London Borough of Barnet Pension Fund

Review of Investment Managers' Performance for the First Quarter of 2016

Prepared By:

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

For and on behalf of Hymans Robertson LLP

June 2016

Contents

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.

Executive Summary

Market Summary

Although global equity market returns were broadly flat for the first quarter of the year (in local currency terms), this does not tell the full story. The period saw significant volatility with markets dropping by approximately 12% in the opening weeks, driven in part by China's continued economic slowdown which weighed on the country's domestic markets, heightening the fears of a global recession. Strong US jobs data and a stabilisation in commodity prices led to a sharp improvement in sentiment mid-February and a recovery in equity prices for the rest of the quarter, with the FTSE All World index ending the quarter down just 1.3%.

Emerging markets saw a reversal of fortune from last quarter and led the recovery of worldwide equity markets from mid-February. Following a lengthy period of weak performance, the recovery in raw material prices led to strong performance for commodity-centric countries such as Brazil, Russia and South Africa.

Manager Ratings Summary

Manager	Fund Name	Rating				
Legal & General	Equity index funds					●
Newton	Real Return Fund					●
Schroder	Diversified Growth Fund				●	
Schroder	ISF Strategic Bond Fund				●	
Schroder	All Maturities Corporate Bond Fund				●	
Newton	Corporate Bond Fund				●	
Legal & General	Active Corporate Bond All Stocks Fund					●

Valuation and Performance Summary

Fund assets totalled c. £901m at the end of Q1 2016, an increase of c. £19m from the start of the quarter.

The Fund's assets returned 2.3% (net of fees) over the quarter, underperforming the combined benchmark for the period by 0.4%.

As part of the on-going move to the Fund's new long term investment strategy, new allocations were made to several LGIM passive equity funds, as well as to Schroder's ISF Strategic Bond fund, both in Q4 2015 and during Q1 2016. Over Q1 a further £180m was transferred from DGF to equities and £30m transferred from corporate bonds to multi-credit. All mandates, other than Newton's Real Real Return fund, posted modest to significant underperformance relative to their performance targets.

Over the 5 year period to 31 December 2015, the Fund has returned 5.0% 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, which we saw for a large part of 2015 and the opening weeks of 2016.

Actions and Recommendations

Over the last six months the Fund has been transitioning to a new long term investment strategy, with the first stage completed over the first quarter of 2016. Since additional changes to the Fund's current investment strategy are still required, we would not suggest any rebalancing is considered since the Fund's target asset allocation is naturally changing during this period.

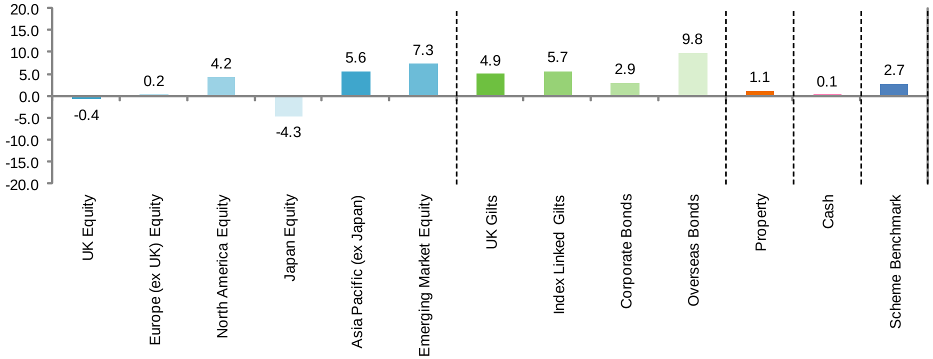
Once the Committee has completed moving the Fund to the new long term investment strategy, we would suggest a rebalancing process is formally agreed with appropriate rebalancing ranges for each of the Fund's asset classes.

All of the Fund's 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.

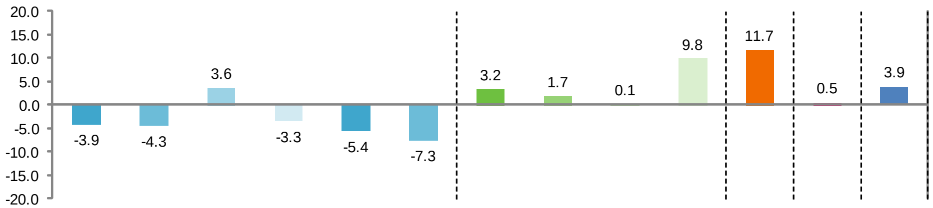
Historic Returns for World Markets to 31/03/2016

Historic Returns [1] [i]

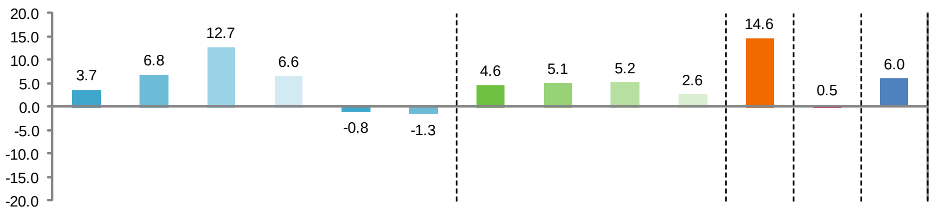
3 Months (%)



12 Months (%)



3 Years (% p.a.)



Market Comment

It was a turbulent first six weeks for equity and credit markets. The FTSE All World index plummeted by over 12%, before rebounding impressively to finish the quarter down 1.3%. As a result of continued weakness in sterling, returns to unhedged UK investors were around 4.3% higher. The defensive qualities of government bonds were in demand and they delivered positive returns over the period.

Investors' nervous start to 2016 reflected various global economic concerns such as the slowdown in China and the US, along with the continuing oil price collapse. This anxiety abated as the quarter wore on, with sentiment buoyed in part by some signs of stabilisation in China.

Once again, central bank action helped to calm nerves. The European Central Bank ('ECB') cut its overnight deposit rate from -0.3% p.a. to -0.4% p.a. The Bank of Japan surprised markets by following the ECB in cutting interest rates below zero. Despite further strength in the US labour market, the Federal Reserve left interest rates unchanged, citing risks posed by weaker global growth and financial market turmoil. Latest forecasts have been more cautious than before, suggesting that rates may rise by only 0.5% p.a. in 2016. In the UK, the latest Inflation Report from the Bank of England suggested a slower return to the 2% p.a. inflation target, further bolstering market conviction that UK interest rates will not be rising in the foreseeable future.

Key events during the quarter included:

Global Economy

· Japan followed Europe by cutting interest rates below zero; in the UK and US, rates were unchanged.
· The UK's current account deficit reached a post-war high, widening to 7% of GDP in Q4 2015.
· Brent crude fell to a 12-year low of $28 per barrel before rebounding to just under $40 at quarter end.
· The Bank of England expects headline CPI inflation to stay below 1% p.a. throughout this year.
· China's PMI manufacturing index rose to above 50 in March, for the first time since July 2015.

Equities

· The strongest sectors relative to the FTSE All World Index were Utilities (+8.8%) and Telecommunications (+6.7%); the weakest were Health Care (-6.5%) and Financials (-5.3%).
· Emerging Markets outperformed their developed counterparts, reversing a little of the 30% underperformance of the last three years.

Bonds and currencies

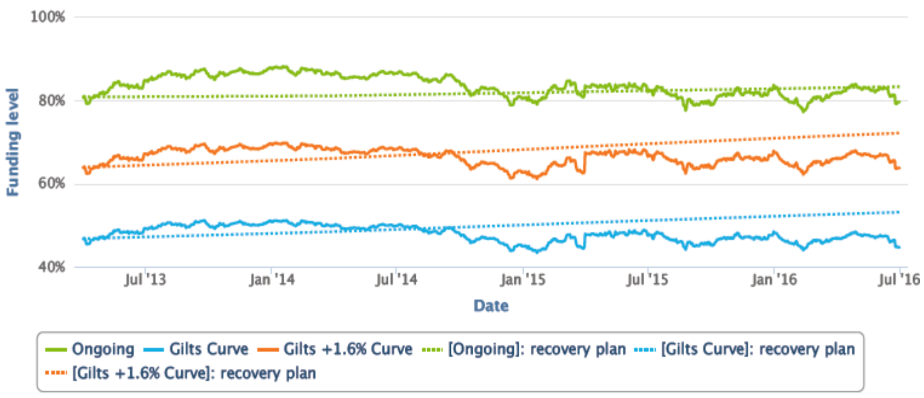
· Sterling weakened against the euro, US dollar and yen.
· UK gilt yields fell (prices rose), with nominal yields falling further than real yields.

[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

Progression of funding level (on different bases)



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

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’s previous actuary, Barnett Waddingham. The liabilities have been "rolled forward" allowing for changes in gilt yields over time.

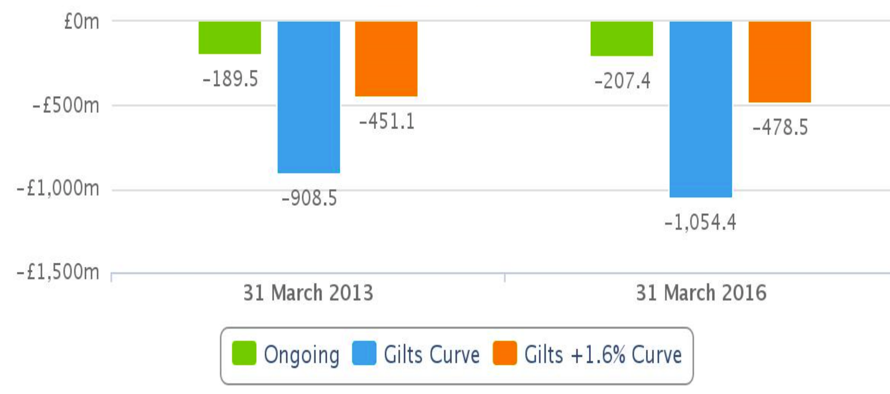
We estimate that since 31 March 2013 the Fund's funding level (on a gilts + 1.6% p.a. basis) has increased from c. 64% to c. 66% as at 31 March 2016.

As at 31 March 2016, we estimate that the Fund's deficit on a gilts + 1.6% p.a. basis is around £479m, a decrease of c. £27m since 31 March 2013.

Since the end of March 2016, we estimate the Fund's funding level (on a gilts + 1.6% p.a. basis) has fallen to c. 64% as at 30 June 2016.

Please note that the Fund's funding position estimated here will differ from that calculated by the previous 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.

Surplus / deficit (on different bases)

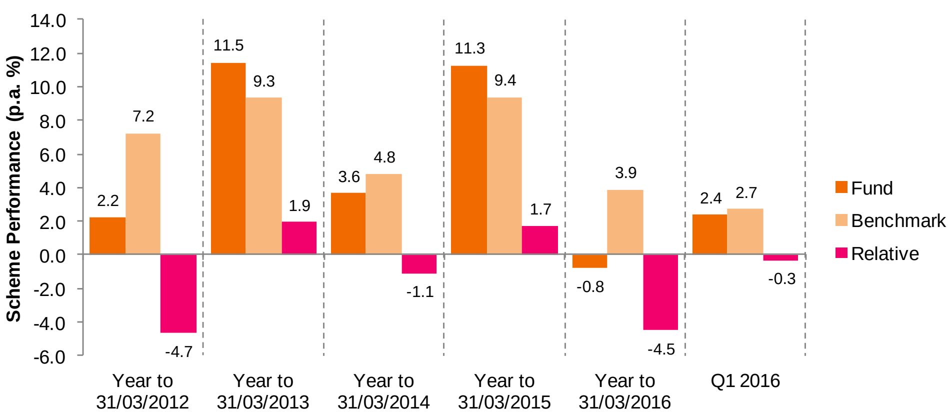


Fund Summary

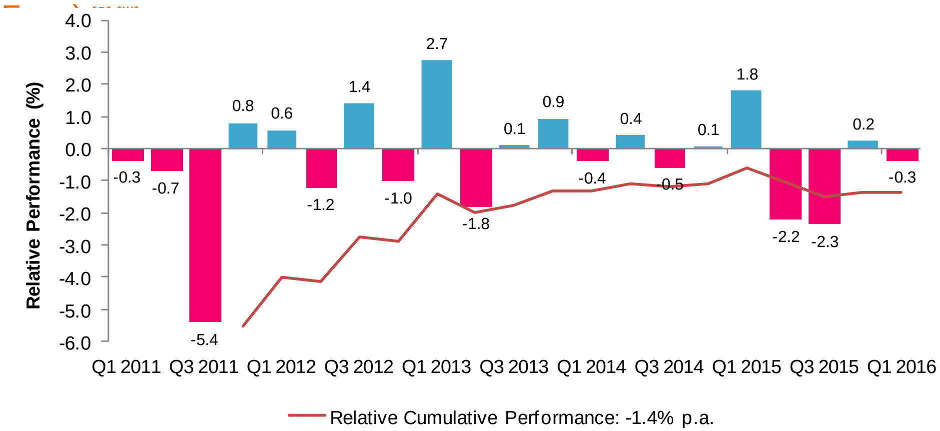
Valuation Summary [1] [i]

	Values (£m)				
Asset Class	Q4 2015	Q1 2016	Actual Proportion %	Target Proportion %	Difference %
Global Equity	150.6	342.4	38.0	36.0	2.0
Absolute Return Funds	440.5	261.2	29.0	31.0	-2.0
Multi-Credit	60.0	89.5	9.9	10.0	-0.1
Corporate Bonds	230.9	207.7	23.1	23.0	0.1
Total Client	**882.0**	**900.9**	**100.0**	**100.0**	

Performance Summary [2] [ii]



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 Global Equity	Passive	FTSE World 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				●	
Schroder ISF Strategic Bond Fund	Active	3 month £ LIBOR + 2% p.a.	52				●	

* For information on our manager ratings, see individual manager pages

Key:- - Replace - On-Watch - Retain

Manager Valuations [1] [i]

Manager	Value (£m) Q4 2015	Net Investment	Q1 2016	Actual Proportion %	Target Proportion %	Difference %
LGIM Global Equity	150.6	+180.0	342.4	38.0	36.0	2.0
Newton Real Return Fund	216.9	-90.0	130.4	14.5	15.5	-1.0
Schroder Life Diversified Growth Fund	223.5	-90.0	130.8	14.5	15.5	-1.0
LGIM Active Corporate Bond All Stocks Fund	19.4	-	20.0	2.2	2.0	0.2
Newton Corporate Bond Fund	82.5	-30.0	54.9	6.1	6.0	0.1
Schroder All Maturities Corporate Bond Fund	129.0	-	132.8	14.7	15.0	-0.3
Schroder ISF Strategic Bond Fund	60.0	+30.0	89.5	9.9	10.0	-0.1
Total	**882.0**	**-**	**900.9**	**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 [i]

		LGIM Global Equity	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	Schroder ISF Strategic Bond Fund	Total Fund
3 Months (%)	Absolute	0.8	3.9	-0.9	3.1	4.2	2.9	-0.9	2.3
	Benchmark	0.9	1.1	1.5	3.2	4.2	3.0	0.6	2.7
	Relative	0.0	2.8	-2.3	-0.1	-0.1	-0.1	-1.5	-0.4
12 Months (%)	Absolute	-4.6	1.1	-4.8	0.5	0.2	0.3	N/A	-1.2
	Benchmark	-4.5	4.6	6.5	0.5	-0.7	0.5	N/A	3.9
	Relative	-0.1	-3.3	-10.7	0.0	0.9	-0.1	N/A	-4.9
3 Years (% p.a.)	Absolute	7.1	2.8	3.3	4.9	6.0	5.2	N/A	4.2
	Benchmark	7.2	4.5	6.7	4.9	6.3	5.0	N/A	6.0
	Relative	-0.1	-1.6	-3.2	0.0	-0.2	0.2	N/A	-1.7
Since Inception (% p.a.)	Absolute	7.7	3.5	3.4	7.3	8.7	6.7	-1.1	5.0
	Benchmark	7.8	4.6	7.4	6.9	8.9	7.0	0.9	6.9
	Relative	-0.1	-1.0	-3.7	0.4	-0.2	-0.2	-2.0	-1.8

Source: [i] DataStream, Fund Manager

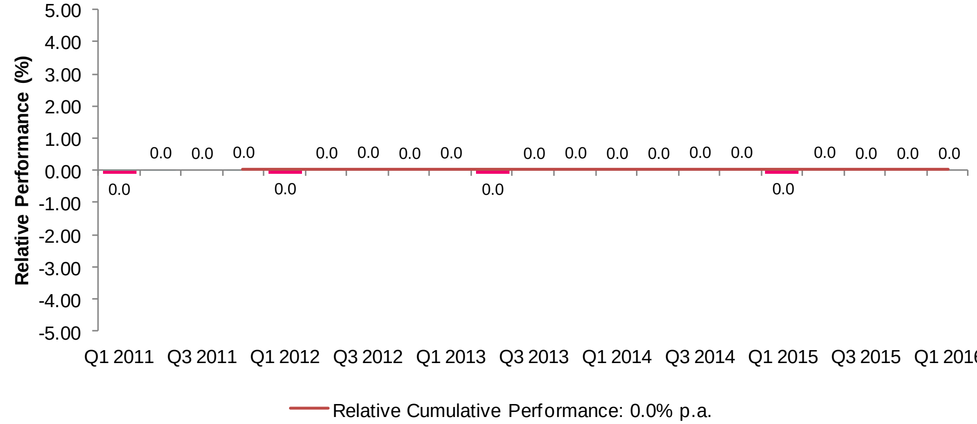
LGIM Global Equity

HR View Comment & Rating

We rate Legal and General Investment Management's market cap and fundamental index-tracking equity capability at ‘5 – Preferred strategy’.

In February LGIM announced that Simon Thompson, Chief Operating Officer (‘COO’) with responsibility for Investment Operations, Trading and IT functions, was leaving the firm to take a sabbatical from corporate life and focus on his family and other interests. Robert Moore, Chief Executive Officer of LGIM America and who has previous COO experience, will take on Thompson’s role in addition to his own existing responsibilities. This does seem a potential stretch for Moore but at this stage we see no reason to expect a diminution in LGIM’s index tracking capability.

Relative Quarterly and Relative Cumulative Performance [i]



Fund Commentary

As part of the agreed move to the Fund's new long term investment strategy, the transfer of assets from the Fund's absolute return funds to global equity was completed over Q1 2016, with an additional £180m invested in LGIM's equity funds.

Long term performance shown has been retained to include the performance of the World (ex UK) Equity Index fund since 31 December 2010.

LGIM's global equity mandate has been set up to broadly hedge 50% of its overseas currency exposure.

The opening quarter of 2016 saw a significant fall in global equity markets before recovering later in the quarter. The fund returned 0.9% over the quarter, matching its benchmark, as expected of a passive manager.

Performance Summary (Gross of fees) [1] [ii]

	3 Months (%)	12 Months (%)	3 Years (% p.a.)	Since Inception* (% p.a.)
Fund	0.9	-4.5	7.2	7.9
Benchmark	0.9	-4.5	7.2	7.8
Relative	0.0	0.0	0.0	0.0

* Inception date 31 Dec 2010.

[1] Long term performance returns includes performance of World (ex UK) Equity Index Fund to 8 October 2015. 3 month return includes performance of World (ex UK) Dev Equity fund from 23 October 2015, performance of UK equity fund and World EM Equity fund from 15 October 2015 and performance of RAFI AW 3000 Equity fund from 8 October 2015.

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

Newton Real Return Fund

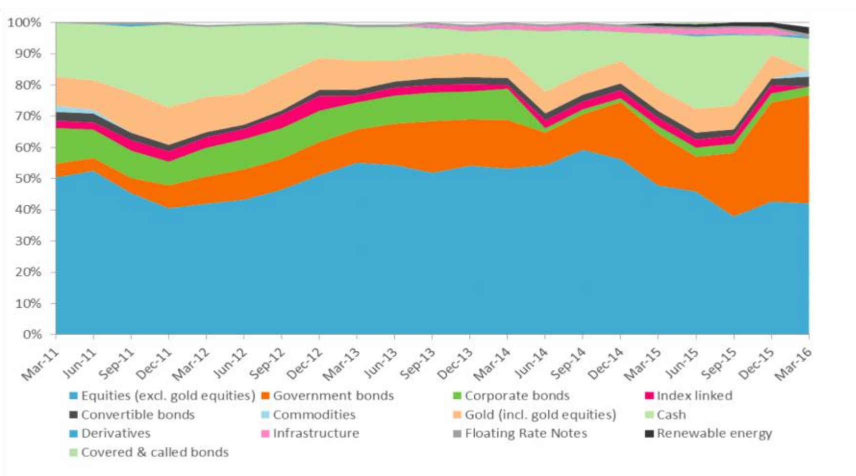
HR View Comment & Rating

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.

In Q1 our research team met with Suzanne Hutchins, one of the senior investment managers in the team and now the lead alternate manager for the strategy following the departure of James Harries. This meeting provided reassurance on the manager's approach to decision making and Hutchins reaffirmed that Iain Stewart (lead PM) does not have the ultimate decision for the strategy. Hutchins confirmed that while Stewart provides macro leadership, she is now responsible for chairing the strategy meetings. The team's approach to building the portfolio is very bottom up and draws on ideas across the team as well as the wider firm. The meeting with Hutchins provided reassurance both in terms of experience and contribution to the team.

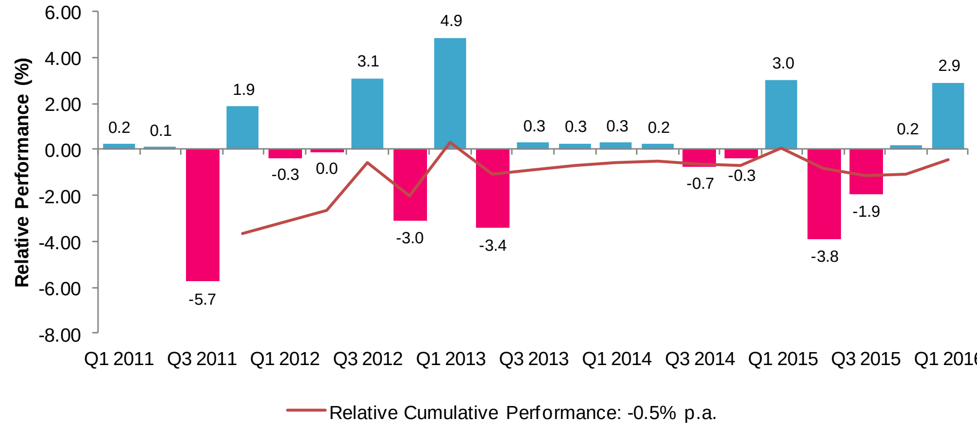
Whilst we still view Stewart as a key decision maker for the Real Return strategy, the fact that there is a 'Newton' approach to investing, which is demonstrated throughout the investment process and by all members of the team, gives us confidence that reliance on Stewart is lessening. We continue to rate Newton at '5 - Preferred strategy'.

Change in asset allocation over time [i]



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

Relative Quarterly and Relative Cumulative Performance [ii]



Fund Commentary

The fund was up 3.9% (net of fees) over the quarter resulting in a return of 1.1% (net of fees) over the past 12 months. Despite comfortably outperforming its performance target of LIBOR + 4% over the final quarter, the fund continues to lag over long term periods.

The key contributors to performance were the fund's exposures to equities and government bonds, which generated 5.3% and 7.5% over Q1 respectively. Over Q1, as the broader global equity market generated negative returns, the equity portfolio's strong outperformance was driven by stock selection in the media, tobacco and utilities sectors. The fund's direct equity protection generated a contribution of 2%, which offset the fund's losses as equities experienced their sharpest declines over the first six weeks of the year. The fund's gold, infrastructure and convertible bonds holdings helped dampen the wider volatility that was experienced over the quarter. Exposure to gold and precious metal mining equities has contributed 2.4% over the last 12 months as demand increased in a persistently low interest rate environment.

Over the quarter, the overall allocation has remained broadly unchanged, though the team have de-risked the asset allocation slightly by reducing the fund's gross return-seeking assets exposure to 52%. After allowing for the equity protection strategies the fund has in place, however, the fund's net exposure to return-seeking assets is closer to 27%. Following the strong performance of US Treasuries, the team also tactically purchased US long bond future put options over Q1, which delivered a strong return in the first two months of 2016. The team expect this strategy to provide protection against further volatility in the market. Although Brexit concerns continued to steer sterling depreciation over Q1 and the team are aware of this risk, sterling exposure remains close to 85% of the fund.

Schroder Diversified Growth Fund

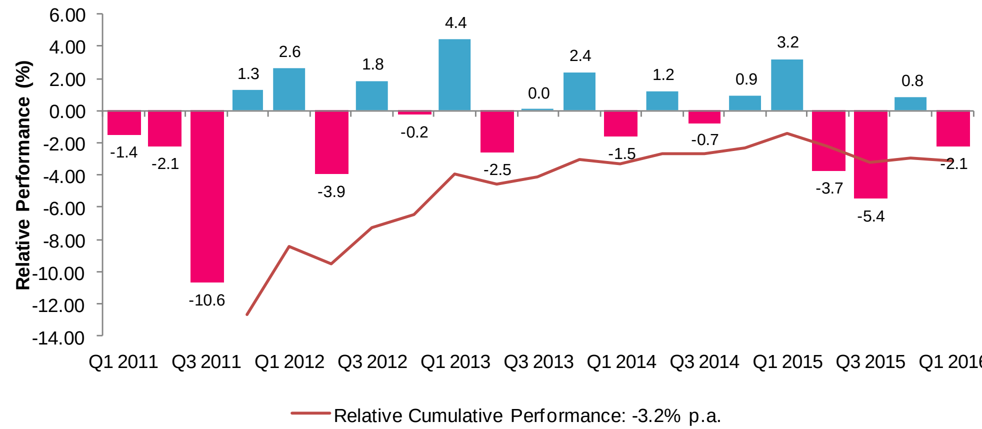
HR View Comment & Rating

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

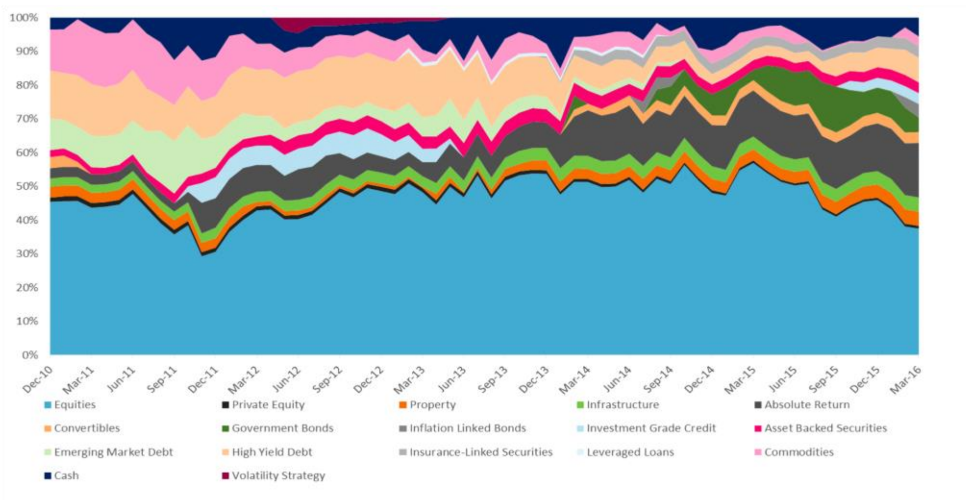
As a large, long-established multi-asset manager, Schroder is well placed to manage a mandate of this type. The Diversified Growth Fund (DGF) was one of the first of its kind to gain traction in the institutional market, albeit largely amongst small pension funds. The product has a dual objective – ongoing 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.

There were no significant changes over the first quarter of 2016.

Relative Quarterly and Relative Cumulative Performance [ii]



Change in asset allocation over time [i]



Fund Commentary

Over the first quarter of 2016 the Schroder DGF fund underperformed its RPI + 5% p.a. target by 2.1% as global equities continued to experience high levels of volatility throughout the quarter.

The fund's large equity exposure was the largest detractor over the period, offset slightly by decent gains within the bond portfolio as investors sought 'safe-haven' assets.

Having commented last quarter that the manager was now seeing some attractive entry points within emerging market currencies, the decision was taken at the beginning of Q4 to initiate positions in the Brazilian real, Mexican peso and Indian rupee. This decision was rewarded as the Brazilian real appreciated 10.3% relative to the US dollar on the back of increased expectations for political change. The manager continues to hold short positions in Asian currencies suffering from weakness in China.

Last quarter the manager predicted that the efficacy of central bank action would deteriorate over the course of 2016. This stance was confirmed correct in the early part of the quarter as the Bank of Japan's move to negative interest rates failed to boost the Japanese equity market. In preparation of this becoming the prevailing investment environment, the manager is starting to look, albeit cautiously, towards more cyclically exposed value opportunities and continues to hold a lower proportion of the portfolio in equities relative to recent years.

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

Schroder ISF Strategic Bond Fund

HR View Comment & Rating

Up until the end of 2015, Bob Jolly and Gareth Isaac had joint responsibility for managing the ISF Strategic Bond Fund. Over the quarter Schroder made some adjustments to its Global Multi-Sector team to facilitate the evolution of its investment process which has resulted in Jolly taking on an enhanced role of Head of Global Macro Strategy.

Current portfolio management responsibilities have been realigned to reflect the addition of the expanded strategy function. Bob will gradually hand over his day to day fund management responsibilities to the fund management team headed up by senior portfolio managers Gareth Isaac and Paul Grainger. Jolly will continue to be a central member of the team and will be involved in the investment decision-making integrating strategy analysis within the process.

We continue to rate Schroder's ISF Strategic Bond fund at '4 - Retain'

Performance Summary (Gross of fees) [i]

	3 Months (%)	Since Inception* (% p.a.)
Fund	-0.8	-1.0
Benchmark	0.6	0.9
Relative	-1.4	-1.9

* Inception date 30 Nov 2015.

Fund Commentary

The fund has a stated performance target of LIBOR + 4% p.a. over a market cycle which is typically c. 5 years. We view this performance target as ambitious given the type of strategy being employed. For the purposes of our reporting, we have therefore chosen to measure the fund against a benchmark of LIBOR + 2% p.a., at least over the shorter term, as we believe this level of outperformance to be a more realistic target for the fund to achieve.

Over Q1 2016 the fund underperformed its performance target of LIBOR + 2% p.a. by 1.4%, delivering an absolute return of -0.8%. The fund's riskier credit positions suffered as a result of the market sell-off during the first two months of the quarter with some of these losses then recouped during the month of March. The fall in government bond yields across the UK, Europe and the US proved detrimental for the fund given its duration neutral stance.

The fund's largest contributor to performance over the quarter was an oil-proxy currency trade; this was in the form of a short Euro position versus the Norwegian Krona. This position has been retained into Q2 with the manger also initiating a tactical long GBP position which added to performance at the end of Q1 as Sterling appreciated.

Performance since inception on 30 November 2015, has been disappointing although the manager believes this is because a lot of assets are being driven by market sentiment rather than economic fundamentals. Given the near-term volatility, particularly ahead of the Brexit decision, the manager is focused on shorter term relative value opportunities currently rather than longer term directional trades.

Source: [i] Fund Manager

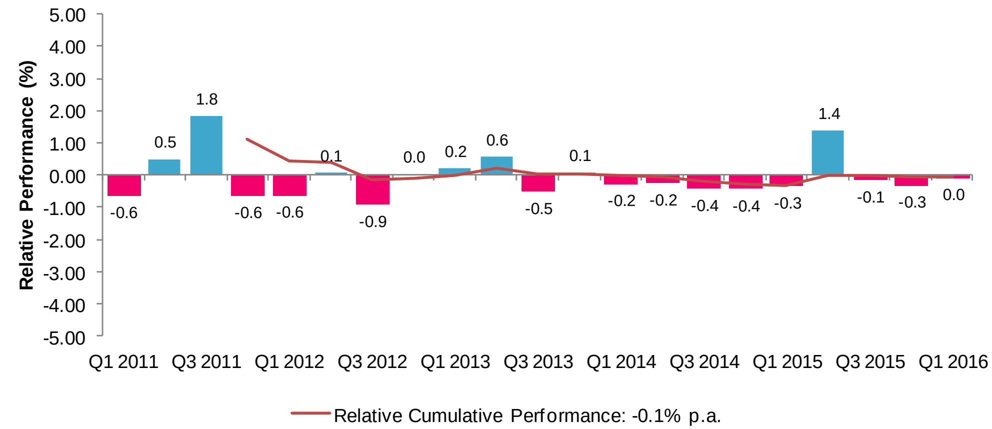
Newton Corporate Bond Fund

HR View Comment & Rating

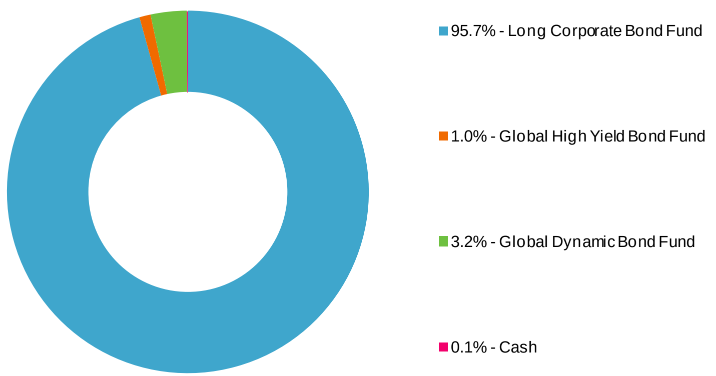
We rate Newton's fixed income capabilities at '4 - Retain'.

There was no significant business news to report over Q1 2016.

Relative Quarterly and Relative Cumulative Performance [i]



Fund Holding as at 31 March 2016



Fund Commentary

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

Over the quarter to end March 2016, the fund delivered a positive absolute return of 4.2%, broadly in line with its benchmark. Over the last 5 years, the fund has delivered solid absolute performance but only just in line with benchmark. It is therefore disappointing that the manager has not managed to achieve any outperformance over this longer term period.

Newton's Long Corporate bond fund (which makes up c. 96%) of the Fund's allocation marginally outperformed over the quarter. As riskier assets fell, the fund's cautious stance towards higher yielding areas of the corporate bond market was rewarded during the first two months before giving up some of the gains during March as risk assets recovered. The fund's shorter duration stance also detracted over the period as yields fell.

The portfolio’s small allocation to Newton's Global Dynamic Bond fund was a positive contributor to performance, outperforming its respective index by 0.9% over the quarter.

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

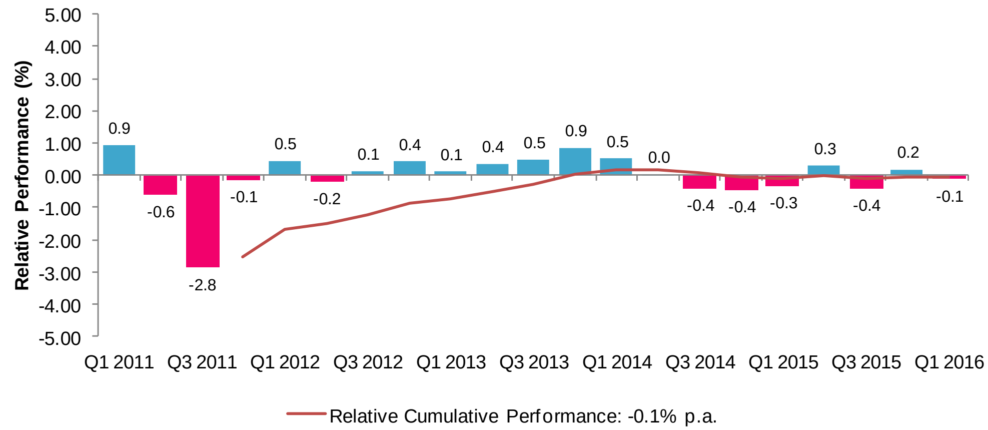
Schroder Corporate Bond Fund

HR View Comment & Rating

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

There was no significant business news to report over Q1 2016.

Relative Quarterly and Relative Cumulative Performance [i]



Fund Commentary

The Schroder All Maturities Corporate Bond Fund seeks to outperform its benchmark by 0.75% p.a. (gross of fees) over a rolling 3 year period.

The fund delivered an absolute return of 2.9% over the first quarter of 2016, marginally underperforming its benchmark by 0.1%. Disappointingly, the fund has marginally underperformed its benchmark since inception and is struggling to generate any additional value above the index return over the longer term.

Performance Summary (Gross of fees) [ii]

	3 Months (%)	12 Months (%)	3 Years (% p.a.)	Since Inception* (% p.a.)
Fund	2.9	0.5	5.4	6.9
Benchmark	3.0	0.5	5.0	7.0
Relative	-0.1	0.1	0.4	-0.1

* Inception date 31 Dec 2010.

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

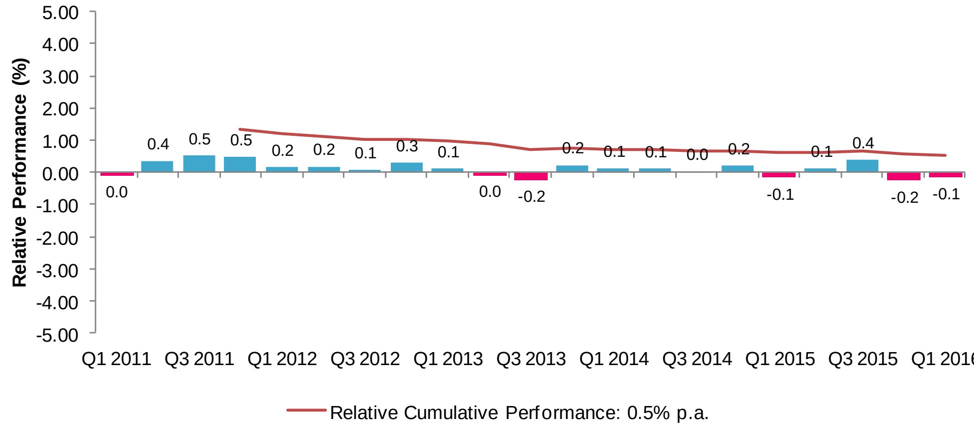
LGIM Corporate Bond Fund

HR View Comment & Rating

There were no significant changes to report over the quarter to end March 2016.

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

Relative Quarterly and Relative Cumulative Performance [i]



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 31 March 2016, the fund delivered a positive return of 3.1% but underperformed its benchmark marginally by 0.1%.

Since 31 December 2010, the fund has outperformed its benchmark by 0.5% p.a. which, whilst positive, continues to lag its overall performance objective.

Performance Summary (Gross of fees) [ii]

	3 Months (%)	12 Months (%)	3 Years (% p.a.)	Since Inception* (% p.a.)
Fund	3.1	0.7	5.1	7.5
Benchmark	3.2	0.5	4.9	6.9
Relative	-0.1	0.2	0.2	0.5

* Inception date 31 Dec 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
Period	Fund Performance	Benchmark Performance	Relative Performance	Fund Performance	Benchmark Performance	Relative 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.