the expected volatility in global markets for the near future. The strategy adopted by the Committee was being implemented but given the state of equity markets the timing of implementation was important.

The Committee discussed the overweightness of equities in the Fund and the progress of allocation to asset classes such as infrastructure. Questions were asked in relation to the valuation of infrastructure investments and the fund managers used in this asset class. Additionally, the Committee asked to be informed as to whether any of the bonds in the fund are, or could be, offered out for repo to secure additional income.

The Committee **NOTED** the report.

A9 **[The following motion is to be moved and seconded as the "camera resolution" where it is proposed to move into part B of a meeting]**

Councillor Pelling proposed, and Councillor Henson seconded, the CAMERA resolution to move the remainder of the meeting into Part B.

The Committee **RESOLVED** to approve the CAMERA resolution.

The meeting concluded at 12.24pm

Croydon Council

REPORT TO:	**PENSION COMMITTEE** **7 March 2017**
AGENDA ITEM:	**7**
SUBJECT:	**Risk Register**
LEAD OFFICER:	**Richard Simpson** **Executive Director of Resources**
CABINET MEMBER	**Councillor Simon Hall** **Cabinet Member for Finance and Treasury**
WARDS:	**All**

CORPORATE PRIORITY/POLICY CONTEXT:

Sound Financial Management: Ensuring that the pension fund is being given appropriate guidance and direction through the governance of the Pension Committee.

FINANCIAL SUMMARY: There are no direct financial consequences to this report. However the implications of decisions taken by this Committee can be significant for the Revenue Account of the Council.

FORWARD PLAN KEY DECISION REFERENCE NO.: N/A

1 RECOMMENDATIONS

1.1 That the Committee note and comment on the current Pension Fund risk register.

2 EXECUTIVE SUMMARY

2.1 It is recommended best practice for the Pension Committee to maintain a risk register. This report presents the current risk register for the Committee's consideration.

3 DETAIL

Risk Register

3.1 Best practice recommends that a risk register is maintained by the Pension Committee recording all relevant risk scenarios, together with an assessment of their likelihood and impact and the appropriate mitigations. This report provides the Committee with a report covering risks relating to governance, funding, assets and liabilities, and operational risks.

3.2 The Committee is invited to comment upon whether it considers this list sufficiently exhaustive, whether the assessment of each risk matches its perception and to comment on the adequacy of future and existing controls.

3.3 The risk register will be reviewed periodically and brought back to the Committee for its consideration twice each year – the register was most recently reviewed in December 2016. Members will be familiar with the corporate risk register: this Pension Fund risk register is distinct from that document and an innovation in that previously the Committee has not had the opportunity to formally track risks relating to the Fund and Scheme in such a comprehensive manner.

3.4 The main change to the register, apart from refreshing and updating the status of existing risks, is the addition of the risk around the adoption of the second Markets in Financial Instruments Directive (MiFID II). Together with Brexit and the impact of the Trump administration on US economic growth, comprise the most significant risks currently facing the Croydon Pension Fund. The register is appended to this report – it shows only those risks that are scored 12 or higher in the current year; risks are rated on a scale of 1 to 5 on likelihood and impact giving a range of potential scores between 1 and 25.

4 CONSULTATION

4.1 Officers have fully consulted with the Pension Fund's advisers in preparing this report.

5 FINANCIAL CONSIDERATIONS

5.1 This report considers the full range of risks facing the effective management of the Pension Fund and many of these are significant financial risks with potentially material impacts on the finances of the authority.

6 COMMENTS OF THE COUNCIL SOLICITOR AND MONITORING OFFICER

6.1 The Acting Solicitor to the Council comments that there are no direct legal implications arising from the recommendations within the report and to the extent that the risk register itself presents matters which raise legal issues, specific advice will need to be sought from the Council's legal team as and when such matters arise.

(Approved for and on behalf of Jacqueline Harris-Baker, Acting Council Solicitor and Acting Monitoring Officer.

7 FREEDOM OF INFORMATION/DATA PROTECTION CONSIDERATIONS

7.1 The appendix to this report may contain confidential information and the Council will consider release of the information subject to applicable exemptions under the Act..

CONTACT OFFICER:

Nigel Cook – Head of Pensions and Treasury
Corporate Resources Department, ext. 62552.

Appendix A:

Risk Register

Pensions Risk Register

Risk Scenario			Current Risk Rating			Future controls	Future risk rating		
Risk	Assigned to	Existing Controls	Impact	Likelihood	Risk factor		Impact	Likelihood	Risk Factor
Governance Risks									
If other scheme employers cease for any reason the Scheme Actuary will calculate a cessation valuation of their liabilities. If that employer cannot meet that liability the Council has to make good the shortfall.	Freda Townsend	Employers contributions are monitored on a monthly basis. Council officers rely on good communications to identify any problems at the earliest stage. The range of remedies includes reporting to the Pensions Regulator, involving other statutory bodies, such as the Education Funding Agency, up to court enforcement action.	3	5	15	The team are currently putting in place an employer risk strategy, which will lead to the early identification of employers at risk.	3	4	12
Funding - Assets and Liabilities									
The Fund's invested assets are not sufficient to meet its current or future liabilities.	Nigel Cook	A formal actuarial valuation is carried out every three years. This results in a Funding Strategy Statement which is regularly reviewed to ensure contribution rates and the investment strategy are set to meet the long term solvency of the Fund. The Scheme Actuary's view is that there is a 75% chance that the funding target will be achieved.	4	3	12	Officers are looking at ways of monitoring the funding level on a more frequent basis rather than waiting for a full valuation every three years. Although this needs to be done efficiently and in a cost effective manner.	4	2	8
Between a quarter and a third of the Fund is held in illiquid investments. This means there is a risk that the authority might find itself with iInsufficient cash to meet short term and medium term liabilities without having to disinvest and thus damage the prospects of generating adequate investment returns.	Matthew Hallett	The Fund's contribution income is currently enough to cover the short term liablities. This is kept under constant review and Officers monitor the cashflow carefully on a monthly basis. The Council is currently forward funding the Pension Fund which provides a buffer. This cash will be invested in liquid assets to mitigate this risk.	3	4	12	Officers have identified a potential cash shortfall due to the changing investment strategy towards alternatives and are in the process of amending the current policy of reinvesting dividend income to make up the shortfall.	3	2	6
There is a current risk that academies are not abiding by their statutory reponisibilities as Scheme employers. This involves not transmitting information about staff, which means that pension benefits cannot be calculated, and not paying over contributions, which involves the administering authority in incurring unnecessary costs.	Freda Townsend	The authority has retained legal advisors to mitigate this risk, possibly through legal channels.	3	5	15	This is likely to be an issue requiring attention for some time.	3	2	6

Investment Risks											
There is a risk that, under any set of circumstances, an asset class will underperform. The Fund has a significant allocation to several single asset categories - for example, equities, fixed interest, property or alternates - which potentially leaves the Fund exposed to the possibility that class of assets will underperform relative to expectation.	Matthew Hallett	The investment allocation mix is in a variety of uncorrelated investments designed to give a diverse porfolio, meaning any one investment class should not unduly impact on the performance of the overall portfolio, if it underperforms relative to expectation. It is recognised that the portfolio is currently overweight equities.	4	4	16	A new asset allocation was agreed in September 2015 and Officers are working on moving towards that allocation to remove the current overweight position towards equities.	5	2	10		
In response to the requirement to pool LGPS assets Croydon has opted to join the London group and invest in certain assets through the London CIV. As this is an untried investment route there are inevitably risks and areas of uncertainty.	Nigel Cook	Extensive due diligence has been undertaken by the consultants involved in establishing the CIV.	4	3	12	As a second wave investor the Pension Fund will have the opportunity to learn from others' experiences. Progress towards funding the CIV will be carefully monitored.	3	2	6		
Specific macro-economic risks are addressed below but there is a more general, underlying risk of a global collapse in investment markets. The markets have experienced a continuous sequence of such events: Latin American sovereign debt; Black Friday crash; the Dot.com bubble; sub-prime and credit crunch. Other crises are inevitable.	Matthew Hallett	The discount rate assumption is reviewed at every valuation to ensure it gives appropriate views on future return expectations. The Fund is also well-diversified which provides a degree of protection.	4	3	12	Existing controls deemed adequate. Reviewed 31/12/2015. Next review 31/12/18	4	3	12		
There are a number of current specific geopolitical risks. The administration of US President Trump can be considered an unknown factor in so far as its impact on the US economy. To date this has been largely benign and the US markets have reacted positively. Other ongoing concerns include the impact of Brexit, the Euro crisis, the growth of the Chinese economy and the impact of populist movements.	Matthew Hallett	Equities have performed well to the extent that the Fund is currently over-weight in the asset class. This is being addressed by moving cash into alternate asset classes. Currency hedging is an option to address potential volatility as is some form of synthetic hedging.	4	3	12	By 2019 the overweight position in equities should have been invested in alternate asset classes thus reducing this risk.	3	2	6		
Operational Risks											

The introduction of the second Markets in Financial Instruments Directive (MiFID II) this year presents a grave challenge to local authorities. As things stand all Local authorities including Croydon will be reclassified as retail clients from January 2018 under the terms of this Directive. Croydon will have to opt up to professional status otherwise there will be a fundamental impact on the team's ability to manage the Fund. The final criteria for opting up will be set by the FCA and each investment manager will need to assess Croydon against criteria before allowing Croydon to invest. As yet it is unclear whether or not Croydon will initially meet the criteria and what needs to be in place to meet it on an	Nigel Cook	Discussions with the FCA at the governmental level suggest that a practical workaround might be possible.	4	4	16	In the long-run a solution will have to be found, involving the London CIV, some sort of delegated arrangement or the reclassification of the investment team.	3	2	6

Croydon Council

REPORT TO:	**PENSION COMMITTEE** **7 March 2017**
AGENDA ITEM:	**8**
SUBJECT:	**Funding Strategy Statement and Valuation Report**
LEAD OFFICER:	**Richard Simpson** **Executive Director of Resources**
CABINET MEMBER	**Councillor Simon Hall** **Cabinet Member for Finance and Treasury**
WARDS:	**All**

CORPORATE PRIORITY/POLICY CONTEXT:

Sound Financial Management: the Pensions Committee is responsible to other Scheme Employers for the sound management of the Local Government Pension Scheme.

FINANCIAL SUMMARY:

The Strategy determines the underlying principles for the triennial valuation. The valuation sets the contribution rate for the Council and for all other Scheme employers. Through considered timing of contribution payments a saving of £1.193m over the three-year period will be achieved.

FORWARD PLAN KEY DECISION REFERENCE NO.: N/A

1 RECOMMENDATIONS

1.1 The Committee is asked to note the outcome of the recent consultation on the Funding Strategy Statement.

1.2 The Committee is asked to adopt the Funding Strategy Statement and Valuation Report.

2 EXECUTIVE SUMMARY

2.1 The Funding Strategy Statement summarises the Croydon Fund's approach to funding its liabilities. The Valuation Report describes the process and assumptions included in the calculation of contribution rates for the next three-year period. The actuary certificates these results and this certificate forms the legal basis for collecting contributions due from each Scheme Employer.

3 DETAIL

3.1 The Pension Committee considered a report on the Funding Strategy Statement at its 6th December meeting (Minute A48/16 applies). That report set out the reason why this authority needs a Funding Strategy Statement and provided the context for the strategy. In providing that context it discussed how the strategy relates to key stakeholders and the financial strategy for the Fund. The report also set out the approach to be adopted for consultation on the strategy.

3.2 The final version of the statement, as drafted by the Pension Fund's actuary, is attached to this report as Appendix A. This also includes the valuation report and certificate that forms the legal basis for collecting contributions due from each Scheme Employer.

3.3 The consultation process involved circulating the statement to each of the Scheme Employers, inviting their views, following a launch at the Employers' Forum. That meeting was attended by representatives from:

The Brit School;
Croydon Citizens Advice Bureau;
Croydon Voluntary Action;
Atwood Primary School;
John Ruskin College;
Coulsdon College;
Shirley High School;
Croydon College;
St Joseph's College;
Pegasus Academy;
STEP Group;
St Cyprian's School
Coloma Convent Girls' School,
The CollegiateTrust,
Axis Europe, and
St Chad's Catholic Primary School.

Each attendee was given the opportunity to discuss the valuation process with the Scheme Actuary. The outcome of these discussions and subsequent work on deriving an affordable and sustainable contribution rate is reflected in the schedule appended to this report.

3.4 The Committee is asked to note the outcome of the recent consultation on the Funding Strategy Statement, represented by the final version of the FSS and Valuation Report and to adopt the Funding Strategy Statement and Valuation Report.

4 CONSULTATION

4.1 Officers have fully consulted with the Pension Fund's advisers in preparing this report. As set out above, other scheme employers have been consulted on the approach set out in the FSS.

5 FINANCIAL CONSIDERATIONS

5.1 This report contributes to the process whereby the employer contribution rates are set and therefore has a direct impact of the Council's General Fund.

5.2 The Council contributes to the Pension Fund with a percentage contribution calculated on the basis of pensionable pay plus a lump sum deficit contribution. The deficit contribution is intended to close the gap between the pension liability and the estimate of the value of assets invested to cover that liability. Over the three-year period the deficit cost is £11.795m x 3, equivalent to £35.385m. By paying that sum upfront a discount may be applied, so that the amount due is £33.192m. The time value of the contribution is the same. The valuation report shows the Council's employer contribution to be frozen for two years before increasing by 1% in 2010/2020. The estimated of cost of increasing rate by 1% in 2019/2020 is £1m. The saving accruing to the Council from adopting this funding strategy is therefore (£35.385m – £33.192m -£1.0m) £1.193m.

5.3 This table summarises the contributions from the Council.

Year	**2017/2018**	**2018/2019**	**2019/2020**
Total Rates payable (as a % of pensionable pay only)	25.2%	25.2%	26.2%
Total Rates payable (split between % of pensionable pay and monetary amount)	15.1% plus £11,795,000	15.1% plus £11,795,000	16.1% plus £11,795,000

6 COMMENTS OF THE COUNCIL SOLICITOR AND MONITORING OFFICER

6.1 The Acting Council Solicitor comments that there are no additional legal considerations arising other than those already highlighted in relation to the previous report to members on 6 December 2016.

(Approved for and on behalf of Jacqueline Harris Baker, Acting Council Solicitor and Acting Monitoring Officer.)

7 FREEDOM OF INFORMATION/DATA PROTECTION CONSIDERATIONS

7.1 This report does not contain any information which will not be made publically available by being published on the Council's Pension Fund website.

CONTACT OFFICER:

Nigel Cook – Head of Pensions and Treasury
Corporate Resources Department, ext. 62552.

Appendix A:

Funding Strategy Statement and Valuation Report

APPENDIX A

London Borough of Croydon Pension Fund

Funding Strategy Statement

February 2017

Contents

1 Introduction

1.1 What is this document?

This is the Funding Strategy Statement (FSS) of the London Borough of Croydon Pension Fund ("the Fund"), which is administered by Croydon Council, ("the Administering Authority").

It has been prepared by the Administering Authority in collaboration with the Fund's actuary, Hymans Robertson LLP, and after consultation with the Fund's employers and investment adviser. It is effective from 1 April 2017.

1.2 What is the London Borough of Croydon Pension Fund?

The Fund is part of the national Local Government Pension Scheme (LGPS). The LGPS was set up by the UK Government to provide retirement and death benefits for local government employees, and those employed in similar or related bodies, across the whole of the UK. The Administering Authority runs the London Borough of Croydon Pension Fund, in effect the LGPS for the Croydon area, to make sure it:

- receives the proper amount of contributions from employees and employers, and any transfer payments;
- invests the contributions appropriately, with the aim that the Fund's assets grow over time with investment income and capital growth; and
- uses the assets to pay Fund benefits to the members (as and when they retire, for the rest of their lives), and to their dependants (as and when members die), as defined in the LGPS Regulations. Assets are also used to pay transfer values and administration costs.

The roles and responsibilities of the key parties involved in the management of the Fund are summarised in Appendix B.

1.3 Why does the Fund need a Funding Strategy Statement?

Employees' benefits are guaranteed by the LGPS Regulations, and do not change with market values or employer contributions. Investment returns will help pay for some of the benefits, but probably not all, and certainly with no guarantee. Employees' contributions are fixed in those Regulations also, at a level which covers only part of the cost of the benefits.

Therefore, employers need to pay the balance of the cost of delivering the benefits to members and their dependants.

The FSS focuses on how employer liabilities are measured, the pace at which these liabilities are funded, and how employers or pools of employers pay for their own liabilities. This statement sets out how the Administering Authority has balanced the conflicting aims of:

- affordability of employer contributions,
- transparency of processes,
- stability of employers' contributions, and
- prudence in the funding basis.

There are also regulatory requirements for an FSS, as given in Appendix A.

The FSS is a summary of the Fund's approach to funding its liabilities, and this includes reference to the Fund's other policies; it is not an exhaustive statement of policy on all issues. The FSS forms part of a framework which includes:

- the LGPS Regulations;

- the Rates and Adjustments Certificate (confirming employer contribution rates for the next three years) which can be found in an appendix to the formal valuation report;
- the Fund's policies on admissions, cessations and bulk transfers;
- actuarial factors for valuing individual transfers, early retirement costs and the costs of buying added service; and
- the Fund's Statement of Investment Principles / Investment Strategy Statement (see Section 4)

1.4 How does the Fund and this FSS affect me?

This depends on who you are:

- a member of the Fund, i.e. a current or former employee, or a dependant: the Fund needs to be sure it is collecting and holding enough money so that your benefits are always paid in full;
- an employer in the Fund (or which is considering joining the Fund): you will want to know how your contributions are calculated from time to time, that these are fair by comparison to other employers in the Fund, and in what circumstances you might need to pay more. Note that the FSS applies to all employers participating in the Fund;
- an Elected Member whose council participates in the Fund: you will want to be sure that the council balances the need to hold prudent reserves for members' retirement and death benefits, with the other competing demands for council money;
- a Council Tax payer: your council seeks to strike the balance above, and also to minimise cross-subsidies between different generations of taxpayers.

1.5 What does the FSS aim to do?

The FSS sets out the objectives of the Fund's funding strategy, such as:

- to ensure the long-term solvency of the Fund, using a prudent long term view. This will ensure that sufficient funds are available to meet all members'/dependants' benefits as they fall due for payment;
- to ensure that employer contribution rates are reasonably stable where appropriate;
- to minimise the long-term cash contributions which employers need to pay to the Fund, by recognising the link between assets and liabilities and adopting an investment strategy which balances risk and return (**NB** this will also minimise the costs to be borne by Council Tax payers);
- to reflect the different characteristics of different employers in determining contribution rates. This involves the Fund having a clear and transparent funding strategy to demonstrate how each employer can best meet its own liabilities over future years; and
- to use reasonable measures to reduce the risk to other employers and ultimately to the Council Tax payer from an employer defaulting on its pension obligations.

1.6 How do I find my way around this document?

In Section 2 there is a brief introduction to some of the main principles behind funding, i.e. deciding how much an employer should contribute to the Fund from time to time.

In Section 3 we outline how the Fund calculates the contributions payable by different employers in different situations.

In Section 4 we show how the funding strategy is linked with the Fund's investment strategy.

In the Appendices we cover various issues in more detail if you are interested:

A. the regulatory background, including how and when the FSS is reviewed,

B. who is responsible for what,

C. what issues the Fund needs to monitor, and how it manages its risks,

D. some more details about the actuarial calculations required,

E. the assumptions which the Fund actuary currently makes about the future,

F. a glossary explaining the technical terms occasionally used here.

If you have any other queries please contact Freda Townsend or Nigel Cook in the first instance as follows:

Nigel Cook (Croydon Treasury and Pensions)
nigel.cook@croydon.gov.uk
Direct line: 020 8726 6000 (ext 62552)

Freda Townsend (Croydon Pensions)
Freda.m.townsend@croydon.gov.uk
Direct line: 0208 760 5768 (ext 62686)

2 Basic Funding issues

(More detailed and extensive descriptions are given in Appendix D).

2.1 How does the actuary measure the required contribution rate?

In essence this is a three-step process:

1. Calculate the ultimate funding target for that employer, i.e. the ideal amount of assets it should hold in order to be able to pay all its members' benefits. See Appendix E for more details of what assumptions we make to determine that funding target;

2. Determine the time horizon over which the employer should aim to achieve that funding target. See the table in 3.3 and Note (c) for more details;

3. Calculate the employer contribution rate such that it has at least a given probability of achieving that funding target over that time horizon, allowing for different likelihoods of various possible economic outcomes over that time horizon. See 2.3 below, and the table in 3.3 Note (e) for more details.

2.2 What is each employer's contribution rate?

This is described in more detail in Appendix D. Employer contributions are normally made up of two elements:

a) the estimated cost of benefits being built up each year, after deducting the members' own contributions and including administration expenses. This is referred to as the "*Primary rate*", and is expressed as a percentage of members' pensionable pay; plus

b) an adjustment for the difference between the Primary rate above, and the actual contribution the employer needs to pay, referred to as the "*Secondary rate*". In broad terms, payment of the Secondary rate will aim to return the employer to full funding over an appropriate period (the "time horizon"). The Secondary rate may be expressed as a percentage of pay and/or a monetary amount in each year.

The rates for all employers are shown in the Fund's Rates and Adjustments Certificate, which forms part of the formal Actuarial Valuation Report. Employers' contributions are expressed as minima, with employers able to pay contributions at a higher rate. Account of any higher rate will be taken by the Fund actuary at subsequent valuations, i.e. will be reflected as a credit when next calculating the employer's contributions.

2.3 What different types of employer participate in the Fund?

Historically the LGPS was intended for local authority employees only. However over the years, with the diversification and changes to delivery of local services, many more types and numbers of employers now participate. There are currently more employers in the Fund than ever before, a significant part of this being due to new academies.

In essence, participation in the LGPS is open to public sector employers providing some form of service to the local community. Whilst the majority of members will be local authority employees (and ex-employees), the majority of participating employers are those providing services in place of (or alongside) local authority services: academy schools, contractors, housing associations, charities, etc.

The LGPS Regulations define various types of employer as follows:

Scheduled bodies - councils, and other specified employers such as academies and further education establishments. These must provide access to the LGPS in respect of their employees who are not eligible to join another public sector scheme (such as the Teachers Scheme). These employers are so-called because they are specified in a schedule to the LGPS Regulations.

It is now possible for Local Education Authority schools to convert to academy status, and for other forms of school (such as Free Schools) to be established under the academies legislation. All such **academies (or Multi Academy Trusts)**, as employers of non-teaching staff, become separate new employers in the Fund. As academies are defined in the LGPS Regulations as “Scheduled Bodies”, the Administering Authority has no discretion over whether to admit them to the Fund, and the academy has no discretion whether to continue to allow its non-teaching staff to join the Fund. There has also been guidance issued by the DCLG regarding the terms of academies’ membership in LGPS Funds.

Designating employers - employers such as town and parish councils are able to participate in the LGPS via resolution (and the Fund cannot refuse them entry where the resolution is passed). These employers can designate which of their employees are eligible to join the scheme.

Other employers are able to participate in the Fund via an admission agreement, and are referred to as ‘admission bodies’. These employers are generally those with a “community of interest” with another scheme employer – **community admission bodies** (“CAB”) or those providing a service on behalf of a scheme employer – **transferee admission bodies** (“TAB”). CABs will include housing associations and charities, TABs will generally be contractors. The Fund is able to set its criteria for participation by these employers and can refuse entry if the requirements as set out in the Fund’s admissions policy are not met. (NB The terminology CAB and TAB has been dropped from recent LGPS Regulations, which instead combine both under the single term ‘admission bodies’; however, we have retained the old terminology here as we consider it to be helpful in setting funding strategies for these different employer.

2.4 How does the measured contribution rate vary for different employers?

All three steps above are considered when setting contributions (more details are given in Section 3 and Appendix D).

1. The **funding target** is based on a set of assumptions about the future, (e.g. investment returns, inflation, pensioners’ life expectancies). However, if an employer is approaching the end of its participation in the Fund then its funding target may be set on a more prudent basis, so that its liabilities are less likely to be spread among other employers after its cessation;
2. The **time horizon** required is, in broad terms, the period over which any deficit is to be recovered. A shorter period will lead to higher contributions, and vice versa (all other things being equal). Employers may be given a lower time horizon if they have a less permanent anticipated membership, or do not have tax-raising powers to increase contributions if investment returns under-perform; and
3. The **probability of achieving** the funding target over that time horizon will be dependent on the Fund’s view of the strength of employer covenant and its funding profile. Where an employer is considered to be weaker, or potentially ceasing from the Fund, then the required probability will be set higher, which in turn will increase the required contributions (and vice versa).

For some employers it may be agreed to pool contributions, see 3.4.

Any costs of non ill-health early retirements must be paid by the employer, see 3.6.

Costs of ill-health early retirements are covered in 3.7 and 3.8.

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2.5 How is a deficit (or surplus) calculated?

An employer's "funding level" is defined as the ratio of:

- the market value of the employer's share of assets (see Appendix D, section D5, for further details of how this is calculated), to
- the value placed by the actuary on the benefits built up to date for the employer's employees and ex-employees (the "liabilities"). The Fund actuary agrees with the Administering Authority the assumptions to be used in calculating this value.

If this is less than 100% then it means the employer has a shortfall, which is the employer's deficit; if it is more than 100% then the employer is said to be in surplus. The amount of deficit or shortfall is the difference between the asset value and the liabilities value.

It is important to note that the deficit/surplus and funding level are only measurements at a particular point in time, on a particular set of assumptions about the future. Whilst we recognise that various parties will take an interest in these measures, for most employers the key issue is how likely it is that their contributions will be sufficient to pay for their members' benefits (when added to their existing asset share and anticipated investment returns).

In short, deficits and funding levels are short term measures, whereas contribution-setting is a longer term issue.

2.6 How does the Fund recognise that contribution levels can affect council and employer service provision, and council tax?

The Administering Authority and the Fund actuary are acutely aware that, all other things being equal, a higher contribution required to be paid to the Fund will mean less cash available for the employer to spend on the provision of services. For instance:

- Higher Pension Fund contributions may result in reduced council spending, which in turn could affect the resources available for council services, and/or greater pressure on council tax levels;
- Contributions which Academies pay to the Fund will therefore not be available to pay for providing education; and
- Other employers will provide various services to the local community, perhaps through housing associations, charitable work, or contracting council services. If they are required to pay more in pension contributions to the LGPS then this may affect their ability to provide the local services at a reasonable cost.

Whilst all this is true, it should also be borne in mind that:

- The Fund provides invaluable financial security to local families, whether to those who formerly worked in the service of the local community who have now retired, or to their families after their death;
- The Fund must have the assets available to meet these retirement and death benefits, which in turn means that the various employers must each pay their own way. Lower contributions today will mean higher contributions tomorrow: deferring payments does not alter the employer's ultimate obligation to the Fund in respect of its current and former employees;
- Each employer will generally only pay for its own employees and ex-employees (and their dependants), not for those of other employers in the Fund;

- The Fund strives to maintain reasonably stable employer contribution rates where appropriate and possible. However, a recent shift in regulatory focus means that solvency within each generation is considered by the Government to be a higher priority than stability of contribution rates;
- The Fund wishes to avoid the situation where an employer falls so far behind in managing its funding shortfall that its deficit becomes unmanageable in practice: such a situation may lead to employer insolvency and the resulting deficit falling on the other Fund employers. In that situation, those employers' services would in turn suffer as a result;
- Council contributions to the Fund should be at a suitable level, to protect the interests of different generations of council tax payers. For instance, underpayment of contributions for some years will need to be balanced by overpayment in other years; the council will wish to minimise the extent to which council tax payers in one period are in effect benefitting at the expense of those paying in a different period.

Overall, therefore, there is clearly a balance to be struck between the Fund's need for maintaining prudent funding levels, and the employers' need to allocate their resources appropriately. The Fund achieves this through various techniques which affect contribution increases to various degrees (see 3.1). In deciding which of these techniques to apply to any given employer, the Administering Authority takes a view on the financial standing of the employer, i.e. its ability to meet its funding commitments and the relevant time horizon.

The Administering Authority will consider a risk assessment of that employer using a knowledge base which is regularly monitored and kept up-to-date. This database will include such information as the type of employer, its membership profile and funding position, any guarantors or security provision, material changes anticipated, etc.

For instance, where the Administering Authority has reasonable confidence that an employer will be able to meet its funding commitments, then the Fund will permit options such as stabilisation (see 3.3 Note (b)), a longer time horizon relative to other employers, and/or a lower probability of achieving their funding target. Such options will temporarily produce lower contribution levels than would otherwise have applied. This is permitted in the expectation that the employer will still be able to meet its obligations for many years to come.

On the other hand, where there is doubt that an employer will be able to meet its funding commitments or withstand a significant change in its commitments, then a higher funding target, and/or a shorter deficit recovery period relative to other employers, and/or a higher probability of achieving the target may be required.

The Fund actively seeks employer input, including to its funding arrangements, through various means: see Appendix A.

3 Calculating contributions for individual Employers

3.1 General comments

A key challenge for the Administering Authority is to balance the need for stable, affordable employer contributions with the requirement to take a prudent, longer-term view of funding and ensure the solvency of the Fund. With this in mind, the Fund's three-step process identifies the key issues:

1. What is a suitably (but not overly) prudent funding target?
2. How long should the employer be permitted to reach that target? This should be realistic but not so long that the funding target is in danger of never actually being achieved.
3. What probability is required to reach that funding target? This will always be less than 100% as we cannot be certain of future market movements. Higher probability "bars" can be used for employers where the Fund wishes to reduce the risk that the employer ceases leaving a deficit to be picked up by other employers.

These and associated issues are covered in this Section.

The Administering Authority recognises that there may occasionally be particular circumstances affecting individual employers that are not easily managed within the rules and policies set out in the Funding Strategy Statement. Therefore the Administering Authority may, at its sole discretion, direct the actuary to adopt alternative funding approaches on a case by case basis for specific employers.

3.2 The effect of paying lower contributions

In limited circumstances the Administering Authority may permit employers to pay contributions at a lower level than is assessed for the employer using the three step process above. At their absolute discretion the Administering Authority may:

- extend the time horizon for targeting full funding;
- adjust the required probability of meeting the funding target;
- permit an employer to participate in the Fund's stabilisation mechanisms;
- permit extended phasing in of contribution rises or reductions;
- pool contributions amongst employers with similar characteristics; and/or
- accept some form of security or guarantee in lieu of a higher contribution rate than would otherwise be the case.

Employers which are permitted to use one or more of the above methods will often be paying, for a time, contributions less than required to meet their funding target, over the appropriate time horizon with the required likelihood of success. Such employers should appreciate that:

- their true long term liability (i.e. the actual eventual cost of benefits payable to their employees and ex-employees) is not affected by the pace of paying contributions;
- lower contributions in the short term will be assumed to incur a greater loss of investment returns on the deficit. Thus, deferring a certain amount of contribution may lead to higher contributions in the long-term; and
- it may take longer to reach their funding target, all other things being equal.

Overleaf (3.3) is a summary of how the main funding policies differ for different types of employer, followed by more detailed notes where necessary.

Section 3.4 onwards deals with various other funding issues which apply to all employers.

3.3 The different approaches used for different employers

Type of employer	Scheduled Bodies			Community Admission Bodies and Designating Employers		Transferee Admission Bodies
Sub-type	**Local Authorities**	**Colleges**	**Academies**	**Open to new entrants**	**Closed to new entrants**	**(all)**
Funding Target Basis used	Ongoing, assumes long-term Fund participation (see Appendix E)			Ongoing, but may move to "gilts basis" - see Note (a)		Ongoing, assumes fixed contract term in the Fund (see Appendix E)
Primary rate approach	(see Appendix D – D.2)					
Stabilised contribution rate?	Yes - see Note (b)	No	No	No	No	No
Maximum time horizon – Note (c)	22 years	22 years	22 years	22 years – subject to security / covenant check	Future working lifetime – subject to security / covenant check	Outstanding contract term
Secondary rate – Note (d)	Monetary amount	Monetary amount	Monetary amount	Monetary amount	Monetary amount	Monetary amount
Treatment of surplus	Covered by stabilisation arrangement	Reduce contributions by spreading the surplus over the remaining contract term		Preferred approach: contributions kept at Primary rate. However, reductions may be permitted by the Administering Authority		Reduce contributions by spreading the surplus over the remaining contract term
Probability of achieving target – Note (e)	73%	75%	73%	75%	75%	75%
Phasing of contribution changes	Covered by stabilisation arrangement	None	None	None	None	None
Review of rates – Note (f)	Administering Authority reserves the right to review contribution rates and amounts, and the level of security provided, at regular intervals between valuations					Particularly reviewed in last 3 years of contract
New employer	n/a	n/a	Note (g)	Note (h)		Notes (h) & (i)
Cessation of participation: cessation debt payable	Cessation is assumed not to be generally possible, as Scheduled Bodies are legally obliged to participate in the LGPS. In the rare event of cessation occurring (machinery of Government changes for example), the cessation debt principles applied would be as per Note (j).			Can be ceased subject to terms of admission agreement. Cessation debt will be calculated on a basis appropriate to the circumstances of cessation – see Note (j).		Participation is assumed to expire at the end of the contract. Cessation debt (if any) calculated on ongoing basis. Awarding Authority will be liable for future deficits and contributions arising.

Note (a) (Basis for CABs and Designating Employers closed to new entrants)

In the circumstances where:

- the employer is a Designating Employer, or an Admission Body but not a Transferee Admission Body, and
- the employer has no guarantor, and
- the admission agreement is likely to terminate, or the employer is likely to lose its last active member, within a timeframe considered appropriate by the Administering Authority to prompt a change in funding,

the Administering Authority may set a higher funding target (e.g. using a discount rate set equal to gilt yields) by the time the agreement terminates or the last active member leaves, in order to protect other employers in the Fund. This policy will increase regular contributions and reduce, but not entirely eliminate, the possibility of a final deficit payment being required from the employer when a cessation valuation is carried out.

The Administering Authority also reserves the right to adopt the above approach in respect of those Designating Employers and Admission Bodies with no guarantor, where the strength of covenant is considered to be weak but there is no immediate expectation that the admission agreement will cease or the Designating Employer alters its designation.

Note (b) (Stabilisation)

Stabilisation is a mechanism where employer contribution rate variations from year to year are kept within a pre-determined range, thus allowing those employers' rates to be relatively stable. In the interests of stability and affordability of employer contributions, the Administering Authority, on the advice of the Fund Actuary, believes that stabilising contributions can still be viewed as a prudent longer-term approach. However, employers whose contribution rates have been "stabilised" (and may therefore be paying less than their theoretical contribution rate) should be aware of the risks of this approach and should consider making additional payments to the Fund if possible.

This stabilisation mechanism allows short term investment market volatility to be managed so as not to cause volatility in employer contribution rates, on the basis that a long term view can be taken on net cash inflow, investment returns and strength of employer covenant.

The current stabilisation mechanism applies if:

- the employer satisfies the eligibility criteria set by the Administering Authority (see below) and;
- there are no material events which cause the employer to become ineligible, e.g. significant reductions in active membership (due to outsourcing or redundancies), or changes in the nature of the employer (perhaps due to Government restructuring), or changes in the security of the employer.

On the basis of extensive modelling carried out for the 2016 valuation exercise (see Section 4), Increases of 0%, 0% and 1% of pay over the three years from 1 April 2017, respectively, will apply to the Croydon Council Pool. The Council has also committed to not decreasing contributions after 1 April 2020.

The stabilisation criteria and limits will be reviewed at the 31 March 2019 valuation, to take effect from 1 April 2020. However the Administering Authority reserves the right to review the stabilisation criteria and limits at any time before then, on the basis of membership and/or employer changes as described above.

Note (c) (Maximum time horizon)

The maximum time horizon starts at the commencement of the revised contribution rate (1 April 2017 for the 2016 valuation). The Administering Authority would normally expect the same period to be used at successive triennial valuations, but would reserve the right to propose alternative time horizons, for example where there were no new entrants.

Note (d) (Secondary rate)

The Secondary contribution rate for each employer covering the three year period until the next valuation will be collected as a monetary amount.

Note (e) (Probability of achieving funding target)

Each employer has its funding target calculated, and a relevant time horizon over which to reach that target. Contributions are set such that, combined with the employer's current asset share and anticipated market movements over the time horizon, the funding target is achieved with a given minimum probability. A higher required probability bar will give rise to higher required contributions, and vice versa.

The way in which contributions are set using these three steps, and relevant economic projections, is described in further detail in Appendix D.

Different probabilities are set for different employers depending on their nature and circumstances: in broad terms, a higher probability will apply due to one or more of the following:

- the Fund believes the employer poses a greater funding risk than other employers,
- the employer does not have tax-raising powers;
- the employer does not have a guarantor or other sufficient security backing its funding position; and/or
- the employer is likely to cease participation in the Fund in the short or medium term.

Note (f) (Regular Reviews)

Such reviews may be triggered by significant events including but not limited to: significant reductions in payroll, altered employer circumstances, Government restructuring affecting the employer's business, or failure to pay contributions or arrange appropriate security as required by the Administering Authority.

The result of a review may be to require increased contributions (by strengthening the actuarial assumptions adopted and/or moving to monetary levels of deficit recovery contributions), and/or an increased level of security or guarantee.

Note (g) (New Academy conversions)

At the time of writing, the Fund's policies on academies' funding issues are as follows:

i. The new academy will be regarded as a separate employer in its own right and will not be pooled with other employers in the Fund. The only exception is where the academy is part of a Multi Academy Trust (MAT) in which case the academy's figures will be calculated as below but can be combined with those of the other academies in the MAT;

ii. The new academy's past service liabilities on conversion will be calculated based on its active Fund members on the day before conversion. For the avoidance of doubt, these liabilities will include all past service of those members, but will exclude the liabilities relating to any ex-employees of the school who have deferred or pensioner status;

iii. The new academy will be allocated an initial asset share from the ceding council's assets in the Fund. This asset share will be calculated using the estimated funding position of the ceding council at the date of academy conversion. The share will be based on the active members' funding level, having first allocated assets in the council's share to fully fund deferred and pensioner members. The asset allocation will be based on market conditions and the academy's active Fund membership on the day prior to conversion;

iv. The new academy's initial contribution rate will be calculated using market conditions, the council funding position and, membership data, all as at the day prior to conversion;

The Fund's policies on academies are subject to change in the light of any amendments to DCLG guidance. Any changes will be notified to academies, and will be reflected in a subsequent version of this FSS. In particular, policies (iii) and (iv) above will be reconsidered at each valuation.

Note (h) (New Admission Bodies)

With effect from 1 October 2012, the LGPS 2012 Miscellaneous Regulations introduced mandatory new requirements for all Admission Bodies brought into the Fund from that date. Under these Regulations, all new Admission Bodies will be required to provide some form of security, such as a guarantee from the letting employer, an indemnity or a bond. The security is required to cover some or all of the following:

- the strain cost of any redundancy early retirements resulting from the premature termination of the contract;
- allowance for the risk of asset underperformance;
- allowance for the risk of a fall in gilt yields;
- allowance for the possible non-payment of employer and member contributions to the Fund; and/or
- the current deficit.

Transferee Admission Bodies: For all TABs, the security must be to the satisfaction of the Administering Authority as well as the letting employer, and will be reassessed on an annual basis. See also Note (i) below.

Community Admission Bodies: The Administering Authority will only consider requests from CABs (or other similar bodies, such as section 75 NHS partnerships) to join the Fund if they are sponsored by a Scheduled Body with tax raising powers, guaranteeing their liabilities and also providing a form of security as above.

The above approaches reduce the risk, to other employers in the Fund, of potentially having to pick up any shortfall in respect of Admission Bodies ceasing with an unpaid deficit.

Note (i) (New Transferee Admission Bodies)

A new TAB usually joins the Fund as a result of the letting/outsourcing of some services from an existing employer (normally a Scheduled Body such as a council or academy) to another organisation (a “contractor”). This involves the TUPE transfer of some staff from the letting employer to the contractor. Consequently, for the duration of the contract, the contractor is a new participating employer in the Fund so that the transferring employees maintain their eligibility for LGPS membership. At the end of the contract the employees revert to the letting employer or to a replacement contractor.

Ordinarily, the TAB would be set up in the Fund as a new employer with responsibility for all the accrued benefits of the transferring employees; in this case, the contractor would usually be assigned an initial asset allocation equal to the past service liability value of the employees’ Fund benefits. The quid pro quo is that the contractor is then expected to ensure that its share of the Fund is also fully funded at the end of the contract: see Note (j).

Employers which “outsource” have flexibility in the way that they can deal with the pension risk potentially taken on by the contractor. In particular there are three different routes that such employers may wish to adopt. Clearly as the risk ultimately resides with the employer letting the contract, it is for them to agree the appropriate route with the contractor:

i) Pooling

Under this option the contractor is pooled with the letting employer. In this case, the contractor pays the same rate as the letting employer, which may be under a stabilisation approach.

ii) Letting employer retains pre-contract risks

Under this option the letting employer would retain responsibility for assets and liabilities in respect of service accrued prior to the contract commencement date. The contractor would be responsible for the future liabilities that accrue in respect of transferred staff. The contractor’s contribution rate could vary from one valuation to the next. It would be liable for any deficit at the end of the contract term in respect of assets and liabilities attributable to service accrued during the contract term.

iii) Fixed contribution rate agreed

Under this option the contractor pays a fixed contribution rate and does not pay any cessation deficit.

The Administering Authority is willing to administer any of the above options as long as the approach is documented in the Admission Agreement as well as the transfer agreement. The Admission Agreement should ensure that some element of risk transfers to the contractor where it relates to their decisions and it is unfair to burden the letting employer with that risk. For example the contractor should typically be responsible for pension costs that arise from:

- above average pay increases, including the effect in respect of service prior to contract commencement even if the letting employer takes on responsibility for the latter under (ii) above; and
- redundancy and early retirement decisions.

Note (j) (Admission Bodies Ceasing)

Notwithstanding the provisions of the Admission Agreement, the Administering Authority may consider any of the following as triggers for the cessation of an admission agreement with any type of body:

- Last active member ceasing participation in the Fund (NB recent LGPS Regulation changes mean that the Administering Authority has the discretion to defer taking action for up to three years, so that if the employer acquires one or more active Fund members during that period then cessation is not triggered. The current Fund policy is that this is left as a discretion and may or may not be applied in any given case);
- The insolvency, winding up or liquidation of the Admission Body;
- Any breach by the Admission Body of any of its obligations under the Agreement that they have failed to remedy to the satisfaction of the Fund;
- A failure by the Admission Body to pay any sums due to the Fund within the period required by the Fund; or
- The failure by the Admission Body to renew or adjust the level of the bond or indemnity, or to confirm an appropriate alternative guarantor, as required by the Fund.

On cessation, the Administering Authority will instruct the Fund actuary to carry out a cessation valuation to determine whether there is any deficit or surplus. Where there is a deficit, payment of this amount in full would normally be sought from the Admission Body; where there is a surplus it should be noted that current legislation does not permit a refund payment to the Admission Body.

For non-Transferee Admission Bodies whose participation is voluntarily ended either by themselves or the Fund, or where a cessation event has been triggered, the Administering Authority must look to protect the interests of other ongoing employers. The actuary will therefore adopt an approach which, to the extent reasonably practicable, protects the other employers from the likelihood of any material loss emerging in future:

(a) Where a guarantor does not exist then, in order to protect other employers in the Fund, the cessation liabilities and final deficit will normally be calculated using a “gilts cessation basis”, which is more prudent than the ongoing basis. This has no allowance for potential future investment outperformance above gilt yields, and has added allowance for future improvements in life expectancy. This could give rise to significant cessation debts being required.

(b) Where there is a guarantor for future deficits and contributions, the details of the guarantee will be considered prior to the cessation valuation being carried out. In some cases the guarantor is simply guarantor of last resort and therefore the cessation valuation will be carried out consistently with the approach taken had there been no guarantor in place. Alternatively, where the guarantor is not simply guarantor of last resort, the cessation may be calculated using the ongoing basis as described in Appendix E;

(c) Again, depending on the nature of the guarantee, it may be possible to simply transfer the former Admission Body's liabilities and assets to the guarantor, without needing to crystallise any deficit. This approach may be adopted where the employer cannot pay the contributions due, and this is within the terms of the guarantee.

Under (a) and (b), any shortfall would usually be levied on the departing Admission Body as a single lump sum payment. If this is not possible then the Fund would spread the payment subject to there being some security in place for the employer such as a bond indemnity or guarantee.

In the event that the Fund is not able to recover the required payment in full, then the unpaid amounts fall to be shared amongst all of the other employers in the Fund. This may require an immediate revision to the Rates and Adjustments Certificate affecting other employers in the Fund, or instead be reflected in the contribution rates set at the next formal valuation following the cessation date.

As an alternative, where the ceasing Admission Body is continuing in business, the Fund at its absolute discretion reserves the right to enter into an agreement with the ceasing Admission Body. Under this agreement the Fund would accept an appropriate alternative security to be held against any deficit, and would carry out the cessation valuation on an ongoing basis: deficit recovery payments would be derived from this cessation debt. This approach would be monitored as part of each triennial valuation: the Fund reserves the right to revert to a "gilts cessation basis" and seek immediate payment of any funding shortfall identified. The Administering Authority may need to seek legal advice in such cases, as the Body would have no contributing members.

3.4 Pooled contributions

From time to time, with the advice of the Actuary, the Administering Authority may set up pools for employers with similar or complementary characteristics. This will always be in line with its broader funding strategy. For the purposes of the 2016 valuation there is one pool set up in the Fund, covering "Croydon Council and associated bodies".

3.5 Additional flexibility in return for added security

The Administering Authority may permit greater flexibility to the employer's contributions if the employer provides added security to the satisfaction of the Administering Authority.

Such flexibility includes a reduced rate of contribution, an extended time horizon, or permission to join a pool with another body (e.g. the Local Authority).

Such security may include, but is not limited to, a suitable bond, a legally-binding guarantee from an appropriate third party, or security over an employer asset of sufficient value.

The degree of flexibility given may take into account factors such as:

- the extent of the employer's deficit;
- the amount and quality of the security offered;
- the employer's financial security and business plan; and
- whether the admission agreement is likely to be open or closed to new entrants.

3.6 Non ill health early retirement costs

It is assumed that members' benefits are payable from the earliest age that the employee could retire without incurring a reduction to their benefit (and without requiring their employer's consent to retire). (**NB** the relevant age may be different for different periods of service, following the benefit changes from April 2008 and April

2014). Employers are required to pay additional contributions ('strain') wherever an employee retires before attaining this age. The actuary's funding basis makes no allowance for premature retirement except on grounds of ill-health.

3.7 Ill health early retirement costs

In the event of a member's early retirement on the grounds of ill-health, a funding strain will usually arise, which can be very large. Such strains are currently met by each employer, although individual employers may elect to take external insurance (see 3.8 below).

Admitted Bodies will usually have an 'ill health allowance'; Scheduled Bodies may have this also, depending on their agreement terms with the Administering Authority. The Fund monitors each employer's ill health experience on an ongoing basis. If the cumulative cost of ill health retirement in any financial year exceeds the allowance at the previous valuation, the employer will be charged additional contributions on the same basis as apply for non ill-health cases. Details will be included in each separate Admission Agreement.

3.8 External Ill health insurance

If an employer provides satisfactory evidence to the Administering Authority of a current external insurance policy covering ill health early retirement strains, then:

- the employer's contribution to the Fund each year is reduced by the amount of that year's insurance premium, so that the total contribution is unchanged, and
- there is no need for monitoring of allowances.

The employer must keep the Administering Authority notified of any changes in the insurance policy's coverage or premium terms, or if the policy is ceased.

3.9 Employers with no remaining active members

The Fund has a separate written policy which covers cessations within the Fund.

In general an employer ceasing in the Fund, due to the departure of the last active member, will pay a cessation debt on an appropriate basis (see 3.3, Note (j)) and consequently have no further obligation to the Fund. Thereafter it is expected that one of two situations will eventually arise:

a) The employer's asset share runs out before all its ex-employees' benefits have been paid. In this situation the other Fund employers will be required to contribute to pay all remaining benefits: this will be done by the Fund actuary apportioning the remaining liabilities on a pro-rata basis at successive formal valuations;

b) The last ex-employee or dependant dies before the employer's asset share has been fully utilised. In this situation the remaining assets would be apportioned pro-rata by the Fund's actuary to the other Fund employers.

In exceptional circumstances the Fund may permit an employer with no remaining active members to continue contributing to the Fund. This would require the provision of a suitable security or guarantee, as well as a written ongoing commitment to fund the remainder of the employer's obligations over an appropriate period. The Fund would reserve the right to invoke the cessation requirements in the future, however. The Administering Authority may need to seek legal advice in such cases, as the employer would have no contributing members.

3.10 Policies on bulk transfers

Each case will be treated on its own merits, but in general:

- The Fund will not pay bulk transfers greater than the lesser of (a) the asset share of the transferring employer in the Fund, and (b) the value of the past service liabilities of the transferring members;
- The Fund will not grant added benefits to members bringing in entitlements from another Fund unless the asset transfer is sufficient to meet the added liabilities; and
- The Fund may permit shortfalls to arise on bulk transfers if the Fund employer has suitable strength of covenant and commits to meeting that shortfall in an appropriate period. This may require the employer's Fund contributions to increase between valuations.

4 Funding strategy and links to investment strategy

4.1 What is the Fund's investment strategy?

The Fund has built up assets over the years, and continues to receive contribution and other income. All of this must be invested in a suitable manner, which is the investment strategy.

Investment strategy is set by the administering authority, after consultation with the employers and after taking investment advice. The precise mix, manager make up and target returns are set out in the Statement of Investment Principles (being replaced by an Investment Strategy Statement under new LGPS Regulations), which is available to members and employers.

The investment strategy is set for the long-term, but is reviewed from time to time. Normally a full review is carried out as part of each actuarial valuation, and is kept under review annually between actuarial valuations to ensure that it remains appropriate to the Fund's liability profile.

The same investment strategy is currently followed for all employers.

4.2 What is the link between funding strategy and investment strategy?

The Fund must be able to meet all benefit payments as and when they fall due. These payments will be met by contributions (resulting from the funding strategy) or asset returns and income (resulting from the investment strategy). To the extent that investment returns or income fall short, then higher cash contributions are required from employers, and vice versa

Therefore, the funding and investment strategies are inextricably linked.

4.3 How does the funding strategy reflect the Fund's investment strategy?

In the opinion of the Fund actuary, the current funding policy is consistent with the current investment strategy of the Fund. The asset outperformance assumption contained in the discount rate (see Appendix E3) is within a range that would be considered acceptable for funding purposes; it is also considered to be consistent with the requirement to take a "prudent longer-term view" of the funding of liabilities as required by the UK Government (see Appendix A1).

However, in the short term – such as the three yearly assessments at formal valuations – there is the scope for considerable volatility and there is a material chance that in the short-term and even medium term, asset returns will fall short of this target. The stability measures described in Section 3 will damp down, but not remove, the effect on employers' contributions.

The Fund does not hold a contingency reserve to protect it against the volatility of equity investments.

4.4 How does this differ for a large stable employer?

The Actuary has developed four key measures which capture the essence of the Fund's strategies, both funding and investment:

Prudence - the Fund should have a reasonable expectation of being fully funded in the long term;

Affordability – how much can employers afford;

Stewardship – the assumptions used should be sustainable in the long term, without having to resort to overly optimistic assumptions about the future to maintain an apparently healthy funding position; and

Stability – employers should not see significant moves in their contribution rates from one year to the next, to help provide a more stable budgeting environment.

The key problem is that the key objectives often conflict. For example, minimising the long term cost of the scheme (i.e. keeping employer rates affordable) is best achieved by investing in higher returning assets e.g. equities. However, equities are also very volatile (i.e. go up and down fairly frequently in fairly large moves), which conflicts with the objective to have stable contribution rates.

Therefore, a balance needs to be maintained between risk and reward, which has been considered by the use of Asset Liability Modelling: this is a set of calculation techniques applied by the Fund's actuary to model the range of potential future solvency levels and contribution rates.

The Actuary was able to model the impact of these four key areas, for the purpose of setting a stabilisation approach (see 3.3 Note (b)). The modelling demonstrated that retaining the present investment strategy, coupled with constraining employer contribution rate changes as described in 3.3 Note (b), struck an appropriate balance between the above objectives. In particular the stabilisation approach currently adopted meets the need for stability of contributions without jeopardising the Administering Authority's aims of prudent stewardship of the Fund.

Whilst the current stabilisation mechanism is to remain in place until 2020, it should be noted that this will need to be reviewed following the 2019 valuation.

4.5 Does the Fund monitor its overall funding position?

The Administering Authority monitors the relative funding position from time to time, i.e. changes in the relationship between asset values and the liabilities value.

5 Statutory reporting and comparison to other LGPS Funds

5.1 Purpose

Under Section 13(4)(c) of the Public Service Pensions Act 2013 (“Section 13”), the Government Actuary’s Department must, following each triennial actuarial valuation, report to the Department of Communities & Local Government (DCLG) on each of the LGPS Funds in England & Wales. This report will cover whether, for each Fund, the rate of employer contributions are set at an appropriate level to ensure both the solvency and the long term cost efficiency of the Fund.

This additional DCLG oversight may have an impact on the strategy for setting contribution rates at future valuations.

5.2 Solvency

For the purposes of Section 13, the rate of employer contributions shall be deemed to have been set at an appropriate level to ensure solvency if:

(a) the rate of employer contributions is set to target a funding level for the Fund of 100%, over an appropriate time period and using appropriate actuarial assumptions (where appropriateness is considered in both absolute and relative terms in comparison with other funds); and either

(b) employers collectively have the financial capacity to increase employer contributions, and/or the Fund is able to realise contingent assets should future circumstances require, in order to continue to target a funding level of 100%; or

(c) there is an appropriate plan in place should there be, or if there is expected in future to be, a material reduction in the capacity of fund employers to increase contributions as might be needed.

5.3 Long Term Cost Efficiency

The rate of employer contributions shall be deemed to have been set at an appropriate level to ensure long term cost efficiency if:

i. the rate of employer contributions is sufficient to make provision for the cost of current benefit accrual,

ii. with an appropriate adjustment to that rate for any surplus or deficit in the Fund.

In assessing whether the above condition is met, DCLG may have regard to various absolute and relative considerations. A relative consideration is primarily concerned with comparing LGPS pension funds with other LGPS pension funds. An absolute consideration is primarily concerned with comparing Funds with a given objective benchmark.

Relative considerations include:

1. the implied deficit recovery period; and
2. the investment return required to achieve full funding after 20 years.

Absolute considerations include:

1. the extent to which the contributions payable are sufficient to cover the cost of current benefit accrual and the interest cost on any deficit;
2. how the required investment return under “relative considerations” above compares to the estimated future return being targeted by the Fund’s current investment strategy;
3. the extent to which contributions actually paid have been in line with the expected contributions based on the extant rates and adjustment certificate; and
4. the extent to which any new deficit recovery plan can be directly reconciled with, and can be demonstrated to be a continuation of, any previous deficit recovery plan, after allowing for actual Fund experience.

DCLG may assess and compare these metrics on a suitable standardised market-related basis, for example where the local funds’ actuarial bases do not make comparisons straightforward.

Appendix A – Regulatory framework

A1 Why does the Fund need an FSS?

The Department for Communities and Local Government (DCLG) has stated that the purpose of the FSS is:

*"to establish a **clear and transparent fund-specific strategy** which will identify how employers' pension liabilities are best met going forward;*

*to support the regulatory framework to maintain **as nearly constant employer contribution rates as possible**; and*

*to take a **prudent longer-term view** of funding those liabilities."*

These objectives are desirable individually, but may be mutually conflicting.

The requirement to maintain and publish a FSS is contained in LGPS Regulations which are updated from time to time. In publishing the FSS the Administering Authority has to have regard to any guidance published by Chartered Institute of Public Finance and Accountancy (CIPFA) (most recently in 2016) and to its Statement of Investment Principles / Investment Strategy Statement.

This is the framework within which the Fund's actuary carries out triennial valuations to set employers' contributions and provides recommendations to the Administering Authority when other funding decisions are required, such as when employers join or leave the Fund. The FSS applies to all employers participating in the Fund.

A2 Does the Administering Authority consult anyone on the FSS?

Yes. This is required by LGPS Regulations. It is covered in more detail by the most recent CIPFA guidance, which states that the FSS must first be subject to "consultation with such persons as the authority considers appropriate", and should include "a meaningful dialogue at officer and elected member level with council tax raising authorities and with corresponding representatives of other participating employers".

In practice, for the Fund, the consultation process for this FSS was as follows:

a) A draft version of the FSS was issued to all participating employers in December 2016 for comment;

b) There was an Employers Forum on 12 December 2016 at which questions regarding the FSS could be raised and answered;

c) Comments were requested by 31 January 2017;

d) Following the end of the consultation period the FSS was updated where required and then published.

A3 How is the FSS published?

The FSS is made available through the following routes:

- Published on the website, at http://www.croydonpensionscheme.org/ ;
- A copy sent by e-mail to each participating employer in the Fund;
- A copy sent to pensioner representatives;
- A summary issued to all Fund members;
- A full copy included in the annual report and accounts of the Fund;
- Copies made available on request.

A4 How often is the FSS reviewed?

The FSS is reviewed in detail at least every three years as part of the triennial valuation. This version is expected to remain unaltered until it is consulted upon as part of the formal process for the next valuation in 2019.

It is possible that (usually slight) amendments may be needed within the three year period. These would be needed to reflect any regulatory changes, or alterations to the way the Fund operates (e.g. to accommodate a new class of employer). Any such amendments would be consulted upon as appropriate:

- trivial amendments would be simply notified at the next round of employer communications,
- amendments affecting only one class of employer would be consulted with those employers,
- other more significant amendments would be subject to full consultation.

In any event, changes to the FSS would need agreement by the Pensions Committee and would be included in the relevant Committee Meeting minutes.

A5 How does the FSS fit into other Fund documents?

The FSS is a summary of the Fund's approach to funding liabilities. It is not an exhaustive statement of policy on all issues, for example there are a number of separate statements published by the Fund including the Statement of Investment Principles/Investment Strategy Statement, Governance Strategy and Communications Strategy. In addition, the Fund publishes an Annual Report and Accounts with up to date information on the Fund.

These documents can be found on the web at http://www.croydonpensionscheme.org/

Appendix B – Responsibilities of key parties

The efficient and effective operation of the Fund needs various parties to each play their part.

B1 The Administering Authority should:-

1. operate the Fund as per the LGPS Regulations;
2. effectively manage any potential conflicts of interest arising from its dual role as Administering Authority and a Fund employer;
3. collect employer and employee contributions, and investment income and other amounts due to the Fund;
4. ensure that cash is available to meet benefit payments as and when they fall due;
5. pay from the Fund the relevant benefits and entitlements that are due;
6. invest surplus monies (i.e. contributions and other income which are not immediately needed to pay benefits) in accordance with the Fund's Statement of Investment Principles/Investment Strategy Statement (SIP/ISS) and LGPS Regulations;
7. communicate appropriately with employers so that they fully understand their obligations to the Fund;
8. take appropriate measures to safeguard the Fund against the consequences of employer default;
9. manage the valuation process in consultation with the Fund's actuary;
10. provide data and information as required by the Government Actuary's Department to carry out their statutory obligations (see Section 5);
11. prepare and maintain a FSS and a SIP/ISS, after consultation;
12. notify the Fund's actuary of material changes which could affect funding (this is covered in a separate agreement with the actuary); and
13. monitor all aspects of the fund's performance and funding and amend the FSS and SIP/ISS as necessary and appropriate.

B2 The Individual Employer should:-

1. deduct contributions from employees' pay correctly;
2. pay all contributions, including their own as determined by the actuary, promptly by the due date;
3. have a policy and exercise discretions within the regulatory framework;
4. make additional contributions in accordance with agreed arrangements in respect of, for example, augmentation of scheme benefits, early retirement strain; and
5. notify the Administering Authority promptly of all changes to its circumstances, prospects or membership, which could affect future funding.

B3 The Fund Actuary should:-

1. prepare valuations, including the setting of employers' contribution rates. This will involve agreeing assumptions with the Administering Authority, having regard to the FSS and LGPS Regulations, and targeting each employer's solvency appropriately;
2. provide data and information as required by the Government Actuary's Department to carry out their statutory obligations (see Section 5);

3. provide advice relating to new employers in the Fund, including the level and type of bonds or other forms of security (and the monitoring of these);
4. prepare advice and calculations in connection with bulk transfers and individual benefit-related matters;
5. assist the Administering Authority in considering possible changes to employer contributions between formal valuations, where circumstances suggest this may be necessary;
6. advise on the termination of employers' participation in the Fund; and
7. fully reflect actuarial professional guidance and requirements in the advice given to the Administering Authority.

B4 Other parties:-

1. investment advisers (either internal or external) should ensure the Fund's SIP/ISS remains appropriate, and consistent with this FSS;
2. investment managers, custodians and bankers should all play their part in the effective investment (and dis-investment) of Fund assets, in line with the SIP/ISS;
3. auditors should comply with their auditing standards, ensure Fund compliance with all requirements, monitor and advise on fraud detection, and sign off annual reports and financial statements as required;
4. governance advisers may be appointed to advise the Administering Authority on efficient processes and working methods in managing the Fund;
5. legal advisers (either internal or external) should ensure the Fund's operation and management remains fully compliant with all regulations and broader local government requirements, including the Administering Authority's own procedures;
6. the Department for Communities and Local Government (assisted by the Government Actuary's Department) and the Scheme Advisory Board, should work with LGPS Funds to meet Section 13 requirements.

Appendix C – Key risks and controls

C1 Types of risk

The Administering Authority has an active risk management programme in place. The measures that it has in place to control key risks are summarised below under the following headings:

financial;

demographic;

regulatory; and

governance.

C2 Financial risks

Risk	Summary of Control Mechanisms
Fund assets fail to deliver returns in line with the anticipated returns underpinning the valuation of liabilities over the long-term.	Only anticipate long-term returns on a relatively prudent basis to reduce risk of under-performing. Assets invested on the basis of specialist advice, in a suitably diversified manner across asset classes, geographies, managers, etc. Analyse progress at three yearly valuations for all employers. Inter-valuation roll-forward of liabilities between valuations at whole Fund level.
Inappropriate long-term investment strategy.	Overall investment strategy options considered as an integral part of the funding strategy. Used asset liability modelling to measure 4 key outcomes. Chosen option considered to provide the best balance.
Fall in risk-free returns on Government bonds, leading to rise in value placed on liabilities.	Stabilisation modelling at whole Fund level allows for the probability of this within a longer term context. Inter-valuation monitoring, as above. Some investment in bonds helps to mitigate this risk.
Active investment manager under-performance relative to benchmark.	Quarterly investment monitoring analyses market performance and active managers relative to their index benchmark.
Pay and price inflation significantly more than anticipated.	The focus of the actuarial valuation process is on real returns on assets, net of price and pay increases. Inter-valuation monitoring, as above, gives early warning.

Risk	Summary of Control Mechanisms
	Some investment in bonds also helps to mitigate this risk. Employers pay for their own salary awards and should be mindful of the geared effect on pension liabilities of any bias in pensionable pay rises towards longer-serving employees.
Effect of possible increase in employer's contribution rate on service delivery and admission/scheduled bodies	An explicit stabilisation mechanism has been agreed as part of the funding strategy. Other measures are also in place to limit sudden increases in contributions.
Orphaned employers give rise to added costs for the Fund	The Fund seeks a cessation debt (or security/guarantor) to minimise the risk of this happening in the future. If it occurs, the Actuary calculates the added cost spread pro-rata among all employers – (see 3.9).

C3 Demographic risks

Risk	Summary of Control Mechanisms
Pensioners living longer, thus increasing cost to Fund.	Set mortality assumptions with some allowance for future increases in life expectancy. The Fund Actuary has direct access to the experience of over 50 LGPS funds which allows early identification of changes in life expectancy that might in turn affect the assumptions underpinning the valuation.
Maturing Fund – i.e. proportion of actively contributing employees declines relative to retired employees.	Continue to monitor at each valuation, consider seeking monetary amounts rather than % of pay and consider alternative investment strategies.
Deteriorating patterns of early retirements	Employers are charged the extra cost of non ill-health retirements following each individual decision. Employer ill health retirement experience is monitored, and insurance is an option.
Reductions in payroll causing insufficient deficit recovery payments	In many cases this may not be sufficient cause for concern, and will in effect be caught at the next formal valuation. However, there are protections where there is concern, as follows:

Risk	Summary of Control Mechanisms
	Employers in the stabilisation mechanism may be brought out of that mechanism to permit appropriate contribution increases (see Note (b) to 3.3). For other employers, review of contributions is permitted in general between valuations (see Note (f) to 3.3).

C4 Regulatory risks

Risk	Summary of Control Mechanisms
Changes to national pension requirements and/or HMRC rules e.g. changes arising from public sector pensions reform.	The Administering Authority considers all consultation papers issued by the Government and comments where appropriate. The results of the most recent reforms were built into the 2013 valuation. Any changes to member contribution rates or benefit levels will be carefully communicated with members to minimise possible opt-outs or adverse actions.
Time, cost and/or reputational risks associated with any DCLG intervention triggered by the Section 13 analysis (see Section 5).	Take advice from Fund Actuary on position of Fund as at prior valuation, and consideration of proposed valuation approach relative to anticipated Section 13 analysis.
Changes by Government to particular employer participation in LGPS Funds, leading to impacts on funding and/or investment strategies.	The Administering Authority considers all consultation papers issued by the Government and comments where appropriate. Take advice from Fund Actuary on impact of changes on the Fund and amend strategy as appropriate.

C5 Governance risks

Risk	Summary of Control Mechanisms
Administering Authority unaware of structural changes in an employer's membership (e.g. large fall in employee members, large number of retirements) or not advised of an employer closing to new entrants.	The Administering Authority has a close relationship with employing bodies and communicates required standards e.g. for submission of data. The Actuary may revise the rates and Adjustments certificate to increase an employer's contributions between triennial valuations Deficit contributions are expressed as monetary amounts.

Risk	Summary of Control Mechanisms
Actuarial or investment advice is not sought, or is not heeded, or proves to be insufficient in some way	The Administering Authority maintains close contact with its specialist advisers. Advice is delivered via formal meetings involving Elected Members, and recorded appropriately. Actuarial advice is subject to professional requirements such as peer review.
Administering Authority failing to commission the Fund Actuary to carry out a termination valuation for a departing Admission Body.	The Administering Authority requires employers with Best Value contractors to inform it of forthcoming changes. Community Admission Bodies' memberships are monitored and, if active membership decreases, steps will be taken.
An employer ceasing to exist with insufficient funding or adequacy of a bond.	The Administering Authority believes that it would normally be too late to address the position if it was left to the time of departure. The risk is mitigated by: Seeking a funding guarantee from another scheme employer, or external body, where-ever possible (see Notes (h) and (j) to 3.3). Alerting the prospective employer to its obligations and encouraging it to take independent actuarial advice. Vetting prospective employers before admission. Where permitted under the regulations requiring a bond to protect the Fund from various risks. Requiring new Community Admission Bodies to have a guarantor. Reviewing bond or guarantor arrangements at regular intervals (see Note (f) to 3.3). Reviewing contributions well ahead of cessation if thought appropriate (see Note (a) to 3.3).

Appendix D – The calculation of Employer contributions

In Section 2 there was a broad description of the way in which contribution rates are calculated. This Appendix considers these calculations in much more detail.

All three steps above are considered when setting contributions (more details are given in Section 3 and Appendix D:

1. The **funding target** is based on a set of assumptions about the future, eg investment returns, inflation, pensioners' life expectancies. However, if an employer is approaching the end of its participation in the Fund then its funding target may be set on a more prudent basis, so that its liabilities are less likely to be spread among other employers after its cessation of participation;

2. The **time horizon** required is, in broad terms, the period over which any deficit is to be recovered. A shorter period will lead to higher contributions, and vice versa (all other things being equal). Employers may be given a lower time horizon if they have a less permanent anticipated membership, or do not have tax-raising powers to increase contributions if investment returns under-perform;

3. The required **probability of achieving** the funding target over that time horizon will be dependent on the Fund's view of the strength of employer covenant and its funding profile. Where an employer is considered to be weaker, or potentially ceasing from the Fund, then the required probability will be set higher, which in turn will increase the required contributions (and vice versa).

The calculations involve actuarial assumptions about future experience, and these are described in detail in Appendix E.

D1 What is the difference between calculations across the whole Fund and calculations for an individual employer?

Employer contributions are normally made up of two elements:

a) the estimated cost of ongoing benefits being accrued, referred to as the "Primary contribution rate" (see D2 below); plus

b) an adjustment for the difference between the Primary rate above, and the actual contribution the employer needs to pay, referred to as the "Secondary contribution rate" (see D3 below).

The contribution rate for each employer is measured as above, appropriate for each employer's funding position and membership. The whole Fund position, including that used in reporting to DCLG (see section 5), is calculated in effect as the sum of all the individual employer rates. DCLG currently only regulates at whole Fund level, without monitoring individual employer positions.

D2 How is the Primary contribution rate calculated?

The Primary element of the employer contribution rate is calculated with the aim that these contributions will meet benefit payments in respect of members' **future** service in the Fund. This is based upon the cost (in excess of members' contributions) of the benefits which employee members earn from their service each year.

The Primary rate is calculated separately for all the employers, although employers within a pool will pay the contribution rate applicable to the pool as a whole. The Primary rate is calculated such that it is projected to:

1. meet the required funding target for all future years' accrual of benefits*, excluding any accrued assets,

2. within the determined time horizon (see note 3.3 Note (c) for further details),

3. with a sufficiently high probability, as set by the Fund's strategy for the category of employer (see 3.3 Note (e) for further details).

* The projection is for the current active membership where the employer no longer admits new entrants, or additionally allows for new entrants where this is appropriate.

The projections are carried out using an economic modeller developed by the Fund's actuary Hymans Robertson: this allows for a wide range of outcomes as regards key factors such as asset returns (based on the Fund's investment strategy), inflation, and bond yields. The measured contributions are calculated such that the proportion of outcomes meeting the employer's funding target (by the end of the time horizon) is equal to the required probability.

The approach includes expenses of administration to the extent that they are borne by the Fund, and includes allowances for benefits payable on death in service and on ill health retirement.

D3 How is the Secondary contribution rate calculated?

The combined Primary and Secondary rates aim to achieve the employer's funding target, within the appropriate time horizon, with the relevant degree of probability.

For the funding target, the Fund actuary agrees the assumptions to be used with the Administering Authority – see Appendix E. These assumptions are used to calculate the present value of all benefit payments expected in the future, relating to that employer's current and former employees, based on pensionable service to the valuation date only (i.e. ignoring further benefits to be built up in the future).

The Fund operates the same target funding level for all employers of 100% of its accrued liabilities valued on the ongoing basis, unless otherwise determined (see Section 3).

The Secondary rate is calculated as the balance over and above the Primary rate, such that the total is projected to:

1. meet the required funding target relating to combined past and future service benefit accrual, including accrued asset share (see D5 below)
2. within the determined time horizon (see 3.3 Note (c) for further details)
3. with a sufficiently high probability, as set by the Fund's strategy for the category of employer (see 3.3 Note (e) for further details).

The projections are carried out using an economic modeller developed by the Fund's actuary Hymans Robertson: this allows for a wide range of outcomes as regards key factors such as asset returns (based on the Fund's investment strategy), inflation, and bond yields. The measured contributions are calculated such that the proportion of outcomes with at least 100% solvency (by the end of the time horizon) is equal to the required probability.

D4 What affects a given employer's valuation results?

The results of these calculations for a given individual employer will be affected by:

1. past contributions relative to the cost of accruals of benefits;
2. different liability profiles of employers (e.g. mix of members by age, gender, service vs. salary);
3. the effect of any differences in the funding target, i.e. the valuation basis used to value the employer's liabilities;
4. any different time horizons;

5. the difference between actual and assumed rises in pensionable pay;
6. the difference between actual and assumed increases to pensions in payment and deferred pensions;
7. the difference between actual and assumed retirements on grounds of ill-health from active status;
8. the difference between actual and assumed amounts of pension ceasing on death;
9. the additional costs of any non ill-health retirements relative to any extra payments made; and/or
10. differences in the required probability of achieving the funding target.

D5 How is each employer's asset share calculated?

The Administering Authority does not account for each employer's assets separately. Instead, the Fund's actuary is required to apportion the assets of the whole Fund between the employers, at each triennial valuation.

This apportionment uses the income and expenditure figures provided for certain cash flows for each employer. This process adjusts for transfers of liabilities between employers participating in the Fund, but does make a number of simplifying assumptions. The split is calculated using an actuarial technique known as "analysis of surplus".

Actual investment returns achieved on the Fund between each valuation are applied proportionately across all employers, to the extent that employers in effect share the same investment strategy. Transfers of liabilities between employers within the Fund occur automatically within this process, with a sum broadly equivalent to the reserve required on the ongoing basis being exchanged between the two employers.

The Fund actuary does not allow for certain relatively minor events, including but not limited to:

1. the actual timing of employer contributions within any financial year;
2. the effect of the premature payment of any deferred pensions on grounds of incapacity.

These effects are swept up within a miscellaneous item in the analysis of surplus, which is split between employers in proportion to their liabilities.

The methodology adopted means that there will inevitably be some difference between the asset shares calculated for individual employers and those that would have resulted had they participated in their own ring-fenced section of the Fund.

The asset apportionment is capable of verification but not to audit standard. The Administering Authority recognises the limitations in the process, but it considers that the Fund actuary's approach addresses the risks of employer cross-subsidisation to an acceptable degree.

Appendix E – Actuarial assumptions

E1 What are the actuarial assumptions?

These are expectations of future experience used to place a value on future benefit payments ("the liabilities"). Assumptions are made about the amount of benefit payable to members (the financial assumptions) and the likelihood or timing of payments (the demographic assumptions). For example, financial assumptions include investment returns, salary growth and pension increases; demographic assumptions include life expectancy, probabilities of ill-health early retirement, and proportions of member deaths giving rise to dependants' benefits.

Changes in assumptions will affect the measured funding target. However, different assumptions will not of course affect the actual benefits payable by the Fund in future.

The combination of all assumptions is described as the "basis". A more optimistic basis might involve higher assumed investment returns (discount rate), or lower assumed salary growth, pension increases or life expectancy; a more optimistic basis will give lower funding targets and lower employer costs. A more prudent basis will give higher funding targets and higher employer costs.

E2 What basis is used by the Fund?

The Fund's standard funding basis is described as the "ongoing basis", which applies to most employers in most circumstances. This is described in more detail below. It anticipates employers remaining in the Fund in the long term.

However, in certain circumstances, typically where the employer is not expected to remain in the Fund long term, a more prudent basis applies: see Note (a) to 3.3.

E3 What assumptions are made in the ongoing basis?

a) Investment return / discount rate

The key financial assumption is the anticipated return on the Fund's investments. This "discount rate" assumption makes allowance for an anticipated out-performance of Fund returns relative to long term yields on UK Government bonds ("gilts"). There is, however, no guarantee that Fund returns will out-perform gilts. The risk is greater when measured over short periods such as the three years between formal actuarial valuations, when the actual returns and assumed returns can deviate sharply.

Given the very long-term nature of the liabilities, a long term view of prospective asset returns is taken. The long term in this context would be 20 to 30 years or more.

For the purpose of the triennial funding valuation at 31 March 2016 and setting contribution rates effective from 1 April 2017, the Fund actuary has assumed that future investment returns earned by the Fund over the long term will be 2.2% per annum greater than gilt yields at the time of the valuation. In the opinion of the Fund actuary, based on the current investment strategy of the Fund, this asset out-performance assumption is within a range that would be considered acceptable for the purposes of the funding valuation.

b) Salary growth

Pay for public sector employees is currently subject to restriction by the UK Government until 2020. Although this “pay freeze” does not officially apply to local government and associated employers, it has been suggested that they are likely to show similar restraint in respect of pay awards. Based on long term historical analysis of the membership in LGPS funds, and continued austerity measures, the salary increase assumption at the 2016 valuation has been set to be a blended rate combined of:

1. 1% p.a. until 31 March 2020, followed by

2. retail prices index (RPI) per annum p.a. thereafter.

This is a change from the previous valuation, which assumed a flat assumption of RPI less 0.5% per annum. The change has led to a reduction in the funding target (all other things being equal).

c) Pension increases

Since 2011 the consumer prices index (CPI), rather than RPI, has been the basis for increases to public sector pensions in deferment and in payment. Note that the basis of such increases is set by the Government, and is not under the control of the Fund or any employers.

As at the previous valuation, we derive our assumption for RPI from market data as the difference between the yield on long-dated fixed interest and index-linked government bonds. This is then reduced to arrive at the CPI assumption, to allow for the “formula effect” of the difference between RPI and CPI. At this valuation, we have used a reduction of 1.0% per annum. This is a larger reduction than at 2013, which will serve to reduce the funding target (all other things being equal). (Note that the reduction is applied in a geometric, not arithmetic, basis).

d) Life expectancy

The demographic assumptions are intended to be best estimates of future experience in the Fund based on past experience of LGPS funds which participate in Club Vita, the longevity analytics service used by the Fund, and endorsed by the actuary.

The longevity assumptions that have been adopted at this valuation are a bespoke set of “VitaCurves”, produced by the Club Vita’s detailed analysis, which are specifically tailored to fit the membership profile of the Fund. These curves are based on the data provided by the Fund for the purposes of this valuation.

It is acknowledged that future life expectancy and, in particular, the allowance for future improvements in life expectancy, is uncertain. There is a consensus amongst actuaries, demographers and medical experts that life expectancy is likely to improve in the future. Allowance has been made in the ongoing valuation basis for future improvements in line with the 2013 version of the Continuous Mortality Investigation model published by the Actuarial Profession and a 1.25% per annum minimum underpin to future reductions in mortality rates. This is a similar allowance for future improvements to that made in 2013.

The approach taken is considered reasonable in light of the long term nature of the Fund and the assumed level of security underpinning members’ benefits.

e) General

The same financial assumptions are adopted for most employers, in deriving the funding target underpinning the Primary and Secondary rates: as described in (3.3), these calculated figures are translated in different ways into employer contributions, depending on the employer's circumstances.

The demographic assumptions, in particular the life expectancy assumption, in effect vary by type of member and so reflect the different membership profiles of employers.

Appendix F – Glossary

Actuarial assumptions/basis	The combined set of assumptions made by the actuary, regarding the future, to calculate the value of **the funding target**. The main assumptions will relate to the **discount rate**, salary growth, pension increases and longevity. More prudent assumptions will give a higher target value, whereas more optimistic assumptions will give a lower value.
Administering Authority	The council with statutory responsibility for running the Fund, in effect the Fund's "trustees".
Admission Bodies	Employers where there is an Admission Agreement setting out the employer's obligations. These can be Community Admission Bodies or Transferee Admission Bodies. For more details (see 2.3).
Covenant	The assessed financial strength of the employer. A strong covenant indicates a greater ability (and willingness) to pay for pension obligations in the long run. A weaker covenant means that it appears that the employer may have difficulties meeting its pension obligations in full over the longer term.
Designating Employer	Employers such as town and parish councils that are able to participate in the LGPS via resolution. These employers can designate which of their employees are eligible to join the Fund.
Discount rate	The annual rate at which future assumed cashflows (in and out of the Fund) are discounted to the present day. This is necessary to provide a **funding target** which is consistent with the present day value of the assets. A lower discount rate gives a higher target value, and vice versa. It is used in the calculation of the **Primary and Secondary rates**.
Employer	An individual participating body in the Fund, which employs (or used to employ) **members** of the Fund. Normally the assets and **funding target** values for each employer are individually tracked, together with its **Primary rate** at each **valuation**.
Funding target	The actuarially calculated present value of all pension entitlements of all **members** of the Fund, built up to date. This is compared with the present market value of Fund assets to derive the **deficit**. It is calculated on a chosen set of **actuarial assumptions**.
Gilt	A UK Government bond, ie a promise by the Government to pay interest and capital as per the terms of that particular gilt, in return for an initial payment of capital by the purchaser. Gilts can be "fixed interest", where the interest payments are level throughout the gilt's term, or "index-linked" where the interest payments vary each year in line with a specified index (usually RPI). Gilts can be bought as assets by the Fund, but their main use in funding is as an objective measure of solvency.
Guarantee / guarantor	A formal promise by a third party (the guarantor) that it will meet any pension obligations not met by a specified employer. The presence of a guarantor will mean, for instance, that the Fund can consider the employer's **covenant** to be as strong as its guarantor's.

Letting employer	An employer which outsources or transfers a part of its services and workforce to another employer (usually a contractor). The contractor will pay towards the LGPS benefits accrued by the transferring members, but ultimately the obligation to pay for these benefits will revert to the letting employer. A letting employer will usually be a local authority, but can sometimes be another type of employer such as an Academy.
LGPS	The Local Government Pension Scheme, a public sector pension arrangement put in place via Government Regulations, for workers in local government. These Regulations also dictate eligibility (particularly for Scheduled Bodies), members' contribution rates, benefit calculations and certain governance requirements. The LGPS is divided into 101 Funds which map the UK. Each LGPS Fund is autonomous to the extent not dictated by Regulations, e.g. regarding investment strategy, employer contributions and choice of advisers.
Maturity	A general term to describe a Fund (or an employer's position within a Fund) where the members are closer to retirement (or more of them already retired) and the investment time horizon is shorter. This has implications for investment strategy and, consequently, funding strategy.
Members	The individuals who have built up (and may still be building up) entitlement in the Fund. They are divided into actives (current employee members), deferreds (ex-employees who have not yet retired) and pensioners (ex-employees who have now retired, and dependants of deceased ex-employees).
Primary contribution rate	The employer contribution rate required to pay for ongoing accrual of active members' benefits (including an allowance for administrative expenses). See Appendix D for further details.
Profile	The profile of an employer's membership or liability reflects various measurements of that employer's **members**, ie current and former employees. This includes: the proportions which are active, deferred or pensioner; the average ages of each category; the varying salary or pension levels; the lengths of service of active members vs their salary levels, etc. A membership (or liability) profile might be measured for its **maturity** also.
Rates and Adjustments Certificate	A formal document required by the LGPS Regulations, which must be updated at least every three years at the conclusion of the formal **valuation.** This is completed by the actuary and confirms the contributions to be paid by each employer (or pool of employers) in the Fund for the three year period until the next valuation is completed.
Scheduled Bodies	Types of employer explicitly defined in the LGPS Regulations, whose employers must be offered membership of their local LGPS Fund. These include Councils, colleges, universities, academies, police and fire authorities etc, other than employees who have entitlement to a different public sector pension scheme (e.g. teachers, police and fire officers, university lecturers).

Secondary contribution rate	The difference between the employer's actual and **Primary contribution rates**. In broad terms, this relates to the shortfall of its asset share to its **funding target**. See Appendix D for further details.
Stabilisation	Any method used to smooth out changes in employer contributions from one year to the next. This is very broadly required by the LGPS Regulations, but in practice is particularly employed for large stable employers in the Fund. Different methods may involve: probability-based modelling of future market movements; longer deficit recovery periods; higher discount rates; or some combination of these.
Valuation	An actuarial investigation to calculate the liabilities and contribution rates for a Fund, and usually individual employers too. This is normally carried out in full every three years (last done as at 31 March 2016), but can be approximately updated at other times. The assets value is based on market values at the valuation date, and the liabilities value and contribution rates are based on long term bond market yields at that date also.

APPENDIX A

London Borough of Croydon Pension Fund

2016 Actuarial Valuation
DRAFT Valuation Report

February 2017

Richard Warden
Robert McInroy

Fellows of the Institute and Faculty of Actuaries
For and on behalf of Hymans Robertson LLP

Contents

Executive summary

We have carried out an actuarial valuation of the London Borough of Croydon Pension Fund ('the Fund') as at 31 March 2016. The results are presented in this report and are briefly summarised below.

Funding position

The table below summarises the funding position of the Fund as at 31 March 2016 in respect of benefits earned by members up to this date (along with a comparison at the last formal valuation at 31 March 2013).

Past Service Position	31 March 2013 (£m)	31 March 2016 (£m)
Past Service Liabilities	1,064	1,203
Market Value of Assets	705	877
Surplus / (Deficit)	(359)	(326)
Funding Level	**66%**	**73%**

The improvement in funding position between 2013 and 2016 is mainly due to strong investment performance over the inter-valuation period. The liabilities have also increased due to a reduction in the future expected investment return, although this has been partially been offset by lower than expected pay and benefit growth (both over the inter-valuation period and continuing in the long term).

Contribution rates

The table below summarises the Whole Fund primary and secondary contribution rates at this triennial valuation. These rates are the payroll weighted average of the underlying individual employer primary and secondary rates, calculated in accordance with the Regulations and CIPFA guidance.

Contribution Rates	31 March 2016 (% of pay)
Primary Rate	TBC
Secondary Rate	TBC
Total Contribution Rate	**TBC**
Employee contribution rate	6.4%
Expenses	1.1%

At the previous formal valuation at 31 March 2013, a different regulatory regime was in force. Therefore a contribution rate that is directly comparative to the rates above is not provided.

Broadly, contributions required to be made by employers in respect of new benefits earned by members (the primary contribution rate) have increased as future expected investment returns have fallen. Changes to employer contributions targeted to fund the deficit have been variable across employers.

The minimum contributions to be paid by each employer from 1 April 2017 to 31 March 2020 are shown in the Rates and Adjustments Certificate in **Appendix H**.

1 Introduction

We have carried out an actuarial valuation of the London Borough of Croydon Pension Fund ("the Fund") as at 31 March 2016 under Regulation 62 of The Local Government Pension Scheme Regulations 2013 ("the Regulations"). The purpose of the valuation is to assess the value of the assets and liabilities of the Fund as at 31 March 2016 and to calculate the required rate of employers' contributions payable to the Fund for the period from 1 April 2017 to 31 March 2020.

Valuation Report

This report records the high level outcomes of the actuarial valuation as at 31 March 2016. The valuation report is prepared by the actuary to the Fund and is addressed to Croydon Council as the Administering Authority to the Fund.

Component reports

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

- Correspondence relating to data including the Data Report dated [to be issued in due course];
- The Initial Results slides dated 16 August 2016 which outlined the Whole Fund draft results;
- The formal agreement by the Administering Authority of the actuarial assumptions used in this document, at its Pension Committee meeting dated 7 March 2017;
- The contribution modelling carried out for employers, as detailed in our report and presentation to the Administering Authority dated 4 October 2016;
- The Funding Strategy Statement, confirming the different contribution rate setting approaches for different types of employer or in different circumstances.

2 Valuation Approach

The valuation is a planning exercise for the Fund, to assess the monies needed to meet the benefits owed to its members as they fall due. As part of the valuation process the Fund reviews its funding strategy to ensure that an appropriate contribution plan and investment strategy is in place.

It is important to realise that the actual cost of members' benefits is unknown. This cost will not be known with certainty until the last benefit is paid to the last pensioner. The purpose of this valuation is to estimate what this cost will be, so that the Fund can then develop a funding strategy to meet it.

Setting the funding strategy for an open defined benefit pension fund such as the London Borough of Croydon Pension Fund is complex. Firstly, the time period is very long; benefits earned in the LGPS today will be paid out over a period of the next 80 years or more and it remains open to new joiners and accrual of benefits. Secondly, the LGPS remains a defined benefit scheme so there are significant uncertainties in the final cost of the benefits to be paid. Finally, in order to reduce employer costs, the London Borough of Croydon Pension Fund invests in a return seeking investment strategy which can result in high levels of asset volatility.

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 set the pace of funding, in conjunction with the Administering Authority. The pace of this funding can vary according to the level of prudence that is built into the valuation method and assumptions.

The valuation approach adopted recognises the uncertainties and risks posed to funding by the factors discussed above and follows the process outlined below.

Step 1: The Fund sets a funding target which defines the target amount of assets to be held to meet the future cashflows. The assumptions underlying the funding target are discussed further in the next section. A measurement is made at the valuation date to compare the assets held with the funding target.

Step 2: The Fund sets the time horizon over which the funding target is to be reached.

Step 3: The Fund sets contributions that give a sufficiently high likelihood of meeting the funding target over the set time horizon. More detail on this risk based approach to setting contribution rates can be found in **Appendix C**.

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 of the funding position at the valuation date against the funding target. The market value of the Fund's assets as at the valuation date are compared against the value placed on the Fund's liabilities in today's terms (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 assumptions used in the assessment of the funding position at the valuation date are detailed in the next section.

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 against the funding target.

Funding plans are set to eliminate any deficit (or surplus) over the set time horizon and therefore get back to a funding level of 100%. To do so, additional contributions may be required to be paid into the Fund; these contributions are known as the "secondary rate".

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 "primary rate".

The primary rates for employers are determined with the aim of meeting the funding target in respect of these new benefits at the end of the set time horizon with an appropriate likelihood of success. The primary rate will depend on the profile of the membership (amongst other factors). For example, the rate is higher for an older member as there is less time to earn investment returns before the member's pension comes into payment.

The methodology for calculating the primary rate will also depend on whether an employer is open or closed to new entrants. A closed employer will have a higher rate as we must allow for the consequent gradual ageing of the workforce.

For the reasons outlined above regarding the uncertainty of the future, there is no guarantee that the amount paid for the primary rate will be sufficient to meet the cost of the benefits that accrue. Similarly, there is no guarantee that the secondary contributions will result in a 100% funding level at the end of the time horizon. Further discussion of this uncertainty is set out in **Appendix C**.

3 Assumptions

Due to the long term nature of the Fund, assumptions about the future are required to place a value on the benefits earned to date (past service) and on the cost of benefits that will be earned in the future (future service).

Broadly speaking, our assumptions fall into two categories when projecting and placing a value on the future benefit payments and accrual – financial and demographic.

Financial assumptions typically try to anticipate the **size** of these benefits. For example, what a member's final salary will be at retirement and how their pension 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, by making an assumption about the return on the Fund's investments in the future.

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. In this valuation of the Fund, we use a single agreed set of demographic assumptions which is set out below and in more detail in **Appendix E**.

For measuring the funding position, the liabilities of the Fund are reported on a single constant set of financial assumptions about the future, based on financial market data as at 31 March 2016.

However, when we assess the required employer contributions to meet the funding target, we use a model that calculates the contributions required under 5000 different possible future economic scenarios. Under these 5000 different economic scenarios, key financial assumptions about pension increases and Fund investment returns vary across a wide range. More information about these types of assumptions is set out in **Appendix F**.

Financial assumptions

Discount rate

In order to place a current value on the future benefit payments from the Fund, an assumption about future investment returns is required to "discount" future benefit payments back to the valuation date. In setting the discount rate the Fund is determining the extent to which it relies on future investment returns required to meet benefit payments in excess of the monies already held at the valuation date.

For a funding valuation such as this, the discount rate is required by the Regulations to incorporate a degree of prudence. The discount rate is therefore 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.

There has been a downward shift in the expected returns on many asset classes held by the Fund since the 2013 valuation. Following modelling, analysis and discussion reported in the "Analysis of 2016 valuation AOA assumptions" document, dated 27 April 2016, the Fund is satisfied that an AOA of 2.2% p.a. is a prudent assumption for the purposes of this valuation.

Price inflation / pension increases

Pension (both in payment and deferment) benefit increases and the revaluation of career-average earnings are in line with Consumer Price Index (CPI) inflation. As there continues to be no suitable market for CPI linked financial instruments, the Fund derives the expected level of future CPI with reference to the Retail Prices Index (RPI).

Due to further analysis of the CPI since 2013, the Fund expects the average long term difference between RPI and CPI to be 1.0% p.a. compared with 0.8% p.a. at the 2013 valuation.

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, the Fund continues to adopt a similar approach.

Salary increases

Due to the change to a CARE scheme from 2014, there is now a closed group of membership in the Fund with benefits linked to final salary. The run-off of this final salary linked liability was modelled, taking into account the short-term restrictions in public sector pay growth.

The results of this modelling and analysis were reported in the "2016 Valuation Pay Growth Assumption" document, dated 27 April 2016. Based on the results of this modelling the Fund set a salary growth assumption of RPI -0.5%. This reflects both short term pay constraints and the belief that general economic growth and hence pay growth may be at a lower level than historically experienced for a prolonged period of time.

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**.

A summary of the financial assumptions underpinning the target funding basis and adopted during the assessment of the liabilities of the Fund as at 31 March 2016 (alongside those adopted at the last valuation for comparison) are shown below.

Financial assumptions	31 March 2013	31 March 2016
Discount rate		
Return on long-dated gilts	3.0%	2.2%
Asset Outperformance Assumption	2.0%*	2.2%**
Discount rate	**5.0%**	**4.4%**
Benefit increases		
Retail Prices Inflation (RPI)	3.3%	3.2%
Assumed RPI/CPI gap	(0.8%)*	(1.0%)**
Benefit increase assumption (CPI)	**2.5%**	**2.1%**
Salary increases		
Retail Prices Inflation (RPI)	3.3%	3.2%
Increases in excess of RPI	0.0%*	(0.5%)**
Salary increase assumption	**3.3%**	**2.7%**

**Arithmetic addition*
***Geometric addition*

Demographic assumptions

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, the Fund has adopted assumptions which give the following sample average future life expectancies for members:

	31 March 2013	31 March 2016
Male		
Pensioners	22.3 years	22.3 years
Non-pensioners	24.4 years	24.0 years
Female		
Pensioners	24.4 years	24.4 years
Non-pensioners	26.7 years	26.2 years

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

Other 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 tailored our demographic assumptions to reflect LGPS experience.

Details of the other demographic assumptions adopted by the Fund are set out in **Appendix E**.

Further comments on the assumptions

As required for Local Government Pension Scheme valuations, our 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 actuarial assumptions underlying the Scheme Advisory Board's Key Performance Indicators are viewed as best estimate. Using these best estimate assumptions, the assessed funding position as at 31 March 2016 would have been 81%.

Assets

We have taken the assets of the Fund into account at their bid value as provided by the Administering Authority.

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.

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 valuation objectives are to hold sufficient assets in the Fund to meet the assessed cost of members' accrued benefits on the target funding basis ("the Funding Objective") and to set employer contributions which ensure both the long term solvency and the long term cost efficiency of the Fund ("the Contribution Objective").

Funding Position Relative to Funding Target

In assessing the extent to which the Funding Objective was met at the valuation date, we have used the actuarial assumptions described in the previous section of this report for the target funding basis and the funding method also earlier described. The table below compares the value of the assets and liabilities at 31 March 2016. The 31 March 2013 results are also shown for reference.

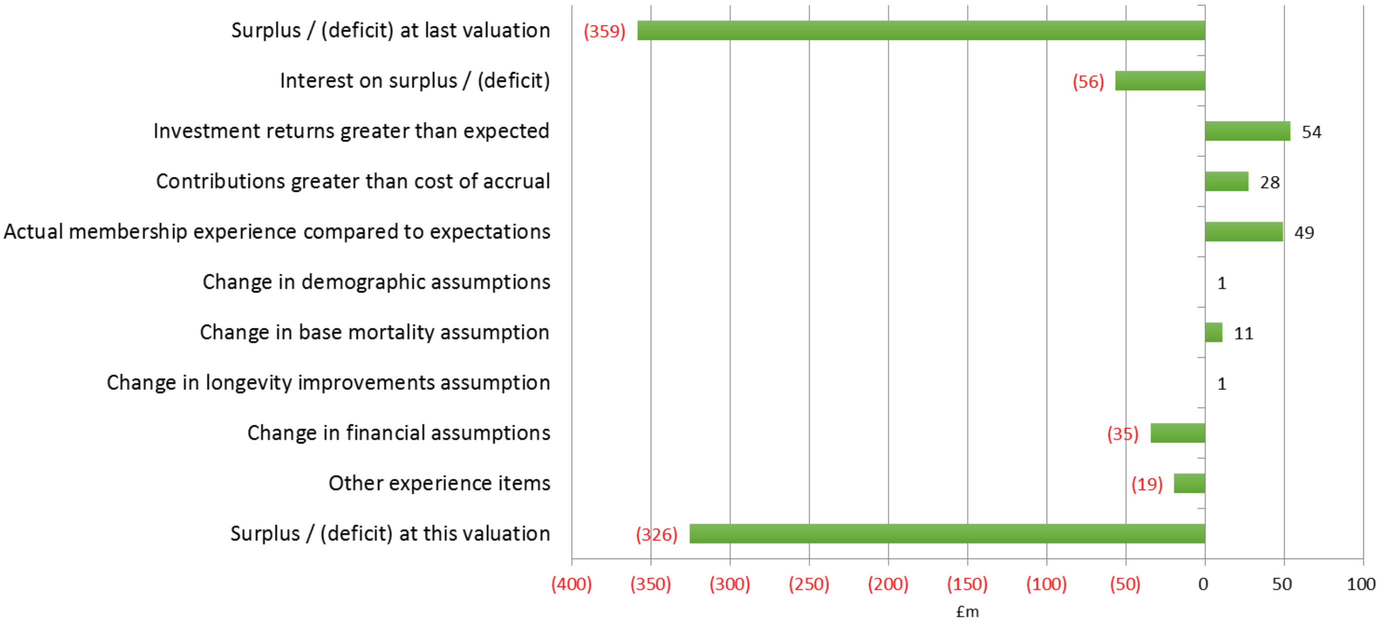
A funding level of 100% would correspond to the Funding Objective being met at the valuation date.

Valuation Date	31 March 2013	31 March 2016
Past Service Liabilities	**(£m)**	**(£m)**
Employees	327	335
Deferred Pensioners	233	267
Pensioners	504	601
Total Liabilities	**1,064**	**1,203**
Assets	**705**	**877**
Surplus / (Deficit)	**(359)**	**(326)**
Funding Level	**66%**	**73%**

The Funding Objective was not met at this valuation: there was a shortfall of assets relative to the assessed cost of members' benefits on the target funding basis of £326m.

Summary of changes to the funding position

The chart below illustrates the factors that caused the changes in the funding position between 31 March 2013 and 31 March 2016:



Further comments on some of the items in this chart:

- There is an interest cost of £56m. This is broadly three years of compound interest at 5.0% p.a. applied to the previous valuation deficit of £359m (and can be thought of as the investment return that would have been achieved on the extra assets the Fund would have held if fully funded).
- Investment returns being higher than expected since 2013 lead to a gain of £54m. This is roughly the difference between the actual three-year return (23.4%) and expected three-year return (15.8%) applied to the Whole Fund assets from the previous valuation of £705m, with a further allowance made for cashflows during the period.
- The membership experience of the Fund has differed to the assumptions made at the 2013 valuation. The table below summarises the significant factors that underlie these differences:

	Expected	Actual	Difference	Impact
Pre-retirement experience				
Early leavers (no.of lives)	3,780	2,894	(886)	Negative
*Ill-health retirements (no.of lives)	123	37	(86)	Positive
Salary increases (p.a.)	3.8%	1.8%	(2.0%)	Positive
Post-retirement experience				
Benefit increases (p.a.)	2.5%	1.3%	(1.2%)	Positive
Pensions ceasing (£m)	2.9	2.7	(0.2)	Negative

*Tier1 and Tier 2 ill-health retirements only

- Fewer members than expected opted into the 50:50 section of the Scheme. This increased the deficit by £7m.
- The impact of the change in demographic assumptions has been a gain of around £1m.
- The change in mortality assumptions (baseline and improvements) has given rise to a gain of £12m.
- The change in financial conditions since the previous valuation has led to a loss of £35m. This is due to a decrease in the real discount rate between 2013 and 2016. This has partially been offset by the increase to the asset outperformance assumption, an increase to 1.0% p.a. of the assumed gap between RPI and CPI and a reduction in the expected future salary growth for benefits linked to final salary.
- Other experience items, such as changes in the membership data, have served to increase the deficit at this valuation by around £19m.

Employer Contribution Rates

The Contribution Objective is achieved by setting employer contributions which are likely to be sufficient to meet both the cost of new benefits accruing and to address any funding deficit relative to the funding target over the agreed time horizon. A secondary objective is to maintain where possible relatively stable employer contribution rates.

For each employer in the Fund, to meet the Contribution Objective, a primary contribution rate has been calculated in order to fund the cost of new benefits accruing in the Fund. Additionally, if required, a secondary contribution rate has also been calculated to target a fully funded position within the employer's set time horizon. These rates have been assessed using a financial model that assesses the funding outcome for the employer under 5000 different possible future economic scenarios, where the key financial assumptions about pension increases and investment returns vary. The employer contribution rates have been set to achieve the funding target over the agreed time horizon and with the appropriate likelihood of success. The time horizon and the likelihood parameters vary by employer according to each employer's characteristics. These parameters are set out in the Funding Strategy Statement and have been communicated to employers. More information about the methodology used to calculate the contribution rates is set out in **Appendix C**.

The employer contributions payable from 1 April 2017 are given in **Appendix H**, and these have been devised in line with the Funding Strategy Statement: see **section 3**.

The table below summarises the Whole Fund primary and secondary contribution rates at this valuation. These rates are the payroll weighted average of the underlying individual employer primary and secondary rates, calculated in accordance with the Regulations and CIPFA guidance.

Contribution Rates	31 March 2016 (% of pay)
Primary Rate	TBC
Secondary Rate	TBC
Total Contribution Rate	**TBC**
Employee contribution rate	6.4%
Expenses	1.1%

Note that the employee contribution rate includes any additional contributions being paid by employees as at 31 March 2016 into the Fund.

The table below shows the Fund “Common Contribution rate’ as at 31 March 2013 for information purposes. **The change in regulatory regime and guidance on contribution rates means that a direct comparison to the Whole Fund rate at 2016 is not appropriate.**

Contribution Rates	31 March 2013 (% of pay)
Employer future service rate (incl. expenses)	18.5%
Past Service Adjustment	12.8%
Total employer contribution rate (incl. expenses)	**31.4%**
Employee contribution rate	6.4%
Expenses	1.1%

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 2016.

However, no one can predict the future with certainty and it is unlikely that future experience will exactly match the 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 past service funding position results.

Sensitivity of past service funding position results to changes in assumptions

The table below gives an indication of the sensitivity of the funding position to small changes in two of the main financial assumptions used:

		Benefit Increases & CARE Revaluation			
Discount Rates		2.5%	2.1%	1.7%	
	3.8%	1,406	1,326	1,251	Liabilities (£m)
		877	877	877	Assets (£m)
		(529)	(449)	(374)	(Deficit) (£m)
		62%	66%	70%	Funding Level
	4.4%	1,275	1,203	1,135	Liabilities (£m)
		877	877	877	Assets (£m)
		(398)	(326)	(257)	(Deficit) (£m)
		69%	73%	77%	Funding Level
	5.0%	1,157	1,092	1,030	Liabilities (£m)
		877	877	877	Assets (£m)
		(280)	(215)	(153)	(Deficit) (£m)
		76%	80%	85%	Funding Level

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 2016 are affected by adopting different longevity assumptions.

	Peaked improvements (£m)	Non-peaked improvements (£m)
Liabilities	1,203	1,228
Assets	877	877
(Deficit)	(326)	(351)
Funding Level	**73%**	**71%**

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".

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.

Note that the tables show 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 therefore more complex. Furthermore, the range of assumptions shown here is by no means exhaustive and should not be considered as the limits of how extreme experience could actually be.

Sensitivity of contribution rates to changes in assumptions

The employer contribution rates are dependent on a number of factors including the membership profile, current financial conditions, the outlook for future financial conditions, and demographic trends such as longevity. Changes in each of these factors can have a material impact on the contribution rates (both primary and secondary rates). We have not sought to quantify the impact of differences in the assumptions because of the complex interactions between them.

Investment risk

The Fund holds some of its assets in return seeking assets such as equities to help reduce employers' costs. However, these types of investments can result in high levels of asset volatility. Therefore, there is a risk that future investment returns are below expectations and the funding target is not met. This will require additional contributions from employers to fund any deficit.

Whilst the Fund takes steps to ensure that the level of investment risk is managed and monitored via strategy reviews and performance monitoring, it can never be fully mitigated.

Regulatory risk

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.

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 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 (e.g. 50:50 scheme take-up, commutation) 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) and ultimately their ability to continue to pay contributions or make good future funding deficits.
- 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.
- 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.
- 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.
- Regularly reviewing the Fund's membership data to ensure it is complete, up to date and accurate.

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 Investment Strategy Statement if ready (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; and
- the information the Fund holds about the participating 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 2019. In light of the uncertainty of future financial conditions, we recommend that the financial position of the Fund (and for individual employers in some cases) is monitored by means of interim funding reviews in the period up to this next formal valuation. This will give early warning of changes to funding positions and possible revisions to funding plans.

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. Depending on the number of transferring members the ceding employer's rate may also need to be reviewed.

Additional payments

Employers may make voluntary additional contributions to recover any funding 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 employer who ceases to participate in the Fund should be referred to us in accordance with Regulation 64 of the Regulations.

Please notify us if there 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

7 Reliances and limitations

Scope

This document has been requested by and is provided to Croydon Council in its capacity as Administering Authority to the London Borough of Croydon Pension Fund. It has been prepared by Hymans Robertson LLP to fulfil the statutory obligations in accordance with regulation 62 of the Regulations. None of the figures should be used for accounting purposes (e.g. under FRS102 or IAS19) or for any other purpose (e.g. a termination valuation under Regulation 64).

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 including comments on the quality of the data provided. However, if any material issues with the data provided are identified at a later date, then the results stated in this report may change.

Actuarial Standards

The following Technical Actuarial Standards[1] 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　　Robert McInroy

Fellows of the Institute and Faculty of Actuaries

For and on behalf of Hymans Robertson LLP

[Date TBC]

[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

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.

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

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 (final salary and/or career average) and pensionable service (for service before 1 April 2014) 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 2017.

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.

<table>
<tr><th>Provision</th><th>Benefit Structure To 31 March 2008</th><th>Benefit Structure From 1 April 2008</th><th>Benefit Structure From 1 April 2014</th></tr>
<tr><td>Normal retirement age (NRA)</td><td>Age 65.</td><td>Age 65.</td><td>Equal to the individual member’s State Pension Age (minimum 65).</td></tr>
<tr><td>Earliest retirement age (ERA) on which immediate unreduced benefits can be paid on voluntary retirement</td><td colspan="2">As per NRA (age 65).

Protections apply to active members in the scheme immediately prior to 1 October 2006 who would have been entitled to immediate payment of unreduced benefits prior to 65, due to:

The benefits relating to various segments of scheme membership are protected as set out in Schedule 2 to the Local Government Pension Scheme (Transitional Provisions) Regulations 2008 and associated GAD guidance.</td><td>As per NRA (minimum age 65).

Protections apply to active members in the scheme for pensions earned up to 1 April 2014, due to:

a) Accrued benefits relating to pre April 2014 service at age 65.

b) Continued ‘Rule of 85’ protection for qualifying members.

c) Members within 10 yrs of existing NRA at 1/4/12 – no change to when they can retire and no decrease in pension they receive at existing NRA.</td></tr>
<tr><td>Member contributions</td><td>Officers - 6% of pensionable pay

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.</td><td>Banded rates (5.5%-7.5%) depending upon level of full-time equivalent pay. A mechanism for sharing any increased scheme costs between employers and scheme members is included in the LGPS regulations.</td><td>Banded rates (5.5%-12.5%) depending upon level of actual pay.</td></tr>
<tr><td>Pensionable pay</td><td colspan="2">All salary, wages, fees and other payments in respect of the employment, excluding non-contractual overtime and some other specified amounts.

Some scheme members may be covered by special agreements.</td><td>Pay including non-contractual overtime and additional hours.</td></tr>
<tr><td>Final pay</td><td colspan="2">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.

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 2014 accrual.</td><td>N/A</td></tr>
</table>

Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008	Benefit Structure From 1 April 2014
Period of scheme membership	Total years and days of service during which a member contributes to the Fund. (e.g. transfers from other pension arrangements, augmentation, or from April 2008 the award of additional pension). For part time members, the membership is proportionate with regard to their contractual hours and a full time equivalent). Additional periods may be granted dependent on member circumstances.		N/A
Normal retirement benefits at NRA	Annual Retirement Pension - 1/80th of final pay for each year of scheme membership. Lump Sum Retirement Grant - 3/80th of final pay for each year of scheme membership.	Scheme membership from 1 April 2008: Annual Retirement Pension - 1/60th of final pay for each year of scheme membership. Lump Sum Retirement Grant – none except by commutation of pension.	Scheme membership from 1 April 2014: 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. Lump Sum Retirement Grant - none except by commutation of pension.
Option to increase retirement lump sum benefit	In addition to the standard retirement grant any lump sum is to be provided by commutation of pension (within overriding HMRC limits). The terms for the conversion of pension in to lump sum is £12 of lump sum for every £1 of annual pension surrendered.	No automatic lump sum. Any lump sum is to be provided by commutation of pension (within overriding HMRC limits). The terms for the conversion of pension in to lump sum is £12 of lump sum for every £1 of annual pension surrendered.	No automatic lump sum. Any lump sum is to be provided by commutation of pension (within overriding HMRC limits). The terms for the conversion of pension in to lump sum is £12 of lump sum for every £1 of annual pension surrendered.
Voluntary early retirement benefits (non ill-health)	On retirement after age 60, subject to reduction on account of early payment in some circumstances (in accordance with ERA protections).		On retirement after age 55, 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 55 with employer's consent. 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.		Benefits paid on redundancy or efficiency grounds are paid with no actuarial reduction. Employer's consent is no longer required for a member to retire from age 55. However, benefits are subject to reduction on account of early payment, unless this is waived by the employer.

Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008	Benefit Structure From 1 April 2014
Ill-health benefits	As a result of permanent ill-health or incapacity. Immediate payment of unreduced benefits. Enhancement to scheme membership, dependent on actual membership. Enhancement seldom more than 6 years 243 days.	As a result of permanent ill-health or incapacity and a reduced likelihood of obtaining gainful employment (local government or otherwise) before age 65. Immediate payment of unreduced benefits. Enhanced to scheme membership, dependent on severity of ill health. 100% of prospective membership to age 65 where no likelihood of undertaking any gainful employment prior to age 65; 25% of prospective membership to age 65 where likelihood of obtaining gainful employment after 3 years of leaving, but before age 65; or 0% of prospective membership where there is a likelihood of undertaking gainful employment within 3 years of leaving employment	As a result of permanent ill-health or incapacity and a reduced likelihood of obtaining gainful employment (local government or otherwise) before NRA. Immediate payment of unreduced benefits. Enhanced to scheme membership, dependent on severity of ill health. 100% of prospective membership to age NRA where no likelihood of undertaking any gainful employment prior to age NRA; 25% of prospective membership to age NRA where likelihood of obtaining gainful employment after 3 years of leaving, but before age NRA; or 0% of prospective membership where there is a likelihood of undertaking gainful employment within 3 years of leaving employment

Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008	Benefit Structure From 1 April 2014
Flexible retirement	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. Benefits are paid immediately and subject to actuarial reduction unless the reduction is waived by the employer.	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, Benefits are paid immediately and subject to actuarial reduction unless the reduction is waived by the employer.	
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 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	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 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 Children's pensions may also be payable.	A spouse's, civil partner's or nominated cohabiting partner's pension payable at a rate of 1/160th of the member's total membership multiplied by final pay (generally post 1 April 1972 service for widowers' pension and post 6 April 1988 for civil partners and nominated cohabiting partners) is payable; plus 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 Children's pensions may also be payable.	

Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008	Benefit Structure From 1 April 2014
Death in service	A lump sum of two times final pay; plus 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 Children’s pensions may also be payable.	A lump sum of three times final pay; plus A spouse’s, civil partner’s or cohabiting partner’s pension payable at a rate of 1/160th of the member's total (augmented to age 65) membership (generally post 1 April 1972 service for widowers’ pension and post 6 April 1988 for civil partners and nominated cohabiting partners), multiplied by final pay; plus Children’s pensions may also be payable.	
Leaving service options	If the member has completed three months’ or more scheme membership, deferred benefits with calculation and payment conditions similar to general retirement provisions; or A transfer payment to either a new employer's scheme or a suitable insurance policy, equivalent in value to the deferred pension; or If the member has completed less than three months' scheme membership, a return of the member's contributions with interest, less a State Scheme premium deduction and less tax at the rate of 20%.		If the member has completed two years or more scheme membership, deferred benefits with calculation and payment conditions similar to general retirement provisions; or A transfer payment to either a new employer's scheme or a suitable insurance policy, equivalent in value to the deferred pension; or 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%.
State pension scheme	From 6th of April 2016, the Fund will no longer be contracted out of the State Second Pension. Until that date, the benefits payable to each member were 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 (CPP) resulting from sickness, child related and reserve forces absence, whereby the amount added to the CPP is the assumed pensionable pay rather than the reduced rate of pay actually received.
50/50 option	N/A		Optional arrangement allowing 50% of main benefits to be accrued on a 50% employee contribution rate.

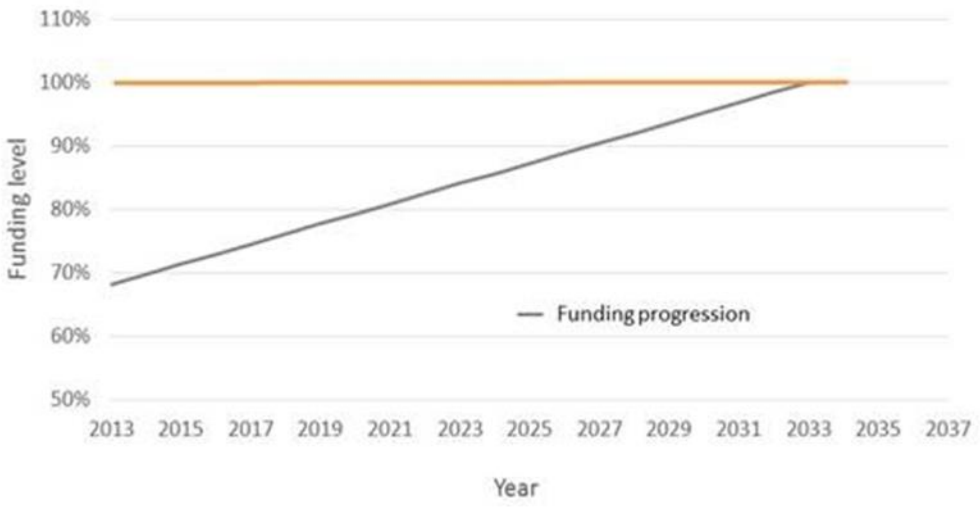
Note: Certain categories of members of the Fund are entitled to benefits that differ from those summarised above.

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 2017.

Appendix C: Risk based approach to setting contribution rates

At previous valuations we have calculated contribution rates using a single set of assumptions about future economic conditions (a 'deterministic' method). By using this deterministic method, there is an implicit assumption that the future will follow expectations (i.e. the financial assumptions used in the calculation) and the employer will return to full funding via one 'journey'. This approach is summarised in the illustrative chart below.



However, pension funding is uncertain as:

- the Fund's assets are invested in volatile financial markets and therefore they go up and down in value; and
- the pension benefits are linked to inflation which again can go up and down in value over time.

One single set of assumptions is very unlikely to actually match what happens, and therefore, the funding plan originally set out will not evolve in line with the single journey shown above. The actual evolution of the funding position could be one of many different 'journeys', and a sample of these are given below.

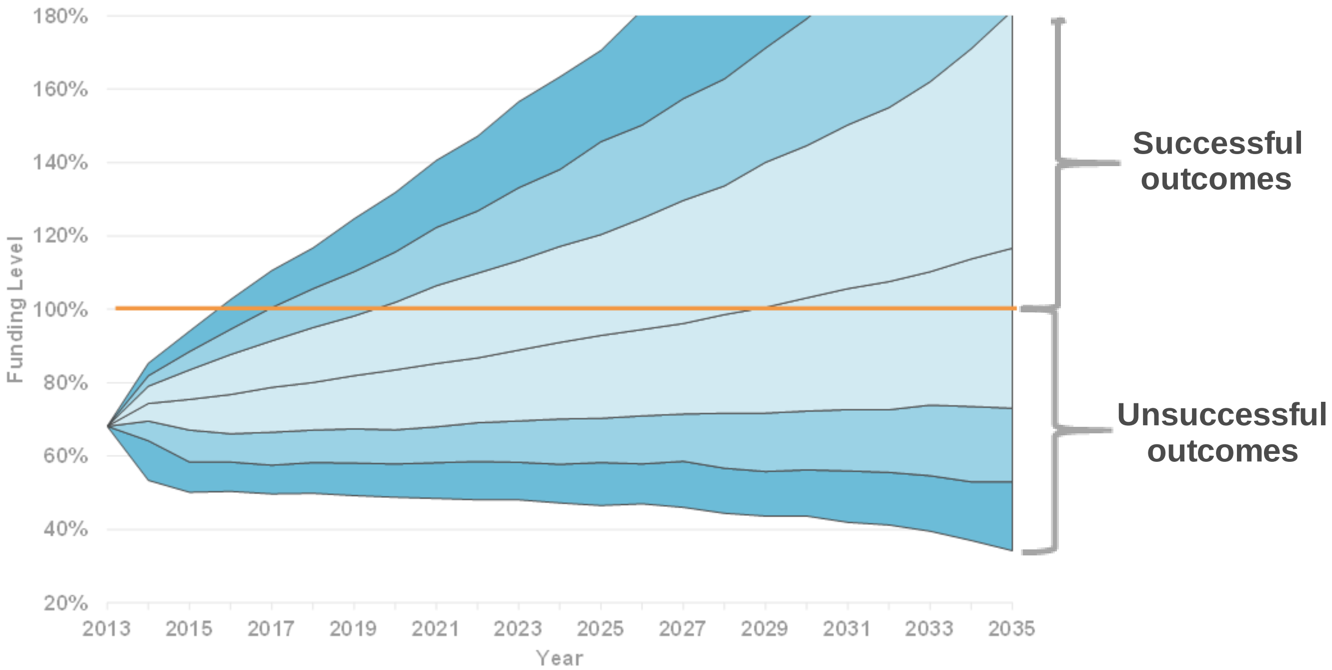
The inherent uncertainty in pension funding creates a risk that a funding plan will not be a success i.e. the funding target will not be reached over the agreed time period.

This risk can never be fully mitigated whilst invested in volatile assets and providing inflation linked benefits, however the main disadvantage of the traditional deterministic method is that it does not allow the Fund, employer, regulators or actuary to assess and understand the risk associated with the proposed funding plan and the likelihood of its success, or otherwise.

Risk Based Approach

At this valuation, we have adopted a 'risk based' approach when setting contribution rates. This approach considers thousands of simulations (or 'journeys') to be projected of how each employer's assets and liabilities may evolve over the future until we have a distribution of funding outcomes (ratio of assets to liabilities). Each simulation represents a different possible journey of how the assets and liabilities could evolve and they will vary due to assumptions about investment returns, inflation and other financial factors. Further technical detail about the methodology underlying these projections is set out in **Appendix F**.

Once we have a sufficient number of outcomes to form a statistically credible distribution (we use 5,000 outcomes), we can examine what level of contribution rate gives an appropriate likelihood of meeting an employer's funding target (usually a 100% funding level) within the agreed timeframe ('time horizon') (i.e. a sufficient number of successful outcomes). The picture below shows a sample distribution of outcomes for an employer.



Having this 'funnel' of outcomes allows the Fund to understand the likelihood of the actual outcome being higher or lower than a certain level. For example, there is 2/3rds chance the funding level will be somewhere within the light shaded area, and there is a 1 in 100 chance that the funding level will be outside the funnel altogether. Using this 'probability distribution', we then set a contribution rate that leads to a certain amount of funding outcomes being successful (e.g. 2/3rds).

Further detail on the likelihoods used in employer's funding plans is set out in the Fund's Funding Strategy Statement.

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 data report.

Membership data – whole fund

Employee members

	31 March 2013		31 March 2016		
	Number	Pensionable Pay* (£000)	Number	Pensionable Pay* (£000)	CARE Pot (£000)
Total employee membership	7,422	140,882	8,675	163,726	6,141

*actual pay (not full-time equivalent)

Deferred pensioners

	31 March 2013		31 March 2016	
	Number	Deferred pension (£000)	Number	Deferred pension (£000)
Total deferred membership	7,968	14,098	9,863	15,791

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

Current pensioners, spouses and children

	31 March 2013		31 March 2016	
	Number	Pension (£000)	Number	Pension (£000)
Members	5,427	31,477	6,115	36,602
Dependants	965	2,759	965	3,167
Children	34	60	45	81
Total pensioner members	**6,426**	**34,296**	**7,125**	**39,850**

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)	
	2013	2016	2013	2016
Employees (CARE)	-	49.2	8.8	9.4
Employees (Final Salary)	52.6	53.1		
Deferred Pensioners	51.3	52.3	-	-
Pensioners	67.5	68.2	-	-

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.

Assets at 31 March 2016

A summary of the Fund's assets provided by the Administering Authority (excluding members' money-purchase Additional Voluntary Contributions) as at 31 March 2016 and 31 March 2013 is as follows:

Asset class	31 March 2013 (Market Value) (£000)	Allocation %	31 March 2016 (Market Value) (£000)	Allocation %
UK equities	425	60%	91	10%
UK fixed interest gilts	0	0%	0	0%
UK corporate bonds	205	29%	121	14%
UK index-linked gilts	0	0%	0	0%
Overseas equities	0	0%	509	58%
Overseas bonds	0	0%	59	7%
Property	37	5%	92	10%
Cash and net current assets	37	5%	5	1%
Total	**705**	**100%**	**877**	**100%**

Note that, for the purposes of determining the funding position at 31 March 2016, the asset value we have used also includes the present value of expected future early retirement strain payments (amounting to £0 m).

Accounting data – revenue account for the three years to 31 March 2016

Consolidated accounts (£000)	Year to			
	31 March 2014	31 March 2015	31 March 2016	Total
Income				
Employer - normal contributions	22,243	22,634	24,952	69,829
Employer - additional contributions	16,824	15,740	14,289	46,853
Employer - early retirement and augmentation strain contributions	712	633	2,314	3,658
Employee - normal contributions	9,809	10,588	10,964	31,361
Employee - additional contributions	0	0	0	0
Transfers In Received (including group and individual)	2,729	2,768	1,429	6,925
Other Income	0	0	0	0
Total Income	**52,318**	**52,362**	**53,947**	**158,627**
Expenditure				
Gross Retirement Pensions	35,714	37,511	39,791	113,016
Lump Sum Retirement Benefits	7,758	8,086	9,165	25,010
Death in Service Lump sum	777	603	1,160	2,540
Death in Deferment Lump Sum	0	0	0	0
Death in Retirement Lump Sum	0	0	0	0
Gross Refund of Contributions	7	62	127	195
Transfers out (including bulk and individual)	2,568	2,139	1,727	6,434
Fees and Expenses	2,069	1,657	1,816	5,542
Total Expenditure	**48,893**	**50,059**	**53,787**	**152,738**
Net Cashflow	**3,425**	**2,303**	**161**	**5,889**
Assets at start of year	**705,292**	**741,887**	**860,599**	**705,292**
Net cashflow	**3,425**	**2,303**	**161**	**5,889**
Change in value	**33,169**	**116,409**	**16,266**	**165,845**
Assets at end of year	**741,887**	**860,599**	**877,026**	**877,026**
Approximate rate of return on assets	**4.7%**	**15.7%**	**1.9%**	**23.4%**

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.

Appendix E: Assumptions

Financial assumptions

Financial assumptions	31 March 2013 (% p.a.)	31 March 2016 (% p.a.)
Discount rate	5.0%	4.4%
Price inflation	2.5%	2.1%
Pay increases*	3.3%	2.7%
Pension increases:		
pension in excess of GMP	2.5%	2.1%
post-88 GMP	2.5%	2.1%
pre-88 GMP	0.0%	0.0%
Revaluation of deferred pension	2.5%	2.1%
Revaluation of accrued CARE pension	2.5%	2.1%
Expenses	1.1%	1.1%

*An allowance is also made for promotional pay increases (see table below).

Mortality assumptions

Longevity assumptions	31 March 2016
Longevity - baseline	Vita
Longevity - improvements	
CMI Model version used	CMI_2013
Starting rates	CMI calibration based on data from Club Vita using the latest available data as at January 2014.
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 1950 or later declining linearly to 5 years for those born in 1915 or earlier.
Proportion of convergence remaining at mid point	50%

As a member of Club Vita, the baseline 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 the Fund has provided us with for the purposes of this valuation. Full details of these are available on request.

We have used a longevity improvement assumption based on the industry standard projection model calibrated with information from our longevity experts in Club Vita. The starting point for the improvements has been based on observed death rates in the Club Vita data bank over the period up to 2012.

We have used the 2013 version of the Continuous Mortality Investigation (CMI) longevity improvements model, instead of the more recent 2015 version, as we do not believe the increased mortality experience factored into the 2015 model is the start of a new trend. We believe it is more appropriate to use the 2013 version of the model for the 2016 valuation.

In the short term we have assumed that the improvements in life expectancy observed up to 2010 will start to tail off immediately, resulting in life expectancy increasing less rapidly than has been seen over the last decade or two. This could be described as assuming that improvements have ‘peaked’.

In the longer term we have assumed that increases in life expectancy will stabilise at a rate of increase of 0.9 years 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 above age 90 improvements in mortality are hard to achieve, and so the long term rate of improvement declines between ages 90 and 120 so that no improvements are seen at ages 120 and over. The initial rate of mortality is assumed to decline steadily above age 98.

Other demographic valuation assumptions

Retirements in normal health	We have adopted the retirement age pattern assumption as specified by the Scheme Advisory Board for preparing Key Performance Indicators. Further details about this assumption are available on request.
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 2008 (equivalent to 75% for service from 1 April 2008).
50:50 option	5% 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. The abbreviations FT and PT refer to full-time and part-time respectively.

Males

Age	Salary Scale	Incidence per 1000 active members per annum						
		Death Before Retirement	Withdrawals		Ill Health Tier 1		Ill Health Tier 2	
		FT & PT	FT	PT	FT	PT	FT	PT
20	105	0.21	219.73	439.47	0.00	0.00	0.00	0.00
25	117	0.21	145.14	290.28	0.00	0.00	0.00	0.00
30	131	0.26	102.98	205.93	0.00	0.00	0.00	0.00
35	144	0.30	80.46	160.88	0.12	0.09	0.10	0.07
40	150	0.51	64.78	129.48	0.20	0.15	0.16	0.12
45	157	0.85	60.85	121.60	0.44	0.33	0.35	0.27
50	162	1.36	50.16	100.12	1.13	0.85	1.14	0.85
55	162	2.13	39.50	78.88	4.42	3.32	2.56	1.92
60	162	3.83	35.20	70.28	7.78	5.84	2.20	1.65
65	162	6.38	0.00	0.00	14.78	11.09	0.00	0.00

Please note that the withdrawal figures include tier 3 ill health.

Females

Age	Salary Scale	Incidence per 1000 active members per annum						
		Death Before Retirement	Withdrawals		Ill Health Tier 1		Ill Health Tier 2	
		FT & PT	FT	PT	FT	PT	FT	PT
20	105	0.12	151.58	252.63	0.00	0.00	0.00	0.00
25	117	0.12	101.99	169.97	0.12	0.09	0.10	0.07
30	131	0.18	85.50	142.46	0.16	0.12	0.13	0.10
35	144	0.30	73.79	122.91	0.32	0.24	0.26	0.19
40	150	0.48	61.42	102.26	0.48	0.36	0.39	0.29
45	157	0.77	57.31	95.41	0.65	0.48	0.51	0.39
50	162	1.13	48.32	80.35	1.21	0.91	1.22	0.92
55	162	1.49	36.05	60.02	4.48	3.36	2.60	1.95
60	162	1.90	29.06	48.31	9.51	7.14	2.69	2.01
65	162	2.44	0.00	0.00	17.09	12.82	0.00	0.00

Appendix F: Technical appendix for contribution rate modelling

This appendix is provided for readers seeking to understand the technical methodology used in assessing the employer contribution rates.

In order to assess the likelihood of the employer's section of the Fund achieving full funding we have carried out stochastic asset liability modelling (ALM) that takes into account the main characteristics and features of each employer's share of the Fund's assets and liabilities. For stabilised employers a full ALM, known as comPASS has been used. For other employers a simplified ALM, known as TARGET has been used. Please refer to the Funding Strategy Statement to determine which method has been applied for each employer.

The following sections provide more detail on the background to the modelling.

Cash flows

In projecting forward the evolution of each employer's section of the Fund, we have used anticipated future benefit cashflows. These cashflows have been generated using the membership data provided for the formal valuation as at 31 March 2016, the demographic and financial assumptions used for the valuation and make an allowance for future new joiners to the Fund (if any employer is open to new entrants).

For comPASS we have estimated future service benefit cash flows and projected salary roll for new entrants (where appropriate) after the valuation date such that payroll remains constant in real terms (i.e. full replacement) unless otherwise stated. There is a distribution of new entrants introduced at ages between 25 and 65, and the average age of the new entrants is assumed to be 40 years. All new entrants are assumed to join and then leave service at SPA, which is a much simplified set of assumptions compared with the modelling of existing members. The base mortality table used for the new entrants is an average of mortality across the LGPS and is not specific to the Fund, which is another simplification compared to the modelling of existing members. TARGET uses a similar but simplified approach to generating new entrants. Nonetheless, we believe that these assumptions are reasonable for the purposes of the modelling given the highly significant uncertainty associated with the level of new entrants.

We do not allow for any variation in actual experience away from the demographic assumptions underlying the cashflows. Variations in demographic assumptions (and experience relative to those assumptions) can result in significant changes to the funding level and contribution rates. We allow for variations in inflation (RPI or CPI as appropriate), inflation expectations (RPI or CPI as appropriate), interest rates, yield curves and asset class returns. Cashflows into and out of the Fund are projected forward in annual increments and are assumed to occur in the middle of each financial year (April to March). Investment strategies are assumed to be rebalanced annually.

Asset liability model (comPASS)

These cashflows, and the employer's assets, are projected forward using stochastic projections of asset returns and economic factors such as inflation and bond yields. These projections are provided by the Economic Scenario Service (ESS), our (proprietary) stochastic asset model, which is discussed in more detail below.

In the modelling we have assumed that the Fund will undergo valuations every three years and a contribution rate will be set that will come into force one year after the simulated valuation date. For 'stabilised' contributions, the rate at which the contribution changes is capped and floored. There is no guarantee that such capping or flooring will be appropriate in future; this assumption has been made so as to illustrate the likely impact of practical steps that may be taken to limit changes in contribution rates over time.

Unless stated otherwise, we have assumed that all contributions are made and not varied throughout the period of projection irrespective of the funding position. In practice the contributions are likely to vary especially if the funding level changes significantly.

Investment strategy is also likely to change with significant changes in funding level, but we have not considered the impact of this.

In allowing for the simulated economic scenarios, we have used suitable approximations for updating the projected cashflows. The nature of the approximations is such that the major financial and investment risks can be broadly quantified. However, a more detailed analysis would be required to understand fully the implications and appropriate implementation of a very low risk or ‘cash flow matched’ strategy.

We would emphasise that the returns that could be achieved by investing in any of the asset classes will depend on the exact timing of any investment/disinvestment. In addition, there will be costs associated with buying or selling these assets. The model implicitly assumes that all returns are net of costs and that investment/disinvestment and rebalancing are achieved without market impact and without any attempt to 'time' entry or exit.

Asset liability model (TARGET)

TARGET uses a similar, but simplified, modelling approach to that used for comPASS.

Contribution rates are inputs to the model and are assumed not to vary throughout the period of projection, with no valuation every three years or setting of ’stabilised’ contribution rates.

In allowing for the simulated economic scenarios, we have used more approximate methods for updating the projected cash flows. The nature of the approximations is such that the major financial and investment risks can be broadly quantified.

When projecting forward the assets, we have modelled a proxy for the Fund’s investment strategy by simplifying their current benchmark into growth (UK equity) and non-growth (index-linked gilts) allocations, and then adjusting the volatility of the resultant portfolio results to approximately reflect the diversification benefit of the Fund’s investment strategy.

Economic Scenario Service

The distributions of outcomes depend significantly on the Economic Scenario Service (ESS), our (proprietary) stochastic asset model. This type of model is known as an economic scenario generator and uses probability distributions to project a range of possible outcomes for the future behaviour of asset returns and economic variables. Some of the parameters of the model are dependent on the current state of financial markets and are updated each month (for example, the current level of equity market volatility) while other more subjective parameters do not change with different calibrations of the model.

Key subjective assumptions are the average excess equity return over the risk free asset (tending to approximately 3% p.a. as the investment horizon is increased), the volatility of equity returns (approximately 18% p.a. over the long term) and the level and volatility of yields, credit spreads, inflation and expected (breakeven) inflation, which affect the projected value placed on the liabilities and bond returns. The market for CPI linked instruments is not well developed and our model for expected CPI in particular may be subject to additional model uncertainty as a consequence. The output of the model is also affected by other more subtle effects, such as the correlations between economic and financial variables.

Our expectation (i.e. the average outcome) is that long term real interest rates will gradually rise from their current low levels. Higher long-term yields in the future will mean a lower value placed on liabilities and therefore our median projection will show, all other things being equal, an improvement in the current funding position (because of the mismatch between assets and liabilities). The mean reversion in yields also affects expected bond returns.

While the model allows for the possibility of scenarios that would be extreme by historical standards, including very significant downturns in equity markets, large systemic and structural dislocations are not captured by the model. Such events are unknowable in effect, magnitude and nature, meaning that the most extreme possibilities are not necessarily captured within the distributions of results.

Expected Rate of Returns and Volatilities

The following figures have been calculated using 5,000 simulations of the Economic Scenario Service, calibrated using market data as at 31 March 2016. All returns are shown net of fees. Percentiles refer to percentiles of the 5,000 simulations and are the annualised total returns over 5, 10 and 20 years, except for the yields which refer to the (simulated) yields in force at that time horizon. Only a subset of the asset classes are shown below.

The calibration of the model at 31 March 2016 indicates that a period of outward yield movement is expected. For example, over the next 20 years our model expects the 17 year maturity annualised real (nominal) interest rate to rise from -1.0% (2.2%) to 0.8% (4.0%).

		Annualised total returns												
		Index Linked Gilts (long dated)	UK Equity	Overseas Equity	Private Equity	Property	Senior Loans	Diversified Credit	Absolute Return Bonds (near zero duration)	Diversified Alternatives	Hedge Funds	Inflation	17 year real yield	17 year yield
5 years	16th %'ile	-2.9%	-3.7%	-5.6%	-7.2%	-3.8%	-0.8%	0.2%	-2.6%	-2.0%	-3.7%	1.2%	-1.6%	1.7%
	50th %'ile	0.5%	4.5%	4.1%	5.3%	2.0%	2.2%	2.3%	2.0%	2.6%	2.1%	2.6%	-0.7%	3.0%
	84th %'ile	4.1%	12.7%	14.3%	19.4%	8.3%	5.3%	4.5%	6.8%	7.5%	8.2%	4.2%	0.2%	4.5%
10 years	16th %'ile	-1.8%	-1.1%	-2.6%	-3.4%	-1.8%	0.7%	1.3%	-0.8%	-0.1%	-1.3%	1.4%	-1.5%	1.9%
	50th %'ile	0.3%	5.0%	4.6%	5.9%	2.8%	3.1%	3.0%	2.6%	3.4%	3.0%	2.8%	-0.3%	3.5%
	84th %'ile	2.7%	11.1%	12.1%	16.0%	7.5%	5.6%	4.7%	6.2%	7.2%	7.5%	4.5%	0.9%	5.5%
20 years	16th %'ile	-1.0%	1.3%	0.2%	0.3%	0.1%	2.1%	2.4%	1.0%	1.8%	0.7%	1.7%	-0.7%	2.3%
	50th %'ile	0.5%	5.9%	5.6%	7.0%	3.7%	4.2%	4.0%	3.6%	4.5%	4.1%	3.0%	0.8%	4.0%
	84th %'ile	2.2%	10.7%	11.2%	14.0%	7.6%	6.5%	5.8%	6.5%	7.5%	7.8%	4.4%	2.3%	6.3%
	Dispersion (1 yr)	9%	16%	19%	29%	14%	6%	6%	10%	10%	12%	1%		

Appendix G: Events since valuation date

Post-valuation events

These valuation results are in effect a snapshot of the Fund as at 31 March 2016. 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.

In the period from the valuation date to early March 2017, the Fund asset returns have been significantly better than expected. However, global forward looking expectations for asset returns have fallen in light of events such as the Brexit vote. Both events have roughly cancelled each other out in terms of the impact on the funding position. However, the day to day volatility is significant

Overall, employer contributions continue to be subject to upwards pressure as a result of post-valuation events.

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 2016. 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). We do not propose altering the FSS or valuation calculations to include allowance for post-valuation date market changes since a long term view has been taken.

Other events

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

Appendix H: Rates and adjustments certificate

In accordance with regulation 62(4) of the Regulations we have made an assessment of the contributions that should be paid into the Fund by participating employers for the period 1 April 2017 to 31 March 2020 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 TBC and our report on the actuarial valuation dated TBC.

The required minimum contribution rates are set out below.

[R&A table will be shown here]

Signatures:

Date:	[TBC]
Name:	Richard Warden & Robert McInroy
Qualification:	Fellows of the Institute and Faculty of Actuaries
Firm:	Hymans Robertson LLP
	20 Waterloo Street
	Glasgow
	G2 6DB

Croydon Council

REPORT TO:	**PENSION COMMITTEE** **7 March 2017**
AGENDA ITEM:	**9**
SUBJECT:	**Investment Strategy Statement**
LEAD OFFICER:	**Richard Simpson** **Executive Director of Resources**
CABINET MEMBER	**Councillor Simon Hall** **Cabinet Member for Finance and Treasury**
WARDS:	**All**
CORPORATE PRIORITY/POLICY CONTEXT: Sound Financial Management: Ensuring that the pension fund is being given appropriate guidance and direction through the governance of the Pension Committee.	
FINANCIAL SUMMARY: There are no direct financial consequences to this report. However the implications of decisions taken by this Committee can be significant for the Revenue Account of the Council.	
FORWARD PLAN KEY DECISION REFERENCE NO.: N/A	

1 RECOMMENDATIONS

1.1 That the Committee adopt the Investment Strategy Statement attached at Appendix A.

2 EXECUTIVE SUMMARY

2.1 Administering Authorities are required under the Local Government Pension Scheme's regulatory framework requires to publish an Investment Strategy Statement. This is a new requirement introduced by the 2016 regulations. This report presents the Statement.

3 DETAIL

3.1 The Department for Communities and Local Government unusually issued guidance on the preparation and maintenance of an Investment Strategy Statement in September 2016, in advance of the regulations being made. This guidance was prepared to assist administering authorities in the formulation, publication and maintenance of their Investment Strategy Statement required by Regulation 7 of The Local Government Pension Scheme (Management and Investment of Funds) Regulations 2016.

3.2 Regulation 7(1) requires an administering authority to formulate an investment strategy which must be in accordance with guidance issued by the Secretary of State. This Statement must include:-

a) A requirement to invest money in a wide variety of investments;
b) The authority's assessment of the suitability of particular investments and types of investments;
c) The authority's approach to risk, including the ways in which risks are to be measured and managed;
d) The authority's approach to pooling investments, including the use of collective investment vehicles and shared services;
e) The authority's policy on how social, environmental or corporate governance considerations are taken into account in the selection, non-selection, retention and realisation of investments; and
f) The authority's policy on the exercise of rights (including voting rights) attaching to investments.

3.2 The Investment Strategy Statement must also set out the maximum percentage of the total value of all investments of fund money that it will invest in particular investments or classes of investment. This, in effect, replaces Schedule 1 to the Local Government Pension Scheme (Management and Investment of Funds) Regulations 2009 ("the 2009 Regulations"). This is similar to the Prudential approach adopted for treasury management. Given the requirement to set out a maximum percentage of the total value of all investments of fund money that it will invest in particular investments or classes on investment, more flexibility has been added to the ranges stated in the Investment Strategy Statement, to ensure the Fund remains compliant with the 2016 Regulations. The desired target asset allocation and range still remains as agreed by the Pensions Committee in September 2015 namely:

Equities including allocation to emerging markets.		42%	+/- 5%
Fixed interest		23%	+/- 5%
Alternates		34%	+/- 5%
Comprised of:			
Private Equity	8%		
Infrastructure	10%		
Traditional Property	10%		
PRS	6%		
Cash		1%	
		100%	

3.3 This statement must be published by 1st April 2017 and then kept under review and revised from time to time and at least every three years.

3.4 Members of the Committee are invited to comment on the statement attached at Appendix A and are recommended to adopt it, subject to any comments being incorporated into a final version.

4 CONSULTATION

4.1 Officers have fully consulted with the Pension Fund's advisers in preparing this report.

5 FINANCIAL CONSIDERATIONS

5.1 This report deals with the governance arrangements for the Local Government Pension Scheme.

6 COMMENTS OF THE COUNCIL SOLICITOR AND MONITORING OFFICER

6.1 The Acting Council Solicitor comments that there are no additional legal implications arising from the recommendations within the report beyond those already highlighted within the body of the report.

(Approved for and on behalf of Jacqueline Harris-Baker, Acting Council Solicitor and Acting Monitoring Officer.)

7 FREEDOM OF INFORMATION/DATA PROTECTION CONSIDERATIONS

7.1 There are none.

CONTACT OFFICER:

Nigel Cook – Head of Pensions and Treasury
Resources Department, ext. 62552.

Appendix A:
Draft Investment Strategy Statement

Investment Strategy Statement (effective 1 April 2017)

1 Introduction

1.1 The elected members of Croydon Council, acting through the Pension Committee, have drawn up this Investment Strategy Statement (ISS) as required by Regulation 7 of The Local Government Pension Scheme (Management and Investment of Funds) Regulations 20016, brought into force on 1st November 2016.

1.2 As set out in the Regulations, the Committee will review the ISS from time to time and at least every three years. In the event of any material change to any matter contained within the ISS, changes will be reflected within six months of the change occurring.

1.3 The Regulations require all Administering Authorities take 'proper advice' when formulating investment strategy. The Council has consulted suitably qualified persons and has obtained advice from its investment consultant, AON Hewitt.

2 Investment Objectives

2.1 The Fund's goal is to ensure there are sufficient assets to meet all liabilities as they fall due. In order to achieve this goal the Pensions Committee has adopted the following objectives:

- Achieve a return on investments which at least meets the assumed return (discount rate) used by the Actuary when setting the triennial valuation.
- Keep risk within acceptable levels.
- Maintain liquidity requirements to pay liabilities when they fall due.
- Enable employer contribution rates to stay stable and affordable.
- Promote an Environmental Social and Governance Investment Strategy.

3 Asset Allocation

3.1 In order to meet the Investment Objectives the Pensions Committee, in consultation with its Investment Adviser has determined a suitable asset mix. The Pension Committee's interpretation of a suitable asset mix, is one which includes a variety of assets which are well understood, are less than perfectly correlated and which together are expected to meet the long term return objectives of the Fund. An asset mix which meets this criteria will be well diversified and improve the overall risk and return profile of the Fund increasing the likelihood of meeting the Investment Objectives.

3.2 The Pensions Committee has identified four broad asset classes with the alternatives being split into four further classes. Desired targets and ranges have been assigned to each asset class. The holding in an asset class must not breach the upper end of the range.

Table 1 Asset Allocation

Assets	Target	Range (%)
Global Equities	**42**	**35-60**
Global Bonds	**23**	**10-30**
Alternatives:	**34**	**20-55**
Traditional Property	*10*	*5-15*
Private Rental Sector Property	*6*	*0-10*
Private Equity	*8*	*5-15*
Infrastructure	*10*	*5-15*
Cash	**1**	**0-10**
Total Fund	**100**	

Each asset class has its own specific investment objective and within each asset class there are further diversification controls.

Global Equities

3.3 The Pensions Committee has selected a passive global equity mandate managed solely by Legal and General Investment Management. The objective of the mandate is to track the FTSE4Good Index. The FTSE4Good Index consists of companies which demonstrate strong Environmental, Social and Governance (ESG) credentials. The Pensions Committee believe that investing in this mandate means the Fund is promoting good ESG practises and will assist the Fund in meeting its long term funding requirement.

Global Bonds

3.4 The Pensions Committee has appointed Standard Life and Wellington to manage its Global Bond allocation. Investments with Standard Life are in the Corporate Bond fund measuring performance against the Merrill Lynch non-gilt sterling all stocks index and the Absolute Return fund measuring performance against 3 month LIBOR. Performance of the Wellington bond fund is measured against the Merrill Lynch Sterling Broad Market Index.

Traditional Property

3.5 The Pensions Committee has appointed Schroders to manage its traditional property portfolio, investing mainly in UK commercial real estate, with an objective to outperform the Investment Property Databank (IPD) All Properties Index.

Private Rental Sector Property

3.6 The Pensions Committee has appointed M&G to manage its Private Rental Sector property portfolio, with an objective to outperform the Investment Property Databank (IPD) All Properties Index.

Private Equity

3.7 A number of Private Equity managers have been selected enabling the Fund to benefit from increased diversification through investments in a variety of companies in different markets. The objective of this part of the portfolio is to generate returns in excess of the Consumer Prices Index (CPI) plus 5%.

Infrastructure

3.8 A number of Infrastructure managers have been selected in order to gain cost effective, diversified exposure to global infrastructure assets. The investments seek to generate satisfactory risk adjusted return and provide a hedge against inflation. Some of the investments aim to be more growth seeking and some aim to be income generating. The overall return objective for this part of the portfolio is to generate returns in excess of the Consumer Prices Index (CPI) plus 5%.

Cash

3.9 The objective is to maintain capital and hold enough cash to meet ongoing benefit payments.

4 Risk Management

4.1 There are various risks to which any pension fund is exposed. The Pension Committee has considered a number of risks such as:

- The risk arising through a mismatch between the Fund's assets and its liabilities.
- The risk of deterioration in the Fund's ongoing funding level.
- The risk that the day-to-day management of the assets will not achieve the rate of investment return required to meet accrued and future liabilities as quantified by the Fund's Actuary.
- The risk of insufficient liquidity from the Fund's assets.

4.2 In order to mitigate the risks identified the Pensions Committee formulated the asset allocation having taken proper advise from its investment adviser, Aon Hewitt. Various scenarios were tested and the probability of achieving full funding over a specified period of time was calculated in order to identify an asset mix which should fulfil the objectives. The main way to mitigate risk of the investment portfolio not achieving its objectives is through diversification of assets. This should provide protection in periods of market turmoil as some assets will preserve capital better than others and in rising markets some assets will perform better than others.

4.3 The Pensions Committee constantly monitors the performance of managers to ensure the Fund's objectives are met.

5 Pooling of Assets

5.1 The Fund has formally agreed to join the London Collective Investment Vehicle (CIV) as part of the Government's pooling agenda. The London CIV has been operational for some time and is in the process of opening a range of sub-funds covering liquid asset classes, with less liquid asset classes to follow.

5.2 The Fund is monitoring developments and the opening of investment strategy fund openings on the London CIV platform with a view to transitioning liquid assets across to the London CIV as soon as there are suitable sub-funds to meet the Fund's investment strategy requirements.

5.3 The Fund holds illiquid assets outside of the London CIV pool. The cost of exiting these strategies early would have a negative financial impact on the Fund. These will be held as legacy assets until such time as they mature. The Fund will continue to invest in illiquid assets outside of the London CIV pool, until suitable strategies are made available by the London CIV pool, in order to meet its asset allocation target.

6 Environmental, Social and Corporate Governance (ESG)

6.1 The Fund is committed to being a long term steward of the assets in which it invests and expects this approach to protect and enhance the value of the Fund in the long term. In making investment decisions, the Fund seeks and receives proper advice from internal and external advisers with the requisite knowledge and skills. In addition the Pensions Committee undertakes training on a regular basis and this will include training and information sessions on matters of social, environmental and corporate governance.

6.2 The Fund requires its investment managers to integrate all material financial factors, including corporate governance, environmental, social, and ethical considerations, into the decision-making process for all fund investments. It expects its managers to follow good practice and use their influence as major institutional investors and long-term stewards of capital to promote good practice in the investee companies and markets to which the Fund is exposed.

6.3 The Fund expects its external investment managers (and specifically the London CIV through which the Fund will increasingly invest) to undertake appropriate monitoring of current investments with regard to their policies and practices on all issues which could present a material financial risk to the long-term performance of the fund such as corporate governance and environmental factors. Fund expects its fund managers to integrate material ESG factors within its investment analysis and decision making.

6.4 Effective monitoring and identification of these issues can enable engagement with boards and management of investee companies to seek resolution of potential problems at an early stage. Where collaboration is likely to be the most effective mechanism for encouraging issues to be addressed, the Fund expects its investment managers to participate in joint action with other institutional investors as permitted by relevant legal and regulatory codes.

6.5 The Fund monitors this activity on an ongoing basis with the aim of maximising its impact and effectiveness.

6.6 The Fund will invest on the basis of financial risk and return having considered a full range of factors contributing to the financial risk including social, environment and governance factors to the extent these directly or indirectly impact on financial risk and return.

6.7 The Fund in preparing and reviewing its Investment Strategy Statement will consult with interested stakeholders including, but not limited to Fund employers, investment managers, Local Pension Board, advisers to the Fund and other parties that it deems appropriate to consult with.

7 Voting

7.1 The Fund recognises the importance of its role as stewards of capital and the need to ensure the highest standards of governance and promoting corporate responsibility in the underlying companies in which its investments reside. The Fund recognises that ultimately this protects the financial interests of the Fund and its ultimate beneficiaries. The Fund has a commitment to actively exercising the ownership rights attached to its investments reflecting the Fund's conviction that responsible asset owners should maintain oversight of the companies in which it ultimately invests recognising that the companies' activities impact upon not only their customers and clients, but more widely upon their employees and other stakeholders and also wider society.

7.2 The Fund has delegated responsibility for voting rights to the Fund's external investment managers and expects them to vote in accordance with the Fund's voting policy.

7.3 The Fund will incorporate a report of voting activity as part of its Pension Fund Annual report which is published on the Pension Fund website.

7.4 The Fund has not issued a separate Statement of Compliance with the Stewardship Code, but fully endorses the principles embedded in the 7 Principles of the Stewardship Code.

7.5 The Fund expects its external investment managers to be signatories of the Stewardship Code and reach Tier One level of compliance or to be seeking to achieve a Tier One status within a reasonable timeframe. Where this is not feasible the Fund expects a detailed explanation as to why it will not be able to achieve this level.

7.6 In addition, the Fund expects its investment managers to work collaboratively with others if this will lead to greater influence and deliver improved outcomes for shareholders and more broadly.

7.7 The Fund through its participation in the London CIV will work closely with other LGPS Funds in London to enhance the level of engagement both with external managers and the underlying companies in which invests.

7.8 In addition the Fund:

- Is a member of the Local Authority Pension Fund Forum (LAPFF) and in this way joins with other LGPS Funds to magnify its voice and maximise the influence of investors as asset owners;
- is a member of the Pension and Lifetime Savings Association (PLSA) and in this way joins with other investors to magnify its voice and maximise the influence of investors as asset owners;
- joins wider lobbying activities where appropriate opportunities arise.

Croydon Council

REPORT TO:	**PENSION COMMITTEE** **7 March 2017**
AGENDA ITEM:	**11**
SUBJECT:	**Progress Report for Quarter Ended 31 December 2016**
LEAD OFFICER:	**Richard Simpson** **Executive Director of Resources**
CABINET MEMBER	**Councillor Simon Hall** **Cabinet Member for Finance and Treasury**
WARDS:	**All**

CORPORATE PRIORITY/POLICY CONTEXT:

Sound Financial Management: Reviewing and ensuring that the performance of the Council's Pension Fund investments are in line with their benchmark and in line with the assumptions made by the Actuary.

FINANCIAL SUMMARY:

This report shows that the market value of the Pension Fund (the Fund) investments as at 31 December 2016 was £1,021.4m compared to £981.5m at 30 September 2016, an increase of £39.9m and a return of 4.62% over the quarter. The performance figures in this report have been compiled from data provided by each fund manager and are quoted net of fees. Independent information and analysis on the fund managers and markets have been provided by the Fund's independent investment advisor AON Hewitt.

FORWARD PLAN KEY DECISION REFERENCE NO.: N/A

1 RECOMMENDATIONS

1.1 The Committee are asked to consider and note the contents of this report.

2 EXECUTIVE SUMMARY

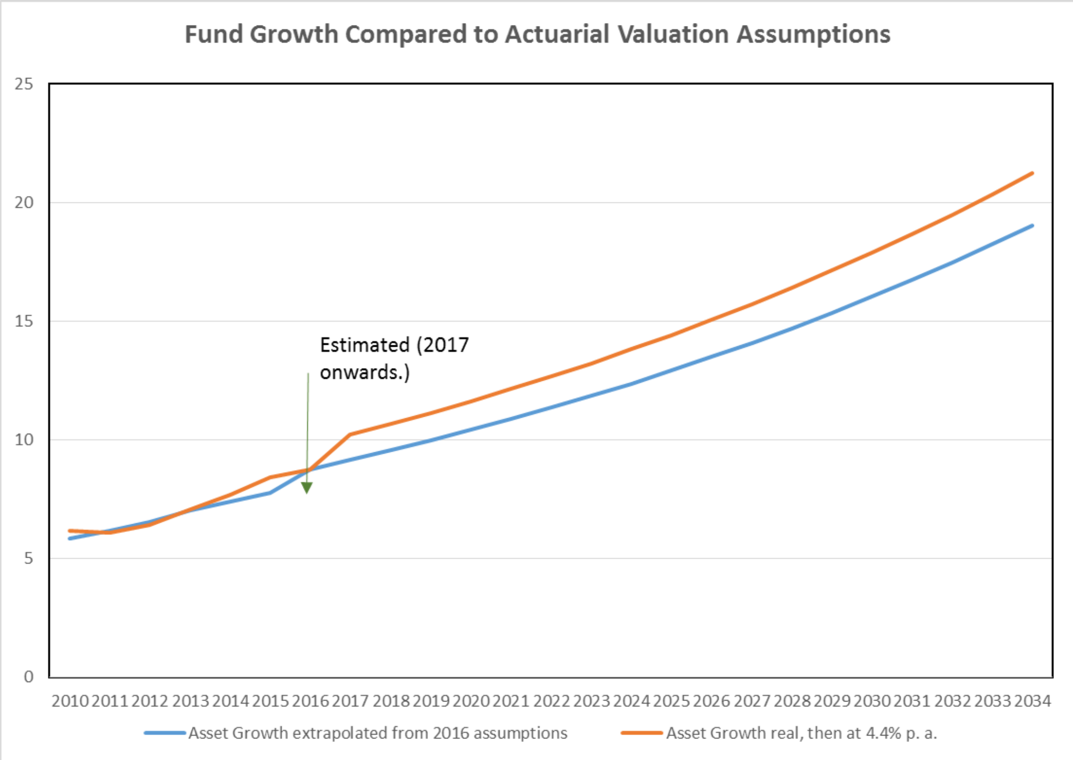
2.1 This report provides an update on the London Borough of Croydon Pension Fund's (the Fund's) performance for the quarter to 31 December 2016. The report falls into three parts. Section 1 addresses performance against strategic goals. The second section considers the asset allocation strategy and how that is being applied. The third and final section deals with risk management. Detailed numeric data and commentary from the Fund's advisors is included as appendices to this report for readers who are interested in that deeper analysis.

3 DETAIL

Section 1: Performance

3.1 The 2016 Triennial Actuarial Valuation, which is currently being finalised, has recommended an asset outperformance assumption of 2.2% over gilt yields, meaning an asset return assumption, otherwise described as the discount rate, of 4.4%. The valuation also assumes that the funding gap will be closed over a 22 year period. However, as a risk based model has been adopted, the recovery period is less critical. In setting the Pension Fund's investment strategy, performance is measured against a benchmark return of CPI + 4% for the whole fund. Achieving this benchmark return will ensure the investments achieve a higher return than as calculated in the valuation and assuming other assumptions remain constant, the funding gap will reduce.

3.2 The following graph has been compiled from this information. The blue line shows the expected track of the value of assets growing in line with the 2016 valuation assumptions. This will be adjusted after subsequent valuations. The orange line shows the actual value of the Fund to date and plots the course of growth over subsequent years using the same assumptions. This is a simplistic measure of the success of the strategy which does not take account of other variables, such as changes in demographic factors, wage inflation forecasts and other assumptions and that does not reflect changes in cash contributions nor movements in the gilt yield curve. However it is valuable as a tool to help track whether the direction of travel is in the right direction.



3.3 Details of the performance of individual components of the portfolio are summarised in Appendix A. The returns for L&G, Standard Life, Wellington and Schroders are calculated on a time series basis. This basis negates the effect of any cash flows made to and from a manager's portfolio (the reason being that the timing of investments and disinvestments is not the manager's decision) and so allows the performance of those managers to be compared fairly with their benchmarks and peers. The returns for Equitix, Temporis, GIB, Knightsbridge, Pantheon, Access and M&G are calculated using the Internal Rate of Return (IRR). Using the IRR considers the effect of cash flows and this is deemed appropriate for these managers as the timing of investments is determined by the manager. Due to the nature of these investments, little attention should be paid to the performance for immature investments; Temporis, GIB, Access and M&G, and more attention should be made to the performance since inception for the more mature investments; Equitix, Knightsbridge and Pantheon. The whole of fund return uses the IRR as this is in line with the Actuary when calculating the valuation. It should be noted that the portfolio has been built on the premise that diversification mitigates the impact of return volatility, the performance of individual investments is less important than the return of the Fund in aggregate and certainly cannot be assessed over less than a full cycle, and the duration of the cycle will vary from asset to asset.

Section 2: Asset Allocation Strategy

3.4 A new asset allocation strategy was approved at the Committee meeting held on 8 September 2015 (Minute .A29/15 refers). Recognising that there are a number of factors dictating the delivery timeframe for the asset allocation, namely: the selection process and time taken to undertake due diligence; the revision of the LGPS investment regulations; and the role of the London CIV; delivering the revised asset allocation remains a work in progress.

3.5 This asset allocation will give rise to a portfolio which can be broken down as follows:

Equities including allocation to emerging markets.		42%	+/- 5%
Fixed interest		23%	+/- 5%
Alternates		34%	+/- 5%
Comprised of:			
Private Equity	8%		
Infrastructure	10%		
Traditional Property	10%		
PRS	6%		
Cash		1%	
		100%	

3.6 **Progress towards revised asset allocation**

3.6.1 **Private Equity –** A net investment of £1.8m has been made with our existing private equity managers; coupled with increases in their valuations, this has lead to our allocation increasing from 7.8% to 8.1%. Going forward, further opportunities will be explored with existing managers and potentially new mangers in order to maintain the allocation in line with the target.

Allocation: achieved target allocation early.

3.6.2 **Infrastructure –** During the quarter a net investment of £21.8m was drawn: the majority of this being to the Green Investment Bank Offshore Wind Fund. The allocation percentage increased from 4.7% to 6.8%. During the next quarter we are expecting over £11m to be drawn. This will complete our allocation to The Green Investment Bank Offshore Wind Fund. Officers are also looking at further opportunities which will enable the Fund to meet the target asset allocation.

Allocation: on target to meet allocation by 31 December 2019 as planned.

3.6.3 **Traditional Property –** The target allocation has been met and officers are expecting this level of investment to continue as Schroder, the Fund's property manager reinvests the income generated by the current portfolio of assets.

Allocation: achieved target level.

3.6.4 **Private Rental Sector -** The Fund signed a commitment of £25m to the M&G UK Residential Fund in January 2016 and during the quarter signed a commitment for a further £35m with M&G. We are expecting the first tranche of £25m to be fully drawn by 30 September 2017 and the second tranche to be drawn throughout 2018. During the quarter £4.57m was drawn by M&G and a further £1m will be drawn in the next quarter.

Allocation: on target to meet allocation by 31 December 2018 as planned.

3.6.5 **Global Equities –** The Fund remained overweight at 56.4% when compared to the previous quarter of 56.9%, despite £25m being transferred to other assets. This is due to the strong performance of equities continuing over the quarter and this positive outcome is despite a total of £62.5m having been transferred from global equities to other assets during the calendar year. Members will be aware that the asset allocation strategy recognized that moving from the previous asset allocation would be a gradual process, driven by the availability of opportunities. It is also recognized that the preservation of returns is important. Consequently the current over-weight position in equities represents a positive benefit to the Fund. This must intentionally be a short-term position and the transfer of funds to other alternate asset classes, as described above, is part of the process of locking in some of the recent returns. The Fund's view is that this beneficial environment will persist for a while yet. Officers will continue to identify opportunities within the asset allocation strategy which will be funded by taking some of the growth in value from the equity allocation. Paragraph 3.9 below provides more detail on the progress towards achieving this goal.

3.6.6 **Fixed Interest –** The Fund has moved to the lower end of the target range in its fixed income allocation and this is largely due to outperformance of other assets. Officers are exploring alternate opportunities to our traditional bond portfolio including debt managers.

The table below illustrates the movement in the Fund's valuation during the quarter and the current asset allocation against the target.

London Borough of Croydon Pension Fund
Fund valuation and asset allocation for the quarter ending 31 December 2016

	Valuation at 30/09/2016 £'000	Net Cashflow £'000	Gain/loss £'000	Valuation at 31/12/2016 £'000	Asset Allocation Fund Percentage	Asset Allocation Target Percentage
Equities					**56.4%**	**42%**
Legal & General World DB	47,600	- 25,000	2,759	25,359		
Legal & General FTSE4Good	510,890	-	39,888	550,778		
Fixed Interest					**18.5%**	**23%**
Standard Life	128,789	-	- 1,887	126,902		
Wellington	64,430	-	- 2,321	62,109		
Infrastructure					**6.8%**	**10%**
Temporis	7,967	1,691	190	9,848		
Equitix	38,535	805	682	40,022		
Green Investment bank	-	19,851		19,282		
Private Equity					**8.1%**	**8%**
Knightsbridge	16,499	34	1,464	17,997		
Pantheon	50,908	2,594	3,343	56,845		
Access	9,079	- 817	- 416	7,846		
Property					**9.3%**	**10%**
Schroders	93,152	176	1,369	94,697		
Property PRS					**0.9%**	**6%**
M&G	4,935	4,570	- 42	9,462		
Cash					**0.0%**	**1%**
Cash	8,684	- 8,461	14	237		
Fund Total	**981,467**	**- 4,556**	**44,474**	**1,021,385**	**100%**	**100%**

3.7 Members should note that at present, none of these investments feature on the London CIV's project plan to establish sub-funds and accommodate transferred investments. Nevertheless one of the core objectives for the pooling project has been achieved as the London CIV has negotiated a significant discount for equity fees.

3.8 Members' attention is drawn to the relative performance of equities compared with property. As the impact of Brexit worked its way through the markets, the fall in the value of Sterling gave a lift to equities whilst property was quite severely marked down, although this has since recovered slightly. Thus the strategy of diversification across asset classes protected the portfolio from excess volatility and provided a degree of downside protection.

3.9 At the time of drafting this report the Fund remains over-weight to equities to the extent that the proportion in this asset class is outside the allowable variance. This is set out in paragraph 3.6.5 above. Officers believe that this over-weight position continues to benefit the Fund and this scenario will persist in the short- to medium-term. However this position is not consistent with the Fund investment strategy. The opportunities outlined above will result in around £81m being invested in alternate asset classes, although £31m of that will be funded from employer contributions. A further £45m could be transitioned from equities into fixed interest and this option is being actively considered. Most of the recent growth experienced in equity markets can be attributed to currency: sterling has weakened over a prolonged period of time against the dollar and the Euro. As this situation is likely to persist for another two years, at least, currency hedging is not favoured. A paper providing more detail and background around this currency hedging option is appended to this report, (see Appendix B). Similarly the use of some sort of synthetic hedging to lock in equity returns is considered too expensive and thus not representing value for money.

Section 3: Risk Management

3.10 The principle risk addressed by the Funding Strategy is that returns on investment will fall below the target asset outperformance assumption to ensure that the Pension Fund matches the value of liabilities in the future. Dependent upon that are of course a number of issues.

3.11 The global economy will always represent a specific risk and opportunity for the Fund and will effectively be impossible to quantify or evaluate. As each asset class, investment strategy and characteristic will be impacted differently by any number of macroeconomic scenarios it is critical to ensure that the portfolio is sufficiently diversified. This will ensure that opportunities can be exploited and downside volatility reduced as far as possible.

3.12 In terms of the Pension Fund investment strategy in relation to the global picture, officers believe:

- The domestic US economy will continue to grow at a healthy rate.

- China will also continue to demonstrate strong growth and this will be critical in stoking the continued expansion of emerging markets. By and large emerging market revenue account issues have been resolved.

- There remain concerns about the European economy, especially around German and Italian banks and the unresolved Euro question.

- While the Brexit negotiations are ongoing sterling will remain at depressed levels. Officers are continually considering the merits of currency hedging.

3.13 However there are equally many opportunities that can be exploited by very focused fund managers. The wave of elections culminating in the German Chancellor in October 2017 will create conditions of volatility that can be opportunities to capture returns.

3.14 The role of Central Banks in guiding local economies and that specific impact on the global economy remains an area for concern. Interest rates and inflation both represent significant headwinds impacting on the valuation of liabilities and the investments designed to match them. Specifically Officers are concerned by the increasing threat of inflation and all infrastructure investments the Fund has committed to have an inflation linkage built into the return profile.

3.15 Concentration risk is a particular concern, especially considering the extent to which the Fund is over-weight in equities. 9% of the value of the portfolio is invested in the top 10 stocks and arguably these are heavily correlated.

3.16 The portfolio term Brexit encompasses a number of risks. Immediate concerns that the UK economy would register a shock have not materialised. The fall in the relative value of sterling has masked a long term issue around productivity and actually benefitted the portfolio. Other concerns may manifest themselves in the future. One issue that seems certain to impact the fund is that of passporting and the cost of accessing investment opportunities. Although it is unlikely that performance will suffer there is a greater risk that costs, incurred by fund managers, as a function of being a custodian, and officer time, will increase. It is unlikely that these costs could be mitigated by negotiation or the use of pooling arrangements.

3.17 AON Hewitt, the Fund's investment advisor, have drafted a Manager Monitoring Report, a Market Review for the 3 months to 31 December 2016 and a Quarterly Investment Outlook which provides context for this risk analysis. These reports are included in the closed part of this Committee agenda.

4 CONSULTATION

4.1 Officers have fully consulted with the Pension Fund's advisers in preparing this report.

5 FINANCIAL CONSIDERATIONS

5.1 This report deals exclusively with the investment of the Council's Pension Fund and compares the return on investment of the Fund against the benchmark return.

6. COMMENTS OF THE COUNCIL SOLICITOR AND MONITORING OFFICER

6.1 The Acting Council Solicitor comments that there are no additional legal considerations arising other than those already highlighted in relation to the previous report to members on 6 December 2016.

(Approved for and on behalf of Jacqueline Harris Baker, Acting Council Solicitor and Acting Monitoring Officer.)

7. FREEDOM OF INFORMATION/DATA PROTECTION CONSIDERATIONS

7.1 This report contains only information that can be publicly disclosed. The confidential information is reported in the closed part of the agenda.

CONTACT OFFICER:

Nigel Cook – Head of Pensions and Treasury
Corporate Resources Department, ext. 62552.

BACKGROUND DOCUMENTS:

Quarterly reports from each fund manager (circulated under separate cover)

Appendices

Appendix A: Fund Returns

Appendix B: Investment Considerations

The following appendices are commercially sensitive:

Appendix C: AON Hewitt Manager Monitoring Report

Appendix D: AON Hewitt Market Review: 3 months to 31 December 2016

Appendix E: AON Hewitt Quarterly Investment Outlook

Appendix A

London Borough of Croydon fund returns for the period ending 31 December 2016

EQUITIES					
L&G FTSE 4GOOD	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	7.8%	27.4%			10.1%
Benchmark	7.8%	27.7%			10.1%
L&G World Index	**Quarter**	**1 year**	**3 year**	**5year**	**inception**
Fund	6.9%	29.6%			16.1%
Benchmark	6.9%	29.6%			16.1%
FIXED INTEREST					
Standard Life	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	-1.5%	6.0%	4.5%	4.9%	5.1%
Benchmark	-1.8%	5.6%	4.9%	4.9%	5.2%
Wellington	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	-3.6%	9.8%	8.0%	5.3%	7.2%
Benchmark	-3.4%	10.6%	8.2%	5.5%	7.7%
INFRASTRUCTURE					
Equitix	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	1.8%	12.7%	15.4%	9.6%	15.6%
Benchmark	1.4%	6.6%	5.8%	6.4%	7.0%
Temporis	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	1.7%				1.5%
Benchmark	1.4%				4.2%
GIB	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	n/a				n/a
Benchmark					
PRIVATE EQUTIY					
Knightsbridge	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	10.3%	19.6%	22.7%	18.8%	16.5%
Benchmark	1.4%	6.6%	5.8%	6.4%	7.0%
Pantheon	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	6.5%	29.4%	19.1%	14.7%	13.1%
Benchmark	1.4%	6.6%	5.8%	6.4%	7.3%
Access	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	-4.2%				8.0%
Benchmark	1.4%				4.2%
PROPERTY					
Schroders	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	1.7%	0.2%	10.2%		10.2%
Benchmark	2.3%	2.8%	10.7%		9.4%
PROPERTY PRS					
M&G	**Quarter**	**1 year**	**3 year**	**5 year**	**inception**
Fund	-0.64%				-8.83%
Benchmark	2.30%				1.58%
Total Fund					
	Quarter	**1 year**	**3 year**	**5yr**	**inception**
Fund	4.62%	19.71%	11.42%	11.03%	8.10%
CPI + 4%	1.18%	5.56%	4.77%	5.40%	6.29%

Returns are net of fees and annualised apart from for the last quarter

Returns for Equity, Fixed Interest and Property Funds are calculated on a time weighted basis.

Returns for Infrastructure, Private Equity ,Property PRS funds and the Total return are calculated on an Internal rate of return basis.

APPENDIX B

Aon Hewitt
Retirement & Investment

London Borough of Croydon Pension Fund
Date: 21 February 2017
Prepared for: The Pension Committee
Prepared by: Daniel Carpenter
Dave Lyons

Investment Considerations

Executive Summary

- As at the end of December 2016, it is estimated that the Fund's equity allocation has moved c.14% overweight to the strategic benchmark position. The Fund has also moved further underweight to bonds by 4.5% relative to the strategic benchmark allocation.
- The weakness of Sterling over the last couple of years has benefitted the Fund's allocation to overseas equities, as the appreciation of other currencies relative to Sterling has provided an additional contribution to returns for Sterling denominated investors. The Pension Committee may wish to consider hedging some of the Fund's overseas equity exposure in order to protect gains that have been experienced to date.
- With equities, firmer economic activity, higher commodity prices, and higher yields support earnings recovery and provide support to equity valuations in the near-term. However, a number of factors offer less support to equity valuations in the medium term. The difficulty for equities is that valuations still remain high, there is gradual loss of support from ultra-low bond yields and the interaction of politics with economics brings a list of potential risks for a market upset down the road. We therefore expect volatility for equities moving forwards. Consideration should therefore be given to trimming the overweight position as part of taking some profits and reducing equity risk.
- We are supportive of the Fund's bond portfolio structure in providing diversification and a certain level of capital protection in a rising yield environment. The bond position is currently c .4.5% underweight relative to its strategic benchmark; consideration should therefore be given to increasing the allocation from a risk reduction perspective.

Introduction

The London Borough of Croydon Pension Fund (the "Fund") has seen strong growth in assets over recent years driven by double digit returns in a number of asset classes including equity markets. In particular, the Fund's equity holdings have increased significantly as the appreciation of other currencies relative to Sterling has provided an additional contribution to returns for Sterling denominated investors.

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Aon Hewitt has been asked to consider the Fund's current asset allocation relative to the Fund's strategic benchmark allocation in light of recent market conditions and investment outlook.

Current asset allocation

The latest available Fund valuation is as at 31 December 2016. The asset allocation and positions relative to the strategic benchmark are shown in the table below. The Fund is estimated to be overweight to growth assets by 5.5% driven by a significant overweight position to equities and underweight positions in a number of alternative asset classes including Property and Infrastructure. The Fund is correspondingly underweight to bonds and cash by 5.5%.

The Fund has planned to increase its exposure to a number of alternative asset classes including infrastructure and property over the medium term as part of implementing a new investment strategy and remains on track to do so. The increased alternatives allocation is to be funded through a reduction in the Fund's equity holdings and as it is expected to take some time to achieve the desired exposure to infrastructure and property this is not expected to reduce the Fund's equity position in the near term.

Asset allocation 31 December 2016

Asset Class Allocations	Market Value		Benchmark		Difference		Permitted Ranges
	£m	%	£m	%	£m	%	%
Equities	**576.1**	**56.4**	**429.0**	**42.0**	**+147.1**	**+14.4**	**37.0 – 47.0**
Property	**104.2**	**10.2**	**163.4**	**16.0**	**-59.2**	**-5.8**	**13.0 – 19.0**
Private Equity	**82.7**	**8.1**	**81.7**	**8.0**	**+1.0**	**+0.1**	**15.0 – 25.0**
Infrastructure	**69.2**	**6.8**	**102.1**	**10.0**	**-32.9**	**-3.2**	**n/a**
Bonds	**189.0**	**18.5**	**234.9**	**23.0**	**-45.9**	**-4.5**	**18.0 – 28.0**
Cash	**0.2**	**0.0**	**10.2**	**1.0**	**-10.0**	**-1.0**	**n/a**
Total	**1021.4**	**100.0**		**100.0**	**-**	**-**	

Source: Officers.

Asset allocation relative to the strategic benchmark

- The equity allocation has moved c.14% overweight to the strategic benchmark position. The equity assets are largely held in local currency and therefore the portfolio has benefitted substantially from the significant weakening of Sterling relative to other major currencies.
- The Fund remains underweight to property and infrastructure by 5.8% and 3.2% respectively with commitments to new mandates in these areas expected to be drawn down over the next few years.
- The Fund has moved further underweight to bonds and is now c.5% underweight to the benchmark which represents the lower end of the permitted range to the asset class.

Aon Hewitt medium term asset allocation views

A summary of our Asset Allocation Team's latest views on the major asset classes are set out below.

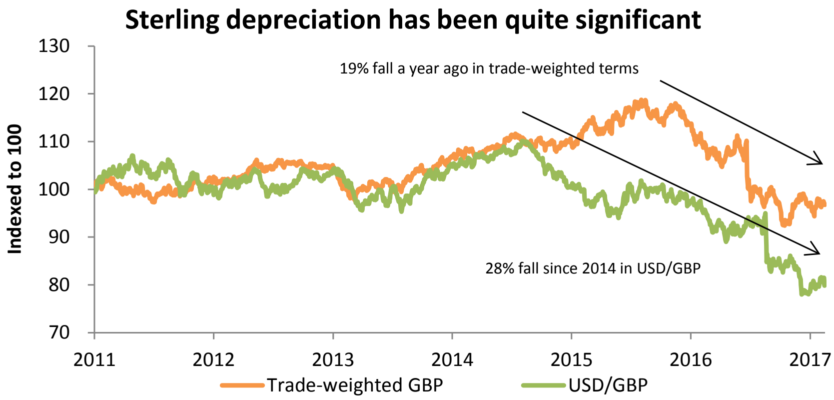
- There are many unknowns, with uncertainties around the impact of Brexit, the Trump US Presidential win as well around how Central Banks will move away from ultra-easy monetary policy. These uncertainties are interrelated and it is difficult to be certain of the impact they will have on investment markets.
- With equities, firmer economic activity, higher commodity prices, and higher yields support earnings recovery and thus provide support to equity valuations in the near-term. However, a number of factors offer less support to equity valuations in the medium term. Equity market returns in 2016 for UK investors were flattered by sterling declines. The difficulty for equities is that valuations still remain high, there is gradual loss of support from ultra-low bond yields and the interaction of politics with economics brings a list of potential risks for a market upset down the road. We therefore expect volatility for equities moving forwards.
- We see the underlying upward direction in gilt yields seen through the latter part of 2016 continuing. We expect yields may rise a little faster than current yield curves anticipate as the impact of the Trump economic agenda will push global economic activity higher and drive larger rises in US interest rates. The UK's more gradual upward path for policy interest rates implies lower yields and a slower climb than the US, but the direction is still the same.
- UK corporate bond spreads have held steady at tight levels, supported by Bank of England buying. Although we did not expect much more spread compression, we have held a preference for corporate bonds given their higher yield up until now. As the broader credit rally nears an end and Brexit and liquidity concerns weigh on the market, we are now moving to a more neutral stance vs gilts.
- Globally, investment grade credit spreads have continued to compress helped by firmer economic activity, higher commodity prices and corporate earnings recovery. We have now downgraded our view on US investment credit as the large fall in credit spreads makes the reward to credit risk look less secure. This follows our downgrade in our Eurozone corporate bond view last quarter based on political risks, tight spreads and only a moderate economic recovery.
- UK property felt some Brexit impact last year and although we expect the UK economy to soften, commercial property is showing signs of resilience and we think it continues to be attractive on a medium-term basis.
- Sterling looks to be in a bottoming out process, though this hardly excludes the possibility that Brexit process upsets take it lower still. Valuations are now arguing for a recovery, but news flow and market concerns are pulling the other way. Our view is that though further falls are possible, they have a good chance of being recouped over

time. All in all, these are now good levels for hedging overseas exposures.

Currency hedging

The weakness of Sterling over the last couple of years has benefitted the Fund's allocation to overseas equities, as the appreciation of other currencies relative to Sterling has provided an additional contribution to returns for Sterling denominated investors.

Sterling has fallen by almost 16% against the US dollar (US$1.48 to US$1.24 at the time of this report) and a little less against the euro, with a 10% drop (€1.30 to €1.17 at the time of this report), since the EU referendum result was announced on 24 June 2016.



Source: Bloomberg

However, Sterling's weakness pre-dates the EU referendum. The pound has now depreciated by 25% against the US dollar since 2014, due to a tighter US monetary stance, concern over a widening UK current account deficit and, in the past year, by Brexit worries. In broad trade-weighted terms, the fall is smaller but still a sizeable 19% since its 2015 peak (see chart above).

We now regard an exchange rate against the US dollar of US$1.20 as cheap, while levels below US$1.30 could attract some hedging. A fall to US$1.20 is 30% below 2014 highs, 19% below Brexit announcement levels and broadly 3% below current levels. For other major currencies, €1.10 (6% from levels at the time of this report) and the current ¥140 level appear attractive to hedge euro and yen exposure respectively.

Sterling's ultimate floor is highly uncertain as it is so dependent on the trade deals the UK agrees and how long negotiations take. It is possible that sterling overshoots on the way down. However, given that the US weight in the MSCI World Index is as high as 59% (c. 50% for the FTSE 4 Good Index), the threshold for having some initial hedging in place is closer to current levels.

The Pension Committee may wish to consider hedging some of the Fund's overseas equity exposure in order to protect gains that have been experienced to date. A shift from unhedged to hedged share classes is usually the simplest way to hedge, however this option is not available to the Fund. Alternatively, the hedging can be provided either through the investment manager (Legal & General Investment Management) or the custodian (BNY Mellon), as long as there are best execution checks. We can work with the Officers to explore the most appropriate implementation mechanism from both an efficiency and cost perspective.

Investment considerations

- The Fund has a material overweight position to equities versus the strategic benchmark due to the strong performance of global equities over 2016. Global equity holdings have benefited from Sterling weakness, which has provided higher returns to sterling denominated investors.
- Firmer economic activity, higher commodity prices and higher yields are supporting a corporate earnings recovery. However, we have doubts about the equity market strength and expect volatility moving forwards. The Fund has made commitments to a number of alternative mandates which are due to be funded through a reduction in the Fund's equity holdings. However, the timing for funding these new mandates will be spread over the next few years which potentially exposes the Fund to increased equity risk over the medium term. Consequently, the Pension Committee may wish to consider trimming the overweight position to equities as part of taking some profits and reducing equity risk.
- The weakness of Sterling over the last couple of years has benefitted the Fund's allocation to overseas equities, as the appreciation of other currencies relative to Sterling has provided an additional contribution to returns for Sterling denominated investors. The Pension Committee may wish to consider hedging some of the Fund's overseas equity exposure in order to protect gains that have been experienced to date.
- We are supportive of the Fund's bond portfolio structure in providing diversification and a certain level of capital protection in a rising yield environment. The bond position is currently 4.5% underweight relative to its strategic benchmark; consideration should therefore be given to increasing the allocation from a risk reduction perspective.
- We look forward to discussing this paper further with the Pension Committee at the upcoming meeting on 7 March 2017.

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