

London Borough of Barnet Pension Fund

Review of Investment Managers' Performance for the Third Quarter of 2015

Prepared By:

Andrew Elliott - Senior Investment Consultant Phil Spencer - Associate Investment Consultant

For and on behalf of Hymans Robertson LLP January 2016

Contents

		Page
	Introduction	
	Executive Summary	3
>	Markets	
	Historic Returns for World Markets to 30/09/2015	4
>	Fund Overview	
	Fund Summary	5
>	Manager Overview	
	Manager Summary	6
	Performance Summary (Net of Fees)	7
>	Managers	
	LGIM World ex UK Equity Index Fund	8
	Newton Real Return Fund	9
	Schroder Diversified Growth Fund	10
	Newton Corporate Bond Fund	11
	Schroder Corporate Bond Fund	12
	LGIM Corporate Bond Fund	13
>	Appendices	
	Performance Calculation	14

Please note the value of investments, and income from them, may fall as well as rise. This includes equities, government or corporate bonds, and property, whether held directly or in a pooled or collective investment vehicle. Further, investment in developing or emerging markets may be more volatile and less marketable than in mature markets. Exchange rates may also affect the value of an investment. As a result, an investor may not get back the amount originally invested. Past performance is not necessarily a guide to future performance.

Hymans Robertson LLP has relied upon third party sources and all copyright and other rights are reserved by such third party sources as follows: DataStream data: © DataStream; Fund Manager data: Fund Manager; Investment Property Databank Limited data: © and database right Investment Property Databank Limited and its licensors 2016. All rights reserved. IPD has no liability to any person for any losses, damages, costs or expenses suffered as a result of any use or reliance on any of the information which may be attributed to it; Hymans Robertson data: © Hymans Robertson. Whilst every effort has been made to ensure the accuracy of such estimates or data - including third party data - we cannot accept responsibility for any loss arising from their use. © Hymans Robertson LLP 2016

Hymans Robertson LLP Executive Summary

Market Summary

Despite continued positive economic news regarding the US and UK economies, and a (temporary) resolution to the Greek debt crisis, the third quarter of the year was highly volatile for capital markets as investors focussed almost exclusively on China amidst fears of a more severe than expected slowdown in the growth rate of the world's second-largest economy. The net result was a sharp sell-off in global equity markets and a shift into perceived 'safe haven' assets.

Implied volatility jumped significantly over the quarter, reaching almost 25% in September. As a result, implied volatility in equity markets is as high as it has been for almost three years.

After a mild recovery over the second quarter, commodity prices once again came under pressure. With falling commodity prices, global inflationary pressures remain subdued. Lower fuel and energy prices saw UK CPI inflation being pulled back into negative territory in September with a reading of - 0.1% for the year.

After rising over the previous quarter, gilt yields reversed course in the third quarter of 2015 and started trending lower as equity markets sold off and investors became more concerned about the extent of China's growth slowdown. Short term interest rates remained unchanged in the UK, US, Eurozone and Japan.

Valuation and Performance Summary

Fund assets totalled c. £869m at the end of Q3 2015, falling c. £13m from the start of the period.

The Fund's assets returned -1.6% (net of fees) over the quarter, lagging both the return of the Fund's combined benchmark and the return on index-linked gilts by 2.1% and 3.5%, respectively.

The Fund's funding level, as estimated by Hymans Robertson's 3DAnalytics funding tool, fell over the quarter from 69.6% to 64.1%, measured on a gilts + 1.6% p.a. basis.

The Fund's three growth mandates (LGIM equities, Newton Real Return and Schroder DGF) all delivered negative absolute returns over the period as equity markets fell. The Fund's three corporate bond mandates all posted positive absolute returns with both LGIM and Newton outperforming their respective benchmarks.

Since the implementation of the Fund's current investment strategy in December 2010, the Fund has returned 4.8% p.a., underperforming the combined benchmark by 1.8% p.a. This is largely due to the Fund's absolute return mandates and their underperformance versus their ambitious outperformance targets which can be difficult to achieve during volatile market conditions.

Manager Ratings Summary

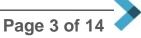
Manager	Fund Name	Rating		
Legal & General	World ex UK Equity Index Fund		1.1	•
Newton	Real Return Fund			•
Schroder	Diversified Growth Fund		•	
Schroder	All Maturities Corporate Bond Fund		•	
Newton	Corporate Bond Fund		•	
Legal & General	Active Corporate Bond All Stocks Fund			•

Actions and Recommendations

As at 30 September 2015 the Fund was 0.6% underweight to global equities and 0.7% underweight absolute return funds versus its strategic target. A corresponding overweight of 1.3% to corporate bonds reflects the equity market falls over the period and the positive performance achieved by the Fund's bond assets. We do not believe this is a reason to rebalance at the current time.

Once the Committee has completed moving the Fund to the new investment strategy agreed late last year, we would suggest a rebalancing process is formally agreed with appropriate rebalancing ranges for each of the Fund's asset classes.

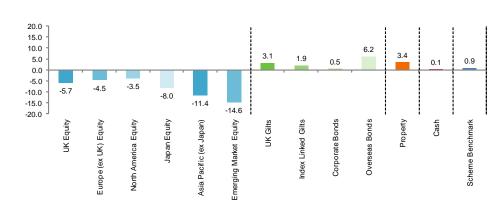
We now have a formal rating for Newton's fixed income capabilities and have rated them as '4 - Retain'. All of the Fund's remaining investment managers are currently rated either a '4 -Retain' or '5 - Preferred strategy'. There were no significant changes over the quarter to warrant any changes in rating.



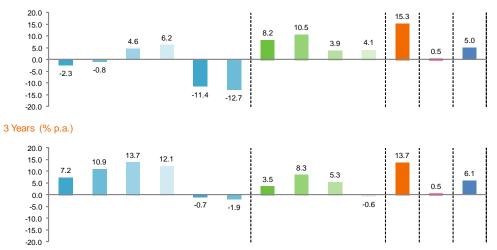
Historic Returns for World Markets to 30/09/2015

Historic Returns [1] [1]

3 Months (%)



12 Months (%)



Market Comment

Global equity markets recorded their worst three month returns in four years. In the UK the FTSE All Share index fell by 5.7%; in the US, the S&P 500 index fell by 2.9%. August was a particularly difficult month, with global equities falling by more than 5% and government bonds offering little in the way of a safe haven.

The economic slowdown in China dominated the headlines during the quarter, with the country's economy growing at its slowest rate in over six years. In August, the benchmark interest rate was cut for the fifth time since November 2014.

An increase in short-term interest rates in the US had been widely anticipated at the start of the quarter, but developments in China shifted expectations. Many commentators are now anticipating that the first US rate rise will be pushed into 2016. However, the US economy continued to be robust, with falling unemployment and upward revisions to growth forecasts. The chairman of the Federal Reserve suggested, at the end of the quarter, that a US rate rise was still likely before the end of 2015.

Key events during the quarter included;

Global Economy

- · Short-term interest rates were unchanged in the UK, US, Eurozone and Japan;
- · Headline inflation in the US, Eurozone and UK remained close to zero;
- The VIX volatility index spiked as equity markets collapsed, peaking at more than double its historic average since 1990;
- · Oil prices slid back to their lows of early 2015, dipping under \$50 per barrel;
- · Commodity prices suffered their biggest quarterly decline since 2008.

Equities

- The strongest sectors relative to the FTSE All World Index were Utilities (+7.6%) and Consumer Services (+5.1%); the weakest were Basic Materials (-11.4%) and Oil & Gas (-9.9%);
- · Emerging market equities struggled; local currency weakness compounded the falls for UK investors.

Bonds and currencies

 \cdot Sterling fell against the Dollar, Euro and Yen, largely reversing gains made during the preceding quarter;

 \cdot UK gilt yields fell (prices rose), with nominal yields falling further than real yields.

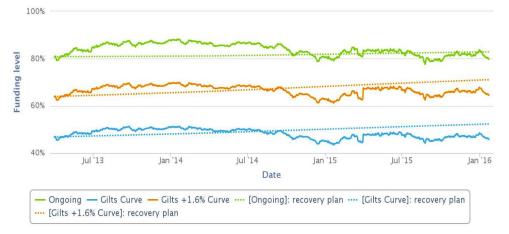
[1] All returns are in Sterling terms. Indices shown (from left to right) are as follows: Equities – FTSE All Share, FTSE AW Developed Europe ex-UK, FTSE North America, FTSE Japan, FTSE AW Developed Asia Pacific ex-Japan, S&P/IFCI Composite; Bonds – FTSE Fixed Gilts All Stocks, FTSE Index-Linked Gilts All Maturities, iBoxx Corporates All Investment Grade All Maturities, JP Morgan GBI Overseas Bonds; Property – IPD UK Monthly Property Index; Cash – UK Interbank 7 Day.

Source: [i] DataStream, Fund Manager, Investment Property Databank Limited



Funding update





Comments

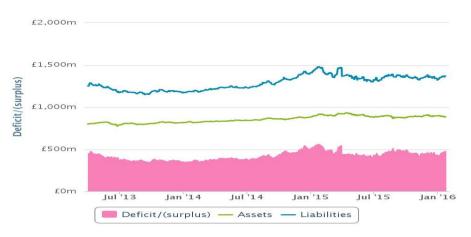
We have estimated the progression of the Fund's funding position (on different bases) since the last actuarial valuation at 31 March 2013. The analysis is based on the 2013 actuarial valuation report and subsequent funding updates provided by the Fund Actuary. The liabilities have been "rolled forward" allowing for changes in gilt yields over time.

We estimate that since 31 March 2013 the Fund's funding level (on a gilts + 1.6% p.a. basis) has remained broadly unchanged at around 64% as at 30 September 2015.

As at 30 September 2015, we estimate that the Fund's deficit on a gilts + 1.6% p.a. basis is around £488m, an increase of c. £37m since 31 March 2013.

Please note that the Fund's funding position estimated here will differ from that calculated by the Fund Actuary, Barnett Waddingham. This is due primarily to the roll forward of the Fund's liabilities and also due to differences in our assumptions used to calculate the funding level.

Funding position (gilts + 1.6% p.a. basis)



Surplus / deficit (on different bases)



Ongoing basis is a discount rate of gilts + 3% p.a. designed to represent a broad approximation of the Fund's current Technical Provisions basis.

Source: [i] DataStream, Fund Manager, Hymans Robertson, [ii] DataStream, Fund Manager, Hymans Robertson

London Borough of Barnet Pension Fund

Hymans Robertson LLP

Fund Summary

Valuation Summary [1] []

Values (£m)								
Asset Class	Q2 2015	Q3 2015	Actual Proportion %	Target Proportion %	Differer	ice %		
Global Equity	49.2	46.6	5.4	6.0	-0.6			
Absolute Return Funds	546.2	532.9	61.3	62.0	-0.7			
Corporate Bonds	286.7	289.6	33.3	32.0		1.3		
Total Client	882.1	869.1	100.0	100.0				



Relative Quarterly and Relative Cumulative Performance (Gross of



[1] Excludes operating cash held in Fund bank account., [2] Gross of fees, [3] Gross of fees

Source: [i] Fund Manager, [ii] DataStream, Fund Manager, Hymans Robertson, [iii] DataStream, Fund Manager, Hymans Robertson

Manager Summary

Manager Summary

Manager	Investment Style	Benchmark Description	Annual Fee (bps)	Rating *
LGIM World ex UK Equity Index Fund	Passive	FTSE World ex UK Net Tax (UKPN)	15	
Newton Real Return Fund	Active	1 month £ LIBOR + 4% p.a.	59	
Schroder Life Diversified Growth Fund	Active	RPI + 5% p.a.	60	
LGIM Active Corporate Bond All Stocks Fund	Active	Markit iBoxx GBP Non-Gilts (All Stocks)	20	
Newton Corporate Bond Fund	Active	Merrill Lynch Sterling (Over 10 years) Investment Grade Index	10	
Schroder All Maturities Corporate Bond Fund	Active	Merrill Lynch Sterling Non-Gilts All Stocks Index	18	
[*] For information on our manager ratings, soo individual manager p	2005			On Watch Rotain

For information on our manager ratings, see individual manager pages

Key:- - Replace - On-Watch - Retain

Manager Valuations [1] []

Value (£m)								
Manager	Q2 2015	Q3 2015	Actual Proportion %	Target Proportion %	Differei	nce %		
LGIM World ex UK Equity Index Fund	49.2	46.6	5.4	6.0	-0.6			
Newton Real Return Fund	267.5	265.3	30.5	31.0	-0.5			
Schroder Life Diversified Growth Fund	278.7	267.6	30.8	31.0	-0.2			
LGIM Active Corporate Bond All Stocks Fund	19.1	19.3	2.2	2.0		0.2		
Newton Corporate Bond Fund	140.2	142.1	16.4	15.0		1.4		
Schroder All Maturities Corporate Bond Fund	127.3	128.1	14.7	15.0	-0.3			
Total	882.1	869.1	100.0	100.0		0.0		

[1] Excludes operating cash held in Fund bank account

Source: [i] Fund Manager, Hymans Robertson



Performance Summary (Net of Fees)

Performance Summary [1] [1]

		LGIM World ex UK Equity Index Fund	Newton Real Return Fund	Schroder Life Diversified Growth Fund	LGIM Active Corporate Bond All Stocks Fund	Newton Corporate Bond Fund	Schroder All Maturities Corporate Bond Fund	Total Fund
3 Months (%)	Absolute	-5.3	-0.9	-4.1	1.3	1.3	0.6	-1.6
	Benchmark	-5.3	1.1	1.5	0.9	1.5	1.0	0.9
	Relative				0.3			
	Rolativo	0.0	-2.0	-5.5		-0.1	-0.4	-2.4
12 Months (%)	Absolute	1.2	0.7	0.0	4.9	5.7	3.6	1.8
	Benchmark	1.3	4.6	5.8	4.5	5.5	4.6	5.0
					0.4	0.2		
	Relative	-0.1					-0.9	
			-3.7				-0.9	-3.1
3 Years (% p.a.)	Absolute	10.6	2.4	-5.5 5.7	5.2	5.9	5.4	4.9
5 fears (% p.a.)	Benchmark	10.8	4.5	5.7 7.2	5.2	5.9 5.9	5.4	4.9 6.1
	Relative				0.3		0.4	
	Rolativo	-0.1	-2.1	-1.4		0.0		-1.1
Since Inception (% p.a.)	Absolute	7.1	2.8	3.5	7.3	8.7	6.7	4.8
/	Benchmark	7.2	4.6	7.6	6.8	8.8	7.0	6.8
					0.5			
	Relative	-0.1				-0.1	-0.3	
			-1.7	-3.8				-1.9

[1] Since inception for all mandates shown is from 31 December 2010 when the current investment strategy for the Fund was implemented.

Source: [i] DataStream, Fund Manager

LGIM World ex UK Equity Index Fund

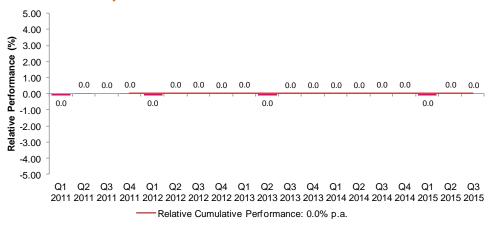
HR View Comment & Rating



We rate Legal & General Investment Management's ('LGIM') index-tracking equity capability at '5 - Preferred strategy'.

There were no further business changes at LGIM since our last report.

Relative Quarterly and Relative Cumulative Performance



Fund Commentary

The mandate has broadly matched its benchmark over all periods, as we would expect from a passive manager.

Performance Summary (Gross of fees)

	3 Months	12 Months	3 Years	Since Inception*
	(%)	(%)	(% p.a.)	(% p.a.)
Fund	-5.3	1.3	10.7	7.3
Benchmark	-5.3	1.3	10.7	7.2
Relative	0.0	0.1	0.0	0.0

* Inception date 31 Dec 2010.

Source: [i] DataStream, Fund Manager, Hymans Robertson, [ii] DataStream, Fund Manager, Hymans Robertson

Newton Real Return Fund

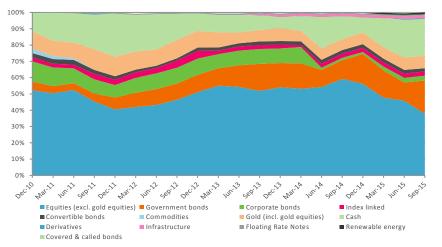
HR View Comment & Rating



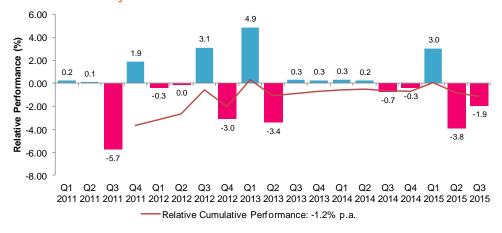
We rate Newton's Real Return Fund at '5 - Preferred strategy'.

The Real Return Fund is an unconstrained multi-asset strategy that seeks to generate a return through both dynamic asset allocation and security specific selection. We like the unconstrained nature of the Newton approach and the real focus on downside protection. It is this focus on risk as the loss of capital rather than a measure of portfolio volatility that distinguishes 'absolute return' managers such as Newton. While the approach draws on a range of inputs from various investment staff in the wider Newton team, we believe that the success or otherwise of the strategy is heavily reliant on the head of the team, Iain Stewart, and there is therefore a high level of key man risk. As at the end of the third quarter the Real Return strategy had assets under management of £12.6bn. Capacity is a consideration due to the portfolio investing in single stock names, however at this level Newton do not believe this is a concern. There were no significant changes to report over the third quarter to 30 September 2015.

Change in asset allocation over time



Relative Quarterly and Relative Cumulative Performance



Fund Commentary

The Newton Real Return Fund was down 0.8% over the quarter resulting in an absolute return of 1.3% over the past 12 months. Since implementation of the Fund's current investment strategy in December 2010, the fund is lagging its performance objective of LIBOR + 4% p.a. by 1.2% p.a. (gross of fees).

Over the quarter market volatility rose sharply and risk assets came under pressure around global growth concerns, commodity price weakness and uncertainty over a possible US interest rate rise. As equity prices fell by c. 6%, the largest positive contributor to performance came from the fund's derivative protection. This was carried out through futures and option contracts, which were held as protection against S&P 500 and FTSE 100 indices. Although the return-seeking core, which consists mainly of equities, lost value over the quarter, the high quality equities held by the fund (such as Microsoft, Accenture and British American Tobacco) performed better than global equities generally. In September, the manager reduced the fund's gross equity exposure to profit from the strong market rally following the lows in August. That said, the market fall in August did create some attractive valuation entry points resulting in the manager purchasing shares in Procter & Gamble and Dollar General.

The strategy's overall equity exposure is now set at a low level not seen since 2008 (c. 38% as at 30 September 2015 although net of direct index protection, this is closer to c. 25%). Given the manager's reluctance to increase exposure to risk assets, the fund's allocation to US Treasuries was increased at the end of the quarter. The manager remains nervous about the short to medium term outlook as there may be scope for further downside in the equity market due to market overvaluation becoming more apparent.

Source: [i] Fund Manager, [ii] DataStream, Fund Manager, Hymans Robertson

Schroder Diversified Growth Fund

HR View Comment & Rating



We rate Schroder's Diversified Growth Fund (DGF) at '4 - Retain' .

As a large, long-established multi-asset manager, Schroder is well placed to manage a mandate of this type. Its DGF was one of the first of its kind to gain traction in the institutional market, albeit largely amongst small pension funds. The product has a dual objective – on-going access to growth asset classes and the tactical management of those exposures. Schroder has tended to restrict its dynamic asset allocation within narrower bands than many. This fund will typically be highly dependent on the performance of equity markets to generate returns. It therefore offers less diversification benefits than some of the other multi-asset funds available, including Newton.

There were no significant changes over the quarter to the end of September 2015.

70% 50% 40% 30% 20% 10% Equities Government Bonds Inflation Linked Bonds Investment Grade Credit Asset Backed Securitie Emerging Market Debt Insurance-Linked Securities Commoditie High Yield Debt Leveraged Loans Volatility Strategy Cast

Change in asset allocation over time

Relative Quarterly and Relative Cumulative Performance



Fund Commentary

Volatility increased further within both equity and bond markets over the third quarter of 2015, with Schroder's DGF delivering an absolute return of -4.0% for the period. Whilst this was ahead of equity markets, it was significantly behind the fund's performance objective of RPI + 5% p.a. Assessing the fund's longer term performance since inception versus this performance target, the fund is currently lagging by c. 3.5% p.a. With global equity markets down c. 6% over the quarter, it was the fund's equity holdings that contributed to the majority of the negative absolute return posted. As investors subsequently rotated out of riskier assets and into more traditional safe haven assets, the fund's exposure to UK government bonds, property and insurance-linked securities helped cushion the losses slightly.

Heading into the quarter, the manager was cautious of the various risks posed to global markets particularly due to fears over a Chinese hard landing. As a result, the fund's equity exposure was significantly reduced during the month of August by more than 8%, predominantly via a reduction in European and UK equities. The manager expected the former to be one of the biggest losers from Chinese action whilst it also expected the UK stock market to suffer due to its high concentration of stocks within the natural resources sector. These actions were implemented prior to the large sell-off in August (known as Black Monday), and subsequently went someway to soften the losses that were incurred.

For sometime the manager has been holding a defensive stance through its currency strategy in order to offset some of the equity risk within the portfolio. Moving into the final quarter of 2015, the manager is expecting to increase the level of risk being taken, implemented predominantly through exposure to emerging currencies which have devalued significantly over the last year and now offer attractive entry points. Whilst equities are expected to remain volatile, the manager still believes developed equities are a decent bet to deliver positive real returns given the domestic demand and supportive central bank policies within most developed countries.

Source: [i] Fund Manager, [ii] DataStream, Fund Manager, Hymans Robertson

Newton Corporate Bond Fund

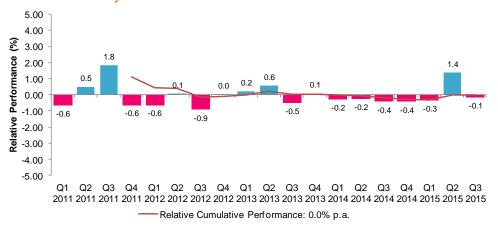
HR View Comment & Rating



Over the quarter our research team met with Newton's fixed income team in order to produce a formal rating for Newton's fixed income capabilities. Following this meeting, we can confirm that we have assigned a rating of '4 - Retain' for Newton's fixed income strategies.

Newton's fixed income team is managed by Paul Brain, who joined Newton in 2004 and manages a range of global bond funds. The fixed income team at Newton is comprised of 9 investment professionals with 17 years average investment experience. Newton employs a top down global thematic approach to investing and this philosophy also applies to fixed income investing. Fixed income assets account for approximately 7% of total assets under management at Newton, with equities, multi-asset and real return accounting for the remainder.

Relative Quarterly and Relative Cumulative Performance



Fund Commentary

The Newton bond mandate seeks to outperform its benchmark by 1% p.a. (gross of fees) over a rolling 5 year period.

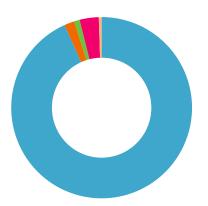
The fund marginally underperformed its benchmark by 0.1% over the quarter to end September 2015, although absolute performance was positive with a return of 1.4%.

The Newton Long Corporate Bond Fund, in which c. 93% of assets are currently invested in, performed slightly behind its benchmark over the quarter as a shorter duration position proved detrimental during the month of July as gilt yields declined. As credit markets then deteriorated over the final two months of the quarter, some of this relative performance was recouped but the fund's cash holdings also provided a modest drag on returns as well.

The remaining three funds in which the Fund is currently invested in all underperformed their respective benchmarks contributing to the overall relative underperformance of the bond mandate. Of the three, the largest detractor was the Fund's small holding in Newton's Global Dynamic Bond fund as positions in high yield corporates and emerging market sovereign debt both underperformed.

At the end of the quarter, the manager sought to take profit from a number of positions, partly to meet outflows, but also based on a view that credit spreads would continue to widen over the final quarter of 2015 as the economic backdrop weakened and liquidity continued to deteriorate.

Fund Holding as at 30 September 2015



93.3% - Long Corporate Bond Fund
1.8% - Long Gilt Fund
1.0% - Global High Yield Bond Fund
■ 3.4% - Global Dynamic Bond Fund
0.0% - Index-Linked Gilt Fund
■ 0.5% - Cash

Source: [i] DataStream, Fund Manager, Hymans Robertson

Fund Commentary

(gross of fees) over a rolling 3 year period.

and interest rate risk over the period.

Schroder Corporate Bond Fund

HR View Comment & Rating



We rate Schroder's corporate bond fund at '4 - Retain'.

There were no significant changes to report over the quarter to end September 2015.

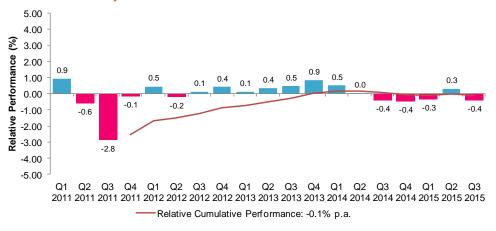
The Schroder All Maturities Corporate Bond Fund seeks to outperform its benchmark by 0.75% p.a.

The fund delivered an absolute return of 0.6% over the third quarter of 2015, underperforming its benchmark by 0.4%. The fund is marginally lagging its performance objective over the past 3 years and remains behind since inception. The largest detractor from performance over the quarter was the fund's credit sector allocation within the quasi-government and utilities sectors. This was partially offset

In terms of portfolio positioning, the manager remains benchmark neutral in terms of duration but is seeking to minimise exposure to selected market areas that it expects could be vulnerable to

disruption caused by the slowdown in China. This included reducing the fund's exposure to commodity sensitive sectors such as energy. As a result of credit spreads widening over the period, the manager was also able to take advantage of cheaper valuations to tactically increase the fund's overall credit

Relative Quarterly and Relative Cumulative Performance



Performance Summary (Gross of fees)

	3 Months (%)	12 Months (%)	3 Years (% p.a.)	Since Inception* (% p.a.)
Fund	0.6	3.8	5.6	6.9
Benchmark	1.0	4.6	5.1	7.0
Relative	-0.4	-0.7	0.6	-0.1

* Inception date 31 Dec 2010.

Source: [i] DataStream, Fund Manager, Hymans Robertson, [ii] DataStream, Fund Manager, Hymans Robertson

by credit selection, notably securitised and industrials BBB-rated issues.

LGIM Corporate Bond Fund

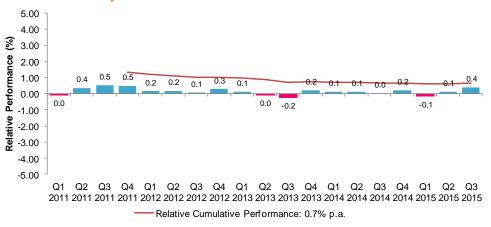
HR View Comment & Rating



There were no significant changes to report over the quarter to end September 2015.

We continue to rate the manager as '5 - Preferred manager'.

Relative Quarterly and Relative Cumulative Performance



Performance Summary (Gross of fees)

	3 Months (%)	12 Months (%)	3 Years (% p.a.)	Since Inception* (% p.a.)
Fund	1.3	5.1	5.4	7.5
Benchmark	0.9	4.5	5.0	6.8
Relative	0.4	0.6	0.5	0.7

* Inception date 31 Dec 2010.

Fund Commentary

The Legal & General Active Corporate Bond Fund seeks to outperform its benchmark by 0.75% p.a. (gross of fees) over a rolling 3 year period.

Over the 3 month period to 30 September 2015, the fund outperformed its benchmark by 0.4% as the manager's more cautious positioning aided performance over a period in which volatility spiked significantly. A notable contributor to fund outperformance included a small underweight credit risk position as credit spreads widened over the quarter. An overweight to securitised bonds and a preference for financials over non-financials also proved beneficial; the risk-off market and the attraction of bonds backed by defined assets benefitted the former whilst the latter was driven by the view that financials would outperform as they continue to repair or strengthen their balance sheets.

As a result of the outperformance over the quarter, the fund is now broadly in line with its performance objective since the Fund's new investment strategy was implemented in December 2010.

Source: [i] DataStream, Fund Manager, Hymans Robertson, [ii] DataStream, Fund Manager, Hymans Robertson

Performance Calculation

Geometric vs Arithmetic Performance

Hymans Robertson are among the investment professionals who calculate relative performance geometrically as follows:

((1 + Fund Performance)/(1 + Benchmark Performance)) - 1

Some industry practitioners use the simpler arithmetic method as follows:

Fund Performance - Benchmark Performance

The following example illustrates the shortcomings of the arithmetic method in comparing short term relative performance with the longer term picture:

		Arithmetic Method			Geometric Method		Difference
	Fund	Benchmark	Relative	Fund	Benchmark	Relative	
Period	Performance	Performance	Performance	Performance	Performance	Performance	
Quarter 1	7.00%	2.00%	5.00%	7.00%	2.00%	4.90%	0.10%
Quarter 2	28.00%	33.00%	-5.00%	28.00%	33.00%	-3.76%	-1.24%
Linked 6 months			-0.25%			0.96%	-1.21%
6 Month Performance	36.96%	35.66%	1.30%	36.96%	35.66%	0.96%	0.34%

Using the arithmetic method

If fund performance is measured quarterly, there is a relative underperformance of 0.25% over the six month period. If fund performance is measured half yearly, there is a relative outperformance of 1.30% over the six month period.

Using the geometric method

If fund performance is measured quarterly, there is a relative outperformance of 0.96% over the six month period. If fund performance is measured half yearly, an identical result is produced.

The geometric method therefore makes it possible to directly compare long term relative performance with shorter term relative performance.

