



# London Borough of Havering Pension Fund

## Q3 2020 Investment Monitoring Report

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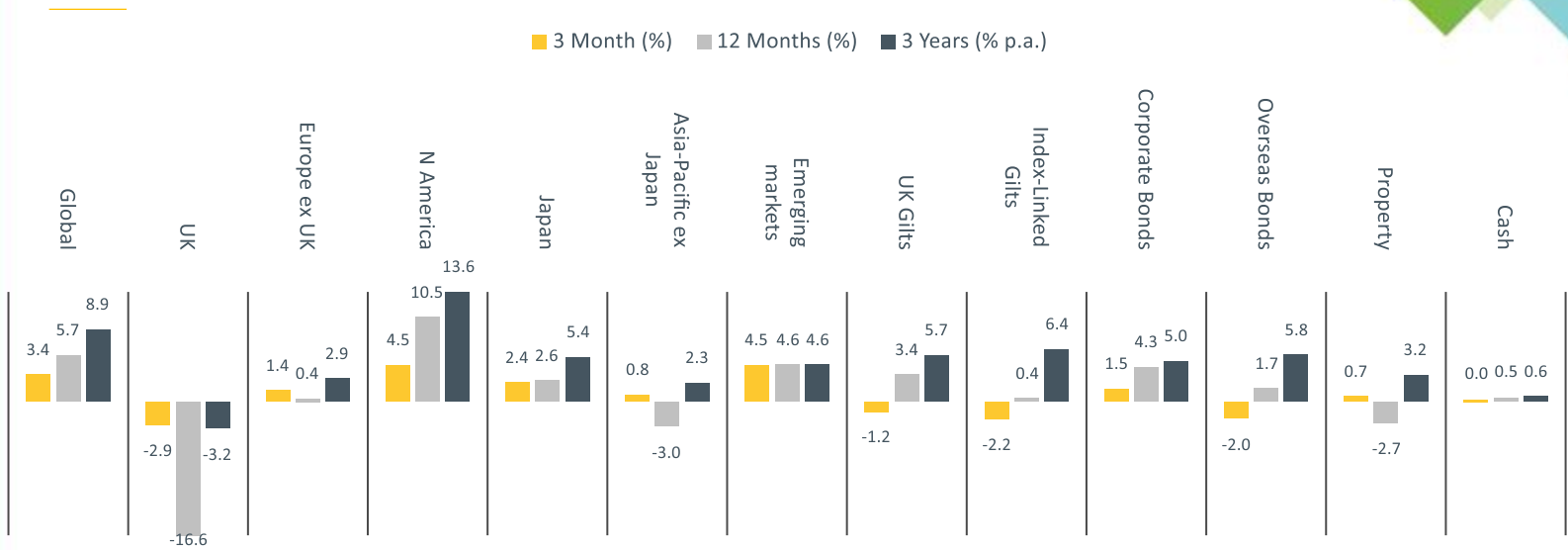
Q3 GDP data will likely reveal record-breaking growth rates for many economies, following Q2's record-breaking declines. Despite signs of a recovery, there is evidence to suggest the pace of improvement in major advanced economies slowed markedly towards the end of Q3. Monthly UK GDP releases show the pattern of growth experienced by the major advanced economies - April marked the nadir of the downturn with the economy returning to month-on month growth in May. Although above longer-term trend growth, the monthly pace of growth slowed from 6.4% in July to 2.1% in August. Purchasing Managers' Indices for both services and manufacturing in the major western economies signalled that the recovery in global activity continued in September.

Sterling partially reversed some of its losses in the first half of 2020, rising 1.7% in trade-weighted terms since the end of June, though weakness returned as trade talks faltered in September. Even allowing for September's gains, the US dollar fell 2.8% in trade-weighted terms in Q3.

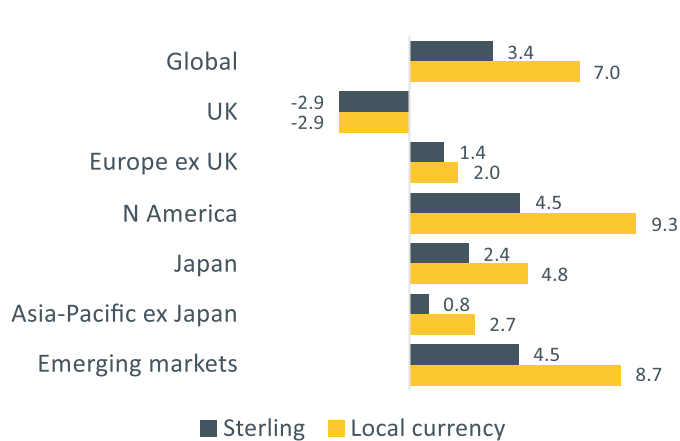
Globally, every major economy has seen its core inflation rate fall since end-2019. Having risen to 1.0% in July, headline UK CPI inflation fell to 0.2% in August, its lowest level since December 2015.

The Fed's shift to "flexible" average inflation targeting over Q3 likely means interest rate rises are even further away than previously envisaged. The Bank of England continues to send mixed messages on the potential use of negative interest rates, but an operational review is ongoing and market pricing, at least, suggests negative interest rates may be introduced in 2021.

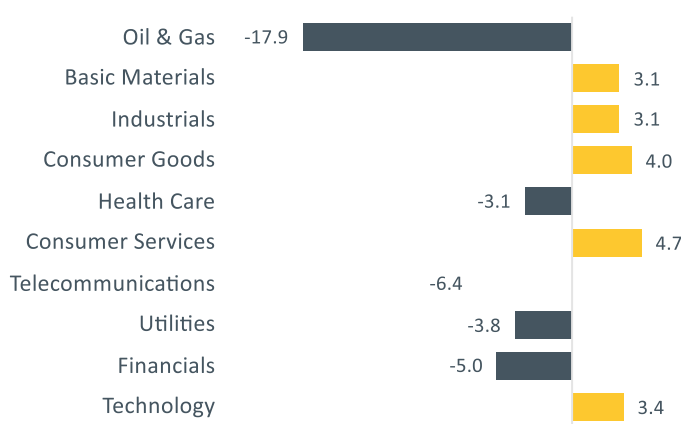
Historic returns for world markets [1]



Regional equity returns [2]



Global equity sector returns (%) [3]



[1] All returns are in Sterling terms. Indices shown (from left to right) are as follows: FTSE All Share, FTSE AW Developed Europe ex-UK, FTSE North America, FTSE Japan, FTSE AW Developed Asia Pacific ex-Japan, FTSE Emerging, FTSE Fixed Gilts All Stocks, FTSE Index-Linked Gilts All Maturities, iBoxx Corporates All Investment Grade All Maturities, JP Morgan GBI Overseas Bonds, MSCI UK Monthly Property Index; UK Interbank 7 Day. [2] FTSE All World Indices [3] Relative to FTSE All World Indices.

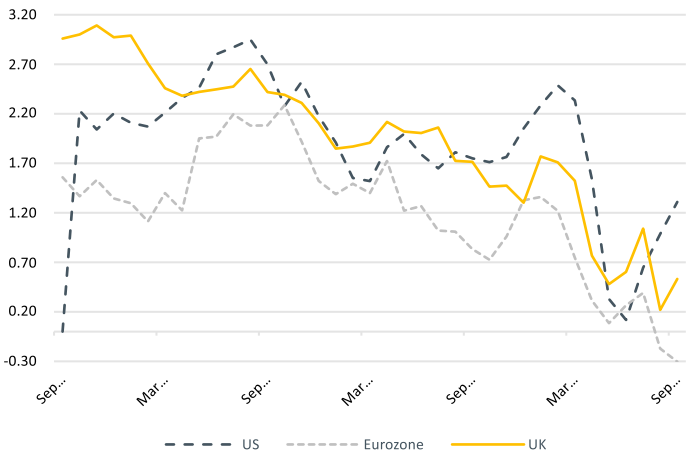
US 10-year treasury yields were little changed, ending the quarter at 0.68% p.a. Equivalent UK yields rose 0.06% p.a. to 0.23% p.a. while German bund yields drifted 0.07% p.a. lower to -0.52% p.a. Equivalent index-linked gilt yields fell, resulting in a rise in 10-year implied inflation to 3.3% p.a.

Despite rising towards the end of Q3, global investment-grade credit spreads fell from 1.6% p.a. to 1.4% p.a. and global speculative-grade spreads fell from 6.4% p.a. to 5.6% p.a. Defaults continued to rise but have been contained in the troubled US energy and retail sectors.

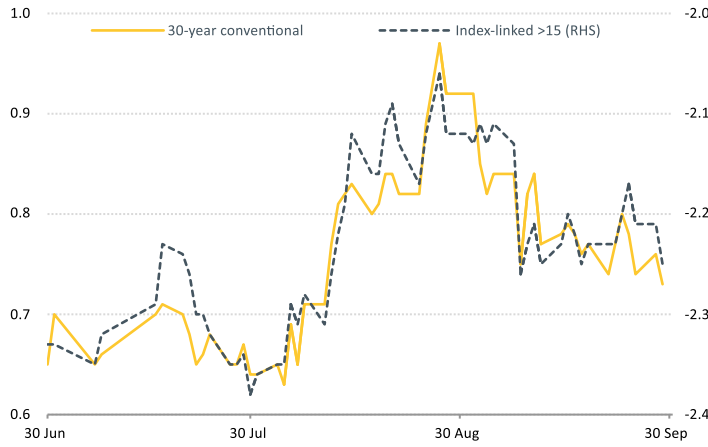
Global equity indices produced a total return of 7% in local currency terms, despite a return of volatility towards the end of Q3. Recent regional trends continued with the US outperforming and the UK underperforming. From a sector perspective technology extended its large year-to-date lead at the top of the performance rankings while oil & gas massively underperformed, cementing its place at the bottom.

The rolling 12-month performance of the MSCI UK Monthly Property Index continues to fall and is now -2.7% to the end of September. Capital values are, in aggregate, 7.8% lower over the same period. This is mainly due to an 18.6% fall in capital values in the retail sector over year, but values in other sectors have also fallen.

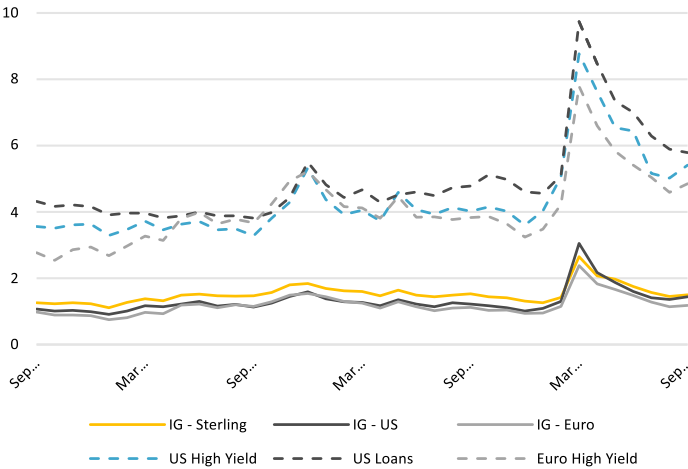
Annual CPI Inflation (% p.a.)



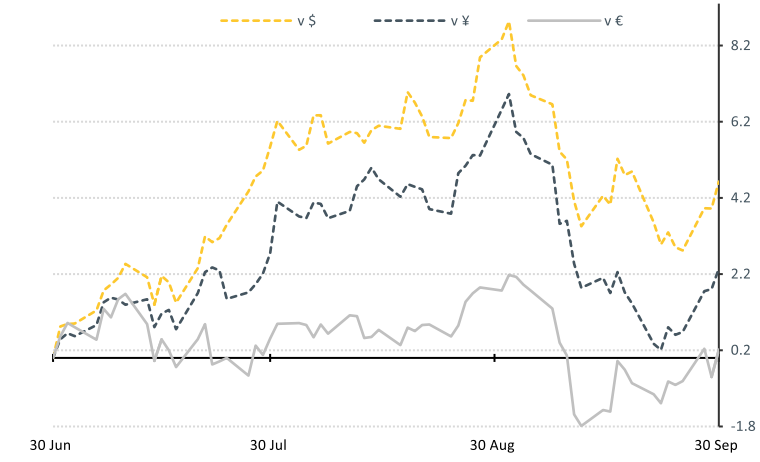
Gilt yields chart (% p.a.)



Investment and speculative grade credit spreads (% p.a.)

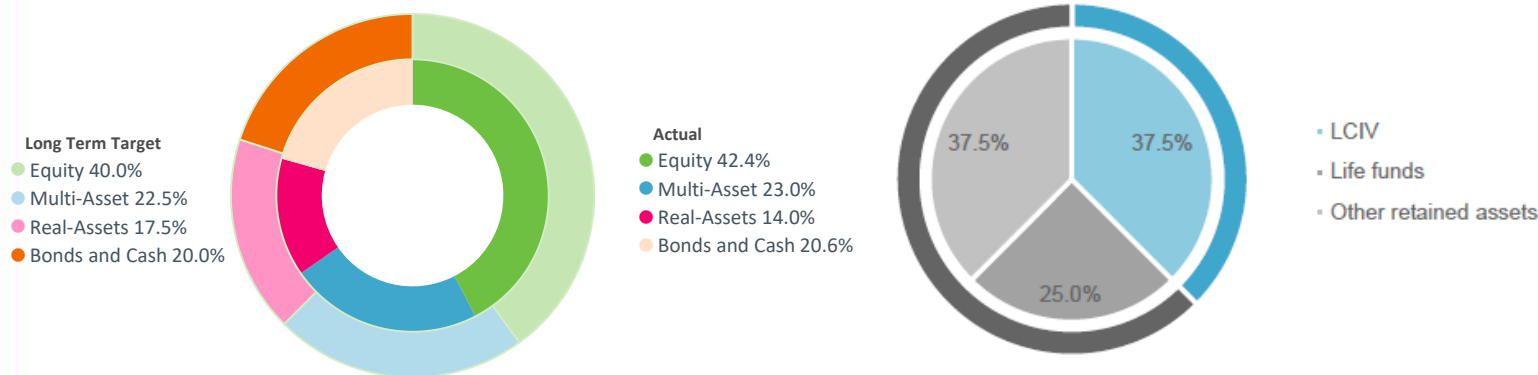


Sterling trend chart (% change)



Source: Reuters

## Asset Allocation



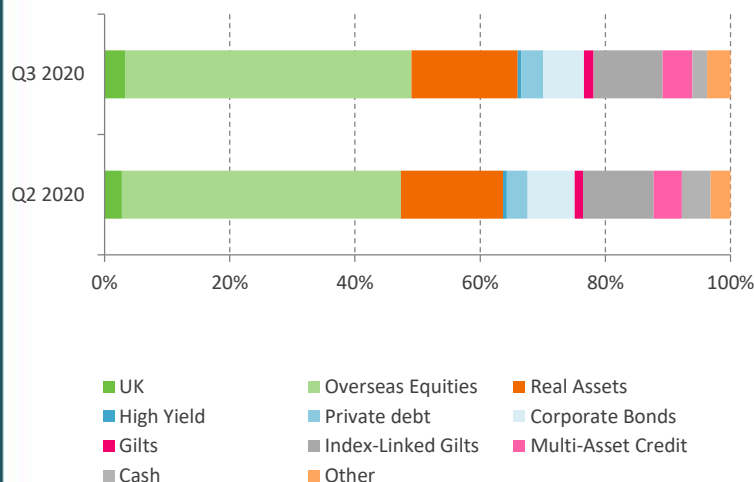
## Long Term Strategic Target

Asset class	Long term target	LCIV		Life funds		Other retained assets	
		Manager(s)	%	Manager(s)	%	Manager(s)	%
Equity	40	Baillie Gifford	15	LGIM	25		
Multi-Asset	22.5	Baillie Gifford, Ruffer	22.5				
Property	10					UBS, CBRE	10
Infrastructure	7.5					JP Morgan, Stafford	7.5
Private Debt	7.5					Permira, Churchill	7.5
Other bonds	12.5					RLAM	12.5
<b>Total</b>	<b>100</b>	<b>-</b>	<b>37.5</b>	<b>-</b>	<b>25</b>	<b>-</b>	<b>37.5</b>

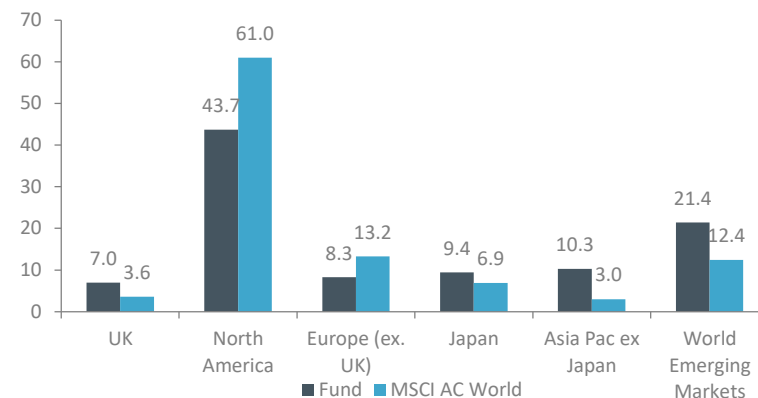
## Asset Allocation

Manager		Valuation (£m)		Actual Proportion	Benchmark	Relative
		Q2 2020	Q3 2020			
<b>Equity</b>		<b>320.8</b>	<b>337.2</b>	<b>42.4%</b>	<b>40.0%</b>	<b>2.4%</b>
LGIM Global Equity	LCIV aligned	61.4	63.5	8.0%	10.0%	-2.0%
LGIM Fundamental Equity	LCIV aligned	51.8	51.5	6.5%	10.0%	-3.5%
LGIM Emerging Markets	LCIV aligned	33.1	34.6	4.3%	5.0%	-0.7%
Baillie Gifford Global Equity (CIV)	LCIV	174.4	187.6	23.6%	15.0%	8.6%
<b>Multi-Asset</b>		<b>196.1</b>	<b>182.7</b>	<b>23.0%</b>	<b>22.5%</b>	<b>0.5%</b>
Ruffer Absolute Return (CIV)	LCIV	104.0	99.2	12.5%	12.5%	0.0%
Baillie Gifford DGF (CIV)	LCIV	86.7	83.6	10.5%	10.0%	0.5%
GMO Global Real Return	Retained	5.5	0.0	0.0%	0.0%	0.0%
<b>Real-Assets</b>		<b>112.1</b>	<b>111.8</b>	<b>14.0%</b>	<b>17.5%</b>	<b>-3.5%</b>
UBS Property	Retained	40.5	40.4	5.1%	6.0%	-0.9%
CBRE	Retained	28.6	27.5	3.5%	4.0%	-0.5%
JP Morgan	Retained	25.8	25.0	3.1%	4.0%	-0.9%
Stafford Capital Global Infrastructure	Retained	17.3	18.8	2.4%	3.5%	-1.1%
<b>Bonds and Cash</b>		<b>185.3</b>	<b>164.2</b>	<b>20.6%</b>	<b>20.0%</b>	<b>0.6%</b>
RLAM MAC	Retained	36.6	37.6	4.7%	7.5%	-2.8%
RLAM ILGs	Retained	41.8	41.0	5.2%	5.0%	0.2%
RLAM Corporate Bonds	Retained	53.3	44.5	5.6%	0.0%	5.6%
Churchill	Retained	15.6	15.4	1.9%	4.5%	-2.6%
Permira	Retained	11.6	12.5	1.6%	3.0%	-1.4%
Cash at Bank	Retained	26.2	11.1	1.4%	0.0%	1.4%
Currency Hedging P/L	Retained	0.1	2.2	0.3%	0.0%	0.3%
<b>Total Fund</b>		<b>814.4</b>	<b>795.8</b>	<b>100.0%</b>	<b>100.0%</b>	

## Asset class exposures



## Regional Equity Allocation



## Manager performance

	Last 3 months (%)			Last 12 months (%)			Last 3 years (% p.a.)			Since Inception (% p.a.)		
	Fund	B'mark	Relative	Fund	B'mark	Relative	Fund	B'mark	Relative	Fund	B'mark	Relative
<b>Growth</b>												
LGIM Global Equity	3.4	3.4	0.0	5.6	5.7	0.0	8.9	8.9	0.0	11.9	11.9	0.0
LGIM Fundamental Equity	-0.6	-0.6	0.1	-10.0	-10.2	0.2	1.1	1.1	0.0	8.0	8.0	0.0
LGIM Emerging Markets	4.4	4.5	-0.1	4.4	4.6	-0.2	-	-	-	6.9	7.1	-0.2
Baillie Gifford Global Equity (CIV)	7.6	3.5	4.0	25.4	5.2	19.2	15.4	8.7	6.1	16.5	12.4	3.6
Ruffer Absolute Return (CIV)	1.2	1.0	0.2	6.2	1.5	4.6	3.4	1.0	2.3	4.5	0.9	3.6
Baillie Gifford DGF (CIV)	3.5	0.9	2.5	-0.9	3.9	-4.7	1.6	4.1	-2.4	3.7	4.1	-0.4
<b>Income</b>												
UBS Property	0.8	0.2	0.6	-1.2	-2.8	1.6	4.0	2.7	1.3	5.7	6.6	-0.8
CBRE	-3.9	1.7	-5.5	6.3	5.5	0.7	-	-	-	5.7	5.8	0.0
JP Morgan	-1.4	1.7	-3.0	13.5	5.5	7.5	-	-	-	8.6	5.8	2.7
Stafford Capital Global Infrastructure	-1.0	1.7	-2.6	10.9	5.5	5.1	-	-	-	8.1	6.2	1.8
<b>Protection</b>												
RLAM MAC and ILGs	0.4	0.8	-0.4	2.7	2.1	0.6	7.1	7.0	0.2	8.5	7.9	0.6
RLAM Corporate Bonds	1.3	0.9	0.4	-	-	-	-	-	-	11.3	12.6	-1.1
Churchill	-4.3	1.0	-5.2	4.3	4.8	-0.5	-	-	-	2.2	4.9	-2.5
Permira	1.2	1.0	0.2	2.1	4.8	-2.6	-	-	-	2.1	4.8	-2.6
<b>Total</b>	2.7	1.3	1.4	5.4	3.0	2.3	6.0	5.4	0.5	-	-	-

Source: Northern Trust, investment managers. Please note that benchmark performance for Baillie Gifford DGF, Ruffer Absolute Return and GMO Real Return funds is inclusive of outperformance targets. In addition, longer term performance for Baillie Gifford Global Equity, Baillie Gifford DGF and Ruffer Absolute Return funds is inclusive of performance prior to their transfer in to the London CIV. LGIM Global and Fundamental Equity mandates were managed by SSGA prior to November 2017 and we have retained the performance history for these allocations. Performance figures for CBRE, Stafford and JP Morgan has been taken from the managers rather than Northern Trust. The Fund performance figure includes the effect of the currency hedging mandate managed by Russell.



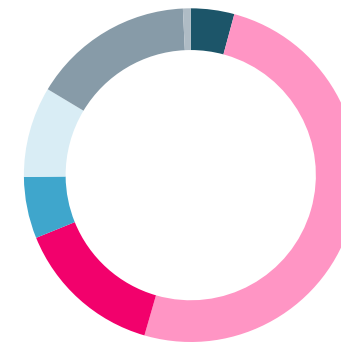
## LCIV Funds

- The Fund accesses global equity and multi-asset sub-funds through LCIV.
- LCIV are responsible for the ongoing monitoring and governance of the underlying investment managers.
- The Global Alpha Growth sub-fund is managed by Baillie Gifford.
- The objective of the sub-fund is to exceed the rate of return of the MSCI All Country World Index by 2-3% per annum on a gross of fees basis over rolling five-year periods.
- Following exceptionally strong performance over 2020, allocation to the Global Alpha Growth sub-fund is significantly over target weight. The Committee have agreed to trim this profit as part of the upcoming equity restructure.

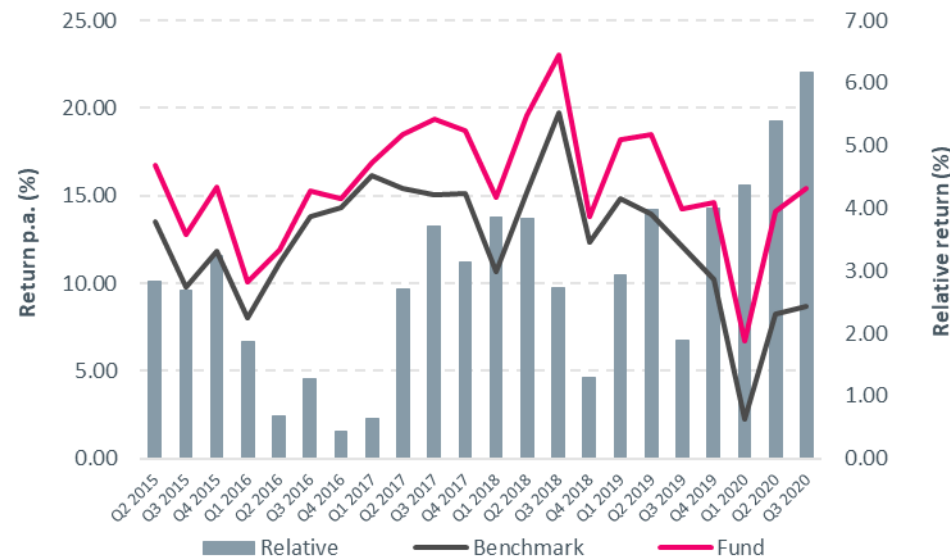
## LCIV Global Alpha Growth

	Last 3 months (%)	Last 12 months (%)	Last 3 years (% p.a.)	Since Inception (% p.a.)
LCIV Global Alpha Growth	7.6	25.4	15.4	16.5
Benchmark	3.5	5.2	8.7	12.4
Relative	4.0	19.2	6.1	3.6

## Regional Allocation



## Rolling 3 year return



Source: Investment Manager, LCIV, Northern Trust  
Date of inception 25 April 2012



## LCIV Diversified Growth Fund

- The sub-fund is managed by Baillie Gifford through their Diversified Growth strategy.
- The sub-fund's objective is to achieve long term capital growth at lower risk than equity markets.
- Benchmark is UK base rate + 3.5% (net).

## LCIV Absolute Return Fund

- The sub-fund is managed by Ruffer.
- The sub-fund's objective is to achieve low volatility and positive returns in all market conditions.
- Benchmark is 3 month LIBOR

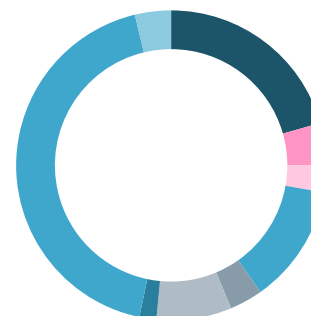
### LCIV Diversified Growth Fund

	Last 3 months (%)	Last 12 months (%)	Last 3 years (% p.a.)	Since Inception (% p.a.)
LCIV Diversified Growth	3.5	-0.9	1.6	3.7
Benchmark	0.9	3.9	4.1	4.1
Relative	2.5	-4.7	-2.4	-0.4

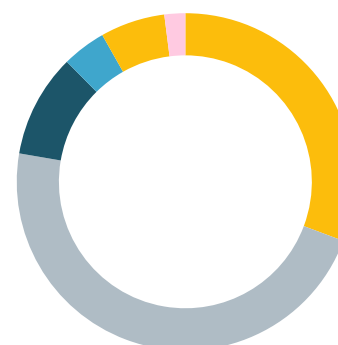
### LCIV Absolute Return Fund

	Last 3 months (%)	Last 12 months (%)	Last 3 years (% p.a.)	Since Inception (% p.a.)
LCIV Absolute Return	1.2	6.2	3.4	4.5
Benchmark	1.0	1.5	1.0	0.9
Relative	0.1	4.6	2.3	3.6

### Asset Allocation



### Asset Allocation



## LGIM Equity Funds

- LGIM were appointed from November 2017 to manage the Fund's index tracking global equity portfolio, with the mandate being split equally between investment in a fund tracking a market cap weighted index and a fund tracking a fundamentally weighted index (RAFI).
- The objective of this mandate is to match the performance of the respective benchmark indices.
- Performance information reflects performance from LGIM from November 2017, and SSGA prior to this date.
- Performance from the RAFI fund has been very poor of late as the value tilt has struggled more generally. The RAFI index was c.16% behind the global index over 12 months to 30 September.
- The Committee are considering replacing the RAFI allocation (value tilted) with a multi-factor equity fund. LGIM are due to provide training on multi-factor equity in late November 2020.

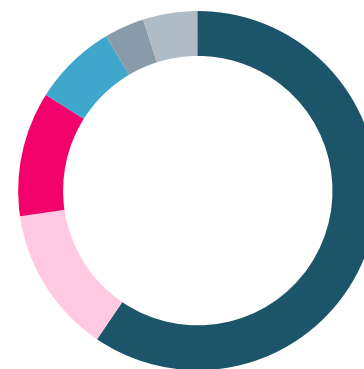
## All World Equity Index

	Last 3 months (%)	Last 12 months (%)	Last 3 years (% p.a.)	Since Inception (% p.a.)
LGIM Global Equity	3.4	5.6	8.9	11.9
Benchmark	3.4	5.7	8.9	11.9
Relative	0.0	0.0	0.0	0.0

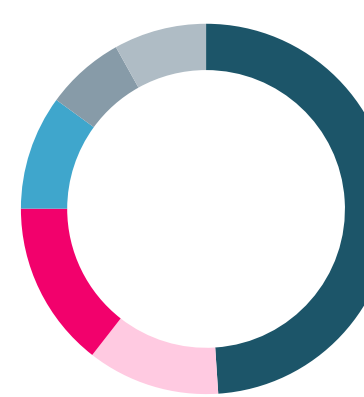
## FTSE RAFI All World 3000 Equity Index

	Last 3 months (%)	Last 12 months (%)	Last 3 years (% p.a.)	Since Inception (% p.a.)
LGIM Fundamental Equity	-0.6	-10.0	1.1	8.0
Benchmark	-0.6	-10.2	1.1	8.0
Relative	0.1	0.2	0.0	0.0

## Regional Allocation



## Regional Allocation



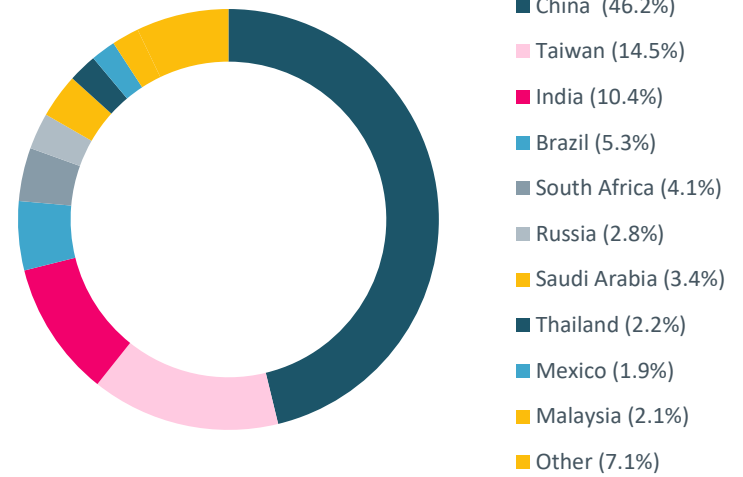
## LGIM Emerging Markets

- The objective of this mandate is to match the performance of the FTSE Emerging indices.

### World Emerging Markets Equity Index

	Last 3 months (%)	Last 12 months (%)	Since Inception (% p.a.)
LGIM Emerging Markets	4.4	4.4	6.9
Benchmark	4.5	4.6	7.1
Relative	-0.1	-0.2	-0.2

### Regional Allocation



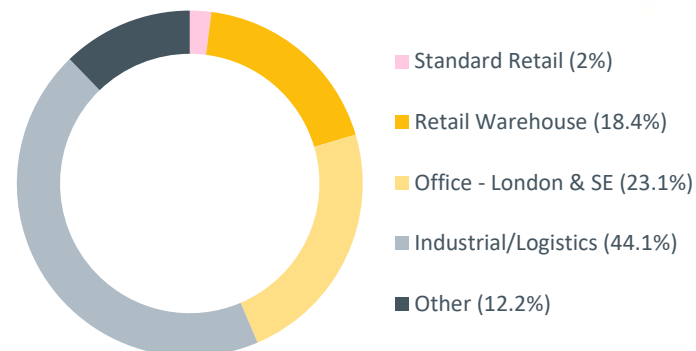
## UBS Triton Property Fund

- The objective of the fund is to deliver returns broadly in line with a peer group of other UK property funds.
- The fund invests directly in UK properties with returns generated through the collection of rental income and growth in both rental levels and capital values.
- The UBS Triton fund has now re-opened for investors to trade in or out following the suspension earlier in the year as a result of COVID-19.
- The Triton fund continued to increase the level of rent collection over the quarter and this is moving towards more normal levels after seeing a dip following the pandemic. Rent collection over Q3 was 79% (75% over Q2). The retail sector has presented the majority of challenges with low rent collection rates.

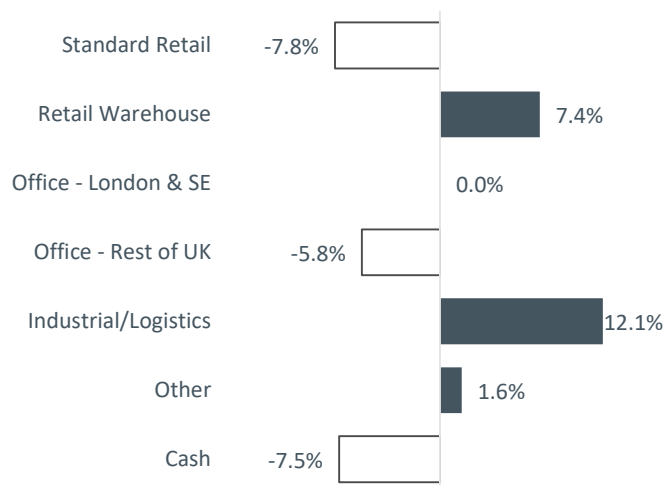
## UBS Fund Performance

	Last 3 months (%)	Last 12 months (%)	Last 3 years (% p.a.)	Since Inception (% p.a.)
UBS Property	0.8	-1.2	4.0	5.7
Benchmark	0.2	-2.8	2.7	6.6
Relative	0.6	1.6	1.3	-0.8

## Sector Allocation



## Sector Allocation Relative to Benchmark



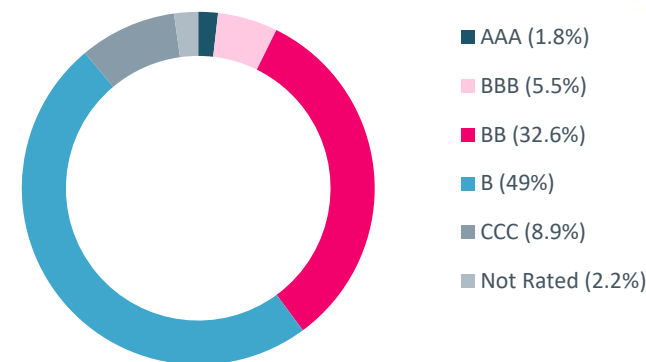
## RLAM – Bond mandates

- Royal London Asset Management (RLAM) was appointed in February 2005 to manage the Fund's bond mandate.
- RLAM now manage two separate portfolios: the existing portfolio consisting of index linked gilts and with the addition of MAC; and a separate corporate bond portfolio which is being sold down to fund the strategic changes.
- The chart below right compares the credit rating breakdown of the multi-asset credit and corporate bond portfolios at the end of the quarter.
- The strategic allocation to corporate bonds is now 0%, with allocations to index linked gilts and multi-asset credit 5% and 7.5% respectively.
- Credit spreads tightened over the quarter which benefitted the corporate bond and MAC portfolios. Real yields fell over this period however which dampened returns from the joint MAC and ILGs portfolio.

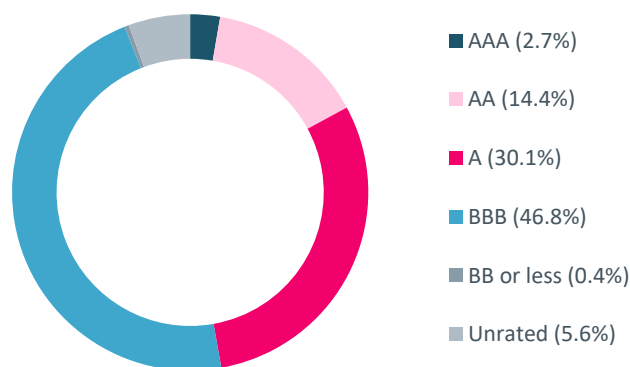
## RLAM Fund Performance

	Last 3 months (%)	Last 12 months (%)	Last 3 years (% p.a.)	Since Inception (% p.a.)
RLAM MAC and ILGs	0.4	2.7	7.1	8.5
Benchmark	0.8	2.1	7.0	7.9
Relative	-0.4	0.6	0.2	0.6
RLAM Corporate Bonds	1.3	n/a	n/a	11.3
Benchmark	0.9	n/a	n/a	12.6
Relative	0.4	n/a	n/a	-1.1

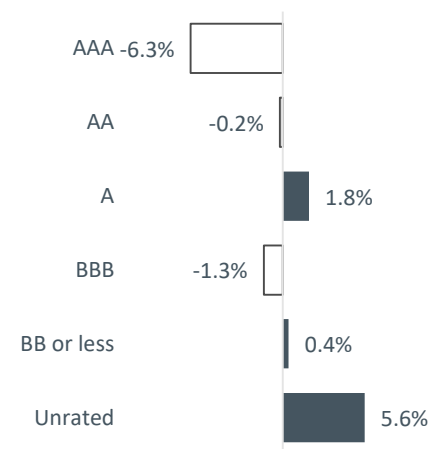
## Credit Allocation (MAC)



## Credit allocation (Corporate Bonds)



## Credit Allocation relative to benchmark (Corporate Bonds)



MAC and ILGs Benchmark: FTSE Index Linked over 5 Year 50%, ICE BAML BB-BBB Index 25%, Credit Suisse US Leveraged Loan GBP Hedged 25%.

Corporate Bonds Benchmark: iBoxx Sterling Non-Gilt Over 10 year Index.

Source: Northern Trust, RLAM

## Russell Currency Hedging

- Russell Investments have been appointed to manage the Fund's currency overlay mandate.
- The current policy is to hedge non-sterling exposures in the Fund's private markets mandates. Currency exposure in equity mandates is retained.
- At present, 100% of the exposure to USD, EUR and AUD from the private market investments is hedged within any residual currency exposure retained on a de-minimis basis.
- The charts illustrate the breakdown of hedged currency exposures in each mandate (ignoring unhedged exposures).
- Since implementation, sterling has weakened against other currencies.

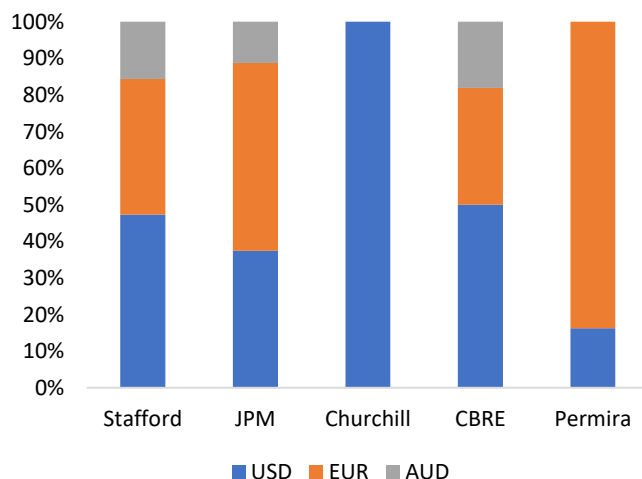
## Q3 performance

	Asset return (inc. FX impact)	Currency return (via Russell mandate)	Asset return (ex. FX impact)	BM return	Relative return (ex. FX impact)
Stafford	-1.0	0.5	-0.5	1.2	-1.7
JPM	-1.4	0.2	-1.2	1.2	-2.4
Churchill	-4.3	3.6	-0.6	1.3	-1.9
CBRE	-3.9	1.0	-2.9	1.2	-4.0
Permira	1.2	-0.6	0.6	1.3	-0.7

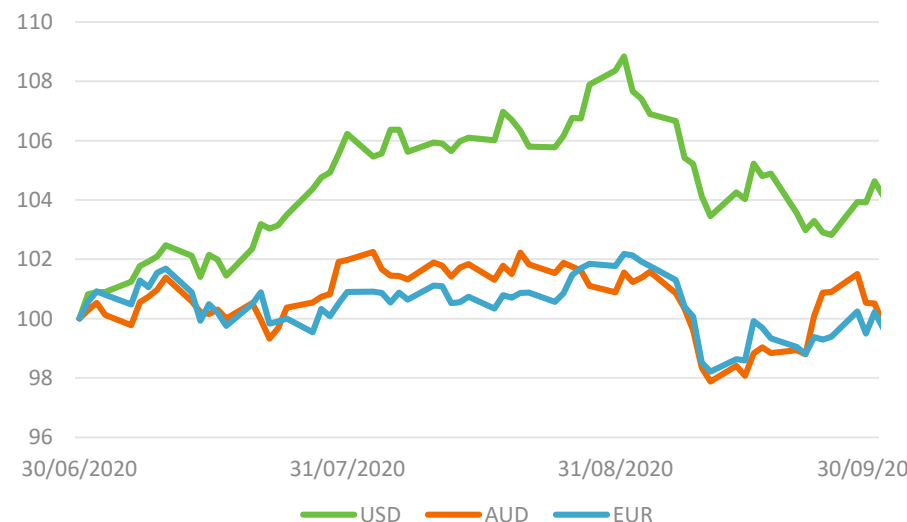
## Performance since mandate inception\*

	Asset return (inc. FX impact)	Currency return (via Russell mandate)	Asset return (ex. FX impact)	BM return	Relative return (ex. FX impact)
Stafford	6.8	-3.5	3.3	2.6	0.7
JPM	11.8	-4.8	7.0	2.6	4.3
Churchill	1.2	-3.2	-2.0	2.5	-4.5
CBRE	5.4	-3.7	1.7	2.6	-0.8
Permira	0.9	-2.5	-1.7	2.5	-4.1

## Hedged currency exposure as at quarter end



## Sterling performance vs foreign currencies (rebased to 100 at 30 June 2020)



Source: Northern Trust, Investment managers

\*Performance shown since 31 December 2019 which was the first month end after inception

- Since March 2018, the Fund has made commitments to five private markets funds as outlined below. The table provides a summary of the commitments and drawdowns to 30 September 2020.
- The allocations to JP Morgan and CBRE are fully drawn.
- There are outstanding commitments of approximately £40m to the remaining funds which will be primarily funded from the RLAM mandate.

Mandate	Infrastructure		Global Property	Private Debt	
Vehicle	Stafford Infrastructure Secondaries Fund II	JP Morgan Infrastructure Investments Fund	CBRE Global Investment Partners Global Alpha Fund	Churchill Middle Market Senior Loan Fund II	Permira Credit Solutions IV Senior Fund
Commitment Date	25 April 2018	31 July 2018	30 September 2018	December 2018	December 2018
Fund currency	EUR	USD	USD	USD	EUR
Gross commitment	c. £26m (EUR 28.5m)	c. £26.1m (USD 34m)	c. £26.1m (USD 34m)	c. £23.8 m (USD 31m)	c. £36 m
Net capital called during quarter (Payments less returned capital)	c. £0.9m (EUR c.1m)	-	-	c. £0.9m (USD 1.2m)	£0.7m
Net capital drawn to date (Payments less returned capital)	EUR 20.5m (c. £18.4m)	c. £23.6m (USD 31.4m)	c. £25.6m (USD 34.0m)*	c. £14.3.m (USD 19.4m)	c. £5.6m (EUR 6.2m)
Other distributions to date (Includes income and other gains)	EUR 3.4m (c. £3.0m)	-	-	c. £0.5.m (USD 0.7m)	£0.6m
NAV at quarter end	EUR 20.7m (c. £18.8m)	USD 32.4m (c. £25.0m)	USD 35.6m (c. £27.5m)	USD 19.8m (c. £15.4m)	£12.5m
Net IRR since inception (in fund currency)	6.7% p.a. (vs. 8-9% target)*	5.6%*	9.8%*	9.0%**	>20.4%***
Net cash yield since inception (in fund currency)	4.9% p.a. (vs. 5% target)*	10.8%*	4.7%*	5.5%*	4.8%*
Number of holdings	19 funds, 288 underlying assets*	17 companies, 541 assets	50 investments, 2,628 properties*	76 investments	21 investments

\*as at 30/06/2020 (latest available) \*\*refers to the IRR of realised investments in the portfolio

\*\*\*figure inflated due to early stage of fund

Source: Investment Managers



## Capital Markets Outlook

Asset class	Market Summary
Equities	<ul style="list-style-type: none"> <li>Global equity markets continued their momentum from Q2 through Q3, boosted by improving investor sentiment as rapid growth was realised following the easing in lockdowns in major economies.</li> <li>While data has improved and analysts' earnings forecasts have stabilised, much uncertainty remains over the recovery and the longer-term trajectory of corporate earnings, particularly in light of the recent return of restrictions in many countries.</li> <li>Valuations are highly disparate by region and sector, but when viewed in aggregate are considered a little stretched and may not be fully reflective of the current downside risks to the outlook.</li> </ul>
Investment grade credit	<ul style="list-style-type: none"> <li>Spreads have moved in-line with long-term median levels amid ongoing support from central banks and a recovery in market sentiment.</li> <li>The less sensitive nature of the investment-grade credit market to the fundamental backdrop is being reflected in spreads.</li> <li>Sterling investment grade spreads have fallen below long-term median levels and the premium relative to equivalent global credit is low relative to history.</li> <li>The structural protection inherent in ABS and high stress resilience does offer some additional protection relative to unsecured corporate markets where spreads have compressed further.</li> </ul>
Liquid Sub-investment grade debt	<ul style="list-style-type: none"> <li>Recent spreads tightening means that speculative grade spreads are just above long-term median levels.</li> <li>While expectations for the peak default rate have improved since the end of Q1, reflecting an improvement in financial conditions resulting from significant policy stimulus and a recovery in market sentiment, the outlook for earnings and defaults has still deteriorated significantly since the start of the year.</li> </ul>
Private Lending	<ul style="list-style-type: none"> <li>Though the fundamental backdrop has deteriorated since the beginning of 2020 and remains uncertain, senior secured corporate lending offers the opportunity to originate new debt with better terms and potentially more attractive fundamentals versus outstanding debt in the public markets.</li> <li>The illiquidity premium we would typically expect remains slightly compressed given recent weakness in the public markets.</li> <li>More affected outstanding debt in public and private markets may create opportunities for new stressed/distressed and special situations financing strategies.</li> </ul>
Core UK property	<ul style="list-style-type: none"> <li>While there is greater certainty around the accuracy of valuation data and some moderation in the stress facing the UK commercial property market, weak fundamentals demonstrate further downside risk over the coming months.</li> </ul>
Long Lease Property	<ul style="list-style-type: none"> <li>On an absolute basis, valuations appear less attractive than the wider property market, but they are supported by stronger fundamental and technical drivers.</li> </ul>
Conventional gilts	<ul style="list-style-type: none"> <li>Gilt yields remain near record lows amid slumping forecasts for growth and inflation and ultra-accommodative monetary policy.</li> <li>Yields may remain subdued for some time as major central banks maintain QE programs to provide liquidity to the global financial system, potentially pushing the normalisation of interest rates beyond the horizon of our medium-term views.</li> </ul>
Index-linked gilts	<ul style="list-style-type: none"> <li>Implied inflation is no longer cheap versus forecast and target inflation.</li> <li>The ongoing consultation in to RPI as an inflation measure remains a lingering upside risk for real yields.</li> <li>Forecasts for UK growth and inflation in 2020 provide fundamental support for gilt markets.</li> </ul>

The table summarises our broad views on the outlook for markets. The ratings used are Positive, Attractive, Neutral, Cautious and Negative. The ratings are intended to give a guide to our views on the prospects for markets over a period of around three years; although they are updated quarterly, they are not intended as tactical calls. The ratings reflect our expectations of absolute returns and assume no constraints on investment discretion. In practice, they need to be interpreted in the context of the strategic framework within which individual schemes are managed.

Source: Hymans Robertson

## Risk Warning

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.

In some cases, we have commercial business arrangements/agreements with clients within the financial sector where we provide services. These services are entirely separate from any advice that we may provide in recommending products to our advisory clients. Our recommendations are provided as a result of clients' needs and based upon our independent research. Where there is a perceived or potential conflict, alternative recommendations can be made available.

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## Geometric v Arithmetic Performance

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

$$\frac{(1 + \text{Fund Performance})}{(1 + \text{Benchmark Performance})} - 1$$

Some industry practitioners use the simpler arithmetic method as follows:

$$\text{Fund Performance} - \text{Benchmark Performance}$$

The geometric return is a better measure of investment performance when compared to the arithmetic return, to account for potential volatility of returns.

The difference between the arithmetic mean return and the geometric mean return increases as the volatility increases.