Pension Fund Investment Sub-Committee

12 June 2017

Agenda

The Pension Fund Investment Sub-Committee will meet in **Committee Room 2**, **Shire Hall**, **Warwick** on **12 June 2017** at **10.00 a.m.**

1. General

(1) Apologies

(2) Members' Disclosures of Pecuniary and Non-Pecuniary Interests.

Members are required to register their disclosable pecuniary interests within 28 days of their election or appointment to the Council. A member attending a meeting where a matter arises in which s/he has a disclosable pecuniary interest must (unless s/he has a dispensation):

- Declare the interest if s/he has not already registered it
- Not participate in any discussion or vote
- Must leave the meeting room until the matter has been dealt with (Standing Order 43).
- Give written notice of any unregistered interest to the Monitoring Officer within 28 days of the meeting

Non-pecuniary interests must still be declared in accordance with the Code of Conduct. These should be declared at the commencement of the meeting.

(2) Minutes of the previous meetings held on 13 March 2017 and 23 May 2017.

2. Investment Performance

3. Cash Flow Report

4. The 2016 Actuarial Valuation

5. Review of Pension Fund Risk Management

6. Markets in Financial Instruments Directive Presentation

7. Any other items
Which in the view of the Chair, require urgent consideration.

8. Reports Containing Confidential or Exempt Information

To consider passing the following resolution:
'That members of the public be excluded from the meeting for the items mentioned below on the grounds that their presence would involve the disclosure of exempt information as defined in paragraph 3 of Schedule 12A of Part 1 of the Local Government Act 1972'.

9. Exempt minutes of the meeting held on 13 March 2017

10. Exempt Investment Update

11. Exempt Private Equity Update

DAVID CARTER
Joint Managing Director
Shire Hall
Warwick

Membership of the Pension Fund Investment Sub-Committee

Councillor Bill Gifford (Vice-Chair)
Councillor John Horner
Councillor Bob Stevens (Chair)
Councillor Wallace Redford
Councillor Alan Webb.

For general enquiries please contact Ben Patel-Sadler:
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Minutes of the Pension Fund Investment Sub-Committee meeting held on 13 March 2017

Present:

Members
Councillors John Appleton, Bill Gifford (Vice Chair), Bob Stevens (Chair) and Alan Webb

Officers
John Betts – Head of Finance
Gary Dalton – Employment Solicitor
Mathew Dawson - Treasury and Pension Fund Manager
Vicki Forrester – Principal Accountant
Andrew Lovegrove - Head of Corporate Financial Services
Ben Patel-Sadler - Democratic Services Officer
Jane Pollard – Legal Services Manager

Invitees
Robert Bilton – Hymans Robertson
Peter Jones – Independent Investment Adviser
Paul Potter – Hymans Robertson
Karen Shackleton – Independent Investment Adviser
Richard Warden – Hymans Robertson

Observers

None

No members of the public attended.

1. General

(1) Apologies for absence

Councillor Brian Moss

(2) Members Disclosures of Pecuniary and Non-Pecuniary Interests

None

(3) Minutes of the previous meeting held on 27 January 2017

The minutes of the meeting held on 27 January 2017 were agreed as a true and correct record and were signed by the Chair. The Committee wished to place on record their thanks to Andrew Lovegrove - Head of Corporate Financial Services who would shortly be leaving the Council to take up a position at a different local authority.

2. Investment Performance

Mathew Dawson – Treasury and Pension Fund Manager introduced the report and informed the Committee that the third quarter of 2016/17 had been a strong one in terms of investment performance. Members noted that overseas equities had performed well and had seen an increase of 2%. The Sub-Committee noted that at the quarter end December 2016, the Private Equity Asset Allocation stood at 3.5%. This demonstrated good performance and was currently only 0.5% underweight. Absolute Return Bonds were -1.0% underweight. At the quarter end December 2016, the fund was holding 1.5% as cash.

Members noted that overall, the fund had under-performed its overall benchmark by 0.88%. Mathew Dawson informed the Sub-Committee that although Threadneedle had under-performed in relation to its benchmark for the quarter end December 2016, their overall performance was still good. The Committee noted that the long term performance of Fund Managers against their benchmark since December 2016 was good.

The Sub-Committee noted that the fund's investments in commercial property were predominantly in the retail and retail warehousing sectors – the fund did not seek to invest in single retail units. Past investments had been made in large, out of town shopping centres for example.

Resolved:

The Sub-Committee noted the fund value and investment performance for the third quarter of 2016/17 to 31 December 2016.

3. Investment Update (Verbal Update)

Paul Potter – Hymans Robertson circulated a presentation of slides in relation to the investment update. During the course of the presentation, the following points were noted by the Sub-Committee:

- With regards to setting the investment strategy, the Sub-Committee noted that two stages were associated with the process. Stage one (high level decision) established a broad level of risk and expected return and was based on long term funding objectives. This process looked at return-seeking assets (growth/income) versus low risk assets (protection). This was the most important investment decision in relation to the Fund which had the greatest impact on the Fund. Stage two of the process concentrated on detailed allocations/mandates and looked at specific allocations to asset classes, the nature of the investment manager mandates and an awareness of potential implications from BCPP pooling.

- The role of the Sub-Committee in relation to the strategy and structure of the pension fund was outlined to members. The Sub-Committee noted that in relation to pooling, the Sub-Committee would not retain the ability to select specific fund managers – this would be the responsibility of Border to Coast. However, members expressed a view that they would raise any concerns with Border to Coast if investment performance was not satisfactory.

- The Sub-Committee noted that the Fund was likely to be paying out the highest amount of benefits in around twenty years' time. As more members joined the scheme, liabilities would increase. It was the aim of the Fund to invest in the longer term so that the scheme could continue to function effectively for decades to come.

- Members noted that if Fund growth continued at the present rate, then it was likely to become fully funded around the year 2036. The year in which the Fund would become fully funded would depend on investment performance, the amount of contributions to the Fund and the benefits paid out by the Fund.

- With regards to asset liability modelling, the Sub-Committee noted that thousands of simulations had been run (using current Fund data) to determine the likely future outcomes in relation to the Fund. Members noted that the worst and best case scenarios had been included when running the simulations. Approximately two-thirds of the simulated outcomes had resulted in a ‘median risk’ being achieved.

- The main aim of this simulation exercise was to determine the probability of the Fund reaching a fully funded position by a certain time.

- The Sub-Committee expressed a view that there were a significant number of variables which had the ability to impact on the time when the Fund would reach a fully funded position.

- Members noted that when the simulations were run, an assumption was made that the total workforce was likely to remain at the same level as it was currently. In order for the workforce numbers to have a significant impact on the year in which the Fund would reach a fully funded position, there would need to be a reduction of between 20%-30% of the current workforce.

- The Sub-Committee noted that during the simulation process, assumptions had been made that earnings would grow by around 1%-2%.

- Members noted that it was unknown at this point whether or not the Local Government Pension Scheme (LGPS) would be paying out the current level of benefits in the future. However, the simulations had been run with the assumption that the LGPS would continue to operate in its current form into the future. Members noted that the future of the LGPS would be a national debate and was not something which could be resolved by local authorities.

- With regards to the simulations which had been run, estimations had been made about the Fund’s outgoings in relation to its potential benefit payments. At the present time, the Fund was in a satisfactory position to meet its projected liabilities.

- After the simulations had been run, the Sub-Committee noted that there was a 70% chance of the Fund reaching a fully funded position in ten years' time (if the current strategy remained in place).

- With regards to the Fund's investment strategy, the Sub-Committee noted that the probability of the Fund reaching a fully funded position within twenty years would diminish if the investment strategy adopted a completely low risk approach. The Sub-Committee noted that as the funding percentage of the Fund increased, the funding strategy could adopt a more low risk approach.

- In conclusion, the Sub-Committee noted that the current investment strategy provided a good chance of meeting the long term funding objective based on the contribution strategy agreed at the 2016 actuarial valuation.

Karen Shackleton – Independent Investment Adviser informed the Sub-Committee that there would need to be a compelling argument to change the current investment strategy, as overall, the current strategy was resulting in good investment performance and was on track to produce a Fund which became fully funded in the not too distant future

Resolved:

The Sub-Committee noted the presentation and were informed that a full report on the investment strategy would be tabled at the June 2017 meeting.

4. Investment Strategy Statement

Mathew Dawson - Treasury and Pension Fund Manager introduced the report and informed the Sub-Committee that new investment regulations issued on 21 September 2016 included a requirement for funds to publish new Investment Strategy Statements (ISS) by 1 April 2017.

The Sub-Committee noted that this would be a moving document which would be amended on a regular basis. The ISS set out the approach which the Fund had taken to setting an appropriate investment strategy, the restrictions on investments and also the current allocation of the Fund's investments. The ISS also outlined the current status of the Fund's pooling arrangements. The document also set out the stewardship code which set out the ethics associated with the Fund's present and potential future investments. The Sub-Committee noted that the obligation of the Fund was to take investment decisions in relation to its fiduciary duty – investment decisions should be taken on the merits of their potential returns to the Fund.

Resolved:

The Sub-Committee agreed to approve the Investment Strategy Statement.

5. Possible Prepayment of WCC Employer Contributions

John Betts – Head of Finance introduced the report and informed the Sub-Committee that the Fund would have several options in regard to the investing of the prepayment of the WCC employer contributions if the Council went ahead and prepaid contributions – these options were set out at 3.1 of the report.

Councillor Bill Gifford proposed that the Sub-Committee agreed to pursue with the recommendations set out at 3.1 of the report.

Resolved:

The Sub-Committee agreed the various options on the treatment of cash received from the County Council should that option be pursued by the County Council.

6. Rebalancing

Karen Shackleton – Independent Investment Adviser introduced the report and informed members that at the Sub-Committee meeting of 12 September 2016, the committee agreed the temporary suspension of the rebalancing of US equities. This was in view of the volatile market conditions, the forthcoming triennial valuation, LGPS pooling, and the lack of a passive swing fund through which to implement that rebalancing. Karen Shackleton recommended that the suspension was now lifted.

Resolved:

The Sub-Committee agreed to the recommendations set out in the report which would result in the rebalancing of US equities.

7. Funding Strategy Statement

Robert Bilton – Hymans Robertson introduced the report and drew the Sub-Committee’s attention to the changes to the Statement.

The Sub-Committee noted that changes had been made to the mechanism which set contribution rates and to the stability mechanism used by precepting employers. Members noted that Section 13 was present to ensure that the funds paid in to the Fund were meeting the required benefits to be paid out.

Resolved:

The Sub-Committee agreed to approve the Funding Strategy Statement.

8. Actuarial Valuation Update (Verbal Update)

Richard Warden – Hymans Robertson informed the Sub-Committee that the end of the current valuation process was nearing completion and that contribution rates would not be increasing at this point.

Members noted that the Warwickshire Pension Fund was around 82% funded – this placed it in the top quartile nationally. The Sub-Committee noted that when compared to similar pension funds, the Warwickshire fund showed better than average investment performance.

Resolved:

The Sub-Committee noted the verbal update and were informed that a full report on the actuarial valuation would be tabled at the June 2017 meeting.

9. Business Plan

Mathew Dawson – Treasury and Pension Fund Manager introduced the report and informed the Sub-Committee that the report detailed what work would be undertaken by officers now and in the future.

Mathew Dawson informed the Sub-Committee that all business was being managed effectively, in particular, members noted that officers were undertaking effective communication with all employers (who were now fully aware of their responsibilities).

Resolved:

The Sub-Committee agreed to approve the Business Plan 2017/18.

10. Any other items

The Chair and Sub-Committee wished to place on records their thanks to Councillor John Appleton for his contributions throughout his tenure as a member sitting on the Sub-Committee. Members noted that Councillor Appleton was standing down as a Councillor at the May 2017 election.

11. Reports Containing Confidential or Exempt Information

To consider passing the following resolution:

‘That members of the public be excluded from the meeting for the items mentioned below on the grounds that their presence would involve the disclosure of exempt information as defined in paragraph 3 of Schedule 12A of Part 1 of the Local Government Act 1972’

12. Exempt Minutes of the meeting held on 27 January 2017

The exempt minutes of the meeting held on 27 January 2017 were agreed as a true and correct record and were signed by the Chair.

The meeting rose at 12.45pm

……………………………………………
Chair

Minutes of the meeting of the Pension Fund Investment Sub-Committee held on 23 May 2017

Present

Councillors Bill Gifford, John Horner, Bob Stevens, Wallace Redford and Alan Webb.

Others in attendance

Councillors Jo Barker, Margaret Bell, Parminder Singh Birdi, Sarah Boad, Mike Brain, Peter Butlin, Les Caborn, Mark Cargill, Richard Chattaway, Jonathan Chilvers, Jeff Clarke, Alan Cockburn, John Cooke, Andy Crump, Yousef Dahmash, Corinne Davies, Nicola Davies, Neil Dirveiks, Judy Falp, Jenny Fradgley, Pete Gilbert, Dan Gissane, Clare Golby, Seb Gran, Colin Hayfield, John Holland, Andy Jenns, Kam Kaur, Keith Kondakor, Jeff Morgan, Bill Olner, Maggie O'Rourke, Bhagwant Singh Pandher, Anne Parry, Dave Parsons, Caroline Phillips, David Reilly, Clive Rickhards, Howard Roberts, Kate Rolfe, Jerry Roodhouse, Andy Sargeant, Izzi Seccombe, Dave Shilton, Jill Simpson-Vince, Heather Timms, Adrian Warwick, Matt Western, Chris Williams and Pam Williams.

1. General

(1) Apologies

None

(2) Members Disclosures of Pecuniary and Non-Pecuniary Interests

None.

2. Election of Chair

Councillor Wallace Redford proposed that Councillor Bob Stevens be elected Chair of the Sub-Committee and was seconded by Councillor John Horner.

There were no other nominations.

Resolved

That Councillor Bob Stevens be elected Chair of the Pension Fund Investment Sub-Committee.

3. Election of Vice Chair

Councillor Bob Stevens proposed that Councillor Bill Gifford be elected Vice Chair of the Sub-Committee and was seconded by Councillor Alan Webb.

There were no other nominations.

Resolved

That Councillor Bill Gifford be elected Vice-Chair of the Pension Fund Investment Sub-Committee.

Chair…………………………………..

Item 2

Pension Fund Investment Sub Committee

12th June 2017

Investment Performance

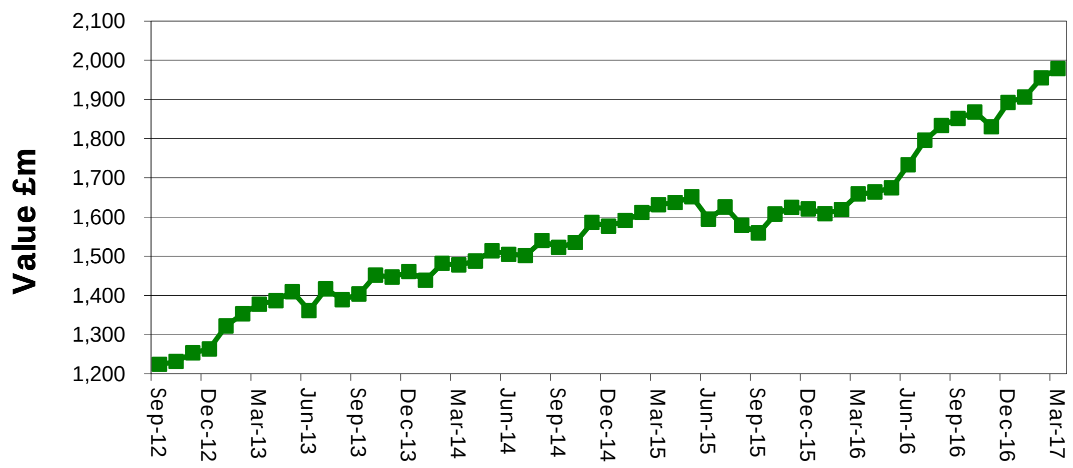
Recommendation

(1) That the Sub Committee note the fund value and investment performance for the final quarter of 2016/17 to 31 Mar 2017.

1. Fund Value at 31 Mar 2017

1.1 The fund value was £1,978.8m at 31 Mar 2017 an increase of 4.55% on the previous quarter as shown in Figure 1.

Figure 1 - Total Fund Value Since 30 September 2012



2. Fund Asset Allocation

2.1 The performance of the Fund against its asset class benchmarks for the quarter ending 31 Mar 2017 is shown in Table 1.

Table 1: Fund Asset Allocation

Asset Class		Q/E Mar 2017	Fund policy	Over/under weight
		%	%	%
Equity		**62.2**	**54.5**	**7.7**
	UK	26.9	22.0	4.9
	Overseas	30.0	27.5	2.5
	Fundamental Global Equity	5.3	5.0	0.3
Fixed Income		**16.4**	**17.5**	**-1.1**
	UK corporate bonds	9.2	10.0	-0.8
	UK government bonds	2.1	2.5	-0.4
	UK index linked bonds	5.1	5.0	0.1
Hedge Funds		**4.3**	**5.0**	**-0.7**
Private Equity		**3.4**	**4.0**	**-0.6**
Property		**9.7**	**10.0**	**-0.3**
Absolute Return Bonds		**3.8**	**5.0**	**-1.2**
Infrastructure		**1.0**	**4.0**	**-3.0**
Cash/Current liabilities		**-0.8**	**0.0**	**-0.8**
Total		**100.0**	**100.0**	**0.0**

2.2 The current liability figure is due to the re-balancing transaction between MFS and LGIM which had not settled by 31 March 2017.

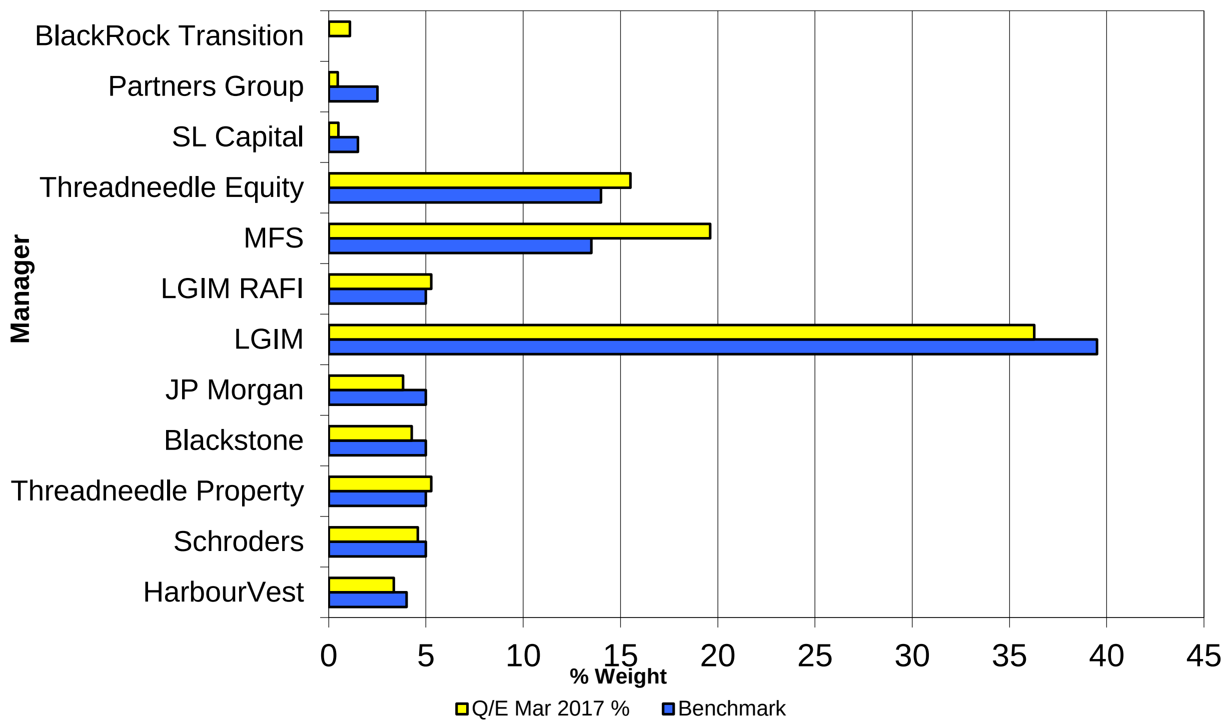
2.2 The fund managers' asset allocation against the benchmark for the quarter ending 31 Mar 2017 is shown in Table 2.

Table 2: Fund Asset Allocation by Manager

Manager	Q/E Mar 2017 %	Benchmark	Variance
HarbourVest	3.4	4.0	-0.7
Schroders	4.6	5.0	-0.4
Threadneedle Property	5.3	5.0	0.3
Blackstone	4.3	5.0	-0.7
JP Morgan	3.8	5.0	-1.2
LGIM	36.3	39.5	-3.2
LGIM RAFI	5.3	5.0	0.3
MFS	19.6	13.5	6.1
Threadneedle Equity	15.5	14.0	1.5
SL Capital	0.5	1.5	-1.0
Partners Group	0.5	2.5	-2.0
BlackRock Transition	1.1	0.0	1.1
Total	100.0	100.0	0.0

2.3 Fund asset allocation against each manager is shown in Figure 2.

Figure 2. Manager Allocation - Quarter Ending 31 Mar 2017



3. Fund Performance

3.1 Overall the fund under-performed its overall benchmark by 0.88%. The performances of managers against their benchmarks for the quarter ending 31 Mar 2017 were:

Table 3: Performance by Fund Manager

Manager	Benchmark Measure	Q/E Mar 2017	Benchmark	Variance
		%	**%**	**%**
MFS		6.71		**1.07**
	Global Equity Benchmark		5.64	
Threadneedle		5.01		**0.98**
	FTSE All-Share		4.03	
Legal and General (Global Equities)		5.90		**-0.45**
	LGIM Benchmark		6.35	
Legal and General (Fixed Interest)		-2.80		**-0.07**
	LGIM Benchmark		-2.73	
Threadneedle Property		9.32		**7.23**
	Customised Benchmark		2.09	
Schroders Property		1.99		**-0.04**
	Customised Benchmark		2.03	
Blackstone Hedge		2.06		**2.03**
	Customised Benchmark		0.03	
JP Morgan Strategic Bond		1.50		**1.44**
	Customised Benchmark		0.06	
Total		**4.55**		**0.66**
	WCC Total Fund Benchmark		**3.89**	

3.2 Annualised return for the fund managers to 31 Mar 2017 is summarised in Figure 3. The three year annualised return is summarised in Figure 4.

Figure 3. Fund Manager Performance for the Year Ending 31 Mar 2017

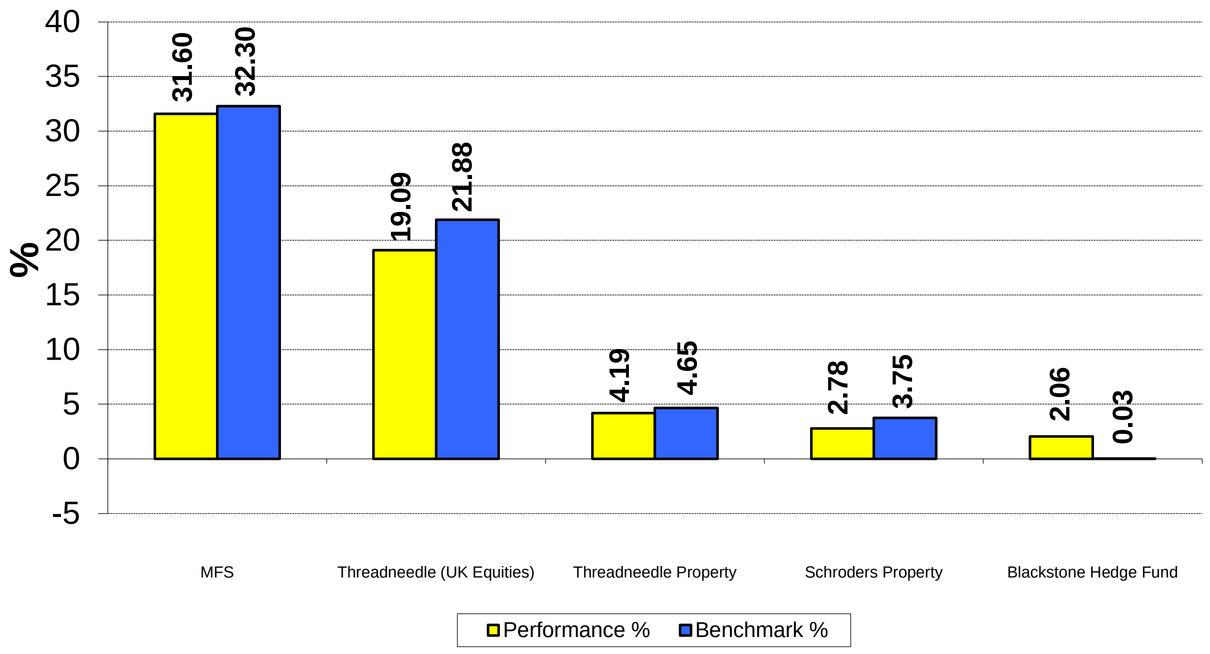
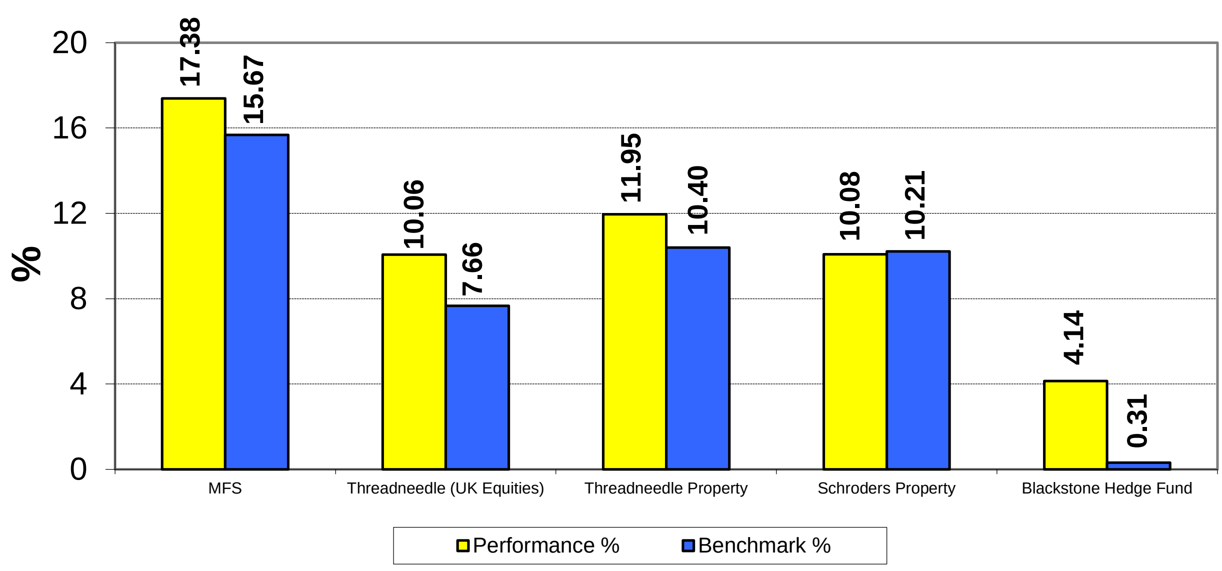
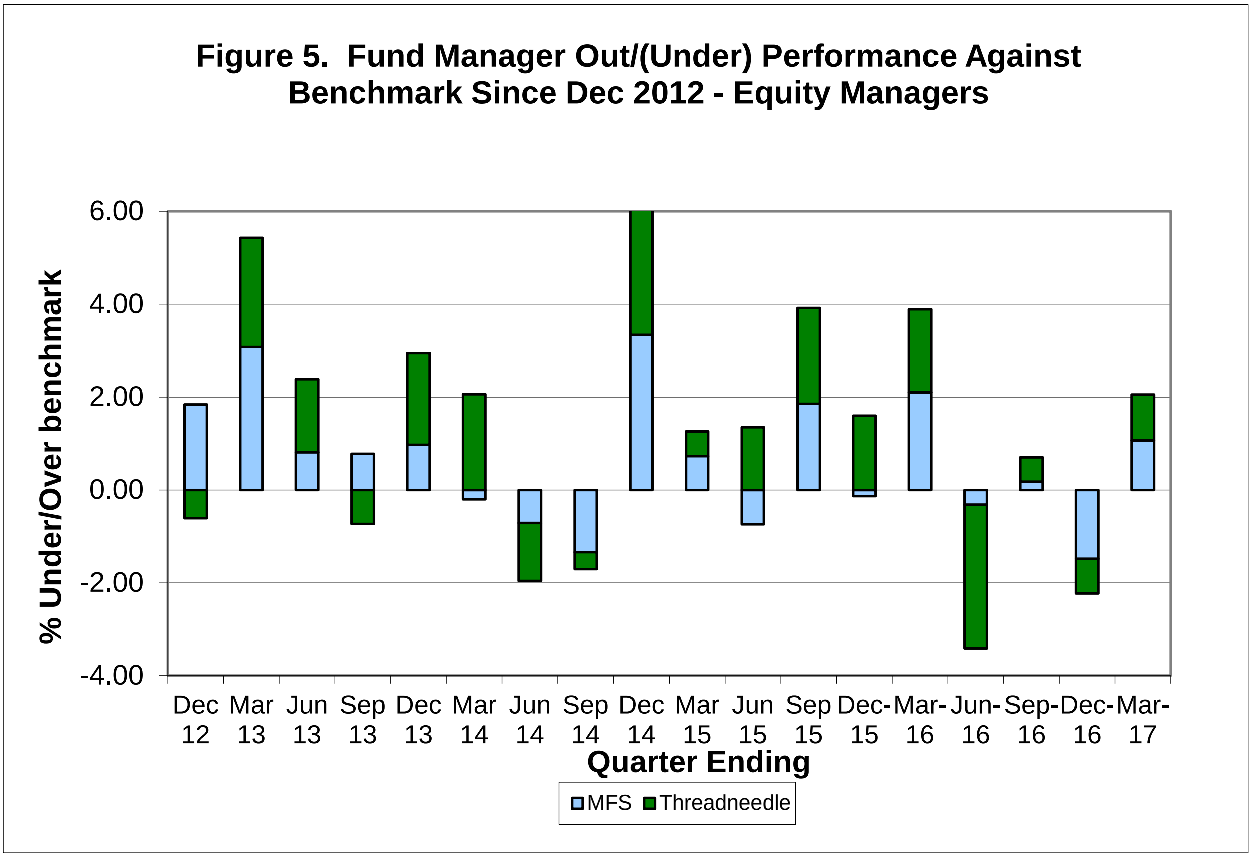


Figure 4. Fund Manager Performance for Three Years Ending 31 Mar 2017



3.3 Equity Managers performance against their benchmarks are summarised in Figures 5.



	Name	Contact Information
Report Author	Sukhdev Singh, Senior Finance Officer	01926 412861 sukhdevsingh@warwickshire.gov.uk
Head of Service	John Betts, Head of Finance	01926 412441 johnbetts@warwickshire.gov.uk
Strategic Director	David Carter, Strategic Director, Resources Group	01926 412564 davidcarter@warwickshire.gov.uk

Item 3

Pension Fund Investment Sub-Committee

12 June 2017

Cash Flow Report

Recommendation

(1) That the Sub-Committee note the report

1 Introduction

1.1 Cash flow management is an integral element of the administration of any pension scheme. The Fund has to meet its ongoing benefit payments. These may consist of monthly pension payroll, transfer value payments, retirement lump sums and death benefits.

1.2 Cash also has to meet administration expenses. In order to be able to meet these benefit payments, the Fund requires ready access to cash. Cash may be obtained from payments into the Fund in the form of contributions and transfer values, from income drawn from the Fund's assets or by the sale of assets.

1.3 The purpose of this paper is to identify the extent to which estimated contributions due to be received are sufficient to meet expected benefits outgo over the 'short-term'. For the purpose of this paper, the 'short-term' is defined as 3 years.

1.4 The fund actuary has produced a forecast based on membership data and information from the funds accounts. The report can be found at **Appendix A**.

Background Papers

None

	Name	Contact Information
Report Author	Mathew Dawson, Treasury and Pension Fund Manager	01926 412227 mathewdawson@warwickshire.gov.uk
Head of Service	John Betts, Head of Finance	01926 412441 johnbetts@warwickshire.gov.uk

Strategic Director	David Carter, Strategic Director, Resources Group	01926 412564 davidcarter@warwickshire.gov.uk

The report was circulated to the following members prior to publication:
Local Member(s):
Other members:

Appendix A

Cashflow Management

This paper is addressed to the Officers of Warwickshire County Council as Administering Authority to the Warwickshire Pension Fund ("the Fund").

This paper should not be disclosed to any other third parties without our prior written permission and then only in full. We accept no liability to third parties unless expressly accepted in writing.

The purpose of this document is to estimate possible future cashflows over the short term and identify any actions required to protect the Fund over this period.

1 Summary

Benefit obligations payable are expected to increase by more than the increase in the contributions receivable such that there is expected to be a negative net cashflow in the Fund in 2017/18 and 2018/19 with the Fund returning to a slightly positive net cashflow position in 2019/20 due to an increase in the projected contribution income and a slight fall in the expected lump sum payments.

Projection

The table below shows the projected cashflows over the next 3 years based on experience over 2016/17.

Table 1.1 – Estimated cashflows over the period 1 April 2017 to 31 March 2020

	2017/18 (£m)	2018/19 (£m)	2019/20 (£m)
Pensions	-57.6	-59.7	-61.8
Lump Sums	-10.1	-11.5	-9.4
Contributions	64.2	68.0	72.0
Net Cashflow	-3.5	-3.2	0.8

There is no allowance in the estimates for any future redundancies and early retirements. Clearly more redundancies will increase lump sum outgo, increase regular pensions in payment and reduce regular contribution income (although there may be a short term increase in income from any strain payments for early retirements). The net effect of further redundancies would probably be to worsen the cashflow position.

Key points

Based on estimates of future cashflows over the short-term (benefits and expenses payable versus contribution income), it seems likely that income will **not** be sufficient to meet outgo in the period 2017 – 2019. However, the position improves in 2019/20.

Investment income

If we also allow for current levels of investment income, no shortfall is expected in the next 3 years (assuming current levels of investment income, £17.6m p.a. continue) This highlights the possibility that consideration could be given to a more flexible cashflow management policy e.g. a reduced working cash balance and reinvestment of any excess cash receivable.

2 Introduction

Cashflow management is an integral element of the administration of any pension scheme. The Fund has to meet its ongoing benefit payments. These may consist of monthly pension payroll, transfer value payments, retirement lump sums and death benefits. It also has to meet administration expenses.

In order to be able to meet these benefit payments, the Fund requires ready access to cash. Cash may be obtained from payments into the Fund in the form of contributions and transfer values, from income drawn from the Fund's assets or by the sale of assets.

The purpose of this paper is to identify the extent to which estimated contributions due to be received are sufficient to meet expected benefits outgo over the 'short-term'. For the purpose of this paper, the 'short-term' is defined as 3 years.

3 Analysis of historical cashflows and method for estimating future cashflows

We have used membership data from the actuarial valuation at 31 March 2016 to estimate future benefit payments from the Fund (pensions and normal retirement lump sums). This ensures that the estimated future benefits reflect:

a) expected future deaths among existing pensioners; and

b) expected future retirement dates of active and deferred members. (The long-term cashflows projected based on data at the 2016 valuation are shown in the appendix.)

There have been both changes to the membership profile of the Fund and differences between actual and assumed financial conditions (e.g. actual vs expected pension increases) since March 2016. We have therefore made approximate adjustments to the results from the model to allow for these differences since 2016. In this section of the report we explain the adjustments made.

By comparing the actual Fund benefit payments (pensions and lump sums) over the period 1 April 2016 to 31 March 2017 with those expected from the 2016 valuation, we can identify the reasons for any differences and use this information to calibrate the projected future pension payments based on actuarial valuation data for short-term use.

In the tables below, actual cashflows (A) for the period 2016-17 are compared with those expected (E) based on data at the 2016 valuation and assumptions about future pension increases and pay growth at that time.

Table 3.1 – Comparison of actual (A) and expected (E) outgo over the last year

	2016/17 (£m)	
	A	E
Pensions	-57.1	-56.9
Lump sums	-15.1	-14.4
Administration and expenses	-1.6	n/a
Total	**-73.8**	**-71.3**

Table 3.2 – Comparison of actual (A) and expected (E) income over the last year

	2016/17 (£m)	
	A	E
Contributions	71.4	72.9
Investment income**	17.6	n/a
Total	**82.4**	**72.9**

*Investment income includes dividends from stocks and shares, income from pooled investment vehicles (some of which is automatically reinvested) less the administration and investment management expenses. (Source: Investment income information provided by Sukhdev Singh and Vicki Forrester)

Please note that future investment income is not an output from the model used to generate future liability cashflows. "Expected" future investment income is therefore not available for the table above.

We can make the following observations from this comparison.

Pensions in payment

Actual pension outgo was approximately 0.3% more than expected in 2016/17.

A key reason for this is likely to be a higher incidence of early retirements in the year 2016/17, compared to the retirement age assumed for triennial valuation purposes or members opting not to commute as much lump sum as expected.

Retirement lump sums

Lump sums (including death grants) were lower in 2016/17 than that expected from the 2016 valuation. Lower actual figures may be due to a combination of:

- the number of retirements being less than assumed, and
- the amount of tax free cash taken at retirement being less than assumed.

Contributions

Actual contributions received in 2016/17 were lower than expected based on the payroll of all employees at the 2016 valuation. The reasons for this may be due to more employees than expected retiring before reaching the retirement age assumed at the triennial valuation. Early retirements reduce the employee membership, reduce pensionable payroll and reduce contribution income. We have estimated short term contribution income by applying certified contribution rates to the 2016 valuation payroll.

Investment income

We have shown the actual investment income realised (net of expenses) to highlight the magnitude of this against other cashflows. Future investment income is not an output from the model used to generate future liability cashflows and "expected" future investment income is therefore not available. This could be estimated directly from actual investment holdings. (Please see section 5.)

4 Short term cashflow projection

Methodology

The principles adopted to estimate future cashflows are set out in the appendix. In summary:

1. Future benefit payments (pensions and normal retirement lump sums) are estimated from 2016 valuation data with appropriate adjustments to reflect differences between actual and expected pension increases over the period 2017-20. This method ensures projected benefit payments reflect expected pensioner deaths and new retirements from the existing workforce.
2. Future contributions are estimated from actual contribution income received in the year 2016/17. The estimates allow for expected long term salary increases and approximate increases to the employer contribution rates in line with the Rates and Adjustments certificate.

Projection

The table below shows the estimated cashflows over the period 1 April 2017 to 31 March 2020.

Table 4.1 – Estimated cashflows over the period 1 April 2017 to 31 March 2020

	2017/18 (£m)	2018/19 (£m)	2019/20 (£m)
Pensions	-57.6	-59.7	-61.8
Lump Sums	-10.1	-11.5	-9.4
Contributions	64.2	68.0	72.0
Net Cashflow	-3.5	-3.2	0.8

It can be seen from the above table that the Fund is already cashflow negative and (on central assumptions) is expected to continue to be so until 2019/20.

The estimated future annual shortfall between contribution income and benefit outflow is much less than the annual investment income likely to arise from the Fund's assets.

No allowance for early retirements has been made in this projection; the lump sums are estimates of lump sums expected as a result of normal retirements.

Sensitivity of results to more early retirements

Early retirements increase pension / lump sum payments and may reduce contributions to the Fund. In Table 4.1 we have projected the pensions and lump sums paid out in line with actual retirement experience over 2016/17. However, if there were to be increased levels of early retirements and/or redundancies above those observed, we would expect to see increased lump sum outgo, increased regular pensions in payment and reduced regular contribution income (although there may be a short term increase in income from any strain payments for early retirements). The net effect of increased redundancies and/or early retirements would worsen the cashflow position.

In order to fully understand the impact that early retirements and redundancies could have on the Fund, we would recommend carrying out a further cashflow analysis. We would happy to discuss this with you in more detail.

Sensitivity of results to future pay growth

The public sector pay freeze has been extended following the Chancellor's 2015 Summer Budget. The pay rises for public sector workers will be capped at an average of 1% p.a. up to 2020.

As the public sector pay freeze will come to an end, by the end of the projection period and due to the current uncertain political situation, we have not commented on the sensitivity of the results to future pay growth.

The projections do however build in the lower short term salary growth assumption agreed at the 2016 valuation.

5 Investment income

The projections suggest that the Fund is currently cashflow negative but will become less so over the next 2 years before turning cashflow positive in 2019/20. These results are very sensitive to the levels of pay growth, number of early retirements occurring and amount of tax free cash lump sum commuted therefore consideration should be given to reinvestment of the contribution and investment income generated by the Fund's assets. At present, we understand that income is received from some of the Fund's investment managers, whilst the income from other managers is reinvested within the respective portfolios.

It should be possible to estimate the level of investment income available to be reinvested into the Fund's assets across all of the investments (the accuracy of these estimates will vary depending on asset class).

Reinvesting income may ultimately create an imbalance in the overall cash availability which must also be managed. We therefore recommend that the overall cash availability is monitored closely. Eventually, assets may need to be sold on a regular basis in order to fund outgoings, should these increase in the longer term, though we expect this point to be some time away. At that point, account will need to be taken of the underlying liquidity of each of the Fund's investments (and therefore how readily available cash actually is) alongside the administrative complexity of instructing frequent investments/disinvestments.

6 Actions required

The observations made from this analysis should feed into the cashflow management policy. It is desirable in such a policy that;

- The cash balance maintained is not so large as to reduce the potential for future investment returns.
- The cash balance maintained is not so small so as to create a risk that the balance will be easily exhausted, and thus disinvestments will be required either frequently or at short notice.
- Additional assets are invested in the most efficient manner possible.

Regular monitoring of short term cashflows, based on whole fund membership data is recommended.

7 Data

The whole fund contribution data used in this analysis was taken from the 2016 valuation data. The investment income/expenditure was provided by Sukhdev Singh and Vicki Forrester of Warwickshire County Council. This data is summarised below.

Whole Fund Cashflows	2016/17 (£m)
Total Contributions	71.4
Pensions Paid	56.9
Lump Sums and death grants	15.1
Net investment Income	17.6

Transfer values (in or out) are excluded from our analysis.

Information relating to the whole Fund membership was taken from the 2016 valuation data.

	Whole Fund membership	Total salaries/pensions (£m)
Active	15,531	255
Deferred	15,582*	17
Pensioner	11,940	55

**including frozen refunds and leaver options pending*

8 Reliances and limitations

The cashflow projection provided represents one possible outcome based on the information held at this time and is provided to facilitate discussion on the likely consequences and actions required to address any future cashflow problems.

Hymans Robertson accepts no responsibility for the consequences of decisions taken on the basis on the information provided and recommends a more detailed analysis be carried out prior to specific decisions being taken.

The following Technical Actuarial Standards are applicable in relation to this report:

• Pensions TAS;

• TAS R – Reporting;

• TAS M – Modelling; and

• TAS D – Data.

This paper and the Warwickshire Pension Fund Formal Valuation Report dated 31 March 2017 comprise the aggregate report for this advice, in accordance with TAS R.

Prepared by:-

[redacted]

Richard Warden FFA

For and on behalf of Hymans Robertson LLP

10 May 2017

Appendix - methodology

In order to project the Fund cashflows over the short-term, we have calibrated the long-term cashflows projected at the date of the most recent actuarial valuation of the Fund (31 March 2016) to allow for any deviation from the valuation assumptions from that date.

Table A.1 – Projected cashflows from 1 April 2016 to 31 March 2021 based on 2016 valuation data

	2017/18 (£m)	2018/19 (£m)	2019/20 (£m)
Pensions	58.0	60.2	62.3
Lump sums*	10.1	11.5	9.4
Contributions	64.2	68.0	72.0
Net cashflow	-3.9	-3.7	0.3

**Lump sums include death grants*

Please note that the value of transfers has been excluded from this analysis. No allowance for transfers is made in the actuarial valuation.

Details of the assumptions made at the 2016 valuation are set out in the Warwickshire Pension Fund Formal Valuation report dated 31 March 2017.

The projected contributions above are based on the contributions due in line with the R&A certificate dated 31 March 2017. Salaries have been projected based on the 2016 valuation assumptions and make no allowance for new entrants.

Calibration principles

The following principles underpin the calibration of the long-term valuation cashflows for short-term use;

- We have made no allowance in the projected cashflows for further early retirements from 1 April 2016, due to the uncertain nature of these. Early retirements increase pensions in payment and lump sum payments and may reduce the contribution income compared to that expected.
- Projected pensions will increase as a result of higher pensions (higher than that expected in 2016) being paid during the period 1 April 2016 to 31 March 2017. Allowance has been made for pension increase orders (or the valuation assumption where this is not known).
  - Additional pensions of around £0.2m p.a. are assumed to have been paid during the period 2016/17.
- The pension increase order for 2017 was 1.0%, compared to the valuation assumption of 2.1% p.a. The consequence of this is to decrease the projected pensions in payment for all years from and including 2017/18 by 1.1% p.a.
- No adjustments have been made to lump sums in the absence of specific membership data. The difference between actual and expected lump sum payments in 2016/17 will mainly have been due to the amount that members commuted into a tax free cash lump sum compared to our expectation.
- Due to the limitations of the contribution income projected from 2016 valuation data, we have instead estimated short term contribution income by applying certified contribution rates to the payroll implied from the actual contributions paid (reflecting the increase in the employee membership and pensionable payroll since the 2016 valuation). By projecting the pensionable salary for 2016/17 over the period 1 April 2017 to 31 March 2020 in line with the valuation salary growth assumption, we can identify the normal contributions

expected to be paid to the Fund over the next 3 years. This method allows for new entrants by assuming that new entrants replace leavers/retirees. No allowance is made for strain payments by adopting this approach, which is consistent with the approach taken with respect to early retirements.

Item 4

Pension Fund Investment Sub-Committee

12 June 2017

The 2016 Actuarial Valuation

Recommendation

(1) That the Sub-Committee note the results

1 Introduction

1.1 At the meeting of 13 March 2017 the draft results of the 2016 actuarial valuation were presented by the fund actuary.

1.2 Following this meeting the results were finalised and the report issued by the 31 March 2017 statutory deadline.

1.3 This report sets out the outcome of the valuation. The final valuation report in **Appendix A** shows the full results and includes all rates, assumptions and a detailed explanation behind the methodology adopted.

2 Valuation Results

Funding Level

2.1 At 31 March 2016, the fund has a funding level of 82%. The table below gives an analysis of how this was derived alongside a comparison of the 2013 valuation results.

Past Service Position	**31/03/2013 (£m)**	**31/03/2016 (£m)**
Past Service Liabilities	1,798	2,023
Market Value of Assets	1,379	1,665
Surplus / (Deficit)	(419)	(385)
Funding Level	**77%**	**82%**

Contribution Rates

2.2 The table below summarises the whole fund contribution rates required for the next three financial years.

Financial Year	Primary Rate (%)	Secondary Rate (£m)
2017/18	20.0%	£3.919m
2018/19	20.0%	£6.125m
2019/20	20.0%	£8.440m

2.3 The primary rate is the estimated cost of future benefits that build up every year, this was previously referred to as future service rate. The Primary rate also includes an allowance of 0.6% of pensionable pay for the Fund's expenses.

2.4 The secondary rate represents the contributions required to repair an employer's deficit. This was previously referred to as Deficit Recovery Contributions.

2.5 The average employee contribution rate is 6.0% of pensionable pay.

2.6 The table below shows the Fund 'Common Contribution rate' as at 31 March 2013 for information purposes. Although note that 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	31/03/2013 (% of pay)
Employer future service rate (incl. expenses)	19.5
Past Service Adjustment (19 year spread)	9.6
Total employer contribution rate (incl. expenses)	**29.2**
Employee contribution rate	6.1
Expenses	0.6

2.3 The employer contribution rate is a theoretical figure – an average across the whole Fund. In practice, each employer that participates in the Fund has its own circumstances and underlying funding position, giving rise to its own contribution rate requirement. **Appendix A** pages 39-41 detail individual employer contribution rates due.

3 Future Funding Plan

3.1 The Pensions Fund's funding plan is set out in the Funding Strategy Statement (FSS). The FSS was approved by the Sub-Committee on 13 March 2017.

Background Papers

None

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The report was circulated to the following members prior to publication:
Local Member(s):
Other members:

Warwickshire Pension Fund

2016 Actuarial Valuation
Valuation Report

March 2017

Richard Warden and Robert Bilton

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 Warwickshire 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	1,798	2,023
Market Value of Assets	1,379	1,665
Surplus / (Deficit)	(419)	(358)
Funding Level	**77%**	**82%**

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. The Primary rate is the payroll weighted average of the underlying individual employer primary rates and the Secondary rate is the total of the underlying individual employer secondary rates (before any pre-payment or capitalisation of future contributions), calculated in accordance with the Regulations and CIPFA guidance.

Primary Rate (% of pay)	Secondary Rate (£)		
1 April 2017 - 31 March 2020	2017/18	2018/19	2019/20
20.0%	£3,919,000	£6,125,000	£8,440,000

The Primary rate also includes an allowance of 0.6% of pensionable pay for the Fund's expenses.

The average employee contribution rate is 6.0% of pensionable pay.

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 Adjustment Certificate in **Appendix H**.

1 Introduction

We have carried out an actuarial valuation of the Warwickshire 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 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 Warwickshire County 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 1 September 2016;
- The Initial Results report (dated 1 September 2016) which outlined the whole fund results;
- The formal agreement by the Administering Authority of the actuarial assumptions used in this document, at a meeting dated 12 September 2016;
- The contribution modelling carried out for employers, as detailed in our report and presentation to the Administering Authority of 6 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 the pension fund (i.e. how much money it will ultimately have to pay out to its members in the form of 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 Warwickshire 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, Warwickshire 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 (or funding basis) 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 older members 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 of the benefits earned to date (past service) and 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.

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**.

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

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 in order 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 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 Asset Outperformance Assumption paper dated 23rd December 2015, the Fund is satisfied that an AOA of 1.6% 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 deep market for CPI linked financial instruments, the Fund derives the expected level of future CPI with reference to the Retail Price 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 Salary Growth Assumption paper dated 23 December 2015. Based on the results of this modelling the Fund set a salary growth assumption of RPI less 0.4%. 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 (a)	1.6%	1.6%
Discount rate	**4.6%**	**3.8%**
Benefit increases		
Retail Prices Index (RPI)	3.3%	3.2%
Assumed RPI/CPI* gap (a)	(0.8%)	(1.0%)
Benefit increase assumption (CPI)	**2.5%**	**2.1%**
Salary increases		
Retail Prices Index (RPI)	3.3%	3.2%
Increases in excess of RPI (a)	1.0%	(0.4%)
Salary increase assumption	**4.3%**	**2.8%**

**Consumer Prices Index*

(a) Adjustments are applied arithmetically in 2013 and geometrically in 2016

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	22.4 years	22.5 years
Non-pensioners	24.3 years	24.3 years
Female		
Pensioners	24.4 years	24.7 years
Non-pensioners	26.6 years	26.7 years

Further details of the longevity assumptions adopted for this valuation can be found in **Appendix E**. Note that the figures for non-pensioners 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 level position as at 31 March 2016 would have been 102%.

Assets

We have taken the assets of the Fund as informed to us by the Administering Authority. We have also included an allowance for the expected future payments in respect of early retirement strain and augmentation costs granted prior to the valuation date in the value of assets, for consistency with the liabilities and with the previous valuation. We have calculated the total value of these expected future payments to be £35,000 at 31 March 2016.

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.

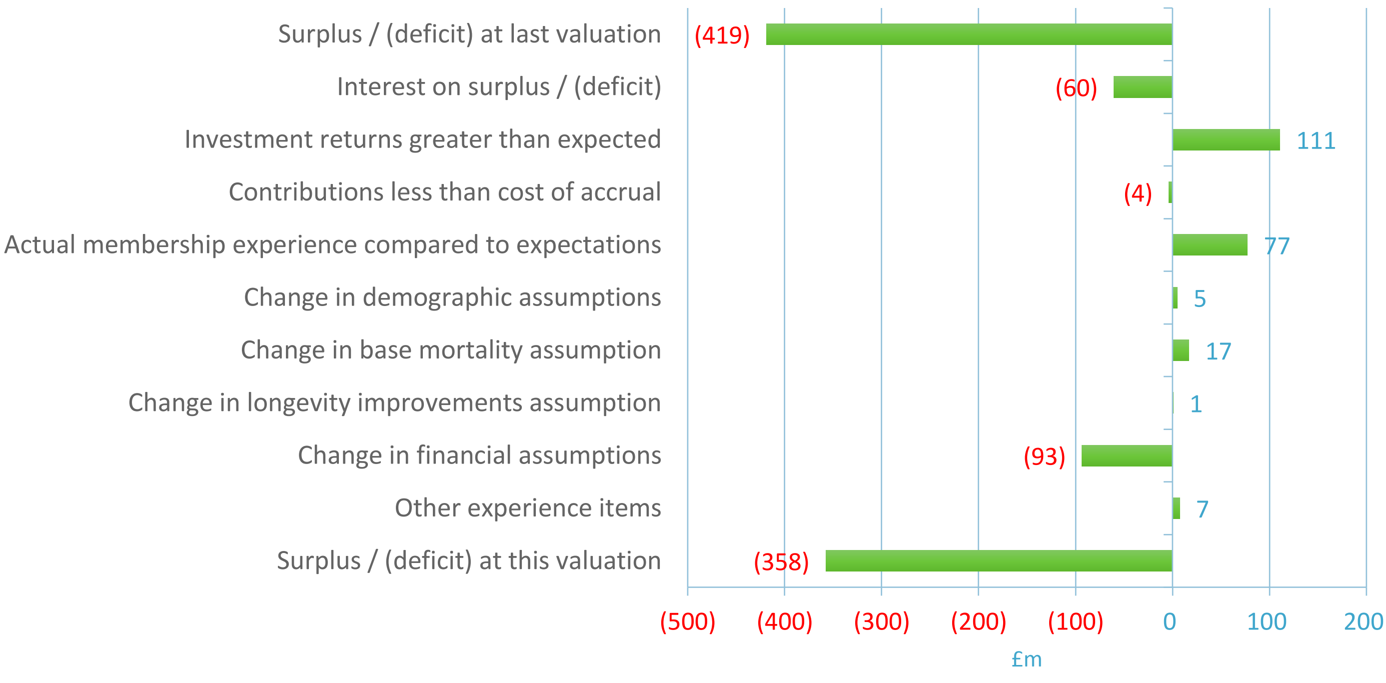
A funding level of 100% would correspond to the Funding Objective being met at the valuation date.

Valuation Date	31 March 2013	31 March 2016
Past Service Liabilities	**(£m)**	**(£m)**
Employees	718	736
Deferred Pensioners	300	409
Pensioners	780	878
Total Liabilities	**1,798**	**2,023**
Assets	**1,379**	**1,665**
Surplus / (Deficit)	**(419)**	**(358)**
Funding Level	**77%**	**82%**

The Funding Objective was not met: there was a shortfall of assets relative to the assessed cost of members' benefits on the target funding basis of £358m.

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 £60m. This is broadly three years of compound interest at 4.6% p.a. applied to the previous valuation deficit of £419m (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 led to a gain of £111m. This is roughly the difference between the actual three-year return (22.5%) and expected three-year return (14.4%) applied to the whole fund assets from the previous valuation of £1,379m, 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)	10,098	6,715	(3,383)	+£2m
Ill-health retirements* (no.of lives)	182	68	(114)	+£10m
Salary increases (p.a.)	4.8%	2.8%	(2.1%)	+£42m
Post-retirement experience				
Benefit increases (p.a.)	2.5%	1.3%	(1.2%)	+£45m
Pensions ceasing (£m)	3.7	2.7	(1.0)	-£9m

*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 £11m and is included in the membership experience item.
- The impact of the change in demographic assumptions has been a gain of around £5m.
- The change in mortality assumptions (baseline and improvements) has given rise to a gain of £18m. .
- The change in financial conditions since the previous valuation has led to a loss of £93m. 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 assumed gap between RPI and CPI of 1.0% 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 decrease the deficit at this valuation by around £7m.

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 6**.

The table below summarises the whole fund Primary and Secondary Contribution rates at this valuation. The Primary rate is the payroll weighted average of the underlying individual employer primary rates and the Secondary rate is the total of the underlying individual employer secondary rates (before any pre-payment or capitalisation of future contributions), calculated in accordance with the Regulations and CIPFA guidance.

Primary Rate (% of pay)	Secondary Rate (£)		
1 April 2017 - 31 March 2020	2017/18	2018/19	2019/20
20.0%	£3,919,000	£6,125,000	£8,440,000

The Primary rate also includes an allowance of 0.6% of pensionable pay for the Fund's expenses.

The average employee contribution rate is 6.0% of pensionable pay. 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. **Although note that 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)	19.5%
Past Service Adjustment	9.6%
Total employer contribution rate (incl. expenses)	**29.2%**
Employee contribution rate	6.1%
Expenses	0.6%

5 Risk Assessment

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

Discount Rates	(£m)	Benefit Increases & CARE Revaluation			
		2.5%	2.1%	1.7%	
	3.0%	2,484	2,337	2,198	Liabilities
		1,665	1,665	1,665	Assets
		(819)	(671)	(533)	(Deficit)
		67%	71%	76%	Funding Level
	3.8%	2,149	2,023	1,903	Liabilities
		1,665	1,665	1,665	Assets
		(484)	(358)	(238)	(Deficit)
		77%	82%	87%	Funding Level
	4.6%	1,865	1,755	1,653	Liabilities
		1,665	1,665	1,665	Assets
		(200)	(90)	12	(Deficit)
		89%	95%	101%	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	2,023	2,070
Assets	1,665	1,665
(Deficit)	(358)	(405)
Funding Level	**82%**	**80%**

The “non-peaked 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 pension fund, that does not mean that nothing can be done to understand them further and to mitigate their effect. Although these risks are difficult (or impossible) to eliminate, steps can be taken to manage them.

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

- Set aside a specific reserve to act as a cushion against adverse future experience (possibly by selecting a set of actuarial assumptions that are deliberately more prudent).

- Take steps internally to monitor the decisions taken by members (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 Statement of Investment Principles (to be replaced with the Investment Strategy Statement) (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 Warwickshire County Council Pensions Investment Sub-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.

Any bulk movement of scheme members:

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

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

7 Reliances and limitations

Scope

This document has been requested by and is provided to Warwickshire County Council in its capacity as Administering Authority to the Warwickshire 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).

Hymans Robertson LLP accepts no liability to any other party unless we have expressly accepted such liability.

The results of the valuation are dependent on the quality of the data provided to us by the Administering Authority for the specific purpose of this valuation. We have previously issued a separate report confirming that the data provided is fit for the purposes of this valuation and have commented on the quality of the data provided. The data used in our calculations is as per our report of 1 September 2016. 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 Bilton

Fellows of the Institute and Faculty of Actuaries

For and on behalf of Hymans Robertson LLP

31 March 2017

[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.

Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008	Benefit Structure From 1 April 2014
Normal retirement age (NRA)	Age 65.	Age 65.	Equal to the individual member's State Pension Age (minimum 65).
Earliest retirement age (ERA) on which immediate unreduced benefits can be paid on voluntary retirement	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.		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.
Member contributions	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.	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.	Banded rates (5.5%-12.5%) depending upon level of actual pay.
Pensionable pay	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.		Pay including non-contractual overtime and additional hours.
Final pay	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.		N/A

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	A member who has attained the age of 50, and who with their employer's consent, reduces the hours they work, or the grade in which they are employed, may elect in writing to the appropriate Administering Authority that such benefits may, with their employer's consent, be paid to them 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. Employer consent is required for benefits to be released. 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 (Increase) Act 1971 and partially in accordance with Social Security Pensions Act 1975 (depending on the proportions relating to pre 88 GMP, post 88 GMP and excess over GMP).		

Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008	Benefit Structure From 1 April 2014
Death after retirement	Deceased member's former retirement pension is payable for 3 months or 6 months if there is a child in the care of the spouse, civil partner or co-habiting partner. A short term 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. Different rules also apply where marriage takes place after leaving service. 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. Different rules also apply where marriage takes place after leaving service 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.	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** for the pre 1 April 2014 membership (generally post 1 April 1972 service for widowers' pension and post 6 April 1988 for civil partners and nominated cohabiting partners). Different rules also apply where marriage takes place after leaving service For the period from 1 April 2014 the spouse, civil partner or cohabiting partner receives a pension calculated in the same way as the member's CARE benefits but using an accrual rate of 1/160. 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.	A lump sum of three times annual assumed pensionable 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 membership prior to 31 March 2014, (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. For the period from 1 April 2014 the spouse, civil partner or cohabiting partner receives a pension calculated in the same way as the member's CARE benefits but using an accrual rate of 1/160 and assuming the member had stayed in active membership until their SPA. 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 (earliest date of payment without employer consent is 60); 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 (earliest date of payment without employer consent is 55); 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.

Provision	Benefit Structure To 31 March 2008	Benefit Structure From 1 April 2008	Benefit Structure From 1 April 2014
50/50 option	N/A		Optional arrangement allowing 50% of main benefits to be accrued on a 50% employee contribution rate.

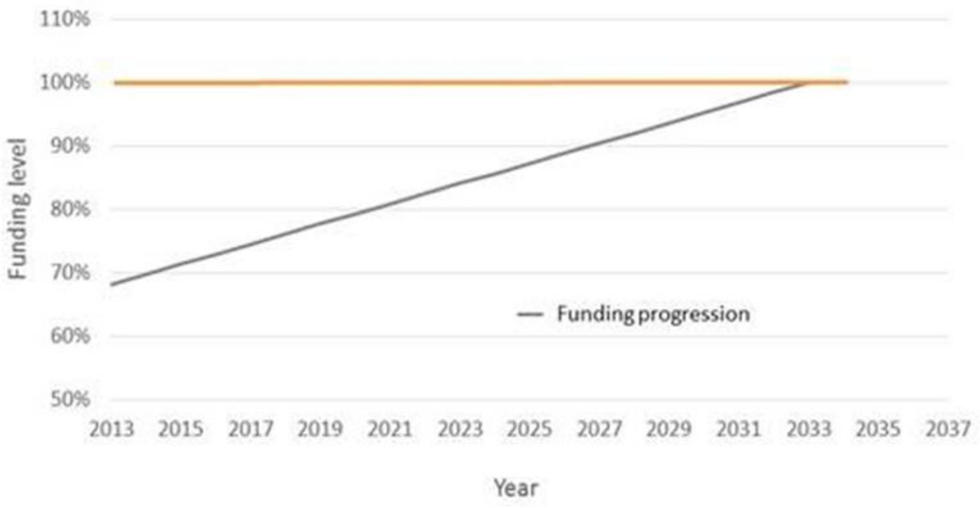
Note: Certain categories of members of the Fund are entitled to benefits that differ from those summarised above.

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 set contribution rates by calculating them using a single set of assumptions about the 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.

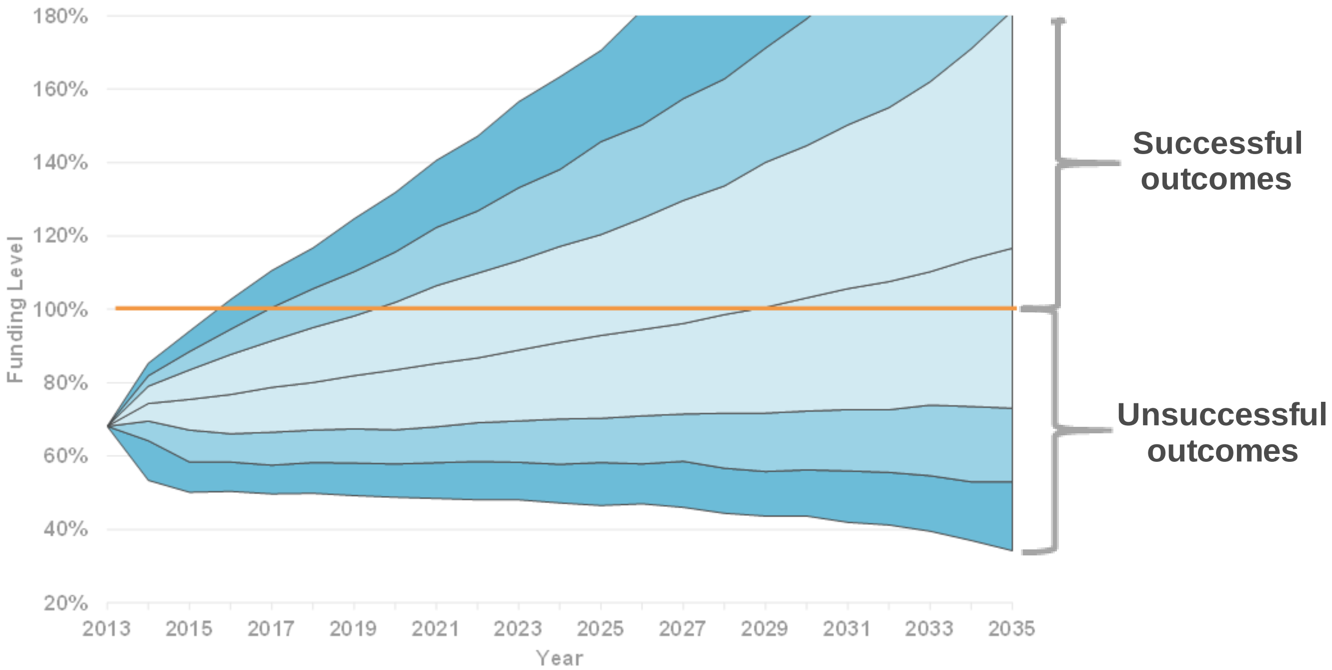
The inherent uncertainty in pension funding creates a risk that a funding plan will not be a success i.e. the funding target will not be reached over the agreed time period.

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	15,531	234,957	16,463	255,000	9,500

*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	15,582	16,852	19,396	22,300

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	9,317	45,115	10,375	49,337
Dependants	1,280	3,604	1,467	5,043
Children	119	165	98	137
Total pensioner members	**10,716**	**48,884**	**11,940**	**54,517**

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)	-	48.7	9.4	9.3
Employees (Final Salary)	50.5	51.6		
Deferred Pensioners	50.2	50.6	-	-
Pensioners	66.7	67.9	-	-

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	580,096	42%	520,510	31%
UK fixed interest gilts	19,291	1%	39,810	2%
UK corporate bonds	126,767	9%	171,181	10%
UK index-linked gilts	70,273	5%	84,264	5%
Overseas equities	453,329	33%	548,377	33%
Overseas bonds	0	0%	73,979	4%
Property	128,145	9%	206,181	12%
Cash and net current assets	1,300	0%	20,774	1%
Total	**1,379,200**	**100%**	**1,665,076**	**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 £35k).

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

Consolidated accounts (£000)	Year to			Total
	31 March 2014	31 March 2015	31 March 2016	
Income				
Employer - normal contributions	45,210	48,861	49,404	143,475
Employer - additional contributions	2,514	2,394	2,310	7,218
Employer - early retirement and augmentation strain contributions	1,256	1,897	769	3,922
Employee - normal contributions	15,567	15,871	16,113	47,551
Employee - additional contributions	207	246	240	693
Transfers In Received (including group and individual)	6,387	5,714	6,704	18,805
Other Income	0	0	0	0
Total Income	**71,140**	**74,982**	**75,541**	**221,663**
Expenditure				
Gross Retirement Pensions	51,639	53,979	55,465	161,083
Lump Sum Retirement Benefits	10,240	11,195	10,568	32,003
Death in Service Lump sum	1,571	1,108	1,850	4,529
Death in Deferment Lump Sum	0	0	0	0
Death in Retirement Lump Sum	0	0	0	0
Gross Refund of Contributions	10	144	143	297
Transfers out (including bulk and individual)	3,686	33,034	5,223	41,944
Fees and Expenses	1,446	1,270	1,668	4,384
Total Expenditure	**68,592**	**100,730**	**74,917**	**244,238**
Net Cashflow	**2,548**	**-25,748**	**625**	**-22,576**
Assets at start of year	**1,379,149**	**1,479,136**	**1,638,156**	**1,379,149**
Net cashflow	**2,548**	**-25,748**	**625**	**-22,576**
Change in value	**97,440**	**184,768**	**26,295**	**308,503**
Assets at end of year	**1,479,136**	**1,638,156**	**1,665,076**	**1,665,076**
Approximate rate of return on assets	**7.1%**	**12.6%**	**1.6%**	**22.5%**

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

Appendix E: Assumptions

Financial assumptions

Financial assumptions	31 March 2013 (% p.a.)	31 March 2016 (% p.a.)
Discount rate	4.6%	3.8%
Price inflation	2.5%	2.1%
Pay increases*	4.3%	2.8%
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	0.6%	0.6%

*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 75% for service from 1 April 2008).
50:50 option	2.0% 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.

Death in Service tables:

	Deaths per 1000 active members per annum	
Age	Female	Male
20	0.12	0.21
25	0.12	0.21
30	0.18	0.26
35	0.30	0.30
40	0.48	0.51
45	0.77	0.85
50	1.13	1.36
55	1.49	2.13
60	1.90	3.83
65	2.44	6.38

Ill Health Early Retirements tables

Tier 1

	Incidence per 1000 active members per annum			
Age	IH Tier 1 Female FT	IH Tier 1 Female PT	IH Tier 1 Male FT	IH Tier 1 Male PT
20	0.00	0.00	0.00	0.00
25	0.12	0.09	0.00	0.00
30	0.16	0.12	0.00	0.00
35	0.32	0.24	0.12	0.09
40	0.48	0.36	0.20	0.15
45	0.65	0.48	0.44	0.33
50	1.21	0.91	1.13	0.85
55	4.48	3.36	4.42	3.32
60	9.51	7.14	7.78	5.84
65	17.09	12.82	14.78	11.09

Tier 2

	Incidence per 1000 active members per annum			
Age	IH Tier 2 Female FT	IH Tier 2 Female PT	IH Tier 2 Male FT	IH Tier 2 Male PT
20	0.00	0.00	0.00	0.00
25	0.10	0.07	0.00	0.00
30	0.13	0.10	0.00	0.00
35	0.26	0.19	0.10	0.07
40	0.39	0.29	0.16	0.12
45	0.51	0.39	0.35	0.27
50	1.22	0.92	1.14	0.85
55	2.60	1.95	2.56	1.92
60	2.69	2.01	2.20	1.65
65	0.00	0.00	0.00	0.00

Withdrawal

	Withdrawals per 1000 active members per annum			
Age	Female FT	Female PT	Male FT	Male PT
20	151.58	252.63	219.73	439.47
25	101.99	169.97	145.14	290.28
30	85.50	142.46	102.98	205.93
35	73.79	122.91	80.46	160.88
40	61.42	102.26	64.78	129.48
45	57.31	95.41	60.85	121.60
50	48.32	80.35	50.16	100.12
55	36.05	60.02	39.50	78.88
60	29.06	48.31	35.20	70.28
65	0.00	0.00	0.00	0.00

Promotional salary scale

Age	Promotional Salary Scale
20	105
25	117
30	131
35	144
40	150
45	157
50	162
55	162
60	162
65	162

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 current calibration of the model 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 March 2017, the Fund asset returns have been significantly better than expected. However, global expectations for future 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 March 2017 and our report on the actuarial valuation dated 31 March 2017.

The required minimum contribution rates are set out below.

Employer code	Employer/Pool name	Primary rate (%) 1 April 2017 - 31 March 2020	Minimum Contributions for the Year Ending						
			Secondary Rate (%/£)			Total Contribution rate (%/£)			
			2017/18	2018/19	2019/20	2017/18	2018/19	2019/20	Notes
Scheduled Bodies									
622	North Warwickshire Borough Council	20.0%	£98,000	£160,000	£226,000	20.0% plus £98,000	20.0% plus £160,000	20.0% plus £226,000	
625	Nuneaton and Bedworth Borough Council	20.0%	£324,000	£576,000	£842,000	20.0% plus £324,000	20.0% plus £576,000	20.0% plus £842,000	
702	Rugby Borough Council	19.2%	£215,000	£311,000	£413,000	19.2% plus £215,000	19.2% plus £311,000	19.2% plus £413,000	
747	Stratford on Avon District Council	19.6%	£264,000	£420,000	£584,000	19.6% plus £264,000	19.6% plus £420,000	19.6% plus £584,000	
902	Warwick District Council Pool	19.6%	£33,000	£126,000	£224,000	19.6% plus £33,000	19.6% plus £126,000	19.6% plus £224,000	
908	Warwickshire County Council Pool	19.5%	-0.4%	£528,000	£1,641,000	19.1%	19.5% plus £528,000	19.5% plus £1,641,000	(1)
929	Warwickshire Police & Crime Commissioner Pool	18.9%	-2.2%	-1.5%	-0.7%	16.7%	17.4%	18.2%	
Parish and Town Councils									
2	Atherstone Town Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
7	Alcester Town Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
63	Bidford on Avon Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
64	Bishops Itchington Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
67	Burton Green Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
161	Coleshill Town Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
164	Curdworth Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
255	Ettington Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
483	Kingsbury Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
502	Long Itchington Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
504	Long Lawford Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
559	Mancetter Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
711	Royal Leamington Spa Town Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
713	Ryton on Dunsmore Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
749	Stratford upon Avon Town Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
760	Southam Town Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
763	Shipston on Stour Town Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
774	Studley Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
809	Tanworth in Arden Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
920	Wellesbourne Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
926	Whitnash Town Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
930	Wolvey Parish Council	20.6%	2.2%	2.8%	3.4%	22.8%	23.4%	24.0%	
Admitted Bodies									
8	ABM Catering (North Leamington School)	29.2%	-15.9%	-15.9%	-15.9%	13.3%	13.3%	13.3%	
18	Alliance in Partnership (St Edwards RC)	29.9%	-9.6%	-9.6%	-9.6%	20.3%	20.3%	20.3%	
19	Alliance in Partnership (Oakfield Academy)	28.4%	-1.6%	-1.6%	-1.6%	26.8%	26.8%	26.8%	
20	Alliance in Partnership (Henley Primary Academy)	29.2%	-15.9%	-15.9%	-15.9%	13.3%	13.3%	13.3%	
61	BRANCAB	29.0%	0.0%	0.8%	1.6%	29.0%	29.8%	30.6%	
68	Barnardo's (Kenilworth)	25.6%	-5.6%	-5.6%	-5.6%	20.0%	20.0%	20.0%	(2)
69	Barnardo's (Bedworth)	23.7%	-3.7%	-3.7%	-3.7%	20.0%	20.0%	20.0%	(3)
70	Barnardo's (North Warwicks)	29.1%	-9.1%	-9.1%	-9.1%	20.0%	20.0%	20.0%	(3)
71	Barnardo's (Nuneaton)	23.3%	-3.3%	-3.3%	-3.3%	20.0%	20.0%	20.0%	(3)
72	Barnardo's (Rugby)	27.6%	-7.6%	-7.6%	-7.6%	20.0%	20.0%	20.0%	(3)
73	Barnardo's (Warwick)	24.6%	-4.6%	-4.6%	-4.6%	20.0%	20.0%	20.0%	(3)
74	The Brandon Trust (North Warwicks)	29.6%	-9.6%	-9.6%	-9.6%	20.0%	20.0%	20.0%	(3)
75	The Brandon Trust (Rugby)	27.8%	-7.8%	-7.8%	-7.8%	20.0%	20.0%	20.0%	(3)
76	Balfour Beatty	27.0%	0.0%	0.0%	0.0%	27.0%	27.0%	27.0%	(3)
376	Heart of England Mencap	29.2%	-9.2%	-9.2%	-9.2%	20.0%	20.0%	20.0%	(3)
627	Nuneaton and District Mentally Handicapped	36.4%	£61,000	£62,000	£64,000	36.4% plus £61,000	36.4% plus £62,000	36.4% plus £64,000	
634	North Warwickshire CAB	33.2%	£8,338	0.9% plus £8,571	1.9% plus £8,811	33.2% plus £8,338	34.1% plus £8,571	35.1% plus £8,811	
636	Nuneaton and Bedworth Leisure Trust	21.9%	£495,000	£509,000	£523,000	21.9% plus £495,000	21.9% plus £509,000	21.9% plus £523,000	
639	NSL	30.5%	-30.5%	-	-	-	-	-	(4)
662	Orbit Heart of England Housing and Care Association	35.5%	£467,000	£480,000	£494,000	35.5% plus £467,000	35.5% plus £480,000	35.5% plus £494,000	
685	The Parenting Project	27.3%	-7.3%	-7.3%	-7.3%	20.0%	20.0%	20.0%	(3)
709	The Rowan Organisation	31.4%	£200,000	£206,000	£211,000	31.4% plus £200,000	31.4% plus £206,000	31.4% plus £211,000	
712	Rugby Town Centre Company Limited	30.5%	£12,000	£13,000	£13,000	30.5% plus £12,000	30.5% plus £13,000	30.5% plus £13,000	
743	Solihull School	30.2%	£176,000	£181,000	£186,000	30.2% plus £176,000	30.2% plus £181,000	30.2% plus £186,000	

Employer code	Employer/Pool name	Primary rate (%) 1 April 2017 - 31 March 2020	Minimum Contributions for the Year Ending: Secondary Rate (%/£) 2017/18	2018/19	2019/20	Total Contribution rate (%/£) 2017/18	2018/19	2019/20	Notes
750	Stratford and District Mencap	31.4%	£93,000	£95,000	£98,000	31.4% plus £93,000	31.4% plus £95,000	31.4% plus £98,000	
751	Stratford on Avon Council for Voluntary Services	30.9%	£13,000	£13,000	£13,000	30.9% plus £13,000	30.9% plus £13,000	30.9% plus £13,000	
759	Stratford on Avon Town Trust	31.6%	£39,000	£40,000	£41,000	31.6% plus £39,000	31.6% plus £40,000	31.6% plus £41,000	
761	Shipston Leisure	34.7%	-8.5%	-8.5%	-8.5%	26.2%	26.2%	26.2%	
770	SLM Nuneaton Leisure	30.2%	£39,000	£40,000	£41,000	30.2% plus £39,000	30.2% plus £40,000	30.2% plus £41,000	
772	Superclean Services Wothorpe Ltd	29.5%	0.0%	0.0%	0.0%	29.5%	29.5%	29.5%	
801	Taylor Shaw Catering (Myton School Academy)	33.2%	-29.7%	-29.7%	-29.7%	3.5%	3.5%	3.5%	
807	Taylor Shaw Catering (St Pauls Nuneaton)	31.1%	-3.8%	-3.8%	-3.8%	27.3%	27.3%	27.3%	
905	Warwick Schools	29.9%	0.0%	0.0%	0.0%	29.9%	29.9%	29.9%	
916	Warwickshire Welfare Rights Service	22.6%	0.0%	0.6%	1.3%	22.6%	23.2%	23.9%	
917	Warwick District CAB	26.1%	£0	£0	£0	26.1%	26.1%	26.1%	
918	Warwickshire Care Services	33.7%	£534,000	£549,000	£565,000	33.7% plus £534,000	33.7% plus £549,000	33.7% plus £565,000	
925	Westfield Community Development Association	34.8%	-34.8%	-34.8%	-34.8%	0.0%	0.0%	0.0%	
928	Warwickshire Care Services, Day Care Centres	34.6%	-9.9%	-9.9%	-9.9%	24.7%	24.7%	24.7%	
Further Education Establishments									
481	King Edward VI Form College	21.8%	£36,000	£37,000	£38,000	21.8% plus £36,000	21.8% plus £37,000	21.8% plus £38,000	
635	North Warwickshire and Hinckley College	21.6%	£285,000	£293,000	£301,000	21.6% plus £285,000	21.6% plus £293,000	21.6% plus £301,000	
753	Stratford College	21.5%	£162,000	£166,000	£171,000	21.5% plus £162,000	21.5% plus £166,000	21.5% plus £171,000	
924	Warwickshire College	21.5%	£808,000	£831,000	£854,000	21.5% plus £808,000	21.5% plus £831,000	21.5% plus £854,000	
Academies									
11	Alcester Grammar Academy	20.4%	£10,000	£11,000	£13,000	20.4% plus £10,000	20.4% plus £11,000	20.4% plus £13,000	
12	Ashlawn Academy	19.5%	£16,000	£35,000	£55,000	19.5% plus £16,000	19.5% plus £35,000	19.5% plus £55,000	
14	Alcester High Academy	21.4%	£25,000	£26,000	£28,000	21.4% plus £25,000	21.4% plus £26,000	21.4% plus £28,000	
15	Aylesford Academy	19.6%	£21,000	£22,000	£22,000	19.6% plus £21,000	19.6% plus £22,000	19.6% plus £22,000	
16	Ash Green Academy	17.9%	-0.5%	£9,000	£21,000	17.4%	17.9% plus £9,000	17.9% plus £21,000	
17	Alcester St Nicholas Primary	20.6%	£6,000	£8,000	£11,000	20.6% plus £6,000	20.6% plus £8,000	20.6% plus £11,000	
66	Bilton High (Academy)	19.3%	2.9%	3.6%	4.4%	22.2%	22.9%	23.7%	(5)
165	Coleshill School Academy	20.6%	£19,000	£29,000	£40,000	20.6% plus £19,000	20.6% plus £29,000	20.6% plus £40,000	
166	Campion School Academy	20.1%	£17,000	£22,000	£26,000	20.1% plus £17,000	20.1% plus £22,000	20.1% plus £26,000	
178	Cawston Grange Primary Academy	20.1%	£4,000	£4,000	£4,000	20.1% plus £4,000	20.1% plus £4,000	20.1% plus £4,000	
205	Discovery Academy (MacIntyre Academies)	16.7%	-0.5%	-0.5%	-0.5%	16.2%	16.2%	16.2%	
253	Erudition Trust (Queen Elizabeth School)	20.8%	£14,000	£22,000	£30,000	20.8% plus £14,000	20.8% plus £22,000	20.8% plus £30,000	
254	Erudition Trust - Kingsbury School	19.2%	£13,000	£13,000	£14,000	19.2% plus £13,000	19.2% plus £13,000	19.2% plus £14,000	
365	Henley High Academy	20.3%	£7,000	£14,000	£21,000	20.3% plus £7,000	20.3% plus £14,000	20.3% plus £21,000	
366	Higham Lane Academy	19.3%	£20,000	£32,000	£45,000	19.3% plus £20,000	19.3% plus £32,000	19.3% plus £45,000	
367	Henry Hinde Academy	20.5%	£1,000	£4,000	£7,000	20.5% plus £1,000	20.5% plus £4,000	20.5% plus £7,000	
368	Henley in Arden CofE Primary Academy	19.5%	£4,000	£4,000	£4,000	19.5% plus £4,000	19.5% plus £4,000	19.5% plus £4,000	
505	Lawerence Sheriff Academy	20.1%	£24,000	£35,000	£46,000	20.1% plus £24,000	20.1% plus £35,000	20.1% plus £46,000	
560	Myton School Academy	19.7%	£43,000	£46,000	£50,000	19.7% plus £43,000	19.7% plus £46,000	19.7% plus £50,000	
663	Oakwood Primary and Secondary Academy	19.6%	£44,000	£49,000	£53,000	19.6% plus £44,000	19.6% plus £49,000	19.6% plus £53,000	
683	The Priors Free School	19.4%	-3.8%	-3.8%	-3.8%	15.6%	15.6%	15.6%	
684	Polesworth Nethersole Church of England Primary School	20.4%	£7,000	£11,000	£15,000	20.4% plus £7,000	20.4% plus £11,000	20.4% plus £15,000	
714	Rugby High Academy	19.1%	£8,000	£16,000	£24,000	19.1% plus £8,000	19.1% plus £16,000	19.1% plus £24,000	
764	Stratford Girls Grammar School	20.8%	£21,000	£21,000	£22,000	20.8% plus £21,000	20.8% plus £21,000	20.8% plus £22,000	
765	Stratford King Edward VI Academy	20.4%	£5,000	£8,000	£12,000	20.4% plus £5,000	20.4% plus £8,000	20.4% plus £12,000	
766	Stratford Upon Avon School	19.8%	£22,000	£38,000	£55,000	19.8% plus £22,000	19.8% plus £38,000	19.8% plus £55,000	
767	Studley High Academy	20.9%	£22,000	£28,000	£34,000	20.9% plus £22,000	20.9% plus £28,000	20.9% plus £34,000	
768	Shipston High Academy	20.9%	£17,000	£17,000	£18,000	20.9% plus £17,000	20.9% plus £17,000	20.9% plus £18,000	
802	Tanworth in Arden Academy	17.9%	£1,000	£2,000	£3,000	17.9% plus £1,000	17.9% plus £2,000	17.9% plus £3,000	
806	Tudor Grange Academy (Haselor)	18.9%	£300	£300	£300	18.9% plus £300	18.9% plus £300	18.9% plus £300	

Employer code	Employer/Pool name	Primary rate (%) 1 April 2017 - 31 March 2020	Minimum Contributions for the Year Ending						
			Secondary Rate (%/£)			Total Contribution rate (%/£)			
			2017/18	2018/19	2019/20	2017/18	2018/19	2019/20	Notes
Coventry Diocese Trust									
180	Harris High School (Coventry Diocese Trust)	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
188	Queens School (Coventry Diocese Trust)	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
189	St James CofE Junior School (Coventry Diocese Trust)	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
190	St Nicholas CofE (Coventry Diocese Trust)	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
191	Studley St Mary's (Coventry Diocese Trust)	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
192	Coventry Diocese Trust - St Michaels	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
193	Coventry Diocese Trust - St Oswalds	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
194	Coventry Diocese (Leamington Hastings)	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
Holy Spirit Academy Trust Pool									
370	Holy Spirit Academy Trust - Our Lady of the Angels	20.0%	3.2%	4.3%	5.4%	23.2%	24.3%	25.4%	
371	Holy Spirit Academy Trust - St Thomas	20.0%	3.2%	4.3%	5.4%	23.2%	24.3%	25.4%	
372	Holy Spirit Academy Trust - St Annes	20.0%	3.2%	4.3%	5.4%	23.2%	24.3%	25.4%	
373	Holy Spirit Academy Trust - St Benedicts	20.0%	3.2%	4.3%	5.4%	23.2%	24.3%	25.4%	
374	Holy Spirit Academy Trust - St Francis	20.0%	3.2%	4.3%	5.4%	23.2%	24.3%	25.4%	
375	Holy Spirit Academy Trust - St Joseph	20.0%	3.2%	4.3%	5.4%	23.2%	24.3%	25.4%	
Community Academy Trust Pool									
177	Community Academy Trust (Polesworth)	20.0%	2.8%	2.9%	2.9%	22.8%	22.9%	22.9%	
182	Community Academy Trust (Birchwood)	20.0%	2.8%	2.9%	2.9%	22.8%	22.9%	22.9%	
183	Community Academy Trust (Dordon)	20.0%	2.8%	2.9%	2.9%	22.8%	22.9%	22.9%	
184	Woodend Academy (Community Academies Trust)	20.0%	2.8%	2.9%	2.9%	22.8%	22.9%	22.9%	
185	Community Academy Trust - Budbrooke Academy	20.0%	2.8%	2.9%	2.9%	22.8%	22.9%	22.9%	
187	Community Academy Trust (Woodloes)	20.0%	2.8%	2.9%	2.9%	22.8%	22.9%	22.9%	
196	Community Academy Trust (Admin Centre)	20.0%	2.8%	2.9%	2.9%	22.8%	22.9%	22.9%	
197	Community Academy Trust (Stratford Primary)	20.0%	2.8%	2.9%	2.9%	22.8%	22.9%	22.9%	
681	Polesworth Academy	20.0%	2.8%	2.9%	2.9%	22.8%	22.9%	22.9%	
Heartwood Academy Trust Pool									
369	Heartwood Academy Trust (Woodside Academy)	20.5%	3.0%	4.4%	5.9%	23.5%	24.9%	26.4%	
378	Newton Regis Academy (Heartwood Academies Trust)	20.5%	3.0%	4.4%	5.9%	23.5%	24.9%	26.4%	
379	Austrey Academy (Heartwood Academies Trust)	20.5%	3.0%	4.4%	5.9%	23.5%	24.9%	26.4%	
380	Warton Nethersole Academy (Heartwood Academies Trust)	20.5%	3.0%	4.4%	5.9%	23.5%	24.9%	26.4%	
Dioces of Coventry Admin Centre Pool									
179	Diocese of Coventry Admin Centre	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
195	Chartwells (Compass Group) re catering for Coventry Diocese	20.0%	2.4%	2.8%	3.3%	22.4%	22.8%	23.3%	
Matrix Academy Trust Pool									
562	Matrix Academy Trust (Etone College)	19.7%	2.8%	3.0%	3.3%	22.5%	22.7%	23.0%	
Midland Academy Trust Pool									
561	Midland Academy Trust	19.4%	2.1%	3.5%	4.8%	21.5%	22.9%	24.2%	
563	Midland Academy Trust (George Eliot)	19.4%	2.1%	3.5%	4.8%	21.5%	22.9%	24.2%	
564	Midland Academy Trust (Hartshill)	19.4%	2.1%	3.5%	4.8%	21.5%	22.9%	24.2%	
565	Midland Studio College	19.4%	2.1%	3.5%	4.8%	21.5%	22.9%	24.2%	
National Education Trust Pool									
637	National Education Trust	19.0%	3.6%	4.1%	4.7%	22.6%	23.1%	23.7%	
640	National Education Trust - Keresley Newland	19.0%	3.6%	4.1%	4.7%	22.6%	23.1%	23.7%	
REAch2 Trust Pool									
716	REAch 2 Trust (Newbold Riverside and Oakfield Primary schools)	19.9%	0.7%	1.8%	2.9%	20.6%	21.7%	22.8%	
718	Reach2 Academy Trust (Newbold)	19.9%	0.7%	1.8%	2.9%	20.6%	21.7%	22.8%	
719	REAch2 Academies Trust - Racemadow Academy	19.9%	0.7%	1.8%	2.9%	20.6%	21.7%	22.8%	
The Griffin Trust Pool									
323	The Griffin Trust (Race Leys school academy)	19.9%	2.3%	4.3%	6.4%	22.2%	24.2%	26.3%	
324	Nicholas Chamberlaine	19.9%	2.3%	4.3%	6.4%	22.2%	24.2%	26.3%	
325	The Griffin Trust (Park Lane)	19.9%	2.3%	4.3%	6.4%	22.2%	24.2%	26.3%	
Stour Federation									
773	Stour Federation - Shipston Primary	19.7%	2.6%	2.9%	3.3%	22.3%	22.6%	23.0%	
775	Stour Federation - Acorns	19.7%	2.6%	2.9%	3.3%	22.3%	22.6%	23.0%	

Notes to the Rates and Adjustments Certificate

(1) The following employers are part of the Warwickshire County Council pool and pay the same contribution rates as Warwickshire County Council (expressed as a percentage of pay):

Employer/Pool name	Contributions currently in payment 2016/17		Primary rate (%) 1 April 2017 - 31 March 2020	Minimum Contributions for the Year Ending					
				Secondary Rate (%/£)			Total Contribution rate (%/£)		
				2017/18	2018/19	2019/20	2017/18	2018/19	2019/20
Alliance in Partnership (Mappleborough Green)	17.5%	£0	19.5%	-0.4%	0.4%	1.1%	19.1%	19.9%	20.6%
CLASS catering (SoA Primary School)	18.3%	£0	19.5%	-0.4%	0.4%	1.1%	19.1%	19.9%	20.6%
CLASS catering (The Willows)	18.3%	£0	19.5%	-0.4%	0.4%	1.1%	19.1%	19.9%	20.6%
CLASS catering (Thmas Jolyffe)	18.3%	£0	19.5%	-0.4%	0.4%	1.1%	19.1%	19.9%	20.6%
CLASS catering (St Mary the Immaculate School)	18.3%	£0	19.5%	-0.4%	0.4%	1.1%	19.1%	19.9%	20.6%

(2) The Employer's contract was re-awarded on 5 May 2016. The employer has a risk sharing agreement with Warwickshire County Council and therefore pays a fixed rate as shown in the Rates and Adjustments Certificate above.

(3) The employer has a risk sharing agreement with Warwickshire County Council and therefore pays a fixed rate as shown in the Rates and Adjustments Certificate above.

(4) The employer is due to cease before 31 March 2018. The contribution rate has only been certified for the year ending 31 March 2018. Should the employer's circumstances change, this rate would need to be revised.

(5) The academy is joining a Multi Academy Trust. The Administering Authority have therefore agreed for its contribution rate to be set equal to the average academy rate which is payable by all new academies joining the Warwickshire Pension Fund.

Further comments

Contributions expressed as a percentage of pensionable payroll and monetary amounts should be paid into Warwickshire Pension Fund at a frequency in accordance with the requirements of the Regulations.

Further sums should be paid to the Fund to meet the costs of any early retirements, excess salary increases and/or augmentation using methods, calculations and factors specified by us from time to time.

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

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

The contributions set out in the certificate above can be repaid in advance with appropriate adjustments for interest as and when agreed with the Administering Authority. Under these circumstances a revised Rates and Adjustments certificate may be issued reflecting any advance payments.

Regulation 62(8) requires a statement of the assumptions on which the certificate is given regarding the number of members, and the associated liabilities arising, who will become entitled to payment of pensions under the regulations of the LGPS. These assumptions can be found in Appendix E of the 31 March 2016 formal valuation report dated 31 March 2017. These assumptions cover members who become entitled to payment of pension via normal retirement and ill health retirement. Further members will become entitled due to involuntary early retirement (for redundancy and efficiency reasons) for which no allowance has been made.

Signature:

[redacted]

Date:	30 March 2017	30 March 2017
Name:	Richard Warden	Robert Bilton
Qualification:	Fellow of the Institute and Faculty of Actuaries	Fellow of the Institute and Faculty of Actuaries
Firm:	Hymans Robertson LLP	
	20 Waterloo Street	
	Glasgow	
	G2 6DB	

Pension Fund Investment Sub-Committee 12 June 2017

Review of Pension Fund Risk Management

Recommendation

(1) Members are asked to consider and approve the Register of Risks in **Appendix A** and to approve the process by which this has been compiled, making any suitable additions or amendments as appropriate.

1 Introduction

1.1 Warwickshire County Council is responsible for the delivery of pension and other benefit promises made to members of the Warwickshire Pension Fund. It achieves this by working to identified objectives and goals.

1.2 The risk of failing to meet the intended goals must be identified and evaluated via a risk management process and then recorded in a risk register.

1.3 As the Pension Fund Investment Sub Committee (PFISC) has decision-making powers with regard to the running of the Fund, it is recommended that members should have a reasonable understanding of risk management within a pension scheme context.

1.4 Moreover, the PFISC members should consider their perceptions of risk within the Pension Fund and the plan should be adapted accordingly. This approach, whilst not requiring a significant input from the Committee, should engage the Committee sufficiently so that it sees the value from the process and feel sufficiently included.

1.5 A schedule of risks and the control mechanisms in place is shown in **Appendix A**.

2 Risk Management Process

2.1 The risk management process begins with the objectives of the Pension Fund. These are set out in the Fund's business plan. The risks involved in achieving those objectives then need to be identified, and quantified in terms of the likelihood of them occurring and the impact if they did occur.

2.2 Once the risks have been quantified, the Fund will need to identify which are the priorities. Priorities will be scheme specific and will reflect the Fund's perception of the risks identified.

2.3 Controls then need to be put in place to manage the identified risks. In many cases controls will already be in place but they should be reviewed for their appropriateness and revised as necessary. New controls may also be implemented.

2.4 The process is summarised as follows:

1. Identify the objectives of the Fund as set out in the Business Plan
2. Identify the risks
3. Quantify the risks
4. Decide on priorities
5. Set control mechanisms in place
6. Monitor

3 Register of Key Risks and Control Mechanisms

3.1 A risk register is a useful way of recording risks and resultant controls and is a convenient format for ongoing monitoring and review, which is essential in a changing environment.

3.2 Continual monitoring will identify changes in risk exposure, relative to any agreed tolerances, and the emergence of new risks.

3.3 As well as identifying the risks, officers have scored each risk according to its possible impact and likelihood of happening.

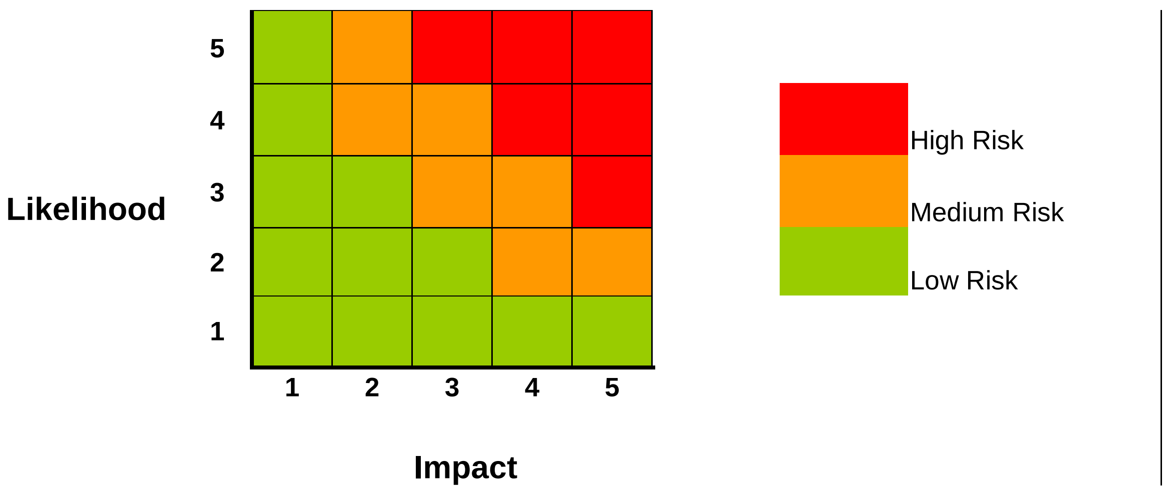
3.4 A table showing the various scores attributable to impact and likelihood is shown in Table 1 overleaf.

Table 1: Scoring attached to levels of impact and likelihood

	Score 1 (maybe one or more of the following	2	3	4	High 5
Impact	No financial impact	Minimal financial impact	Financial impact on the scheme	High financial impact on the scheme	Very high financial impact on the scheme
	Affect benefits at individual member level	Affects several individual members	Specific category of members affected (e.g. active, deferred, pensioner)	Affects more than one category of membership	Affects entire membership
	No impact on Trustee reputation	May have some impact but limited to individual or small groups of members	Trustee may be under the spotlight at local media level	Major reputation issue for the trustee (e.g. national press)	Trustees pursued in the Courts
Likelihood	Very unlikely that risk will occur	Unlikely that risk will occur	Risk may occur	Likely that risk may occur	Very likely that risk will occur

3.5 According to the level of impact and likelihood, a category (high, medium or low) can be attributed to each risk according to the following table:

Table 2: Ascertainment of Risk Level according to levels of impact and likelihood



Warwickshire County Council

3.6 The risk register, including the control mechanism, risk action and the assessed risk level is shown in **Appendix A**.

	Name	**Contact Information**
Report Author	Vicki Forrester, Principal Accountant	2861
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Key Risks & Controls **Appendix A**

The Warwickshire Pension Fund has an active risk management programme in place.

The Risk Register summarises key risks under the following headings:

- Investment
- Funding
- Strategic
- Hazard
- Operational

Investment Risks:

Risk	Control Mechanism	Risk Action
Fund assets fail to deliver returns over the long term in line with the expected returns underpinning the actuarial valuation and funding strategy. **Impact: 5** **Likelihood: 3** **Risk Level: High**	Assumptions on long term investment returns are made on a relatively prudent basis (as recommended by the actuary) to reduce the risk of under-performance.	Analysis of the funding position is carried out at regular three-yearly actuarial valuations. Interim annual valuations are provided when considered necessary.
Falls in equity markets lead to a short term deterioration in funding levels and increased contribution requirements from employers. **Impact: 4** **Likelihood: 3** **Risk Level: Medium**	A long term stabilisation approach has been agreed in setting contribution rates for secure open employers. The ‘growth’ component of the Fund’s strategy has been diversified across property, hedge funds and infrastructure in order to reduce the exposure to short term stock market volatility.	The composition of the Fund’s growth asset portfolio will be reviewed on a regular basis and as part of the 2017 strategy review. The funding strategy recognises that pension funding has a long term time horizon which can dampen these short term volatile movements and pressure on contribution rates.

Risk	Control Mechanism	Risk Action
Inappropriate long-term investment strategy. **Impact: 5** **Likelihood: 2** **Risk Level: Medium**	The long term investment strategy is based on modelling of the Fund's specific liabilities and funding position under a range of economic scenarios. Advice is received from professional advisors. There is additional advice provided by the Fund's independent advisor.	The strategy is reviewed formally every three years in conjunction with the actuarial valuation – and more frequently when there has been a material change in market conditions. The Actuary will also provide an independent view of the Fund's investment strategy as and when required.
High levels of inflation in the future are not matched by asset returns **Impact: 4** **Likelihood: 2** **Risk Level: Medium**	The Fund is invested heavily in real assets (equities, property, infrastructure) which are expected to offer some protection against higher levels of inflation over the medium to long term.	The risk attached to future inflation levels is assessed within the liability modeling exercises and considered as part of the regular reviews of investment strategy.
Fund faces short term liquidity problems and is unable to meet benefit outgoings. **Impact: 5** **Likelihood: 2** **Risk Level: Medium**	Expected cash movements are forecast and monitored on a regular basis. Arrangements have been made with investment managers to receive income on a regular basis and to be able to access additional income when required.	The Fund also has the option of selling units in pooled funds at very short notice.

Risk	Control Mechanism	Risk Action
Underperformance by active investment managers leads to poor Fund returns. **Impact: 4** **Likelihood: 3** **Risk Level: Medium**	Regular quarterly performance monitoring reports are received. Managers are also monitored by the manager research team of the investment advisors. The Fund makes extensive use of passive management across equities and bonds.	Continued under-performance – or material changes in other relevant business factors - will lead to formal review of the mandate by the Investment Sub-Committee, with a view to possible contract termination. Assets can be switched rapidly to the Fund's passive manager.
A change to the Fund's investor status under MiFID 2 **Impact: 5** **Likelihood: 2** **Risk Level: Medium**	Officers are liaising with LGPS peers regarding the publication of FCA guidance. It has been identified that a significant administrative burden may arise in Q4 2017.	Officers continue to liaise with managers regarding the likely implications.
Poor returns as a result of new asset pooling arrangements **Impact: 4** **Likelihood: 3** **Risk Level: Medium**	Asset allocation decisions will continue to be made by the Committee. Management of the individual BCPP funds will be the responsibility of a professional investment management team appointed by or employed by BCPP.	Detailed performance reporting of all BCPP investments will be available to the Committee on a regular basis.
Inadequate governance arrangements within BCPP lead to poor investment decision-making **Impact: 4** **Likelihood: 3** **Risk Level: Medium**	A professionally staffed FCA regulated company is being established for asset management purposes – with a joint oversight committee for participating funds.	The Fund will have representation on both the BCPP Shareholder Board and joint governance committee.

Risk	Control Mechanism	Risk Action
Inappropriate choice of new investment manager. **Impact: 3** **Likelihood: 2** **Risk Level: Low**	A rigorous procurement exercise is carried out and advice taken from the professional advisors and independent advisor.	Members of the Investment Sub-Committee are involved in all decisions relating to the appointment of new managers. Under pooling, the responsibility for appointing new managers will pass to the BCPP team.
Fraud or counterparty default by investment managers / brokers / custodian leads to losses for the Fund. **Impact: 4** **Likelihood: 1** **Risk Level: Low**	Securities are either held in 'ring-fenced' accounts or pooled funds.	Fund managers produce detailed internal controls documents which are independently audited. Client agreements with new service providers are subject to legal review
Non-compliance with CIPFA/Myners Code of Practice **Impact: 1** **Likelihood: 1** **Risk Level: Low**	Level of compliance is published annually in the Investment Strategy Statement and Pension Fund Annual Report.	Adherence to Code of Practice is reviewed on a regular basis.
High transition costs incurred through transfers of assets into BCPP pool. **Impact: 2** **Likelihood: 3** **Risk Level: Low**	A professional transition manager will be employed to oversee and implement the significant transition activity required for pooling of assets.	Full cost analysis of all transition activity will be available.

Funding Risks:

Risk	Control Mechanism	Risk Action
Fall in risk free returns on gilts, leading to rise in value placed on liabilities and increased cost of benefits **Impact: 5** **Likelihood: 3** **Risk Level: High**	Inter-valuation monitoring and asset /liability modelling as above. Some investment in bonds helps to mitigate this risk.	Allowance for future volatility on the returns available on gilts is built into the ALM and allowed for in the funding strategy. In particular, the Actuary's long term view is that gilt yields are on average likely to revert to a higher level than implied by markets at the 2016 actuarial valuation. This approach recognises that gilt markets have been distorted by recent unusual events (e.g. Brexit) and historically interest rates have reverted to a higher long term average.
Declining active payrolls leading to underpayment of deficit recovery amounts. **Impact: 5** **Likelihood: 4** **Risk Level: High**	Active membership is regularly monitored. Recruitment advertising campaigns are regularly undertaken. Auto enrolment (initial staging or triennial re-enrolment) may encourage some non-members to take up membership.	The Fund insists that most employers make deficit recovery payments as monetary amounts, rather than as a percentage of payroll.
Cross subsidies between employers become significant and affect employer asset share calculations **Impact: 4** **Likelihood: 4** **Risk Level: High**	The Pension Fund uses a unitised asset tracking system to determine employer asset shares	Fund uses the cashflow approach employed under the unitised asset tracking system to reduce cross subsidy risk

Risk	Control Mechanism	Risk Action
Pensioners living longer **Impact: 3** **Likelihood: 3** **Risk Level: Medium**	Mortality assumptions set by the Actuary allow for future increases in life expectancy. 'Baseline' mortality assumptions (i.e. current death rates) are based on the combined experience from Club Vita data of around 160 large occupational schemes. This gives the Fund a set mortality rates that are tailored to the unique membership profile of the Fund.	Mortality assumptions are reviewed every three years at each actuarial valuation. Annual updates on changes to mortality rates are provided by Club Vita and highlight the impact on liabilities. Pension reform means that retirement ages in the Fund on post 2014 benefits will be linked to State Pension Age (SPA). The Government is committed to adjusting the SPA if mortality rates change in future, which will help to manage this risk within the Fund. Changes to life expectancies are covered under the LGPS cost sharing mechanism e.g. if longevity increases, benefit levels may be reduced.
Changes to regulations, e.g., more favourable benefits package, potential new entrants to scheme. Changes to national pension requirements and/or HMRC rules. **Impact: 3** **Likelihood: 3** **Risk Level: Medium**	The Pension Fund is alert to the potential creation of additional liabilities. The Pension Fund will consult employers where appropriate.	The Pension Fund considers all consultation papers and comments where appropriate and necessary.

Risk	Control Mechanism	Risk Action
An employer ceasing to exist with insufficient funding or adequacy of a bond. **Impact: 3** **Likelihood: 3** **Risk Level: Medium**	The Regulations require the Actuary to undertake a cessation valuation to assess the size of any debt at exit. The debt is levied on the departing employer. However, the Pension Fund believes that it is often too late to fully address the position at that point.	The Fund mitigates this risk by: • Seeking a funding guarantee from another scheme employer, or external body, wherever possible. • Alerting the prospective employer to its obligations and encouraging it to take independent actuarial advice. • Carrying out covenant analysis to inform the Fund of an employer's financial strength and ability to make good any funding deficit and reflecting this in the risk based approach used to set contribution rates. • Vetting prospective employers before admission. • Where permitted under the Regulations, requiring a bond to protect the scheme from the extra cost of early retirements.
Pension Fund unaware of structural changes in an employer's membership (e.g., large number of retirements). Pension Fund is not advised of an employer closing the scheme to new entrants. **Impact: 3** **Likelihood: 4** **Risk Level: Medium**	The Actuary may be instructed to revise the rates and adjustments certificate to increase an employer's contributions between triennial valuations. Employers are charged the extra capital cost of (non-ill-health) early retirements.	The Pension Fund actively monitors membership movements, especially with regard to falling active membership and increases in deferred and pensioner numbers.

Risk	Control Mechanism	Risk Action
Deterioration in funding because of a mismatch of assets and liabilities. **Impact: 5** **Likelihood: 2** **Risk Level: Medium**	Triennial actuarial valuations, supplemented with interim valuation funding updates that reflect changes to market conditions. Asset-liability modelling (ALM) is undertaken at least once every three years to assess the long-term financial health of the Fund.	Investment Sub-Committee Board receives regular reports on the Fund's performance and is aware of the potential impact of significant funding risks e.g. lower interest rates, increasing life expectancies. The Actuary, with input from the investment advisor, discusses and agrees the ALM output with officers and members and sets employer contribution rates at levels that are designed to keep the Fund solvent over the long term. Fund can consider implementing employer level investment strategies to reduce the mismatch risk where it would be beneficial to the employer's circumstances
Incorrect membership data leading to inaccurate assessment of liabilities and/or contribution rate **Impact: 4** **Likelihood: 3** **Risk Level: Medium**	The Pension Fund regularly checks and reviews membership data submitted by employers.	The Pension Fund holds regular workshop and training days with employers to explain data submission and is on hand to discuss any queries Actuary carries out high level data checks on membership data received for calculation of liabilities and contribution rate

Risk	Control Mechanism	Risk Action
Incorrect financial data leading to inaccurate assessment of employer asset shares **Impact: 4** **Likelihood: 3** **Risk Level: Medium**	The Pension Fund regularly checks and reviews financial data against membership data and general ledger.	Actuary carries out high level data checks on financial data received for calculation of employer asset shares
Employer actions (e.g. excessive salary increases, outsourcings) lead to unanticipated liability increases and reduce affordability of contributions **Impact: 4** **Likelihood: 2** **Risk Level: Medium**	The Fund engages with employers to ensure early awareness of specific actions	The Fund reserves the right to review contribution rates and funding strategy in light of employer actions
Effect of possible increase in employers' contribution rate on service delivery of Pension Fund employers. **Impact: 2** **Likelihood: 3** **Risk Level: Low**	Feedback is sought on employer's ability to absorb contribution rises. Mitigation of the impact of revised rates through deficit spreading, phasing-in of contribution rises and, for open secure employers, the use of a contribution stability mechanism.	Employers are consulted with through senior management contacts, the Pension Fund AGM, the Funding Strategy Statement consultation and regular bulletins.
The Pension Fund failing to commission the Fund Actuary to carry out a termination valuation for a departing Admission Body and losing the opportunity to call in a debt. **Impact: 2** **Likelihood: 2** **Risk Level: Low**	The Pension Fund requires employers to disclose forthcoming changes.	Fund officers monitor via the local and national press for developments in admitted bodies that might have a detrimental effect on the Fund.

Strategic Risks:

Risk	Control Mechanism	Risk Action
Reputation risk with employers and members **Impact: 2** **Likelihood: 2** **Risk Level: Low**	Group and senior management work hard to foster good relations with employers and members and provide a quality service.	Complaints are acted on immediately and monitored and reported to senior management.

Hazard Risks:

Administration records corrupted or destroyed. **Impact: 5** **Likelihood: 1** **Risk Level: Low**	The administration team has now digitally imaged all active and preserved member records.	Office is subject to corporate and departmental disaster planning. Data back-ups are stored off site.
Financial fraud **Impact: 5** **Likelihood: 1** **Risk Level: Low**	Comprehensive system of internal controls adopted by management. Fund manager reports of internal control are checked by Pension Fund staff.	Scrutiny by internal and external audit processes.
Fire/flood/terrorism **Impact: 5** **Likelihood: 1** **Risk Level: Low**	Data well backed up on a regular basis. Main investment data is held by the Fund's global custodian and available online.	Office is subject to corporate and departmental disaster planning.

Operational Risks:

Insufficient number of external contract service providers, therefore insufficient choice and consequent poor service **Impact: 4** **Likelihood: 2** **Risk Level: Medium**	Regular monitoring of the service provider market.	Recent procurement tender processes have been achieved satisfactorily with no signs of lack of market interest.

Risk	Control Mechanism	Risk Action
Poor communication **Impact: 2** **Likelihood: 2** **Risk Level: Low**	Communication strategy is in place and adhered to.	Feedback taken from scheduled and admitted bodies at the Fund's annual meeting. Variety of means employed for communication to members.
Lack of succession planning **Impact: 2** **Likelihood: 2** **Risk Level: Low**	Office has experienced turnover through natural wastage.	Staff levels are regularly monitored. Regular discussions take place as to the implications of future staff resignations and retirement.
Staffing levels failing to support required service delivery **Impact: 2** **Likelihood: 2** **Risk Level: Low**	Regular monitoring takes place via comprehensive quarterly reports.	Recent recruitment has been achieved as desired.
Failure to establish adequate ICT infrastructure. **Impact: 3** **Likelihood: 2** **Risk Level: Low**	The Pension Fund works closely with providers.	Requirements are monitored continually. Data is "cleansed" before each actuarial valuation.
Inadequate user training **Impact: 2** **Likelihood: 2** **Risk Level: Low**	Full programme of user training currently being implemented backed up with training evaluation feedback.	Training is monitored on a constant basis.
Increasing administration expenses (met from the normal contribution rate) **Impact: 2** **Likelihood: 2** **Risk Level: Low**	The Pension Fund Administration budget is subject to the Council's approval and monitoring process. Regular reports are monitored by officers.	The Council continues to seek value for money with regard to fund administration by reviewing all vacancies, intelligent use of IT resources and benchmarking.

Committee Training: MiFID II

Warwickshire Pension Fund

- Paul Potter
- Ben Farmer
- June 2017

HYMANS ROBERTSON

What is MiFID?

- Markets in Financial Instruments Directive
  - Legislation for regulation of investment services within the European Economic Area
  - MiFID I came into force in November 2007
- Due to increasing complexity of financial products, and issues from the 2008 financial crisis, a review of the Directive was instigated
  - Result - MiFID II - which is due to come into force from January 2018 (previously targeting January 2017).

What are the main changes in MiFID II?

- Changes in market structure, including:
  - New systems and controls
- Transparency of reporting
  - Greater equity market transparency and new transparency requirements for fixed income and derivatives
- Scope and supervision
  - Structured deposits will be within scope
  - New powers to ban products/services
- Attempt to improve access to EU markets from non-EU countries
- Client categorisation

Client categorisation – MiFID II

- Managers will continue to be required to classify clients (including pension funds) as ‘retail’ or ‘professional’
- Retail/professional status is currently determined using established criteria
- Under MiFID II, the FCA will gain an additional layer of discretion to increase the requirements, which they are proposing to do:
  - “To protect smaller, less sophisticated Local Authorities whilst allowing the more sophisticated Local Authorities to ‘opt-up’” (to professional status)”
- A local authority may elect to professional status
  - They will need to demonstrate to each manager that certain qualitative *and* quantitative criteria can be met

How might this impact the Fund?

- Local authorities will be subject to a re-assessment of ‘retail’ or ‘professional’ status
- The potential impact of change from professional to retail status could be:
  – A much reduced pool of providers
  – Restricted range of investments with (potentially) higher cost
- A local authority may elect to ‘opt up’ to professional status
  – But…they will need to demonstrate to each manager that the qualitative and quantitative criteria can be met

Quantitative and qualitative assessments

- Quantitative (two of the following must be satisfied):
  - *The client has carried out transactions, in significant size, on the relevant market at an average frequency of 10 per quarter over the previous four quarters*
  - *The size of the client's financial instrument portfolio, defined as including cash deposits and financial instruments, exceeds £15m*
  - *The client works or has worked in the financial sector for at least one year in a professional position, which requires knowledge of the transactions or services envisaged*
- *Qualitative:*
  - *"adequate assessment of the expertise, experience and knowledge of the client that gives reasonable assurance, in light of the nature of the transactions or services envisaged, that the client is capable of making his own investment decisions and understanding the risks involved"*
  - *The assessment should be performed in relation to "the person authorised to carry out transactions on its behalf"*

Key questions include

- Who is tested against the criteria – “the client”?
  - – Individuals? Collective?
  - – Pensions Committee?
  - – Administering Authority?
- Does the classification apply per Fund or per asset class?
- What happens to assets on “day 1” if designated as Retail?
- Where does this leave the Government’s infrastructure ‘initiative’?

Timescales and progress

- FCA consultation – closed in January 2017
  - BCPP response
  - Hymans Robertson response
- Becoming clear that LGPS Funds will be classified as retail investors at outset.
- Key question is whether the FCA will make it simple for LGPS Funds to ‘opt up’ to professional status.
- Further policy statement due from FCA - June 2017.

  Should provide more clarity on the treatment of the LGPS and local authority bodies.

Potential actions

- What can the Fund do?
  - Discuss implications with providers
  - Prepare for assessment against the qualitative and quantitative criteria including:
    - What evidence to put forward to support professional status?
    - Consider who will be judged against the qualitative criteria?
    - Prepare to amend delegations accordingly?

Thank you

HYMANS ROBERTSON