

HEALTH WEALTH CAREER

LONDON BOROUGH OF CROYDON PENSION FUND

INVESTMENT PERFORMANCE REPORT

PRIVATE PAPER – NOT FOR
PUBLIC DISTRIBUTION

QUARTER TO 31 DECEMBER 2018

Peter Gent FIA



MAKE TOMORROW, TODAY



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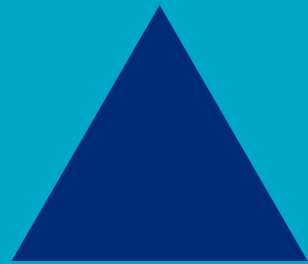
This report considers only the investment related aspects of the money purchase arrangement. As such this report is not a full review of the provider. Optional - include if bundled money purchase contract.

Please also note:

- The value of investments can go down as well as up and you may not get back the amount you have invested. In addition investments denominated in a foreign currency will fluctuate with the value of the currency.
- The valuation of investments in property based portfolios, including forestry, is generally a matter of a valuer's opinion, rather than fact.
- When there is no (or limited) recognised or secondary market, for example, but not limited to property, hedge funds, private equity, infrastructure, forestry, swap and other derivative based funds or portfolios it may be difficult for you to obtain reliable information about the value of the investments or deal in the investments.
- Where the investment is via a fund of funds the investment manager typically has to rely on the underlying managers for valuations of the interests in their funds.
- Care should be taken when comparing private equity / infrastructure performance (which is generally a money-weighted performance) with quoted investment performance (which is generally a time-weighted performance). Direct comparisons are not always possible.

SECTION 1

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

Asset Values

The Fund's assets decreased over the quarter by £32.2m from £1,215.8m as at 30 September 2018 to £1,183.6m as at 31 December 2018. The Fund's assets have increased by £33.2m over the last twelve months.

Fund Performance

The Fund returned -4.5% (net of fees) over the quarter to 31 December 2018, underperforming the composite benchmark by 0.9% and the CPI + 4% p.a. benchmark by 6.0%.

The relative performance (net of fees) of the Fund's mandates versus their respective benchmarks was mixed over the quarter. Wellington (Sterling Bonds), Knightsbridge (Private Equity) and Pantheon (Private Equity), produced positive relative returns. Aberdeen Standard (UK Corporate Bonds), LGIM (Developed World (ex Tobacco) Equity), I Squared (Infrastructure) and Schroders (Property) performed broadly in line with their benchmarks. The remaining portfolios underperformed against their benchmarks.

Over the three year period, Aberdeen Standard (UK Corporate Bonds), Wellington (Sterling Bonds), Equitix (Infrastructure), Knightsbridge (Private Equity), Pantheon (Private Equity), Schroders (Property), M&G (Residential Property) and cash outperformed their respective benchmarks. Aberdeen Standard (Absolute Return Bonds) underperformed its benchmark.

EXECUTIVE SUMMARY

MANAGER INFORMATION

Manager	Mandate	1 Year Performance	3 Year Performance
LGIM	Developed World (ex Tobacco) Equity	✓	
Janus Henderson	Emerging Markets Equity		
Aberdeen Standard	UK Corporate Bonds	-	-
Aberdeen Standard	Absolute Return Bonds	×	×
Wellington	Sterling Bonds	✓	-
PIMCO	Global Bonds		
Access	Infrastructure	×	
Temporis	Infrastructure	✓	
Equitix ^(b)	Infrastructure	✓	✓
Green Investment Bank	Infrastructure	✓	
I Squared	Infrastructure	✓	
Knightsbridge	Private Equity	✓	✓
Pantheon	Private Equity	✓	✓
Access	Private Equity	✓	
North Sea	Private Equity	✓	
Schroders	Property	-	-
M&G	Residential Property	×	✓
Meets criteria	✓		
Partially meets criteria	-		
Does not meet criteria	×		

Focus Points

- In December 2018, we assigning a Watch (W) status to Janus Henderson Investors' Emerging Markets Equity strategy following the recent review of the strategy. Further details are set out in section 4.
- In December 2018, we downgraded the rating for Aberdeen Standard Investment's Absolute Return Global Bond Strategies from A (P) to B+ following the uncertainty on appointment of Aymeric Forest as a portfolio manager. Further details are set out in section 4.
- In January 2019, we assigned a Watch (W) status to M&G UK Residential Property Fund following the resignation of Steven Hollands, Senior Investment Manager. Further details are set out in section 4.

(a) Rating is based on the indicative rating from Knightsbridge Advisors Venture Capital Fund of Fund .

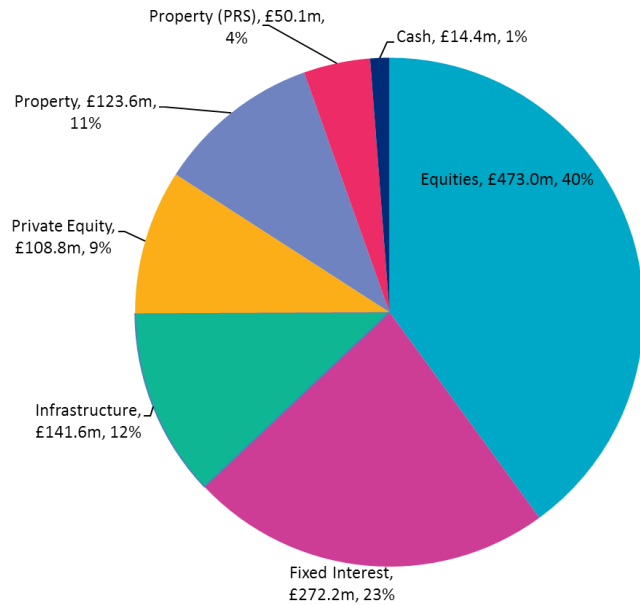
(b) Rating is based on the indicative rating from Pantheon's European Private Equity (Fund of Funds) Up to PEURO VI and Pantheon's Private Equity (Fund of Funds) up to PUSA IX .

EXECUTIVE SUMMARY

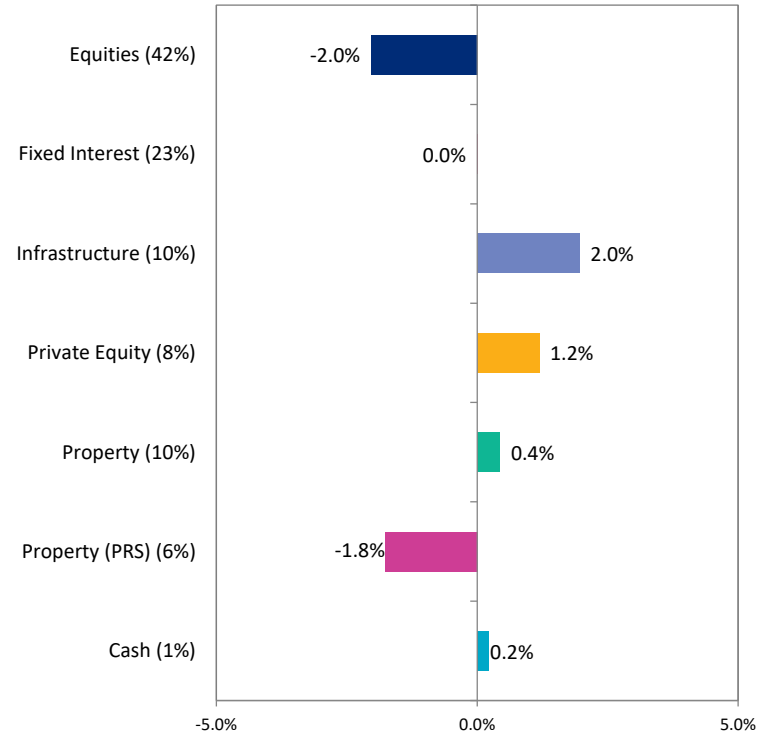
ASSET ALLOCATION

ASSET CLASS ALLOCATION

Total Invested Assets Value £1,183.6m



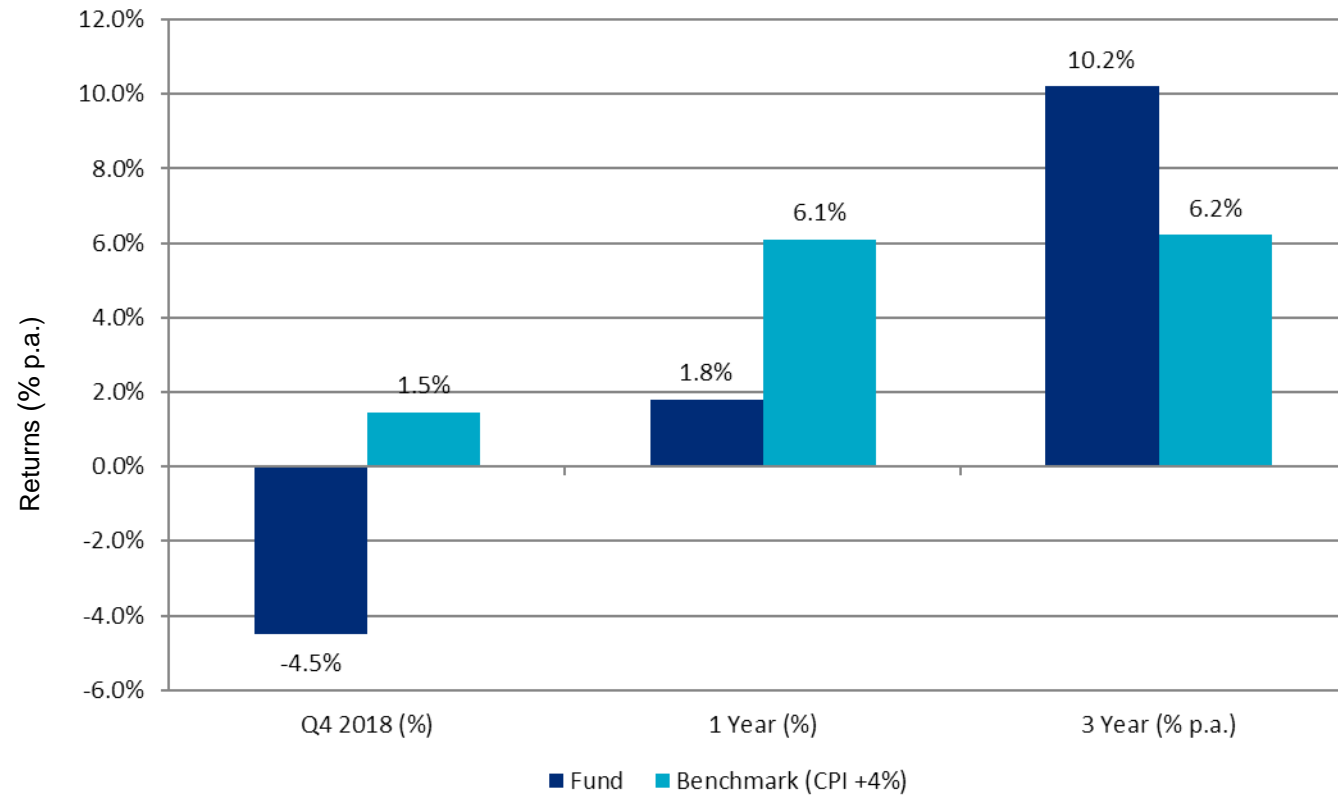
ASSET CLASS WEIGHT RELATIVE TO BENCHMARK



Source: Investment Managers and Mercer.
Figures may not sum to 100% due to rounding.

EXECUTIVE SUMMARY

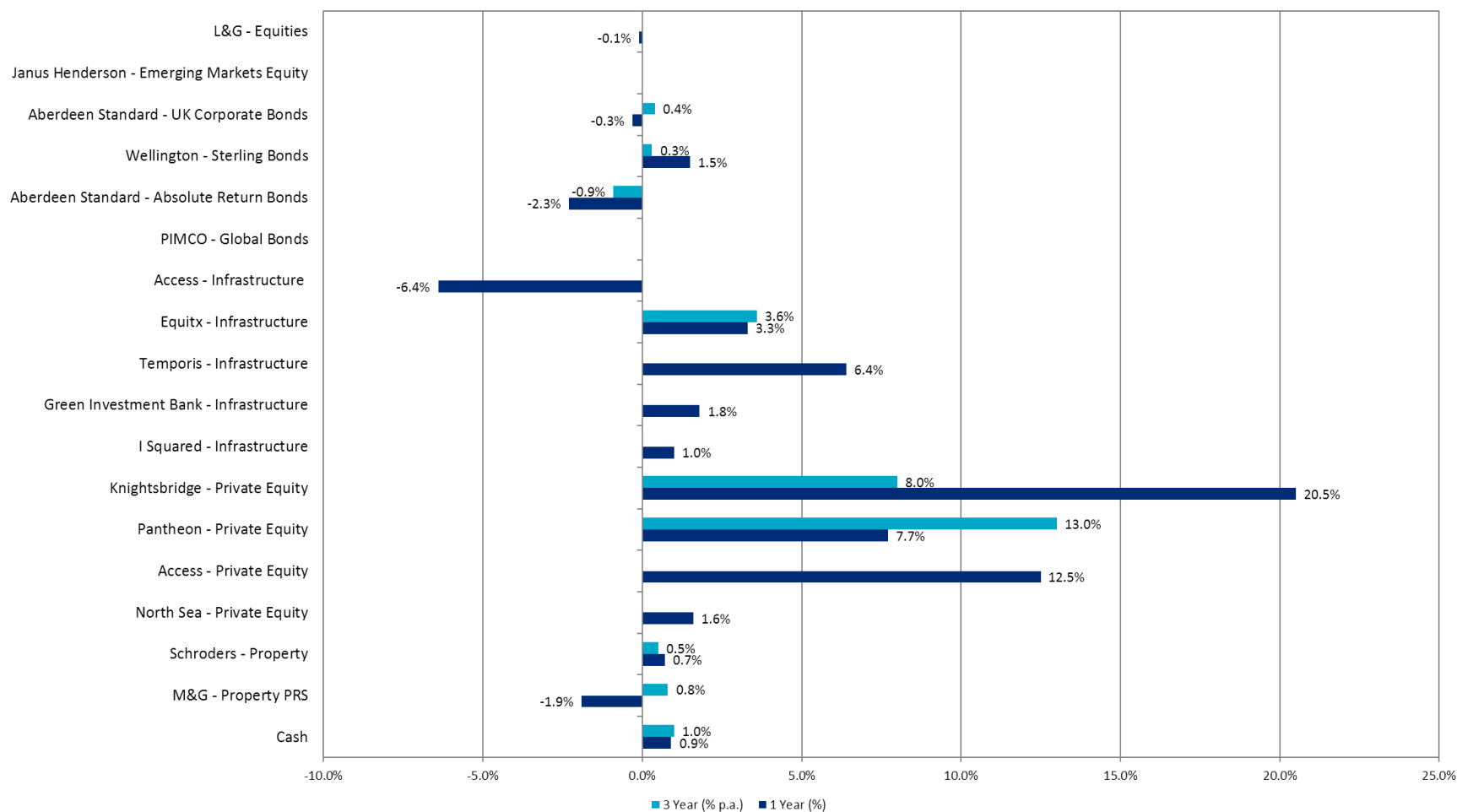
FUND PERFORMANCE- NET OF FEES



Figures shown are based on performance provided by the Investment Managers, Mercer estimates and Thomson Reuters Datastream.

EXECUTIVE SUMMARY

FUND PERFORMANCE – NET OF FEES VS BENCHMARK



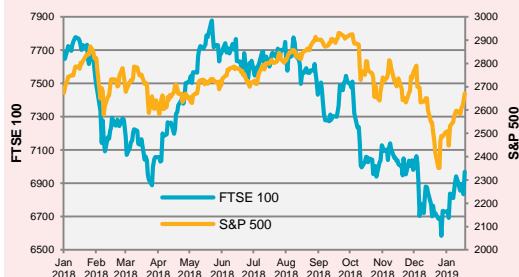
Figures shown are based on performance provided by the Investment Managers, Mercer estimates and Thomson Reuters Datastream.

CURRENT TOPICS

Is Your Investment Strategy On Track?

What happened?

- Many UK schemes experienced a deterioration in their funding position in Q4
- This was due to the “Triple Whammy” of falling equities, falling gilt yields and widening credit spreads
- Most equity markets fell around 20% from their October highs, the biggest decline since 2008
- Despite the market recovery in January, many uncertainties remain – i.e. the US government shutdown, China and Brexit



What might happen?

- 1. Release of a “Pressure Valve”:**
 - Q4 was a “necessary correction to over-exuberance, and markets will recover in 2019
- 2. Beginning of a Typical “Cyclical” Bear Market:**
 - Withdrawal of monetary stimulus and natural unwind of strong period of economic growth
 - Returns on equities and other risky assets modestly negative for 2-3 years
 - Defensive asset returns also modest due to low starting level of yields
- 3. Another “Tremor” Signaling Major Earthquake”**
 - Unwinding of zero rates and QE-driven global asset price bubble
 - Significant “2008-like” decline in equities and other risky assets
 - Limited scope for policy response outside US

What should trustees do?

- 1. Contingency plan for each scenario**
 - Will recovery in Q1 provide opportunity to de-risk?
 - If cyclical bear market or major crisis unfolds, what strategies are available to protect capital (e.g. direct hedging through options, or diversifying away from market beta)
- 2. Engage with sponsor on implications of poor asset returns for 2019 (and 2020) valuations**
 - Schemes with large equity and/or corporate bond exposures with limited hedging will have experienced significant increases in deficits
 - Need to consider implications for sponsor covenants and potential recovery plan payments

Keep Equity Option Protection on the Radar

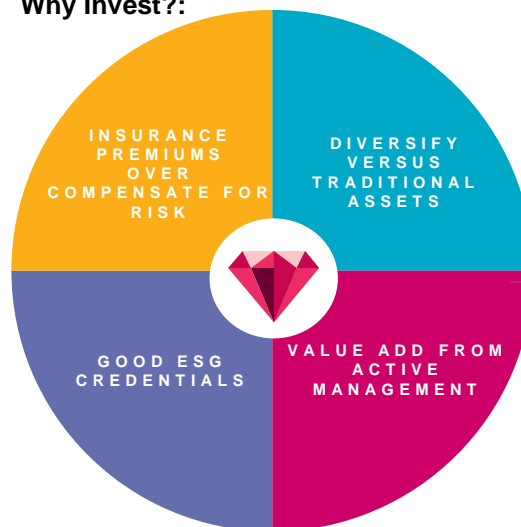
- Many UK schemes implemented equity protection strategies in 2017 and 2018, which both protected their portfolios in the market corrections and provided opportunities to book profits and rest strategies.
- While option protection is now more expensive, due to the sharp rise in actual and market implied volatility, this cost can be managed by adopting more complex “dynamic” strategies
- For example, investors could consider selling shorter dated options to fund longer dated protection, though the risks of such a strategy need to be understood.

Insurance-Linked Securities

What Are They?:

- Different types of securities providing access to premium income in the catastrophe reinsurance market
- Funds available spanning the risk/return spectrum (e.g. 5% - 10% p.a. net returns in “average loss event” years)

Why Invest?:



What Are The Challenges?:

- Less liquidity, underlying complexity and potential for significant losses (if insured “events” more frequent or severe than assumed in pricing)
- Need to understand sufficiently the complexity and risks
- Manager selection very important

CMA Investigation: Final Decision Report

Key Highlights:

- Report reflecting many of the CMA’s findings from Provisional Decision Report
- CMA recognition of the vital role of investment consultancy (IC) and fiduciary management (FM), dispelling some misconceptions
- Conclusion that some market features impact competition, which may lead to customer detriment
- Eight measures (plus four recommendations) announced
- Some measures directly impacting pension scheme trustees and others impacting IC and FM firms
- Measures expected to take effect within six months after formal order finalised – i.e. 2019

Summary of measures:

- Mandatory competitive tender process for first time FM appointments
- Separation of FM advice & marketing
- Greater transparency of FM fees and standardised past performance analysis
- Duty of trustees to set and keep updated a set of strategic objectives for their IC provider
- Disclosure of performance of recommended asset management products by IC and FM firms to prospective clients

SECTION 2

FUND MONITORING

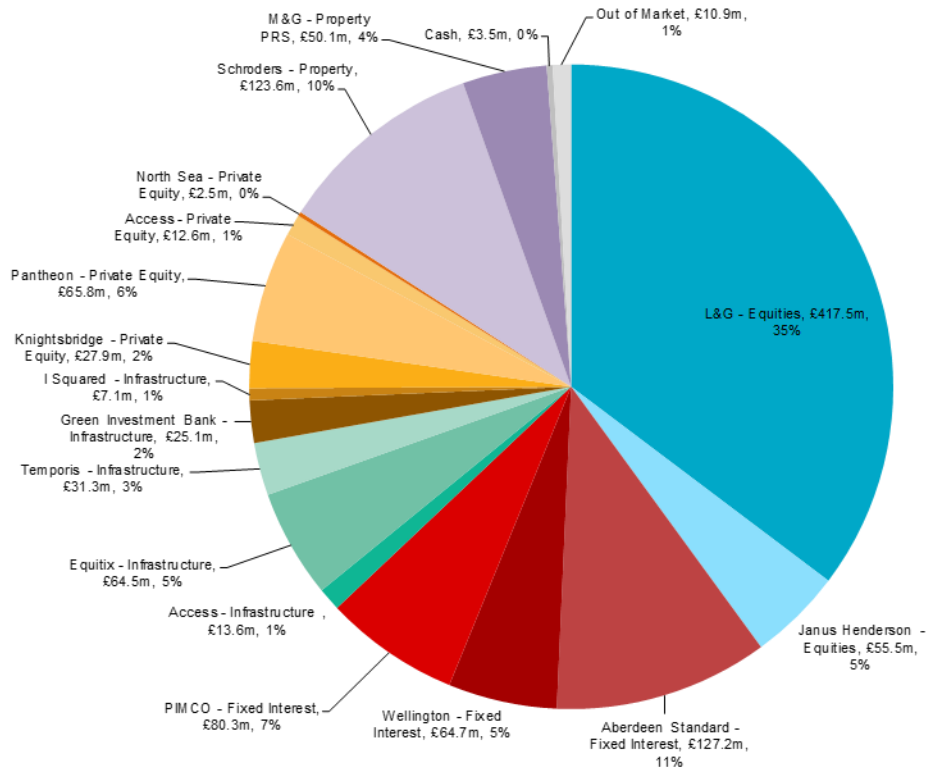


FUND MONITORING

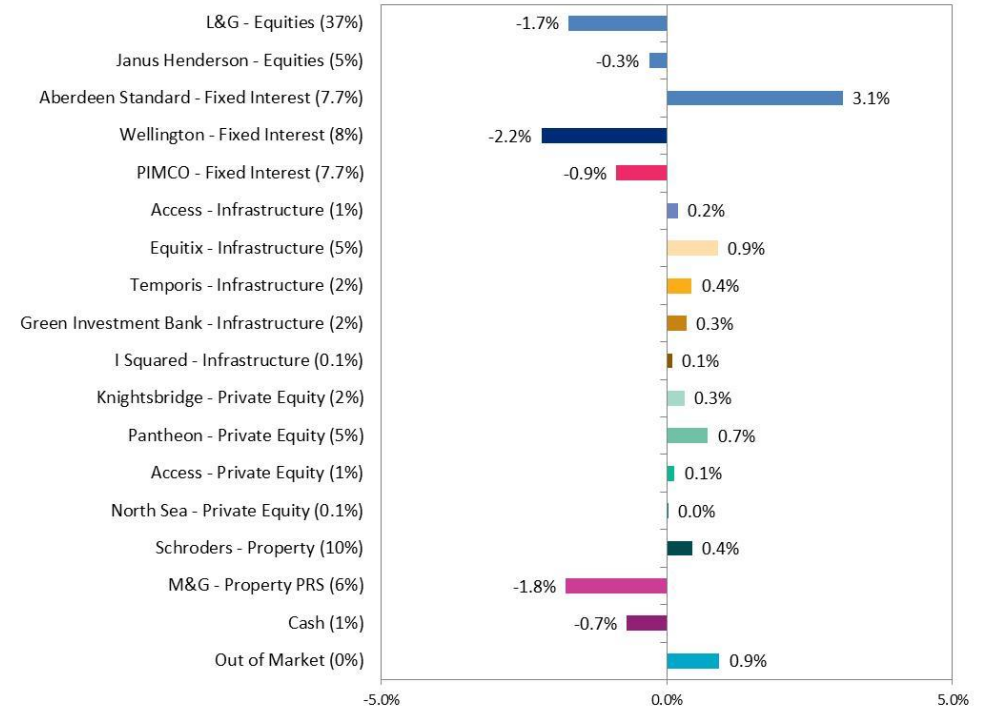
PORTFOLIO MAKE-UP

MANAGER ALLOCATION

Total Invested Assets Value £1,183.6m



MANAGER WEIGHTING RELATIVE TO BENCHMARK



Source: Investment Managers and Mercer.
 Figures may not sum to 100% due to rounding.
 Valuations for I Squared infrastructure debt is provisional.

EXECUTIVE SUMMARY

MANAGER INFORMATION

Asset Allocation								
Manager	Fund	Start of Quarter (£m)	Cashflows (£m) ^(a)	End of Quarter (£m)	Start of Quarter (%)	End of Quarter (%)	Start of Quarter Benchmark (%)	End of Quarter Benchmark (%)
LGIM	Developed World (ex-Tobacco) Equity	633.6	-155.7	417.5	52.1	35.3	42.0	37.0
Janus Henderson	Emerging Markets Equity	-	55.0	55.5	-	4.7	-	5.0
Total Equity		633.6	-100.7	473.0	52.1	40.0	42.0	42.0
Aberdeen Standard	UK Corporate Bonds	62.5	-	62.5	5.1	5.3	7.7	-
Wellington	Sterling Bonds	63.2	-	64.7	5.2	5.5	7.7	7.7
Aberdeen Standard	Absolute Returns Bonds	65.0	-	64.7	5.4	5.5	7.7	7.7
PIMCO	Global Bonds	-	80.0	80.3	-	6.8	-	7.7
Total Fixed Income		190.7	80.0	272.2	15.7	23.0	23.0	23.0
Access ^(b)	Infrastructure	10.6	2.9	13.6	0.9	1.2	10.0	10.0
Equitix	Infrastructure	62.0	1.4	64.5	5.1	5.4		
Temporis ^(b)	Infrastructure	30.2	1.0	31.3	2.5	2.6		
GIB ^(b)	Infrastructure	25.6	-0.7	25.1	2.1	2.1		
I Squared ^(b)	Infrastructure	1.8	5.2	7.1	0.1	0.6		
Knightsbridge ^(b)	Private Equity	27.5	-0.2	27.9	2.3	2.4	8.0	8.0
Pantheon ^(b)	Private Equity	65.9	-1.4	65.8	5.4	5.6		
Access ^(b)	Private Equity	12.8	-0.3	12.6	1.1	1.1		
North Sea Capital ^(b)	Private Equity	2.4	-	2.5	0.2	0.2		
Total Alternatives		238.8	7.9	250.3	19.6	21.2	18.0	18.0
Schroders	Property	122.4	-	123.6	10.1	10.4	10.0	10.0
M&G	Residential Property	26.6	23.5	50.1	2.2	4.2	6.0	6.0
Total Property		149.1	23.5	173.6	12.3	14.7	16.0	16.0
Cash		3.5	-	3.5	0.3	0.3	1.0	1.0
Out of Market		-	10.9	10.9	-	0.9	-	-
Total		1,215.8	21.5	1,183.6	100.0	100.0	100.0	100.0

Source: Investment Manager, Mercer estimates and Thomson Reuters Datastream.

Total Scheme valuation excludes cash.

^(a) Represents net contributions and distributions over the quarter for the infrastructure and private equity funds.

^(b) Figures shown are estimates.

FUND MONITORING

FUND PERFORMANCE- NET OF FEES

Net of Fees Performance

Manager	Fund	Last Quarter		Last Year		Last 3 Years		Last 5 Years	
		Fund (%)	Benchmark (%)	Fund (%)	Benchmark (%)	Fund (% p.a.)	Benchmark (% p.a.)	Fund (% p.a.)	Benchmark (% p.a.)
LGIM	Developed World (ex-Tobacco) Equity	-11.1	-11.2	-2.7	-2.6	-	-	-	-
Janus Henderson ^(a)	Emerging Markets Equity	1.4	3.8	-	-	-	-	-	-
Total Equity		-10.5	-9.8	-	-	-	-	-	-
Aberdeen Standard	UK Corporate Bonds	0.2	0.1	-1.8	-1.5	4.7	4.3	5.6	5.1
Wellington	Sterling Bonds	2.4	1.4	1.4	-0.1	4.6	4.3	5.6	5.4
Aberdeen Standard	Absolute Returns Bonds	-0.5	0.2	-1.7	0.6	-0.4	0.5	0.5	0.5
PIMCO ^(a)	Global Bonds	0.4	1.0	-	-	-	-	-	-
Total Fixed Income		0.7	0.6	-	-	-	-	-	-
Access	Infrastructure	0.9	1.7	0.7	7.1	-	-	-	-
Equitix	Infrastructure	1.7	1.7	10.4	7.1	10.8	7.2	12.3	6.5
Temporis	Infrastructure	0.0	1.7	13.5	7.1	-	-	-	-
GIB	Infrastructure	1.0	1.7	8.9	7.1	-	-	-	-
I Squared	Infrastructure	1.8	1.7	8.1	7.1	-	-	-	-
Knightsbridge	Private Equity	2.4	1.7	27.6	7.1	15.2	7.2	17.3	6.5
Pantheon	Private Equity	2.1	1.7	14.8	7.1	20.2	7.2	17.1	6.5
Access	Private Equity	0.7	1.7	19.6	7.1	-	-	-	-
North Sea Capital	Private Equity	0.8	1.7	8.7	7.1	-	-	-	-
Total Alternatives		1.5	1.7	-	-	-	-	-	-
Schroders	Property	0.9	0.9	7.2	6.5	6.9	6.4	10.2	9.7
M&G	Residential Property	0.9	1.5	4.1	6.0	6.8	6.0	9.4	6.0
Total Property		0.9	1.1	-	-	-	-	-	-
Cash ^(b)		0.4	0.2	1.5	0.6	1.5	0.5	1.5	0.5
Total	-	-4.5	-3.6	1.8	-	10.2	-	-	-
CPI +4%	-	-	1.5	-	6.1	-	6.2	-	5.5

Source: Investment Managers, Mercer estimates and Thomson Reuters Datastream.

Historical total benchmark figures unavailable prior to Q2 2018.

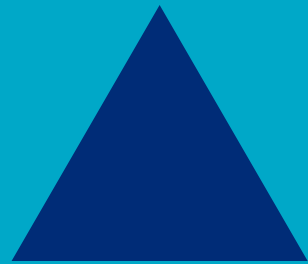
Infrastructure and private equity funds are shown against CPI + 5% p.a. benchmark. Infrastructure and private equity figures shown are calculated by Mercer using a Modified Dietz approach over each period and are based on data provided by the respective managers in their original currency converted to GBP (where required) by Mercer using exchanged rates sourced from Thomson Reuters Datastream. (See Appendix E)

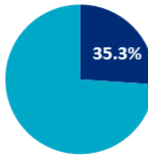
^(a) Performance shown since inception. Inception taken as 26 October 2018 for Janus Henderson and 30 November 2018 for PIMCO.

^(b) Long term figures are indicative, rather than actual.

SECTION 3

MANAGER MONITORING





Item Monitored	Outcome
Mandate	Global equities benchmarked measured against FTSE Developed World (ex-Tobacco) Index.
Performance Objective <i>To match the benchmark. ^(a)</i>	Too early to determine.

Performance Commentary

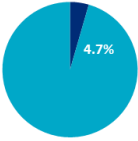
- On a net of fees basis, the fund performed broadly in line with the benchmark over the quarter and one year period to 31 December 2018.

^(a) Performance objective is measured over 3 years.

Net of Fees Performance			
Asset Class	Last Quarter (%)	Last Year (%)	Last 3 Years (% p.a.)
Developed World (ex-Tobacco)	-11.1	-2.7	-
<i>Benchmark</i>	-11.2	-2.6	-

JANUS HENDERSON EMERGING MARKETS EQUITY

INCEPTION: 26-OCT-18
VALUE: £55.5M



Item Monitored	Outcome
Mandate	Emerging Markets Equity measured against the MSCI Emerging Markets (NDR) Index.
Performance Objective <i>Benchmark + 3% p.a.</i>	Too early to determine.

Performance Commentary

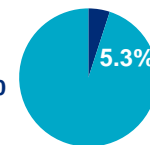
- On a net of fees basis, the fund underperformed the benchmark by 2.4% over the period since inception to 31 December 2018.

Net of Fees Performance

Asset Class	Since inception (%)
Emerging Markets Equity	1.4
<i>Benchmark</i>	3.8

ABERDEEN STANDARD UK CORPORATES BONDS

INCEPTION: 03-FEB-10
VALUE: £62.5M



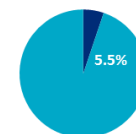
Item Monitored	Outcome	
Mandate	UK Corporate Bonds benchmarked measured against Markit iBoxx Sterling Non-Gilts Index.	
Performance Objective <i>Benchmark + 0.8% p.a.</i>		Outperformed by 0.7% p.a. over the three year period to 31 December 2018 (gross of fees).

Performance Commentary

- The fund marginally outperformed the benchmark over the quarter to 31 December 2018 on a net of fees basis.
- The fund underperformed the benchmark over the one year period by 0.3% and outperformed the benchmark by 0.4% p.a. over the three year period to 31 December 2018, on a net of fees basis.
- The fund has outperformed the median manager in Mercer's peer group universe over the quarter and one year periods by 0.3% and 0.4% respectively. The fund has underperformed the median over the three year and five year periods to 31 December 2018 by 0.3% p.a. and 0.2% p.a. respectively (based on representative account data, which may differ from Croydon's Fund-specific returns).

ABERDEEN STANDARD ABSOLUTE RETURN BONDS

INCEPTION: 10-NOV-11
VALUE: £64.7M



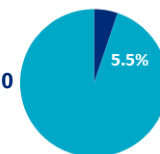
Item Monitored	Outcome	
Mandate	Absolute Return Bonds measured against 3 Month Sterling LIBOR.	
Performance Objective <i>Benchmark + 2.5% p.a.</i>	●	Underperformed by 0.4% p.a. over the three year period to 31 December 2018 (gross of fees).

Performance Commentary

- The strategy underperformed the benchmark by 0.7% over the quarter to 31 December 2018, on a net of fees basis.
- The strategy underperformed the benchmark by 2.3% and 0.9% p.a. over the one year and three year periods but performed in line with the benchmark over the five year period to 31 December 2018.
- The strategy has performed broadly in line with the median manager in Mercer's peer group universe over the quarter but has underperformed over the one, three and five year periods by 1.0%, 1.3% p.a. and 0.5% p.a. respectively (based on representative account data, which may differ from Croydon's Fund-specific returns).

WELLINGTON STERLING BONDS

INCEPTION: 27 - JAN - 10
VALUE: £64.7M



Item Monitored	Outcome	
Mandate	Wellington have a mandate to outperform the BofAML Sterling Broad Market Index by 1% - 1.5% p.a. (gross of fees).	
Performance Objective <i>Benchmark + 1-1.5% p.a.</i>	●	Outperformed by 2.0% over the one year period to 31 December 2018 (gross of fees).

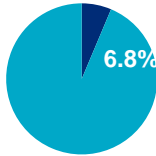
Performance Commentary

- The fund outperformed the benchmark by 1.0% over the quarter to 31 December 2018 (net of fees).
- The fund has outperformed the benchmark by 1.5% over the one year period and outperformed the benchmark over the three and five year periods by 0.3% p.a. and 0.2% p.a. respectively (net of fees).
- The fund has outperformed the median manager in Mercer's peer group universe over the quarter, one, three and five year periods by 1.7%, 2.7% p.a., 0.3% p.a. and 0.4% p.a., respectively.

PIMCO

GLOBAL BONDS

INCEPTION: 30-NOV-18
VALUE: £80.3M

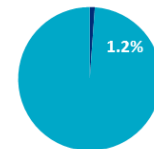


Item Monitored	Outcome
Mandate	Global Bonds measured against the Barclays Aggregate Credit Index Hedged (GBP) Index
Performance Objective <i>Benchmark +1- 1.5% p.a.</i>	Too early to determine.

Net of Fees Performance	
Asset Class	Since inception (%)
Global Bonds	0.4
<i>Benchmark</i>	1.0

Performance Commentary

- On a net of fees basis, the fund underperformed the benchmark by 0.6% over the period since inception to 31 December 2018.



Quarterly Cashflow Commentary

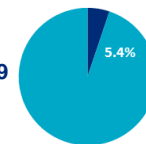
- Over the quarter, c. €3.4m was drawn down and c. €0.2m was distributed.

Item Monitored	Value (to 31 December 2018)	Percentage
Committed	€30.0m	-
Drawn down	€15.0m	50.1%
Distributed	€0.3m	2.1% (of drawn down capital)

Performance Commentary

- The estimated net return from inception (18 September 2017) to 31 December 2018 is 3.9% p.a.

Figure shown is calculated by Mercer using a IRR approach over the period since inception and is based on data provided by manager in its original currency converted to GBP by Mercer using exchange rates sourced from Thomson Reuters Datastream. (See Appendix E)



Quarterly Cashflow Commentary

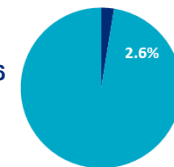
- Over the quarter, c. £1.4m was drawn down.

Item Monitored	Value (to 31 December 2018)	Percentage
Committed	£49.0m	-
Drawn down	£44.4m	90.5%
Distributed	£12.0m	27.0% (of drawn down capital)

Performance Commentary

- The net return from inception (16 July 2009) to 31 December 2018 is 14.0% p.a.

Figure shown is calculated by Mercer using a IRR approach over the period since inception and is based on data provided by manager in its original currency converted to GBP by Mercer using exchange rates sourced from Thomson Reuters Datastream. (See Appendix E)



Quarterly Cashflow Commentary

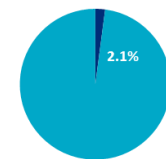
- Over the quarter, c. £2.0m was drawn down and c. £0.9m was distributed

Item Monitored	Value (to 31 December 2018)	Percentage
Committed	£30.0m	-
Drawn down	£29.8m	99.3%
Distributed	£0.9m	3.1% (of drawn down capital)

Performance Commentary

- The estimated net return from inception (23 February 2016) to 31 December 2018 was 5.8% p.a.

Figure shown is calculated by Mercer using a IRR approach over the period since inception and is based on data provided by manager (See Appendix E)



Quarterly Cashflow Commentary

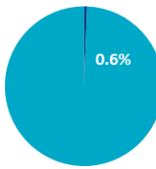
- Over the quarter c. £0.7m was distributed.

Item Monitored	Value (to 31 December 2018)	Percentage
Committed	£25.0m	-
Drawn down	£24.9m	99.5%
Distributed	£5.8m	23.4% (of drawn down capital)

Performance Commentary

- The net return from inception (15 December 2016) to 31 December 2018 was 8.9% p.a.

Figure shown is calculated by Mercer using a IRR approach over the period since inception and is based on data provided by manager (See Appendix E)



Quarterly Cashflow Commentary

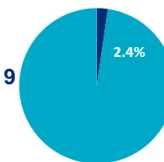
- Over the quarter c. €6.7m was drawn down.

Item Monitored	Value (to 31 December 2018)	Percentage
Committed	€35.0m	-
Drawn down	€9.0m	25.8%
Distributed	€0.0m	0.0% (of drawn down capital)

Performance Commentary

- The estimated net return from inception (24 July 2017) to 31 December 2018 was 7.9 p.a.

Figure shown is calculated by Mercer using a Modified Dietz approach over the period since inception and is based on data provided by manager (See Appendix E)



Quarterly Cashflow Commentary

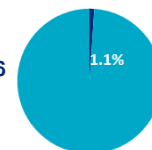
- Over the quarter, c. \$0.3m was distributed.

Item Monitored	Value (to 31 December 2018)	Percentage
Committed	\$48.0m	-
Drawn down	\$25.5m	53.2%
Distributed	\$6.7m	26.1% (drawn down capital)

Performance Commentary

- The estimated GBP return from inception (25 September 2009) to 31 December 2018 was 13.2% p.a.

Figures shown is calculated by Mercer using a Modified Dietz approach over the period since inception and is based on data provided by manager in its original currency converted to GBP by Mercer using exchanged rates sourced from Thomson Reuters Datastream. (See Appendix E)



Quarterly Cashflow Commentary

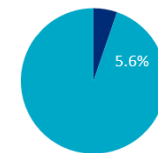
- Over the quarter, there was a return of call of c. €0.1m and a distribution of c. €0.3m.

Item Monitored	Value (to 31 December 2018)	Percentage
Committed	€20.0m	-
Drawn down	€12.1m	60.5%
Distributed	€1.9m	16.1% (of drawn down capital)

Performance Commentary

- The estimated GBP return from inception (31 March 2016) to 31 December 2018 was 15.9% p.a.

Figure shown is calculated by Mercer using a Modified Dietz approach over the period since inception and is based on data provided by manager in its original currency converted to GBP by Mercer using exchanged rates sourced from Thomson Reuters Datastream (See Appendix E)



Quarterly Cashflow Commentary

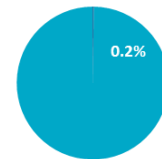
- Over the quarter, c. €0.5m was distributed from the Euro denominated portfolios.
- Over the quarter, c. \$1.0m was drawn down and c. \$2.2m was distributed from the USD denominated portfolios.

Item Monitored	Value (to 31 December 2018)	Percentage
Committed	€29.3m \$101.3m	-
Drawn down	€25.5m \$78.7m	87.1% for EUR 77.6% for USD
Distributed	€26.6m \$53.4m	104.2% for EUR (of drawn down capital) 67.9% for USD (of drawn down capital)

Performance Commentary

- The estimated GBP return over the last three years is 20.2% p.a.

Figure shown is calculated by Mercer using a Modified Dietz approach over the three year period and is based on data provided by manager in its original currency converted to GBP by Mercer using exchanged rates sourced from Thomson Reuters Datastream . Since inception performance is unavailable at the time of writing (See Appendix E) .



Quarterly Cashflow Commentary

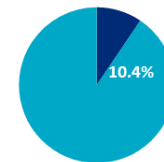
- Over the quarter, there were no distributions or drawdowns.

Item Monitored	Value (to 31 December 2018)	Percentage
Committed	€20.0m	-
Drawn down	€2.6m	13.0%
Distributed	-	0.0% (of drawn down capital)

Performance Commentary

- The estimated GBP return from inception (2 March 2017) to 31 December 2018 was -1.6% p.a.

Figure shown is calculated by Mercer using a Modified Dietz approach over the period since inception and is based on data provided by manager in its original currency converted to GBP by Mercer using exchanged rates sourced from Thomson Reuters Datastream (See Appendix E)

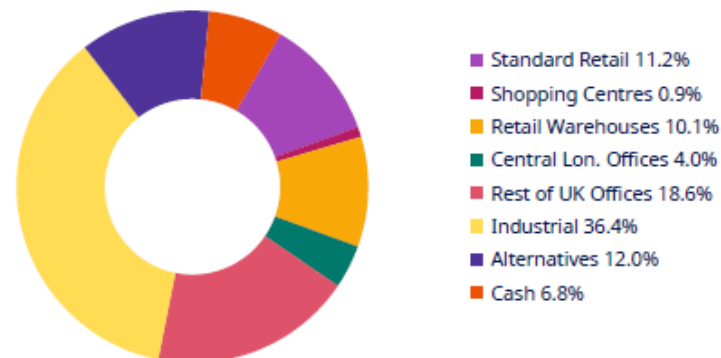


Item Monitored	Outcome	
Mandate	Schroders have a mandate to outperform the IPD All Balanced Property Funds Index by 0.75% p.a. (net of fees) over rolling three year periods.	
Performance Objective <i>Benchmark + 0.75% p.a.</i>	●	Outperformed by 0.5% p.a. over three year period to 31 December 2018 (net of fees).

Performance Commentary

- The fund performed in line with the benchmark over the quarter to 31 December 2018 (net of fees).
- The fund has outperformed the benchmark by 0.7% over the one year period, 0.5% p.a. over the three year period and 0.5% p.a. over the five year period to 31 December 2018, on a net of fees basis.
- The fund has outperformed the median of the universe for the longer term periods shown and performed in line with the benchmark for the quarter (based on representative account data, which may differ from Croydon's Fund-specific returns).

Asset Allocation

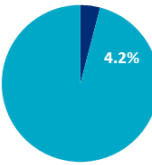


Source: Schroders, 31 December 2018

M & G

RESIDENTIAL PROPERTY

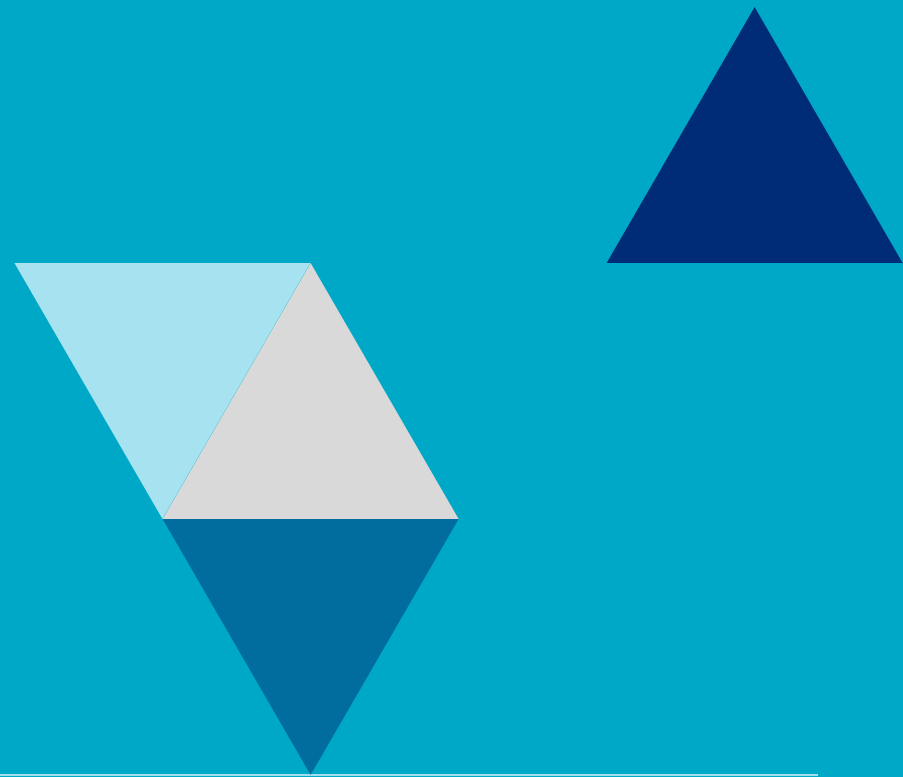
INCEPTION: 5 - JUN - 13
VALUE: £50.1M



Item Monitored	Outcome	
Mandate	Long term target return of 6.0% - 8.0% p.a.	
Performance Objective 6.0% p.a.	●	Achieved a return of 6.8% p.a. over the three year period to 31 December 2018 (net of fees).

Performance Commentary
<ul style="list-style-type: none"> The fund achieved a return of 0.9% (net of fees) over the quarter to 31 December 2018. The fund has achieved a return of 4.1%, 6.8% p.a. and 9.4% p.a. over the one year, three year and five year periods to 31 December 2018, on a net of fees basis.

APPENDICES



APPENDIX A

PORTFOLIO MAKE-UP

Asset Class	Mandate/ Key Comments	Benchmark Allocation	Actual Allocation
Global Equities	Demonstrates strong Environmental, Social and Governance (ESG) credentials. Promotes good ESG practises and will assist the Fund in meeting its long term funding requirement.	42.0	40.0
Fixed Income	The Standard Life Corporate Bond fund measures performance against the Merrill Lynch non-gilt sterling all stocks index and the Standard Life Absolute Return fund measures performance against 3 month LIBOR. Performance of the Wellington bond fund is measured against the Merrill Lynch Sterling Broad Market Index.	23.0	23.0
Infrastructure	A number of infrastructure managers have been selected in order to gain cost effective, , diversified exposure to global infrastructure assets. Investments seek to generate satisfactory risk adjusted returns and provide a hedge against inflation. Some of the investments aim to be more growth seeking and some aim to be income generating.	10.0	12.0
Private Equity	Enables the Fund to benefit from increased diversification through investments in a variety of companies in different markets.	8.0	9.2
Property	Focus on investing mainly in UK commercial real estate, objective to outperform the Investment Property Databank (IPD) All Properties Index.	10.0	10.4
Residential Property	Objective to outperform the Investment Property Databank (IPD) All Properties Index.	6.0	4.2
Cash	Objective is to maintain capital and hold enough cash to meet ongoing benefit payments.	1.0	1.2

APPENDIX A

TOTAL FUND

Total Fund (%)	Manager	Asset Class	Benchmark	Outperformance		
				Target (p.a.)	Fees	Time Horizon (years)
37.0	LGIM	Developed World (ex Tobacco) Equity	FTSE Developed World (ex-Tobacco) Index	To match the benchmark	Gross	3 ^(a)
5.0	Janus Henderson	Emerging Markets Equity	MSCI Emerging Markets (NDR) Index	+3%	Gross	3
23.0	Aberdeen Standard	UK Corporate Bonds	Markit iBoxx Sterling Non-Gilts Index	Outperform ^(b)	Net ^(b)	3 ^(b)
	Aberdeen Standard	Absolute Return Bonds	3 Month Sterling LIBOR	+2.5%	Gross	3
	Wellington	Sterling Bonds	ICE BofAML Sterling Broad Market Index	1-1.5%	Gross	1
	PIMCO	Global Bonds	Barclays Aggregate Credit Index Hedged (GBP) Index	1-1.5%	Gross	3
10.0	Access	Infrastructure	UK Consumer Price Index	5%	Net	1
	Temporis	Infrastructure	UK Consumer Price Index	5%	Net	1
	Equitix	Infrastructure	UK Consumer Price Index	5%	Net	1
	Green Investment Bank	Infrastructure	UK Consumer Price Index	5%	Net	1
	I Squared	Infrastructure	UK Consumer Price Index	5%	Net	1
8.0	Knightsbridge	Private Equity	UK Consumer Price Index	5%	Net	1
	Pantheon	Private Equity	UK Consumer Price Index	5%	Net	1
	Access	Private Equity	UK Consumer Price Index	5%	Net	1
	North Sea	Private Equity	UK Consumer Price Index	5%	Net	1
10.0	Schroders	Property	IPD All Balanced Property Funds Index	Outperform ^(b)	Net ^(b)	3 ^(b)
6.0	M&G	Residential Property	Fixed	6-8%	Net	1
1.0	n/a	Cash	-	-	-	-

(a) For passive mandates, LGIM aims to track the benchmark to within the tolerance range shown two years out of three.

(b) To be confirmed as manager data is still outstanding.

APPENDIX C

INVESTMENT MANAGER FEES

Fee Schedule		
Manager	Asset Class	Fee
LGIM	Developed World (ex-Tobacco) Equity	0.06% p.a.
Janus Henderson	Emerging Markets Equity	tbc
Aberdeen Standard	UK Corporates Bonds	0.23% p.a.
Aberdeen Standard	Absolute Return Bonds	0.45% p.a. ^(a)
Wellington	Sterling Bonds	0.30% p.a.
PIMCO	Global Bonds	tbc
Multiple	Infrastructure	tbc ^(b)
Multiple	Private Equity	tbc ^(b)
Schroders	Property	0.25% p.a.
M&G	Property PRS	0.90% p.a.
<p>(a) Fee rebate of 0.05% applies on assets over £50m.</p> <p>(b) Manager data still outstanding.</p>		

APPENDIX D

MONITORING CRITERIA – GUIDE TO COLOUR CODES

Introduction

This is a guide to the “traffic light” colour codes shown in our performance reports for non Mercer Fiduciary investment managers. It describes what the colours are intended to illustrate for the various monitoring criteria included in our reports.

Please note where it is not appropriate to assign a specific traffic light we mark the boxes grey.

Performance – target specified		Volatility / Tracking Error	
Colour	Description	Colour	Description
	Target or above performance		Within tracking error target range (or within $\pm 1.0\%$ if target is a single figure)
	Benchmark or above performance, but below target		Within 1% of target range (or within $\pm 1.0 - 2.0\%$ if target is a single figure)
	Below benchmark performance		1% or more outside of the target range (or $> \pm 2.0\%$ if target is a single figure)
Performance – Passive Funds		Performance – target not specified	
Colour	Description	Colour	Description
	Within tolerance range		Benchmark or above performance
	Outside tolerance range		Below benchmark performance

APPENDIX E

CALCULATION METHODOLOGY – MODIFIED DIETZ

The return metric used in the report to calculate the performance for Private Equity, Infrastructure and Real Estate Debt Investments at manager level is known as the Modified Dietz approach, which is based on the Internal Rate of Return (“IRR”) concept. The IRR by its nature is sensitive to early cash flow events, and the IRR calculation assumes that the residual value of a composite is totally liquid, whereas, in reality, the residual value is the unrealised (and often illiquid) portion of the composite.

However, when calculating total scheme performance (which is on a Time Weighted Rate of Return “TWRR” basis) it is important that the IRR returns shown at a manager level for Private Equity/Infrastructure/Real Estate Debt are not used to calculate Total Scheme performance. Instead, for Total Scheme calculations we a proxy for TWR is used instead, known as Modified Dietz.. The formula is as follows.

$$\frac{\text{Closing Value} - \text{Opening Value} - P_i + D_i}{\text{Opening Value} + \sum (W_i * P_i - W_i * D_i)}$$

$$W_i = \frac{CD - d}{CD}$$

Closing value= valuation at the end of the period.

Opening value= valuation at the start of the period.

P_i = Total Contributions. This should be the sum of all your contributions.

D_i = Total Distributions. This should be the sum of all your non-recallable distributions (this should include Return of Capital, Capital Gains and Income).

W_i = Time weighting factor.

CD = total number of calendar days in the period.

d = the number of the days from the start of the return period until the date on which the cashflow occurs. *Note: (in some cases people may use d+1 however our approach is to use just d).*

The “Modified Dietz” method focuses on all external cashflows in and out of the fund. For example, within private equity investments:

- Cashflows in will be the capital calls (can also be referenced as drawdowns).
- Cashflows out are distributions.

The distributions provided by the manager are combined. Each contribution and distribution is weighted by a factor according to the date when they occurred and included in the denominator. Within the numerator, the contribution and distributions are not weighted.



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