



London Borough of Hillingdon

Investment Risk & Analytical Services

June 30, 2018

Table of Contents

Section 1. London Borough of Hillingdon	3
1.1. <u>Client Commentary</u>	3
1.2. <u>Client Commentary (cntd)</u>	4
1.3. <u>Executive Summary</u>	5
1.4. <u>Investment Hierarchy</u>	6
1.5. <u>Investment Hierarchy(2)</u>	7
1.6. <u>Market Value Summary - Three Months</u>	8
1.7. <u>Historical Performance</u>	9
1.8. <u>Benchmark Composition</u>	13
Section 2. Appendix	14
2.1. <u>Disclaimer(s)</u>	14

Client Commentary

Total Scheme Commentary

The second quarter began with a reduction in tariffs; announced by President Xi Jinping in relation to imported vehicles. Baby steps towards global trading harmony ended there and the to and fro of “if you do this, then I’ll do that” began. China and the US have been battling back and forth throughout quarter 2, the UK is yet to establish a trade agreement with the EU and the US, again, is trying to renegotiate the North American free trade agreement with its neighbours and biggest trading partners.

The UK’s dominant services sector enjoyed its strongest growth in eight months, signalling a rebound for the UK economy and building the case for an imminent rate rise. At its May meet the Bank of England voted 6-3 to hold rates at 0.5% however as the Bank’s Chief Economist joined the hawks for the first time, speculation mounted that an August hike could be looming. Headline inflation stabilised at 2.4% for the second month running in May, its fall halted by a sharp rise in fuel costs and some upward pressure from air and sea fares. According to the Office for National Statistics fuel prices saw their largest monthly rise since January 2011, jumping from 4.6p per litre to 125.3p. These effects were however partially offset by a fall in the price of recreational and cultural goods and services. Core inflation also held steady at 2.1%

In the UK, Q2 2018 saw Sterling lose ground against the Dollar, Euro and Yen. The purchasing managers’ index (PMI) rose from 54.0 in May to 55.1 in June. The consumer price index including owner occupiers’ housing costs rose by 2.3% in the year to May 2018, up from 2.2% in April 2018. Rising motor fuel prices and air fares were the main upward contributors to the rise from April. The main downward contributors were from games, hobbies and toys where prices fell. The overall score of GfK’s Consumer Confidence Index fell to -9 in June compared to -7 in May. This was under the market’s expected value of -7, as positivity about the economy dropped off. The Nationwide House Price Index showed the annual rate of house price growth in May at 2.4%, slightly down from the April figure of 2.6%. The average house price is now £213,618.

Within this environment the London Borough of Hillingdon returned +4.08% which was below the Total Plan benchmark of +4.16%. In monetary terms this is a gain in assets of £41.4 million and the value of the combined scheme now stands at £1,053 million as at 30th June 2018. Looking further into the analysis the results seen were caused by allocation effects particularly within London CIV Ruffer and JP Morgan, the fund held overweight positions compared to the total benchmark for both these managers. While stock selection effects overall were positive, the most notable impacts were the positive effects of Macquarie and AEW UK which were partially reversed by the negative impacts in Epoch and JP Morgan.

The Scheme’s one year return of 6.16% is 0.79% behind the benchmark of 7.01% following four consecutive quarters of underperformance. While over the longer periods, with ten positive quarters over the last 3 years, the Scheme has outperformed, producing a return of 9.37% over three year versus 9.09%. Then the excess marginally falls to 0.23% for the 5 year period where we see figures of 8.74% versus 8.49% per annum. Then since inception in September 1995, the Fund remains ahead of target by 10 basis points with an annualised return of 7.14% against a target of 7.03%.

Manager Commentary

AEW UK

Over the second quarter AEW UK Property produced a growth of 3.87%, which was 1.83% above the IPD UK PPFi All Balanced Funds index figure of 2.00%. They remain ahead of target over the year, and continue to be ahead over the three year period returning 11.59% against the benchmark of 8.11%. This translates as a +3.22% relative return. With positive absolute returns in all but one period and only five quarters in the red on a relative basis, growth ahead of benchmark is seen since the fund inception. Since the funds inception date of July 2014, the fund return is 12.12%, leading to an outperformance of 2.00% when compared to the IPD figure of 9.92%.

JP Morgan

In the latest quarter JP Morgan posted a reduction in assets of -1.72% leading to an underperformance of 2.69% when compared to the 1.00% target for the 3 Month LIBOR + 3% p.a. Then with positive results in two of the last four quarters, the one year return of 0.08% is in positive territory but is behind the 3.56% target by 3.37%. Then over three and five years they post returns closer to the benchmark with figures of 3.67% vs 3.63% and 3.44% vs 3.61% respectively. Since the mandate funded their return of 3.57% is +8 basis points below the target return of 3.65% on an annualised basis.

Legal & General 1

Over the last three months the Legal & General No. 1 mandate post a return of +4.78% against +4.97% for the custom fixed weight blended benchmark, an underperformance of +18 basis points. In the short period since inception in October 2016, they return 7.43%, which is below the benchmark return of 7.54.

Legal & General 2

During February 2017 the Legal & General mandate was funded, now in its first full year of investment they post a return of 0.33% against 0.33% for the second quarter against the custom fixed weight blended benchmark consisting of FTSE Global Equity Hedged and Emerging Markets, FTSE Index Linked 15+ years and iBoxx UK Non-Gilts. In the short period since inception, they return 5.41% against 5.66% for the benchmark.

Client Commentary (cntd)

Manager Commentary

London CIV Ruffer

This quarter assets within the London CIV Ruffer portfolio saw a positive return at +2.30% when compared to the LIBOR 3 Month GBP figure of 0.26%, this leads to a relative return of +2.03%. This has improved the results from 2017 and the one year period now shows a positive return of 1.61% against the target of 0.56%. Outperformance remains in the longer periods. This is seen in a three year return of 3.37% versus 0.62%, then similarly for the five years with figures of 4.67% against 0.62%, culminating in since inception (May 2010) figures of 5.60% versus 0.82% per annum, which translates as a relative return of 4.74%. This manager shows the largest outperformance of all the schemes managers over the since inception period.

M&G Investments

M&G posted a loss (albeit small) in Q2 by producing a return of -0.38% against the 3 Month LIBOR +4% p.a. target of 1.25%, demonstrating an underperformance of 1.60%. Despite this the previous good results show the full year return lead the benchmark by 2.55%, coming from figures of 7.23% against 4.57%. Over the three and five year the account registers figures of 9.33% vs 4.62% and 8.80% vs 4.61% respectively; since inception (May 2010) return falls slightly to 7.29% pa whilst the benchmark is 4.68% pa. Although the since inception Internal Rate of Return moves further ahead of target with a figure of 8.59% opposed to the comparator of 4.41%.

Macquarie

Over the last three months, Macquarie produced a growth of 6.81%, against the 1.00% for the 3 Month LIBOR +3% p.a. this translates as an outperformance of 5.75%. With sixteen consecutive quarters of positive absolute and relative returns, outperformance is seen in all longer periods. Over the rolling year a growth of 11.91% beats the target of 3.56% by 8.05%, similarly the three year result of 19.41% versus 3.62% exhibits the best relative return at 15.24%. The annualised return over 5 years falls to 12.69%, but still ahead of the 3.60% seen for the benchmark; then since inception (September 2010) the 5.40% is ahead of the target of 3.67%. Although the since inception Internal Rate of Return for this portfolio jumps to 12.88%, which is ahead of the benchmark figure of 3.61%.

UBS

During Q1 the UBS UK Equity investments returned +9.15%, just behind the +9.20% for the FTSE All Share. Looking into the attribution analysis this underperformance was a result of selection effects partially offset by allocation effects. The most significant being the selection decisions in Financials (-41bps), Industrials (-29bps) and Consumer Services (-27bps), while the largest positive impact comes from Healthcare (+17 bps). Allocation effects were also notable and made a positive impact with the most significant being the underweighting in Consumer Goods (+50 bps) as well as overweighting in Oil & Gas (+41bps). The manager is now ahead over the one year, figures of 12.23 vs 9.02% translates as a relative return of +2.94%. This is largely attributable to allocation effects, the biggest impacts come from both underweighting Consumer Goods (+165bps) and overweighting Oil & Gas (+98 bps). The longer time periods show a positive picture, with three and five years ahead of the index, culminating in a since inception (January 1989) return of 10.34% versus 8.91% on an annualised basis.

Manager Commentary

Premira Credit

The Premira Credit Fund saw a growth of 1.50% over the second quarter of 2018, this compares favourably with the 3 Month LIBOR +4% p.a. target of 1.25%. All four quarter's over the last year are still ahead of target, leading to an outperformance of 3.22%, created from figures of 7.93% against 4.57%. Then since the start of December 2014 when the fund incepted, the fund posts a return of 9.13% against the benchmark of 4.59%, leading to a relative position of 4.35%. This manager shows one of the largest outperformance of all the schemes managers over the since inception period.

UBS Property

In contrast from the previous period, the latest quarter for the UBS Property posted an outperformance with +0.20%, generated from a return of 2.21% against the IPD UK PPFI All Balanced Funds index of 2.00%. Over the one year an outperformance is recorded, with a full year return of 10.48% beating +0.68% ahead of the IPD target of 9.73%. The previous good run of results particularly during 2015 leads to high absolute returns staying ahead of the IPD target over the longer periods, peaking over the five year with a return of 11.44% against 10.61%. Then since inception, in March 2006, the fund return falls to 4.09% per annum which manages to stay just ahead of the benchmark figure of 4.02%.

Private Equity

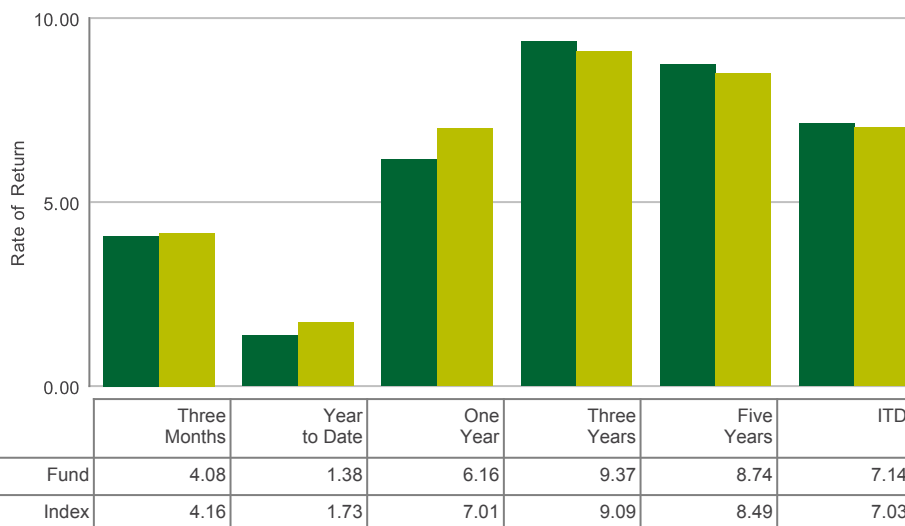
The private equity assets saw a 11.05% rise in value for LGT. Adam Street saw an increase of 9.15%. Over the longer periods, the outlook over which private equity investments should be measured, returns remain positive. LGT maintain a run of over 3 years of growth with figures of 17.32%, 24.81% and 16.56% for the one, three and five year periods respectively, while Adam Street posted 12.79%, 16.29% and 15.53% over the same periods. Although Adam St falls short of the proxy benchmark of MSCI AC World +4% p.a. which shows 13.44%, 19.33% and 16.79%. LGT by contrast are ahead over the one and three year periods (outperforming by +3.41% and +4.60% respectively) but fall somewhat short over the five year underperforming by 19bps. Then since their respective inceptions in January 2005 and May 2004, Adam Street drops to 6.91% pa, while LGT sees a more modest dip to 11.48%.

Epoch

Over the second quarter the relatively new investment in Epoch's income equity fund generated a return of +6.34%. Since inception (November 2017) the fund has observed a fall in value -2.60% compared to the MSCI World figure of +2.47%, this leads to a relative return of -4.95%.

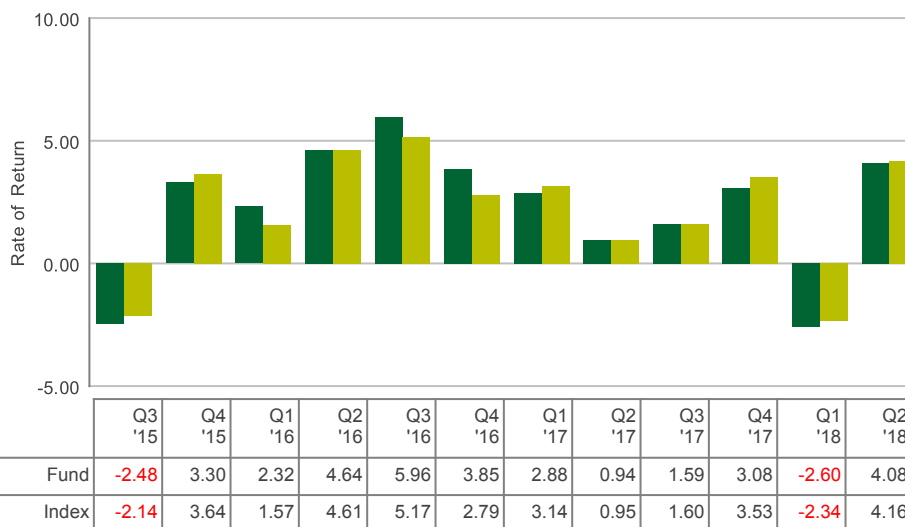
Executive Summary

LONDON BOROUGH OF HILLINGDON TOTAL FUND GROSS OF FEES



Index: Total Plan Benchmark

LONDON BOROUGH OF HILLINGDON ROLLING QUARTERS TOTAL FUND GROSS OF FEES



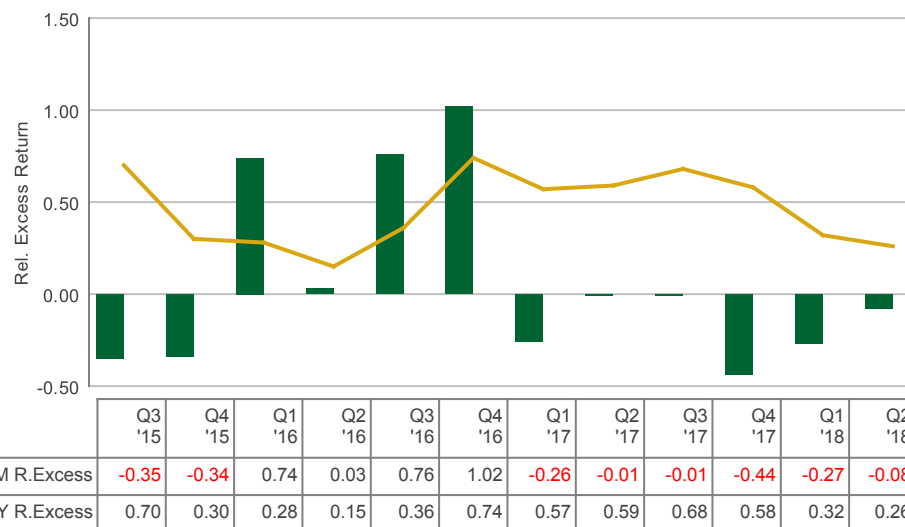
Index: Total Plan Benchmark

RISK STATISTICS

	1 Yr	3 Yrs	5 Yrs
Return	6.16	9.37	8.74
Index Return	7.01	9.09	8.49
Relative Excess Return	-0.79	0.26	0.23
Standard Deviation	4.03	4.94	4.88
Index Standard Deviation	4.14	4.62	4.69
Tracking Error	0.90	1.24	1.04
Information Ratio	-0.94	0.23	0.24
Sharpe Ratio	1.39	1.77	1.67
Index Sharpe Ratio	1.56	1.83	1.68
Sortino Ratio	-	-	3.64
Treynor Ratio	5.91	8.47	8.00
Jensen's Alpha	-0.47	-0.01	0.12
Relative Volatility (Beta)	0.95	1.03	1.02
R Squared	0.95	0.94	0.95

Index: Total Plan Benchmark. Risk Free Index: JP Morgan 3 month Cash (GBP)
 Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

LONDON BOROUGH OF HILLINGDON ROLLING QUARTERS TOTAL FUND GROSS OF FEES



Index: Total Plan Benchmark

Investment Hierarchy

Account/Group -% Rate of Return	Ending Market Value GBP	Ending Weight	Three Months			Year to Date			One Year		
			Port	Index	Relative Excess	Port	Index	Relative Excess	Port	Index	Relative Excess
London Borough of Hillingdon	1,053,934,020	100.00	4.08	4.16	-0.08	1.38	1.73	-0.34	6.16	7.01	-0.79
Total Plan Benchmark											
AEW UK	56,463,582	5.36	3.87	2.00	1.83	6.39	3.94	2.36	14.80	9.73	4.61
LBH22 AEW Benchmark											
JP Morgan	80,050,834	7.60	-1.72	1.00	-2.69	-2.10	1.88	-3.90	0.08	3.56	-3.37
LBH15 JPM LIBOR +3%pa											
Legal & General 1	240,240,695	22.79	4.78	4.97	-0.18	0.56	0.72	-0.16	6.57	6.73	-0.15
LBH26 L&G Benchmark											
Legal & General 2	86,794,371	8.24	0.33	0.33	-0.00	-0.96	-0.92	-0.04	5.45	5.57	-0.11
LBH27 L&G Benchmark											
M&G Investments	11,254,872	1.07	-0.38	1.25	-1.60	1.33	2.37	-1.02	7.23	4.57	2.55
LBH10 3 Month LIBOR +4%pa											
Macquarie	28,263,882	2.68	6.81	1.00	5.75	8.19	1.88	6.20	11.91	3.56	8.05
LBH14 Macquarie LIBOR +3%pa											
Newton	0	0.00	-	-	-	-	-	-	-	-	-
LBH19 FTSE World Index +2%											
Premira Credit	60,350,532	5.73	1.50	1.25	0.25	3.66	2.37	1.26	7.93	4.57	3.22
LBH24 Premira LIBOR +4%pa											
UBS	144,266,926	13.69	9.15	9.20	-0.05	4.05	1.69	2.31	12.23	9.02	2.94
LBH04 UBS Benchmark											
UBS Property	76,278,886	7.24	2.21	2.00	0.20	3.91	3.94	-0.03	10.48	9.73	0.68
LBH06 UBS Property Benchmark											
Adam Street	13,593,963	1.29	9.15	7.97	1.09	9.91	4.31	5.37	12.79	13.44	-0.57
Adam Street PE Bmark											
LGT	6,467,233	0.61	11.05	7.97	2.85	12.32	4.31	7.68	17.32	13.44	3.41
LGT PE Bmark											
Epoch Investment P Income	137,982,661	13.09	6.34	8.10	-1.62	-1.71	2.90	-4.48	-	-	-
LBH11001 MSCI World ND											
London CIV Ruffer	105,654,158	10.02	2.30	0.26	2.03	-0.30	0.39	-0.69	1.61	0.56	1.04
LBH11003 Ruffer BM Libor											

Investment Hierarchy(2)

Account/Group -% Rate of Return	Three Years			Five Years			Inception to Date			Inception Date
	Port	Index	Relative Excess	Port	Index	Relative Excess	Port	Index	Relative Excess	
London Borough of Hillingdon Total Plan Benchmark	9.37	9.09	0.26	8.74	8.49	0.23	7.14	7.03	0.10	30/09/1995
AEW UK LBH22 AEW Benchmark	11.59	8.11	3.22	-	-	-	12.12	9.92	2.00	30/06/2014
JP Morgan LBH15 JPM LIBOR +3%pa	3.67	3.63	0.04	3.44	3.61	-0.16	3.57	3.65	-0.08	08/11/2011
Legal & General 1 LBH26 L&G Benchmark	-	-	-	-	-	-	7.43	7.54	-0.11	31/10/2016
Legal & General 2 LBH27 L&G Benchmark	-	-	-	-	-	-	5.41	5.66	-0.24	22/02/2017
M&G Investments LBH10 3 Month LIBOR +4%pa	9.33	4.62	4.50	8.80	4.61	4.01	7.29	4.68	2.49	31/05/2010
Macquarie LBH14 Macquarie LIBOR +3%pa	19.41	3.62	15.24	12.69	3.60	8.77	5.40	3.67	1.66	30/09/2010
Newton LBH19 FTSE World Index +2%	-	-	-	-	-	-	-	-	-	24/01/2013
Premira Credit LBH24 Premira LIBOR +4%pa	8.99	4.62	4.17	-	-	-	9.13	4.59	4.35	30/11/2014
UBS LBH04 UBS Benchmark	12.63	9.59	2.77	11.09	8.84	2.07	10.34	8.91	1.31	31/12/1988
UBS Property LBH06 UBS Property Benchmark	8.34	7.61	0.68	11.44	10.61	0.75	4.09	4.02	0.07	31/03/2006
Adam Street Adam Street PE Bmark	16.29	19.33	-2.55	15.53	16.79	-1.08	6.91	-	-	31/01/2005
LGT LGT PE Bmark	24.81	19.33	4.60	16.56	16.79	-0.19	11.48	-	-	31/05/2004
Epoch Investment P Income LBH11001 MSCI World ND	-	-	-	-	-	-	-2.60	2.47	-4.95	08/11/2017
London CIV Ruffer LBH11003 Ruffer BM Libor	3.37	0.62	2.73	4.67	0.62	4.02	5.60	0.82	4.74	28/05/2010

Market Value Summary - Three Months

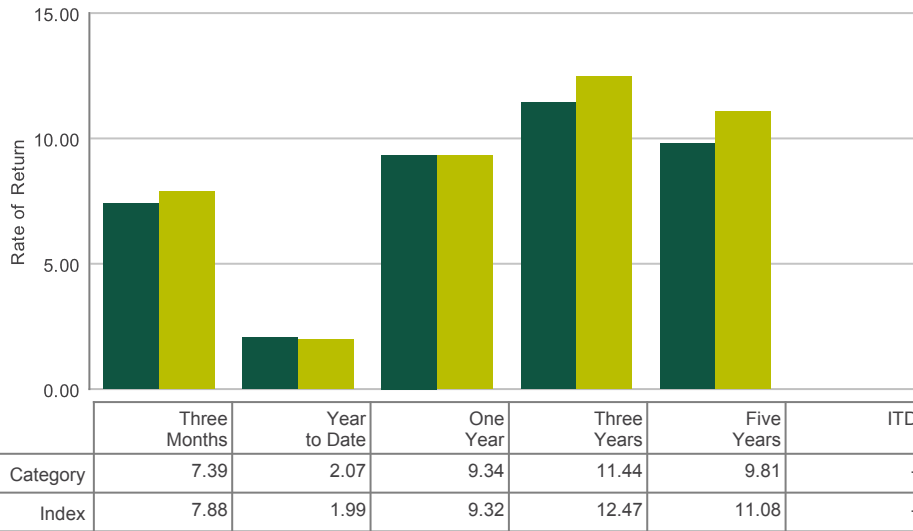
Account/Group	31/03/2018 Market Value	31/03/2018 Weight	Net Contribution*	Income	Fees	Appreciation	30/06/2018 Market Value	30/06/2018 Weight	Change in Weight
London Borough of Hillingdon	1,013,570,103	100.00	-1,008,427	4,734,737	8,427	36,637,607	1,053,934,020	100.00	0.00
AEW UK	54,360,982	5.36	0	663,808	0	1,438,792	56,463,582	5.36	-0.01
JP Morgan	56,311,723	5.56	25,000,000	0	0	-1,260,889	80,050,834	7.60	2.04
Legal & General 1	229,282,791	22.62	-4,420	0	4,420	10,962,324	240,240,695	22.79	0.17
Legal & General 2	66,556,081	6.57	19,995,993	0	4,007	242,297	86,794,371	8.24	1.67
M&G Investments	15,363,766	1.52	-4,135,807	1,164	0	25,749	11,254,872	1.07	-0.45
Macquarie	27,421,776	2.71	-1,001,313	477,652	0	1,365,767	28,263,882	2.68	-0.02
Newton	0	0.00	0	0	0	0	0	0.00	0.00
Premira Credit	58,117,260	5.73	1,339,202	0	0	894,070	60,350,532	5.73	-0.01
UBS	133,132,863	13.14	-1,031,395	1,856,654	0	10,308,804	144,266,926	13.69	0.55
UBS Property	75,192,170	7.42	-567,890	624,860	0	1,029,746	76,278,886	7.24	-0.18
Adam Street	13,206,247	1.30	-764,102	0	0	1,151,818	13,593,963	1.29	-0.01
LGT	6,340,061	0.63	-532,583	12	0	659,743	6,467,233	0.61	-0.01
Cash & Other Assets	45,257,507	4.47	-39,306,109	32,917	0	287,111	6,271,425	0.60	-3.87
Epoch Investment P Income	129,750,098	12.80	0	1,077,595	0	7,154,968	137,982,661	13.09	0.29
London CIV Ruffer	103,276,776	10.19	0	75	0	2,377,308	105,654,158	10.02	-0.16
Cash & Other Assets	0	0.00	0	0	0	0	0	0.00	-0.00
Transition	4	0.00	-3	0	0	-0	0	0.00	-0.00

Min -3.87  2.04 Max

*Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments.
Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

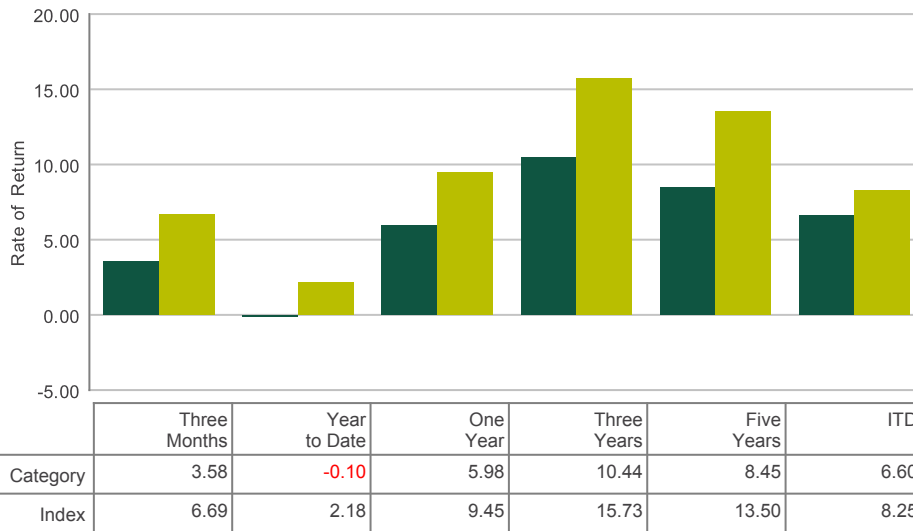
Historical Performance

EQUITY



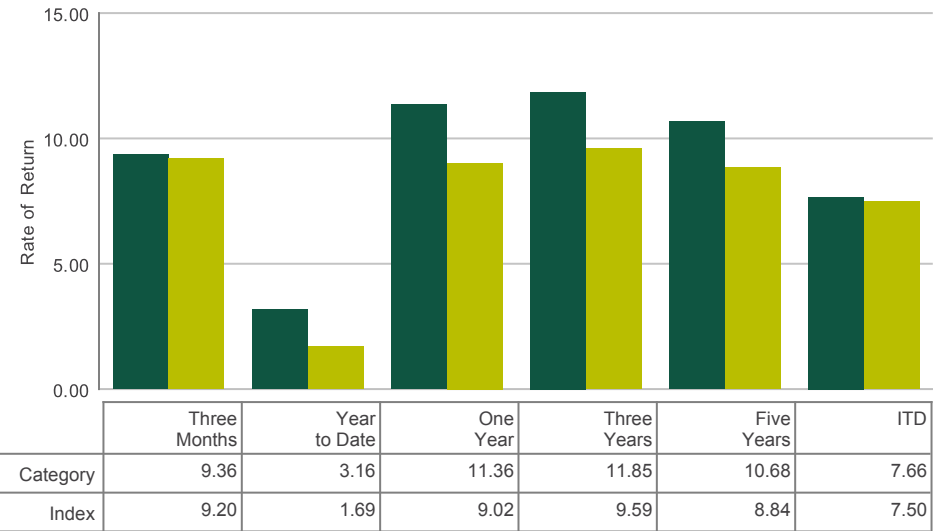
Index: Total Equity Benchmark

OVERSEAS EQUITIES



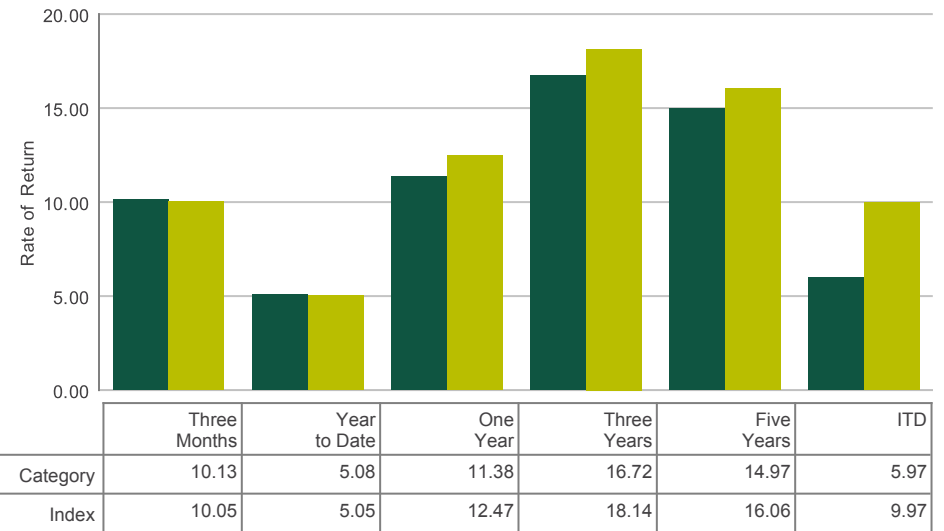
Index: Total Overseas Equity Benchmark

UNITED KINGDOM



Index: FTSE All Share UK Equity

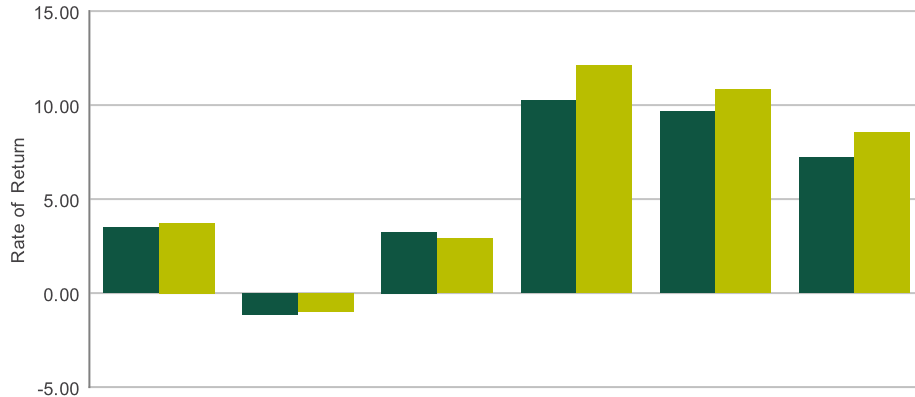
NORTH AMERICA



Index: FTSE North America

Historical Performance

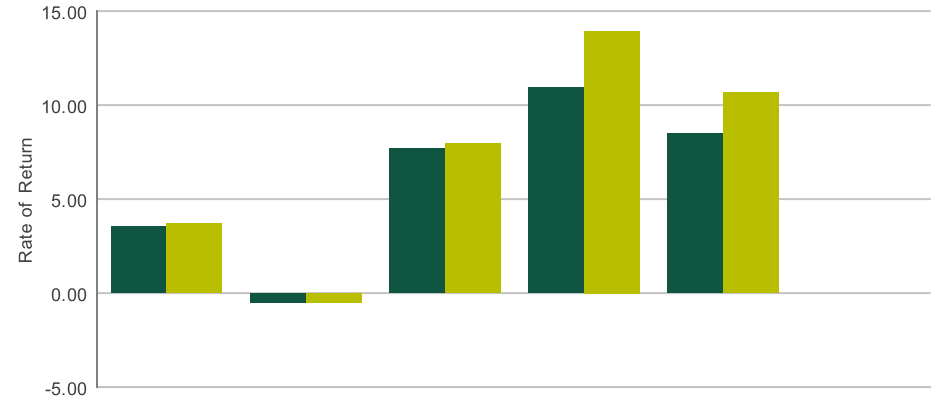
EUROPE EX UK



	Three Months	Year to Date	One Year	Three Years	Five Years	ITD
Category	3.47	-1.13	3.25	10.26	9.66	7.21
Index	3.73	-1.01	2.92	12.12	10.81	8.56

Index: FTSE AW Dev Europe ex UK

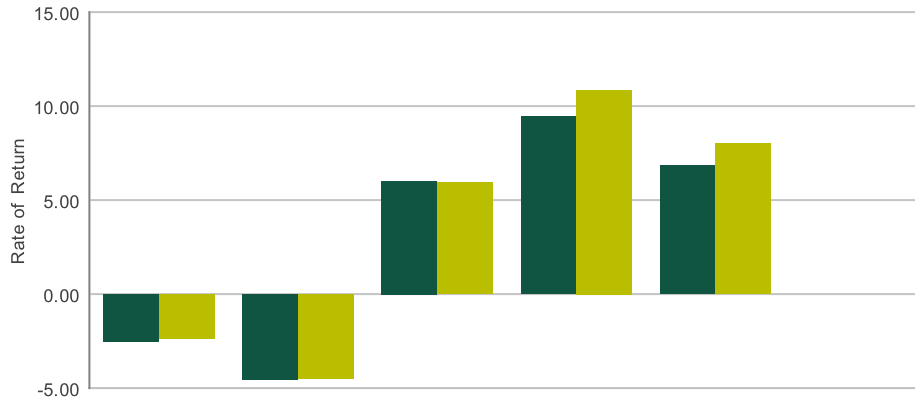
ASIA PACIFIC INC JAPAN



	Three Months	Year to Date	One Year	Three Years	Five Years	ITD
Category	3.56	-0.50	7.71	10.95	8.50	-
Index	3.69	-0.53	7.96	13.94	10.66	-

Index: FTSE AW Dev Asia Pacific

EMERGING MARKETS

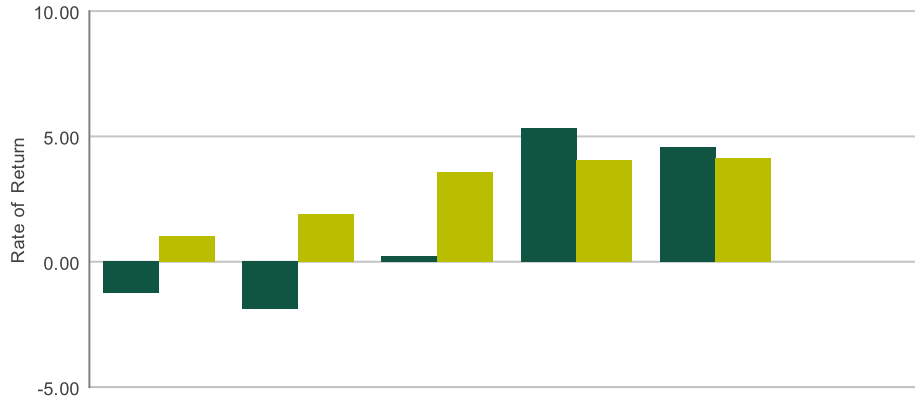


	Three Months	Year to Date	One Year	Three Years	Five Years	ITD
Category	-2.52	-4.53	6.02	9.43	6.83	-
Index	-2.38	-4.48	5.92	10.86	8.03	-

Index: LBH Emerging Markets

Historical Performance

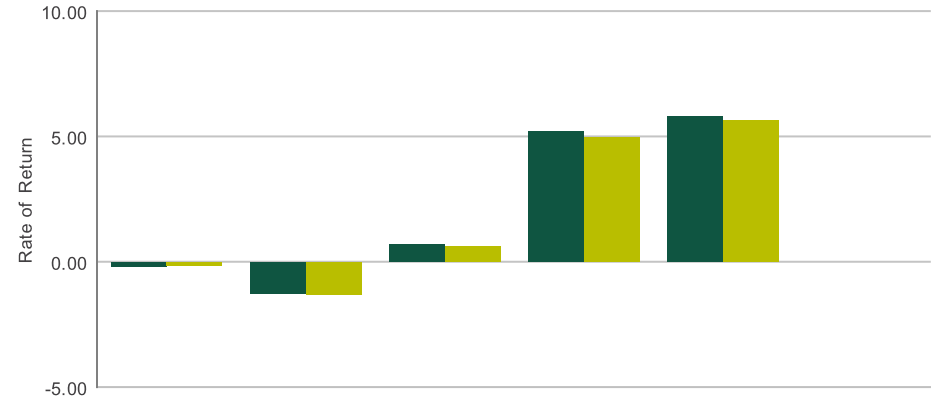
FIXED INCOME



	Three Months	Year to Date	One Year	Three Years	Five Years	ITD
Category	-1.25	-1.88	0.22	5.32	4.55	-
Index	1.00	1.88	3.56	4.05	4.12	-

Index: LBH Fixed Income Benchmark

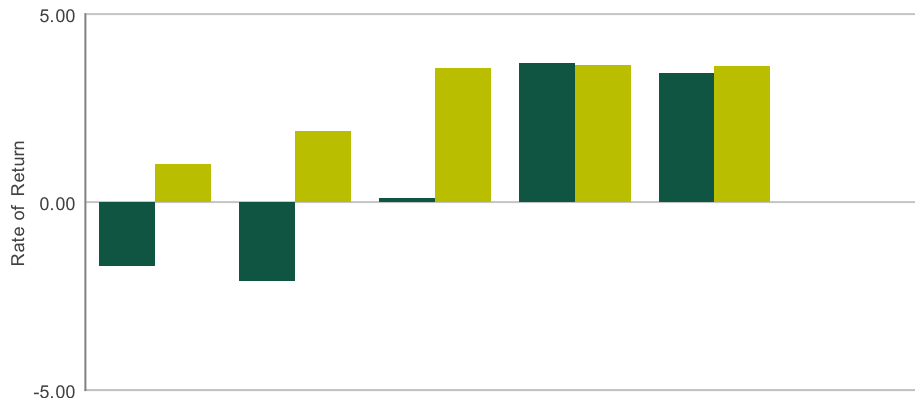
UK CORPORATE BONDS



	Three Months	Year to Date	One Year	Three Years	Five Years	ITD
Category	-0.18	-1.27	0.71	5.20	5.79	-
Index	-0.15	-1.30	0.60	4.95	5.64	-

Index: LBH Non-Gilts Benchmark

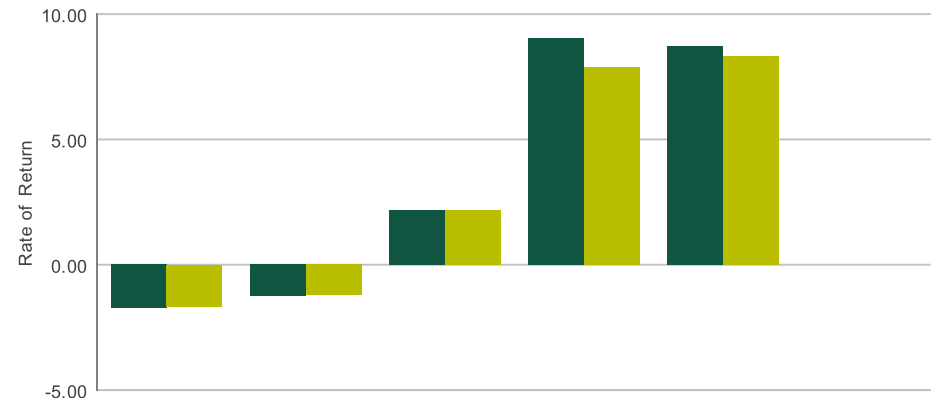
GLOBAL CORPORATE BONDS



	Three Months	Year to Date	One Year	Three Years	Five Years	ITD
Category	-1.70	-2.08	0.09	3.68	3.41	-
Index	1.00	1.88	3.56	3.63	3.61	-

Index: LIBOR GBP 3 Month +3% pa

INDEX LINKED GILTS

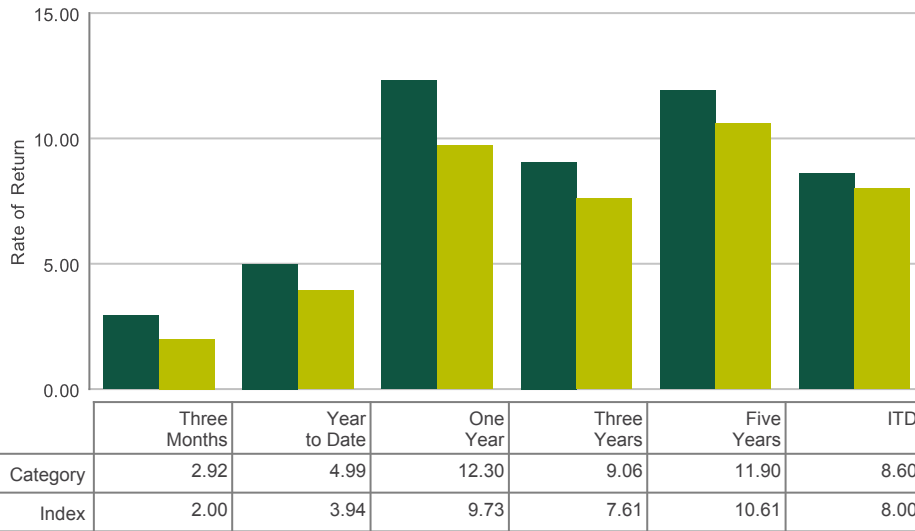


	Three Months	Year to Date	One Year	Three Years	Five Years	ITD
Category	-1.72	-1.24	2.19	9.02	8.70	-
Index	-1.67	-1.21	2.17	7.87	8.30	-

Index: LBH Index Linked Benchmark

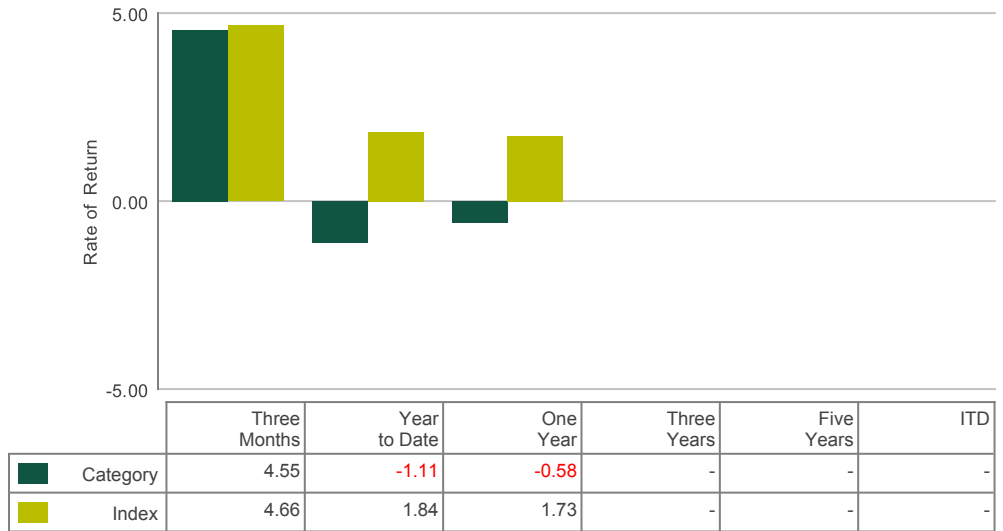
Historical Performance

REAL ESTATES



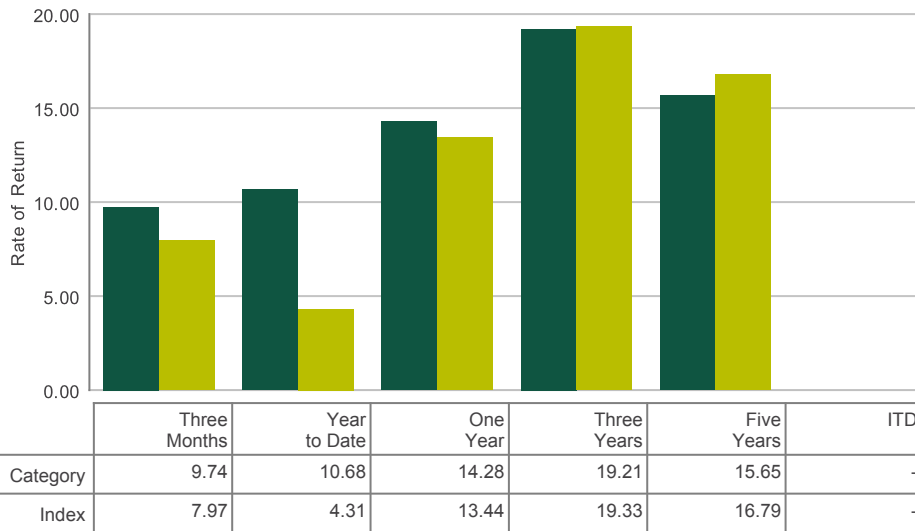
Index: IPD UK PPFI All Bal Funds Index

BALANCED FUNDS



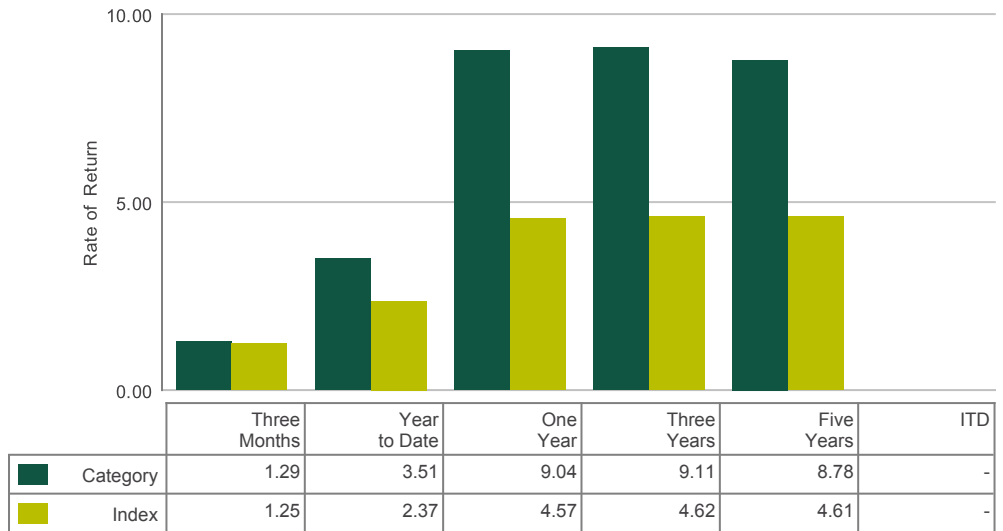
Index: Balanced Fund Benchmark

PRIVATE EQUITY



Index: MSCI ACWI +4% pa

PRIVATE CREDIT



Index: LIBOR GBP 3 Month +4% pa

Total Plan Benchmark (from May 2018)

1.84	MSCI All Countries World Index + 4%
1.39	FT Japan
2.43	FT North America
0.97	FTSE Developed Asia Pacific ex Japan
2.25	FTSE Developed Europe ex UK
1.68	FTSE Developed GBP Hedged
22.78	FTSE All Share
3.60	FTSE Index Linked Gilts
4.66	FTSE Index Linked Gilts 15+ Years
2.31	FTSE Emerging Markets
12.46	IPD UK PFI All Balanced Funds Index
6.84	3 Month LIBOR +4%pa
10.09	3 Month LIBOR
10.25	3 Month LIBOR +3%pa
12.85	MSCI World
0.61	LIBID 7 Day
2.99	iBoxx Sterling Non-Gilts

Portfolio Benchmarks

AEW UK

100.00 IPD UK PFI All Balanced Funds Index

JP Morgan

7.55 3 Month LIBOR +3%pa

Legal & General

6.00 FT Japan

10.35 FT North America

4.22 FTSE Developed Asia Pacific ex Japan

10.41 FTSE Developed Europe ex UK

38.58 FTSE All Share

20.8 FTSE Index Linked Gilts 15+ Years

3.07 FTSE Emerging Markets

6.57 iBoxx Sterling Non-Gilts

Legal & General (LBH27)

23.97 FTSE Index Linked Gilts 15+ Years

25.69 FTSE Emerging Markets

24.24 iBoxx Sterling Non-Gilts

26.10 FTSE Developed GBP Hedged

London CIV Ruffer

100.00 3 Month LIBOR

Epoch Ruffer

100.00 MSCI World Index (Net)

M&G Investments

100.00 3 Month LIBOR +4%pa

Macquarie

100.00 3 Month LIBOR +3%pa

Premira Credit

100.00 3 Month LIBOR +4%pa

UBS

100.00 FTSE All Share

UBS Property

100.00 IPD UK PFI All Balanced Funds Index

Adam St

100.00 MSCI All Countries World Index + 4%

LGT

100.00 MSCI All Countries World Index + 4%

Disclaimer(s)

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of Morgan Stanley Capital International Inc. ("MSCI") and Standard & Poor's, a division of The McGraw-Hill Companies, Inc. ("S&P") and is licensed for use by The Northern Trust Corporation and its wholly owned subsidiaries. Neither MSCI, S&P, nor any other party involved in making or compiling the GICS or any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability and fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling the GICS or any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

The Dow Jones Wilshire Indexes are calculated, distributed and marketed by Dow Jones & Company, Inc. pursuant to an agreement between Dow Jones and Wilshire and have been licensed for use. All content of the Dow Jones Wilshire Indexes © 2005 Dow Jones & Company, Inc. & Wilshire Associates Incorporated.

Standard and Poor's including its subsidiary corporations ("S&P") is a division of the McGraw-Hill Companies, Inc. Reproduction of S&P Index Alerts in any form is prohibited except with the prior written permission of S&P. Because of the possibility of human or mechanical error by S&P sources, S&P or others, S&P does not guarantee the accuracy, adequacy, completeness or availability of any information and is not responsible for any errors or omissions or for the results obtained from the use of such information. S&P gives not express or implied warranties, including, but not limited to, any warranties or merchantability or fitness for a particular purpose or use. In no event shall S&P be liable for any indirect, special or consequential damages in connection with subscriber's or others' use of S&P Index Alerts.

All MSCI equity characteristic results except for Dividend Yield, Price to Book Value, Price to Cash Earnings and Price Earnings Ratio were calculated by The Northern Trust Company.

FTSE ® is a trade mark of London Stock Exchange Plc and The Financial Times Limited and is used by FTSE under license. All rights in the FTSE Indices vest in FTSE and/or its licensors. Neither FTSE nor its licensors accept any liability for any errors or omissions in the FTSE Indices or underlying data.

The Merrill Lynch Indices are used with permission. Copyright 2007, Merrill Lynch, Pierce, Fenner & Smith Incorporated. All rights reserved. The Merrill Lynch Indices may not be copied, used, or distributed without Merrill Lynch's prior written approval.

The Citi Index data is provided to you on an "AS IS" basis and you agree that use of the index data is at your sole risk. Citi Index makes no representations or warranties, express or implied, to you or any other person or entity, including without limitation any warranty of merchantability, originality, suitability or fitness for a particular purpose of the index data or any other matter and no warranty is given that the index data will conform to any description thereof or be free of omissions, errors, interruptions or defects. 4. In no event shall Citi Index be liable to you or any other person or entity for any direct, incidental, indirect, special or consequential damages (including, without limitation, lost profits or revenues, loss of data, loss of use or claims of third parties), arising out of or in any manner in connection with your use of (or inability to use) the index data, whether or not you have been advised of, or otherwise might have anticipated the possibility of, such damages. Without limitation on the foregoing, you acknowledge that the index data may be incomplete or condensed, is for information purposes only and is not intended as, and shall not be construed to be, an offer or solicitation with respect to the purchase or sale of any security. All opinions and estimates provided constitute judgments as of their respective dates and are subject to change without notice. Such data, information, opinions and estimates are furnished as part of a general service, without regard to your particular circumstances, and Citi Index shall not be liable for any damages in connection therewith. Citi Index is not undertaking to manage money or act as a fiduciary with respect to your accounts or any of your managed or fiduciary accounts and you acknowledge and agree that the index data does not and shall not serve as the primary basis for any investment decisions made with respect to such accounts.

Please note that this report has been prepared using best available data. This report may also contain information provided by third parties, derived by third parties or derived from third party data and/or data that may have been categorized or otherwise reported based upon client direction - Northern Trust assumes no responsibility for the accuracy, timeliness or completeness of any such information. If you have questions regarding third party data or direction as it relates to this report, please contact your Northern Trust relationship team.

INVESTMENT ADVICE NOTICE: The data and analysis contained in this report is for informational purposes only. In providing the information contained herein, The Northern Trust Company is not undertaking to provide "investment advice" or to give advice in a fiduciary capacity for purposes of the Employee Retirement Income Security Act of 1974, as amended. Nothing in this report is intended as, or should be understood as, a recommendation to hire, retain, or terminate an investment manager or engage in any purchase or sale transaction with such a manager or any fund that it manages. The Northern Trust Company and/or its affiliates may have business relationships with one or more investment managers or funds for included in this report, and may receive compensation for providing custody, administration, banking, brokerage, foreign exchange or other services to such investment managers or funds. The Northern Trust Company and its affiliates shall have no responsibility for the consequences of investment decisions made in reliance on information contained in this report.