HYMANS ROBERTSON

2016 Formal Funding Valuation
Initial Results

London Borough of Tower Hamlets Pension Fund

Barry McKay

Barry McKay FFA

For and on behalf of Hymans Robertson LLP

30 September 2016

Executive Summary

Initial results

The initial draft whole fund results of the valuation are set out below based on your proposed funding basis: The results at the 2013 formal valuation are shown for comparison.

Valuation Date	31 March 2013	31 March 2016
Past Service Liabilities	**(£m)**	**(£m)**
Employees	451	414
Deferred Pensioners	297	320
Pensioners	546	627
Total Liabilities	**1,293**	**1,361**
Assets	**928**	**1,126**
Surplus / (Deficit)	**(365)**	**(235)**
Funding Level	**71.8%**	**82.7%**

Assumptions

The key financial and demographic assumptions proposed for the 2016 valuation are set out below:

	31 March 2013	31 March 2016
Financial		
Discount rate	4.6%	4.2%
Benefit increases	2.5%	2.1%
Salary increases	3.8%	2.0%
Demographic		
Baseline Longevity	Club Vita	Club Vita
Future Improvements	CMI2010, Peaked, 1.25% p.a. long term	CMI2013, Peaked, 1.25% p.a. long term

Solvency

The funding level on your proposed funding basis has improved from 71.7% in 2013 to 82.7% in 2016. Additionally, the funding deficit has decreased. The main reasons for the change in the funding level over the period were:

- better than anticipated investment returns;
- changed financial assumptions; and
- membership experience.

Contribution rates

Every employer has their own tailored funding plan and valuation results will vary depending on their own membership, funding plan and experience since the last valuation (or since they joined the Fund). The change in the financial assumptions and the positive investment returns and membership experience will allow contributions to be stable in many cases, however this will be heavily dependent on the period of participation in the Fund.

Next steps

The purpose of this report is to present the initial whole fund solvency results and summarise the experience over the intervaluation period. This report is useful to identify any areas of potential risk that the Fund may want to consider and explore possible avenues of risk mitigation during the valuation process.

The next milestone in the valuation process is to agree the funding target (assumptions) at Whole Fund level and prepare draft individual employer results.

Contents

1. Introduction

We have been commissioned by London Borough of Tower Hamlets (“the Administering Authority”) to carry out a full actuarial valuation of the London Borough of Tower Hamlets Pension Fund (“the Fund”) as at 31 March 2016 as required under Regulation 62 of the Local Government Pension Scheme Regulations 2013 (“the Regulations”). This report has been prepared to communicate the initial results of the 2016 valuation at whole fund level. It sets out the following:

- an analysis of Fund experience over the valuation period;
- your proposed funding assumptions;
- whole Fund valuation results; and
- analysis to help inform the Fund’s understanding of its risk exposure.

This report is addressed to London Borough of Tower Hamlets in its role as Administering Authority to the London Borough of Tower Hamlets Pension Fund. It should not be shared with any third parties without our prior written consent. Where consent is given, the report should be supplied in full including any related reliances and limitations.

Please note that Hymans Robertson LLP accept no liability to any third parties. The reliances and limitations in the body and appendices of this report apply equally to all users of this report.

2. Intervaluation Experience

Since the previous valuation, various events have taken place which affect the funding position of the Fund.

Investment returns	Expected	Actual	Difference	Impact
Over 3 year period	14.4%	19.7%	5.3%	Positive
Annual	4.6%	6.2%	1.6%	Positive

Assumption/measure	2013	2016	Difference	Impact
Long-dated gilt yields (p.a.)	3.0%	2.2%	(0.8%)	Negative
Expected inflation	3.3%	3.2%	(0.1%)	Positive

Investment returns

The Fund has experienced better than anticipated investment returns. The return in excess of the 2013 valuation discount rate serves to 'pay back' a greater portion of the deficit than expected (all other things being equal). Therefore, all other things being equal, this improves the funding position and reduces the reliance on contributions to repair funding deficits.

Gilts and inflation

There has been a significant drop in gilt yields over the inter-valuation period which is reflected in a reduction in anticipated investment returns and therefore a reduction in the discount rate used to place a value on the liabilities. This increases the liabilities and puts upwards pressure on employer contribution rates.

However, long term expectations for Retail Prices Inflation (RPI) and Consumer Price Inflation (CPI) have fallen since 2013 and this will offset the increases caused by the fall in gilt yields.

Fund expenses

The Fund's expenses (in relation to non-investment activities) over the last 3 years have totalled £2.9m. This figure is equivalent to 0.6% when expressed as a percentage of pensionable pay. Unless otherwise instructed, we propose to make allowance for the Fund's expenses by adding an allowance of 0.6% of pay to employer contribution rates payable from 1 April 2017.

Membership experience

The areas of membership experience that have had the greatest effect on the results of the valuation are set out below:

	Expected	Actual	Difference	Impact
Pre-retirement experience				
Early leavers (no.of lives)	3,019	2,333	(686)	Negative
Ill-health retirements* (no.of lives)	93	66	(27)	Positive
Salary increases (p.a.)	4.3%	1.8%	(2.6%)	Positive
Post-retirement experience				
Benefit increases (p.a.)	2.5%	1.3%	(1.2%)	Positive
Pensions ceasing (£m)	2.7	2.3	(0.4)	Negative

**Tier1 and Tier 2 ill-health retirements only*

The impact of less members withdrawing than expected depends on the age and liability distribution of withdrawing members. Although in number terms there were considerably fewer withdrawals than expected, the impact on the funding position was only very slightly negative for the Fund.

The pensioner mortality experience has been very close to expectations helped by the Fund's use of Club Vita to inform the longevity assumption. Membership experience overall has been positive over the intervaluation period. The most significant items of experience to note are:

- Salary increases have been less than assumed;

- Pension increases have been less than assumed; and

50/50 take-up has been significantly lower than expected, but take-up has been concentrated amongst those with the most significant liabilities.

Regulatory experience

The Fund is subject to risks beyond its control. In particular, since 2013:

- A new benefit structure has come into force;
- Funds have come under greater scrutiny from the Government Actuary's Department, the Scheme Advisory Board and the Department for Communities and Local Government (DCLG); and
- Cost controls may alter member benefits (but will have no effect on the 2016 valuation).

3. Data and Assumptions

Data

We have relied on the data provided by the Administering Authority when carrying out our calculations. The accuracy of our results is limited by the quality of the data provided. We are carrying out validations on the data provided to ensure it is fit for the purpose of the valuation. Further details can be found in our paper entitled "Data report for 2016 valuation", which will be issued shortly. Once fully validated we believe the membership data will be of an acceptable standard for the purposes of this valuation.

Financial assumptions

Your proposed financial assumptions are set out below, along with the assumptions adopted for the 2013 formal valuation:

Financial assumptions	31 March 2013	31 March 2016
Discount rate		
Return on long-dated gilts	3.0%	2.2%
Asset Outperformance Assumption	1.6%**	2.0%***
Discount rate	**4.6%**	**4.2%**
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	0.5%**	(1.2%)***
Salary increase assumption	**3.8%**	**2.0%**

** Consumer Prices Index*

*** Arithmetic deduction*

**** Geometric deduction*

Longevity assumptions

Your proposed longevity assumptions result in the following typical future life expectancies from age 65 (figures for 2013 shown for comparison):

	31 March 2013	31 March 2016
Male		
Pensioners	22.2 years	22.1 years
Non-pensioners	24.3 years	23.9 years
Female		
Pensioners	24.2 years	24.1 years
Non-pensioners	26.4 years	25.8 years

Non-pensioners are assumed to be aged 45 at 31 March 2016

Additional assumptions

Retirement age pattern

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.

50/50 option

Following analysis of both the Fund's actual take up rate, and national statistics, the Fund has assumed that 1% of members will take up the 50/50 option in the future.

Other assumptions

All other assumptions have been updated to reflect the latest experience of LGPS funds. Further details regarding the assumptions adopted can be found in notes 6 and 7 of the '2016 valuation toolkit'. Full details will be provided in our formal valuation report.

4. Initial Results - Solvency

The solvency of the Fund as at 31 March 2016 based on your proposed assumptions is set out below. The results at the 2013 formal valuation are shown for comparison.

Valuation Date	31 March 2013	31 March 2016
Past Service Liabilities	**(£m)**	**(£m)**
Employees	451	414
Deferred Pensioners	297	320
Pensioners	546	627
Total Liabilities	**1,293**	**1,361**
Assets	**928**	**1,126**
Surplus / (Deficit)	**(365)**	**(235)**
Funding Level	**71.8%**	**82.7%**

We have valued the benefits defined under the Regulations based on the assumptions outlined earlier. These results are sensitive to the underlying financial and demographic assumptions as well as the quality of the underlying data.

Liabilities

The main items driving the increase in the liabilities have been membership movements, the cost of the new benefits accruing and the interest on the previous deficit.

Assets

The assets have also grown substantially over the inter-valuation period as a result of better than assumed asset returns and contribution made towards the deficit.

Funding level/deficit

The overall result has been an improvement in the reported funding level of the Fund alongside a reduction in the funding deficit.

Analysis of change in solvency

The table below illustrates the various factors that have led to the change in funding position between the 2013 and 2016 valuations.

Analysis		(£m)
Surplus / (deficit) at 31 March 2013		**(365)**
Interest on surplus / (deficit)	(53)	
Investment returns greater than expected	46	
Contributions greater than cost of accrual	38	
Membership experience over the period	66	
Change in demographic assumptions	6	
Change in base mortality assumption	16	
Change in longevity improvements assumption	1	
Change in financial assumptions	33	
Impact of LGPS 50/50 take up	(7)	
Other experience items	(16)	
Surplus / (deficit) at 31 March 2016		**(235)**

Comment on employers

Every employer is valued separately based on their own membership data as a part of the valuation and their change in funding position will therefore vary compared to that of the whole fund.

5. Initial Results – Contributions

Changes to terminology

The Regulations have introduced new terminology in respect of contribution rates. We have set out our interpretation of these terms below based on CIPFA guidance on preparing a Funding Strategy Statement.

Primary Contribution Rate

This refers to the cost of new benefits being earned by members. This was previously referred to as the Future Service Rate.

Secondary Contribution Rate

This refers to the contributions required to repair an employer's deficit (surplus). This was previously referred to as Deficit Recovery Contributions.

Common Contribution Rate

The Regulations no longer require the reporting of the Common (Whole Fund) Contribution Rate. This has been replaced by Whole Fund Primary and Secondary Contribution Rates calculated as the payroll weighted average of the Primary and Secondary Contribution Rates for employer. These rates will be calculated and disclosed in the final valuation report.

Typical employer results

The net discount rate for benefits accruing under the CARE scheme is unchanged and so the Primary Contribution Rates will remain stable. Employer deficit results are more difficult to predict due to the variable changes in funding levels. Therefore, we anticipate for most employers that there will be upward but manageable pressure on employer contribution rates for the majority of employers in the Fund.

Employer categorisation

Every employer in the Fund is different. For instance, they have different funding levels, sources of funds for paying contributions, covenants, maturity profiles, and timeframes for their participation in the Fund.

As a result, when setting contribution rates, employers are categorised based on their individual characteristics in order to build a credible funding plan that fits their own needs while recognising the risk they pose the Fund and other participating employers.

Setting credible funding plans

Set a funding target

For the vast majority of employers, the target is to be fully funded on the Fund's ongoing funding assumptions. There may be instances where alternative assumptions are used such as where an employer is approaching cessation.

Choosing an appropriate time horizon

Once a target has been chosen, the time employers are given to reach that target needs to be determined. For long-term secure employers, this is up to 20 years. For employers that pose a greater risk to the Fund, this may be much shorter. In general, a shorter time horizon results in more volatile contributions compared to employers with longer time horizons.

Probability of reaching the target

The final stage involves determining the probability required for each employer to reach its funding target within its time horizon. In general, higher probabilities of success are achieved by paying higher contributions and relying less on volatile investment returns. The probability required for each employer is largely based on each employer's assessed covenant. For instance, a lower probability of success (e.g. 66%) may be required for a secure body as they may be considered to be able to pay higher contributions (or current rates for longer) should they not reach their funding target over their time horizon.

6. Risk Analysis

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 providing benefits from the Fund as it currently stands at 31 March 2016.

However, no one can predict the future with certainty and future experience will not exactly match all of our assumptions. The future therefore presents a variety of risks to the Fund which should be **identified** and, where possible, the financial significance should be **quantified**. Thereafter the Fund can assess how (or if) these risks can then be **controlled** or **mitigated** and put in place **monitoring** to assess whether any mitigation is actually working.

Financial risks

The two main areas of financial risk of interest to your Fund are the investment performance and level of benefit increases. To help understand the impact of these two factors being different from assumed, we have shown the effects on the solvency measure of varying the discount rate (investment performance) and benefit increase assumptions below.

		Benefit Increases			
		2.0%	2.1%	2.2%	
Discount Rates	4.3%	(196)	(215)	(235)	(Deficit)
		85%	84%	83%	Funding Level
	4.2%	(215)	(235)	(255)	(Deficit)
		84%	83%	82%	Funding Level
	4.1%	(234)	(255)	(275)	(Deficit)
		83%	82%	80%	Funding Level

The above analysis focuses on financial risk to the solvency level. Our approach to setting contribution rates at the 2016 valuation seeks to recognise the uncertainty around future investment returns and benefit increases. Further information about this method will be provided with the employer results.

Demographic assumptions

The main area of demographic risk is people living longer than expected. We have shown below the high level impact of people living longer than currently expected by using a more prudent assumption for future longevity improvements. The more prudent assumption assumes that the rate of future improvements continues to increase ('non-peaked'). The valuation assumption assumes that the rate of future improvements have peaked.

	Peaked improvements	Non-peaked improvements
(Deficit)	(235)	(267)
Funding Level	83%	81%

Other risks to consider

There are other risk factors which would have an impact on the funding position. Examples of these include the level of ill health retirements, withdrawals from the scheme and take up of the 50:50 option. These are probably unlikely to change in such a way that would rank them as amongst the highest risks facing the Fund and therefore we have not sought to provide further quantification of their risk.

Other events

Since carrying out the valuation, the United Kingdom held a referendum on its participation as a full member of the European Union. The result was a mandate to leave the European Union. At this time, it is difficult to predict the long term effect of this possible course of action. We have made no allowance for the referendum result in preparing this report

7. Next Steps

The purpose of this report is to present the initial whole fund solvency results and summarise the experience over the intervaluation period. This report is useful to identify any areas of potential risk that the Fund may want to consider and explore possible avenues of risk mitigation during the valuation process.

The next steps in the process are as follows.

- All parties to ***understand the whole fund results*** and the assumptions on which they are based, discuss any questions or issues before moving on to the next stage of the valuation process. This includes the Fund ***identifying any areas of risk*** that it is concerned about and wishes to explore further and understand how the risk can be identified, quantified, mitigated and monitored.
- Once all parties are happy with the whole fund results, we will quantify the ***valuation results for each individual employer*** that participates in the Fund. When we present you with these results, we will set out the contribution rates that each employer should pay for the next three years from 1 April 2017 based on the funding principles previously discussed.
- For some employers, the contribution rate that they should pay in principle may be different to what they will actually pay in practice. Any deviation will be based on their own circumstances and a range of factors including (amongst other things) their perceived security, whether they are going to be pooled with other employers or any budgetary constraints that they may be bound by. We expect there to be a consultation period where you gather together all of these issues and ***come back to us with a set of final agreed contribution rates for each employer.***
- We understand that you may require additional input from us before agreeing the final contribution rates. Some employers may accept their proposed contribution rates quite readily whilst others may want to explore their options. You may want us to look at the viability of ***different contribution strategies*** that are proposed by individual employers.
- Once a set of final contribution rates have been agreed for all employers, we will provide you with a ***final valuation report*** which will clearly set out the final valuation results and will meet all the relevant regulatory requirements. Included in this report will be the Certificate of Rates and Adjustments, which will certify the minimum contribution rates to be paid by each employer for the three year period beginning on 1 April 2017. This final valuation report must be provided to you no later than 31 March 2017.

Appendix – Reliances and limitations

This document has been requested by and is provided to London Borough of Tower Hamlets in its capacity as Administering Authority to the London Borough of Tower Hamlets Pension Fund. It has been prepared by Hymans Robertson LLP to support a discussion on funding strategy with the Fund as part of the 2016 funding valuation.

This document should not be released or otherwise disclosed to any third party (including Fund employers) 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

Reliances and limitations

This document has been prepared for the purpose of communicating the initial results of the 2016 valuation at whole fund level. Nothing contained within it affects any member's benefits. Furthermore, 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).

The valuation results are wholly dependent on the data provided to us and the assumptions that we use in our calculations. We are carrying out validations on the data provided to ensure it is fit for the purpose of the valuation. Further details can be found in our paper entitled "Data report for 2016 valuation", which will be issued shortly once fully validated. We believe the membership data will be of a good standard and fit for the purposes of this valuation.

It is possible that as part of our ongoing discussions you may find that there is additional information you should provide us with. In a similar way, you may feel that one or more of the assumptions is no longer not suitable for the Fund and you may wish to explore the use of alternatives. Until both of these

areas are definitively agreed by all relevant parties, the results in this document will remain "initial" and could be subject to change before the final valuation report is signed off.

This document is a "component report" of the eventual final aggregate valuation report due to be completed by 31 March 2017.

The results contained in this document are for the Fund as a whole. It does not set out the valuation results for individual employers, which will be derived at a later date. Employers come in different shapes and sizes and their valuation results are not uniform. We would advise against extrapolating the results contained in this document to predict possible contribution rates for employers at this stage.

The figures in this report are based on our understanding of the benefit structure of the LGPS as at 31 March 2016.

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.

[1] Technical Actuarial Standards (TASs) are issued by the Financial Reporting Council (FRC) and set standards for certain items of actuarial work.