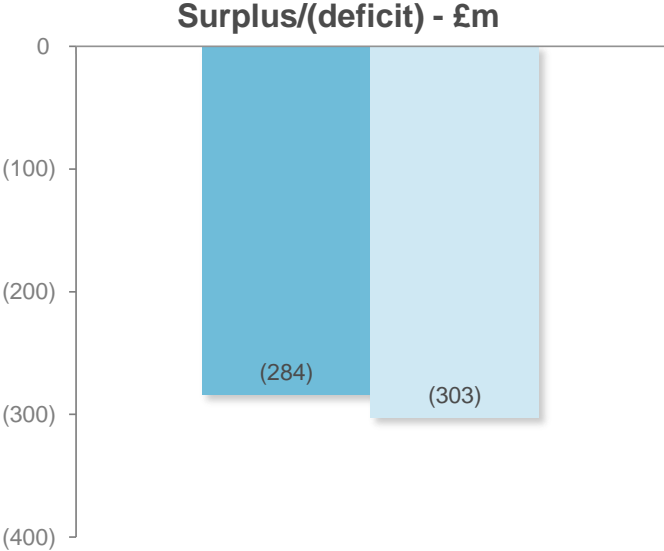
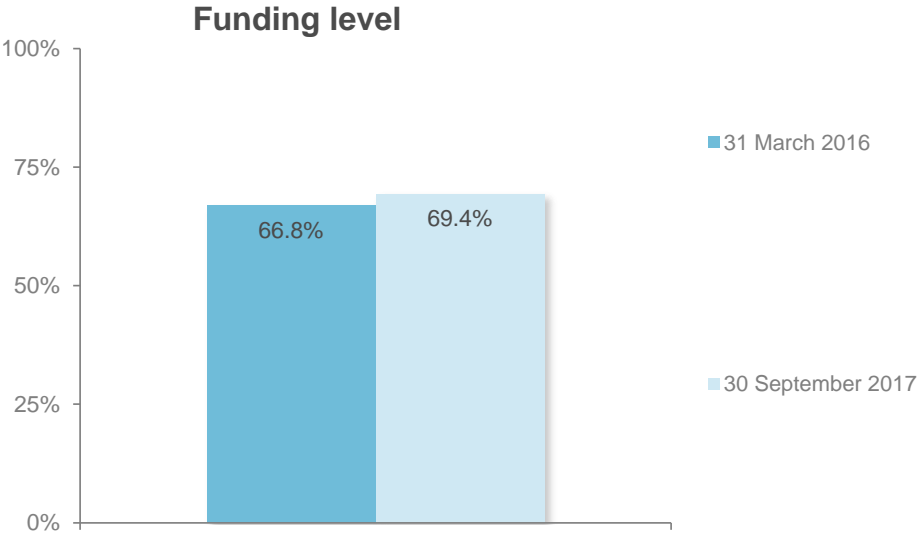


London Borough of Havering Pension Fund

Funding update as at 30 September 2017



Summary

This funding update is provided to illustrate the estimated development of the funding position from 31 March 2016 to 30 September 2017, for the London Borough of Havering Pension Fund (“the Fund”). It is addressed to London Borough of Havering in its capacity as the Administering Authority of the Fund and has been prepared in my capacity as your actuarial adviser.

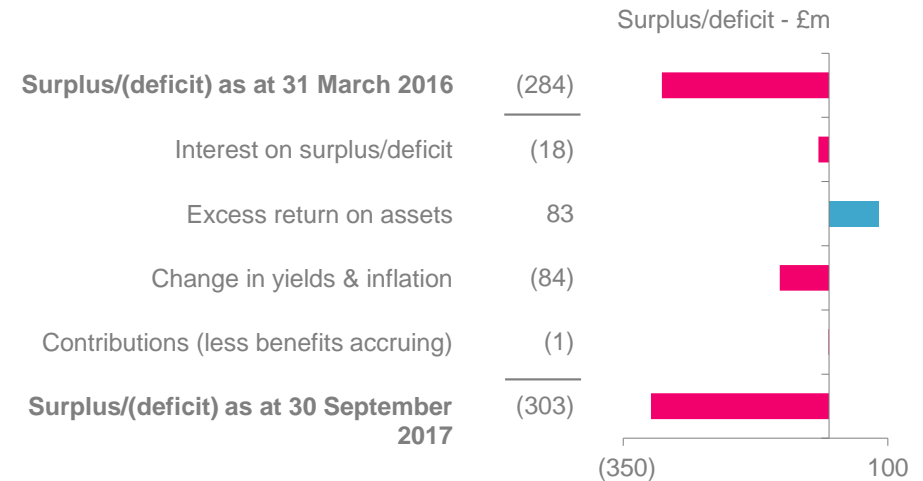
The funding level at the latest formal valuation was 66.8%. As at 30 September 2017 the funding level has increased to 69.4%. Due to the increase in both the value of liabilities and assets, this represents a deficit of £284m at 31 March 2016 increasing to a deficit of £303m at 30 September 2017. A breakdown of this can be found in the graph on page 5 of this report.

This report has been produced exclusively for the Administering Authority. This report must not be copied to any third party without our prior written consent.

Should you have any queries please contact me.

Steven Law FFA

What’s happened since the last update – Ongoing funding basis



Differences between this funding update and a full actuarial valuation

The accuracy of this type of funding update calculation is expected to decline over time as the period since the last valuation increases. This is because this funding update does not allow for changes in individual members’ data since the last valuation.

Details of the approach used in this funding update are given in the appendix.

The figures in tables throughout this document may not add up due to rounding.

Estimated financial position at 30 September 2017

Ongoing funding basis

£m	31 Mar 2016	30 Sep 2017
Assets	573	687
Liabilities	857	990
Surplus/(deficit)	(284)	(303)
Funding level	66.8%	69.4%

Investment return

Quarter Ending	%
30/06/2016	4.5%
30/09/2016	6.7%
31/12/2016	1.3%
31/03/2017	3.7%
30/06/2017	1.3%

Market indicators

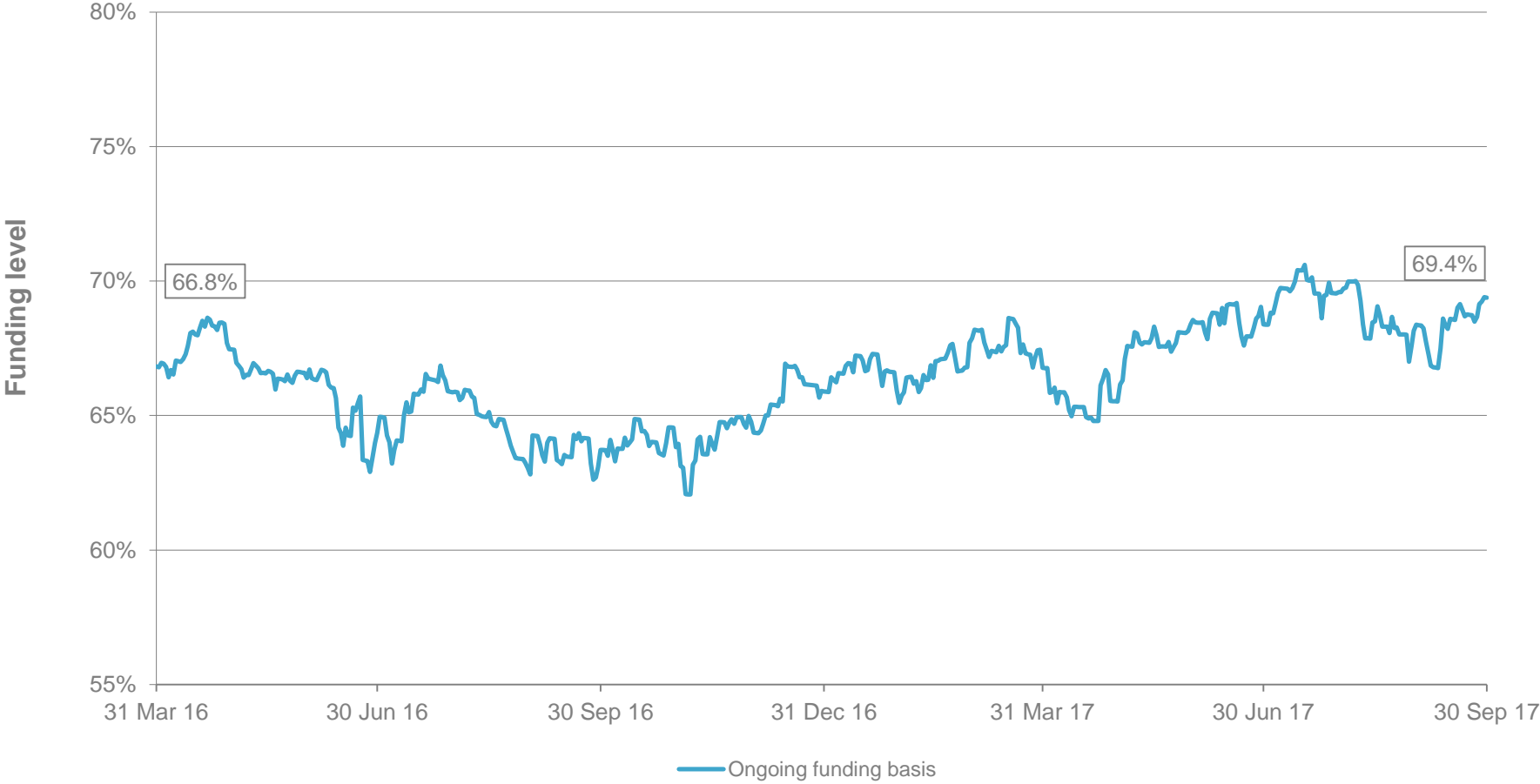
	31 Mar 2016	30 Sep 2017
Market yields (p.a.)		
Fixed interest gilts	2.18%	1.85%
Index linked gilts	-0.96%	-1.48%
Implied inflation (RPI)	3.20%	3.40%
Implied inflation (CPI)	2.10%	2.40%
AA corporate bonds	3.36%	2.64%
AOA	1.80%	1.80%
Price indices		
FTSE All Share	3,395	4,050
FTSE 100	6,175	7,373

Basis summary

	31 Mar 2016	30 Sep 2017
Pre retirement discount rate		
Nominal	4.0%	3.7%
Real	0.8%	0.3%
Post retirement discount rate		
Nominal	4.0%	3.7%
Real	0.8%	0.3%
Salary increase rate	2.4%	2.7%

The assumptions underlying the funding basis is set out in the Funding Strategy Statement. They are those set for the 2016 valuation of the Fund updated for market conditions as at the calculation date.

Change in funding level since last valuation

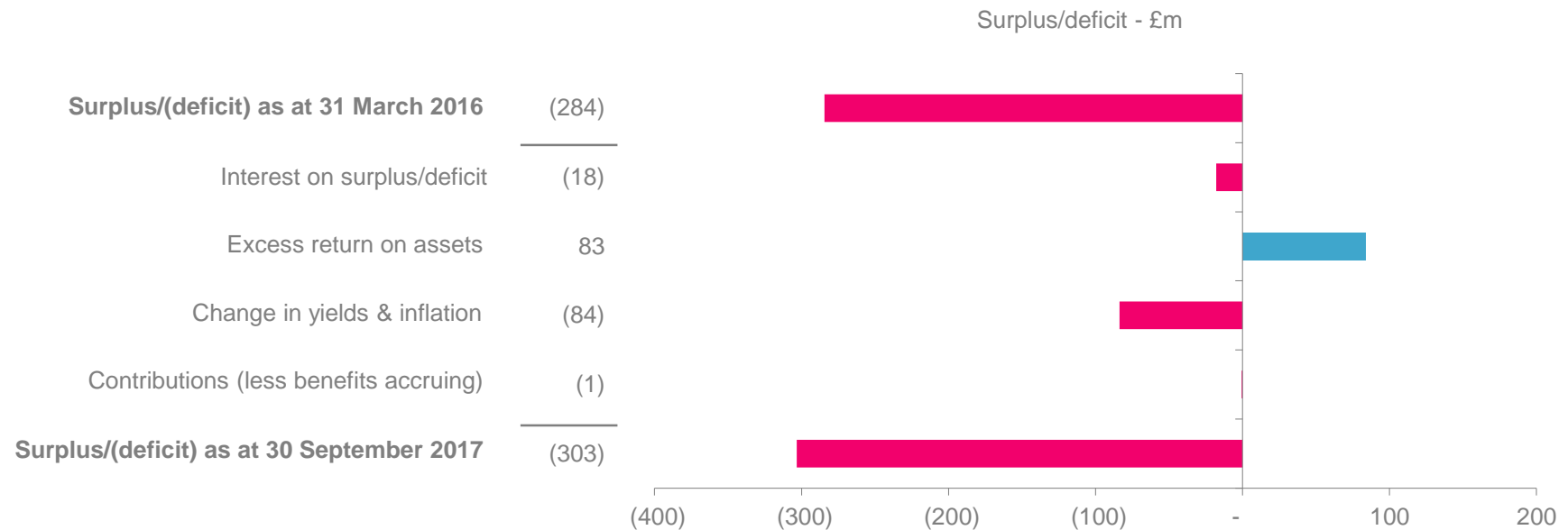


What's happened since last valuation? – Ongoing funding basis

Assets	£m
Asset value as at 31 March 2016	573
Contributions paid in:	51
Benefit payments:	(54)
Expected return on assets:	34
Excess return on assets:	83
Asset value as at 30 September 2017	687

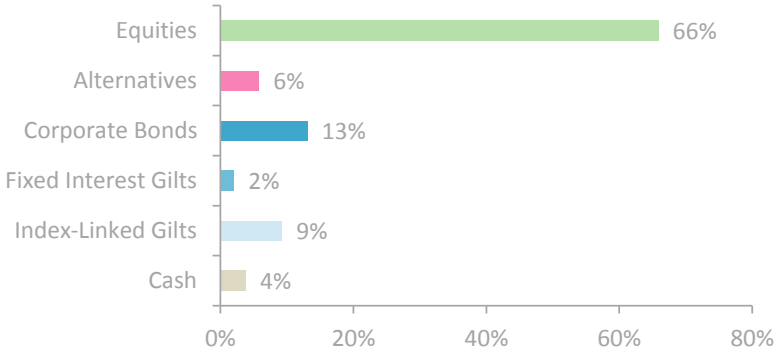
Liabilities	£m
Liability value as at 31 March 2016	857
Cost of benefits accruing:	52
Interest on liabilities:	52
Change in yields & inflation:	84
Benefit payments:	(54)
Liability value as at 30 September 2017	990

Overall effect

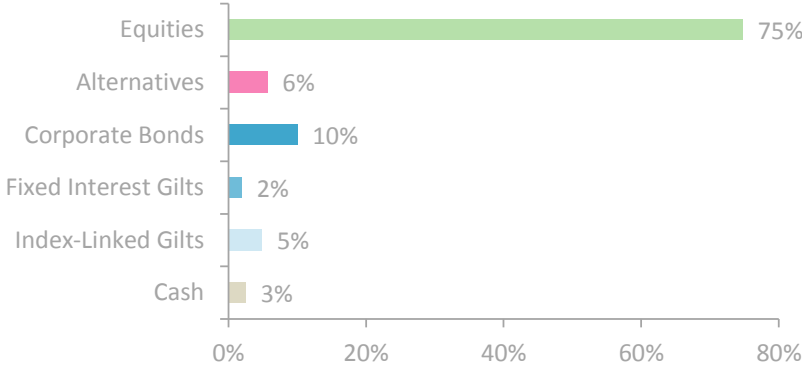


What caused your assets to change?

Allocation at valuation date



Allocation at 30 September 2017



Sterling total returns of major asset classes



Sensitivity matrix – Ongoing funding basis

		Better outcomes →						
Bond yields (% p.a.)	2.45	56.8% (386)	63.0% (331)	69.2% (276)	75.4% (221)	81.5% (165)	87.7% (110)	93.9% (55)
	2.25	55.4% (412)	61.4% (357)	67.4% (302)	73.3% (247)	79.3% (191)	85.3% (136)	91.3% (81)
	2.05	54.0% (440)	59.8% (385)	65.6% (329)	71.4% (274)	77.1% (219)	82.9% (163)	88.7% (108)
	1.85	52.6% (469)	58.2% (414)	63.8% (358)	69.4% (303)	75.0% (248)	80.6% (193)	86.1% (137)
	1.65	51.3% (500)	56.7% (445)	62.0% (389)	67.4% (334)	72.8% (279)	78.2% (223)	83.6% (168)
	1.45	49.9% (533)	55.1% (477)	60.3% (422)	65.5% (367)	70.7% (311)	75.9% (256)	81.1% (201)
	1.24	48.6% (567)	53.6% (512)	58.6% (457)	63.6% (401)	68.6% (346)	73.6% (291)	78.7% (235)
			5,161	5,898	6,635	7,373	8,110	8,847
		Equity level (using FTSE 100 Price Index as a proxy)						

↑ Better outcomes

69.4%	Funding level
(303)	Surplus/(deficit) – £m

Appendix: Scope, methodology, reliances, limitations and market data

Scope

This funding update is provided to London Borough of Havering as the Administering Authority of the London Borough of Havering Pension Fund to illustrate the funding position as at 30 September 2017. It should not be used for any other purpose. It should not be released or otherwise disclosed to any third party except with Hymans Robertson LLP's prior written consent, in which case it is to be released in its entirety. Hymans Robertson LLP accepts no liability to any third party unless we have expressly accepted such liability in writing.

Compliance with professional standards

The method and assumptions used to calculate the updated funding position are consistent with those used in the latest formal actuarial valuation, although the financial assumptions have been updated to reflect known changes in market conditions. As such, the advice in this report is consistent with that provided for the last valuation, as set out in the:

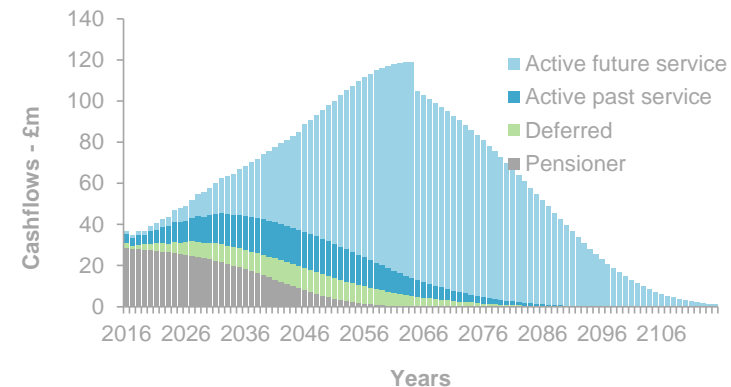
- Valuation Assumptions Briefing Note
- Funding Strategy Statement
- Valuation Report
- Rates and Adjustments Certificate

This update complies with the following Technical Actuarial Standards:

- TAS 100: Principles for Technical Actuarial Work

How liabilities are calculated

- The future benefits that are payable from the Fund ("cash-flows") were calculated on a specific set of assumptions at the last valuation date.
- These cash-flows (on the Ongoing funding basis) are shown below.
- These cash-flows were adjusted using available financial and Fund information to produce estimated cash-flows at post valuation dates.
- The specific information used for this update is set out on the next page.
- Market information is used to produce discount rates at these dates.
- The estimated cash-flows are discounted to produce the estimated liability value at a specific date.



How assets are calculated

Assets are projected from the valuation date allowing for actual or estimated Fund cash-flows, actual quarterly returns (where available) and daily benchmark indices

The update allows for:

- 1 Movements in the value of the assets as measured by index returns and data from the administering authority where available.
- 2 Movements in liabilities as a result of changes in yields and hence inflation and discount rate assumptions.
- 3 Estimated cash-flows (contributions and benefit payments).
- 4 Expected accrual of benefits for employee members accrued since the last valuation (based on projected salary roll).
- 5 Demographic experience in line with assumptions.
- 6 Variations in liabilities arising from the changes in RPI since the valuation date differing relative to assumptions.
- 7 Benefit accrual in line with the 2014 scheme.

The update does not allow for:

- 1 Asset allocations differing from those assumed (other than when asset data is recalibrated based on available information).
- 2 The asset values as at the date of this report have not been based on audited Fund accounts.
- 3 Variations in liabilities arising from salary rises differing relative to assumptions.
- 4 Differences between estimated and actual salary roll of employees.
- 5 Variation between actual and expected demographic experience (e.g. early retirement or mortality).

Membership data

My calculations are based on the membership data provided for the most recent actuarial valuation. Details on the quality of this data and a data summary can be found in the last formal actuarial valuation report.

Limitations of this model

In the short term, the typical main contributors to funding position volatility are movements in the value of assets held, liability changes due to yield movements, benefit changes and deficit contributions to the Fund.

The accuracy of this type of funding update calculation is expected to decline over time. Differences between the position shown in this report and the position which a valuation would show can be significant; particularly if there have been volatile financial markets or material membership changes (these are more likely to occur in smaller schemes). It is not possible to fully assess the accuracy of this update without carrying out a full actuarial valuation.

Liability calculations are performed on the valuation date, the funding update date, anniversaries of the valuation date and each month-end in between. Interpolation is used for other dates shown in graphs. Some asset classes are not easily tracked by the benchmark indices used in this model which can lead to significant differences between actual and projected asset values.

Indices used to update projected asset values

Some of the following indices have been used to update projected asset values in this funding update.

- FTSE 100
- FTSE 250
- FTSE Small Cap
- FTSE All Share
- FTSE All World Series North America (£)
- FTSE All World Series Japan (£)
- FTSE All World Series Developed Europe (£)
- FTSE All World Series Developed Asia Pacific (£)
- FTSE All World Series All World Developed Ex UK (£)
- FTSE All World Series All World Ex UK (£)
- FTSE All World Series All Emerging (£)
- UK Government Fixed Interest Gilts (Over 15 Years)
- UK Government Index-Linked Gilts (Over 5 Years)
- UK Government Index-Linked Gilts (Over 15 Years)
- iBoxx A rated UK Corporate Bonds (Over 15 Years)
- iBoxx AA rated UK Corporate Bonds (Over 15 Years)
- iBoxx AAA rated UK Corporate Bonds (Over 15 Years)
- iBoxx All Investment Grades rated UK Corporate Bonds (Over 15 Years)
- IPC Property
- Cash Indices LIBOR 1 Month

The indices are a standard list and are not necessarily the same indices that managers have been asked to track or beat. All indices used to estimate projected asset values are total return indices. However, the market indicators quoted in this report are price indices, as these are more widely recognised.

Market information used to update liability values

Some of the following market information has been used to update liabilities values in this funding update.

- Nominal gilt yield curves derived from Bank of England data
- RPI gilt inflation curve derived from Bank of England data
- Nominal swap curves derived from Bloomberg data
- Real swap curves derived from Bloomberg data
- Inflation volatilities derived from the swap market
- FTSE Actuaries UK Fixed Interest Gilts Yields (Over 15 Years)
- FTSE Actuaries Index-Linked Gilts (3% Inflation) Yields (Over 15 Years)
- iBoxx AA rated UK Corporate Bond Yields (Over 15 Years)

Note: Market yields displayed in the market indicators table are on an annual basis.