Quarterly Funding & Investment Report

End September 2023

Prepared for: North Yorkshire Pension Fund
Prepared by: Aon
Date: 14 November 2023

Signatory of:
UK STEWARDSHIP CODE | 2021

For professional clients only

AON

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1. At a glance…

A high level summary of your investments and funding

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At a glance…

Funding*

Since the results of the valuation at 31 March 2022 the Fund's ongoing funding level has deteriorated, falling 8% to 108%, and the surplus has decreased by £327M.

This has been primarily driven by a reduction in asset values which has been partially offset by an increase in the discount rate.

Asset Allocation and Implementation

Following a review of the investment strategy, the Committee agreed that no changes were to be made to the investment strategy of the Fund.

A separate paper will be provided to Committee members, describing the review of the Fund's equities and setting out options for changing the allocations.

Performance

The Fund outperformed the composite benchmark over the 1 year period but underperformed over the quarter and over the 3 year periods. Fund performance is in-line with benchmark performance over the 5 year period.

Market Background and Investment Outlook

In Q3 2023, global equity markets fell, however, sterling depreciation against the US dollar pushed returns in sterling terms up. UK equities delivered positive returns in Q3 2023. Comparatively higher exposure to the Commodities sector led to the relative outperformance of UK equities compared to its developed market peers.

Global bond yields trended higher as major central banks continued to move forward with tighter monetary policy but at a slower pace.

Markets currently see the Israel-Gaza conflict as largely a contained regional problem but will take more notice should it start to widen out to involve more countries and bring economic consequences in its wake.

Equity markets remain in fragile territory, as the pressures from higher interest rates and the gradual deterioration in the economic and corporate profits environment make themselves felt. We continue to look elsewhere for sources of return.

Higher credit yields are proving a good inducement to bring in buyers. The credit risk premium over government bonds is less obviously attractive, however, in an environment where some credit losses could start to build.

Key actions

1. Committee members to consider the contents of this report, noting the equity allocation review will be discussed separately at the November PFC meeting

*Note: This funding update rolls forward the results of the 2022 valuation of the Fund. We have made allowance for actual pension increases since the valuation (up to a 10% loading for short term inflationary impacts that was allowed for at the 2022 valuation)

Key Stats – Q3 2023

Assets

£4,154m

Assets decreased by £481m since 2022 valuation

£4,635m at 2022 valuation

Funding level

108%

Funding level decreased by 8% since 2022 valuation

116% at 2022 valuation

Return on Assets since 2022 Valuation

-6.9% pa

Current Assets Expected Return (10 year p.a.)

+7.0%

1.1% increase since 2022 Valuation

5.9 % at 2022 valuation

Long-term Strategy Expected Return (10 year p.a.)

+7.0%

0.9% increase since 2022 Valuation

6.1% at 2022 valuation

Discount rate

4.7%

Discount rate has increased by 0.5% since 2022 valuation

4.2% at 2022 valuation

Current Assets Value at Risk (1 Year 1 in 20)

£838m

Long-term Strategy Assets Value at Risk (1 Year 1 in 20)

£788m

Estimated Total Employer cost

16.2%

Estimated Total Employer cost decreased by 1.2% since 2022 valuation

17.4% at 2022 valuation

Note: This funding update rolls forward the results of the 2022 valuation of the Fund. We have made allowance for actual pension increases since the valuation (up to a 10% loading for short term inflationary impacts that was allowed for at the 2022 valuation)

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2. Funding

A review of your funding position and contributions

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Funding position

Funding level

108%

at end 30 September 2023

Down from 116% at 31 March 2022

Surplus

£313M

at end 30 September 2023

Down from £640m at 31 March 2022

Comments

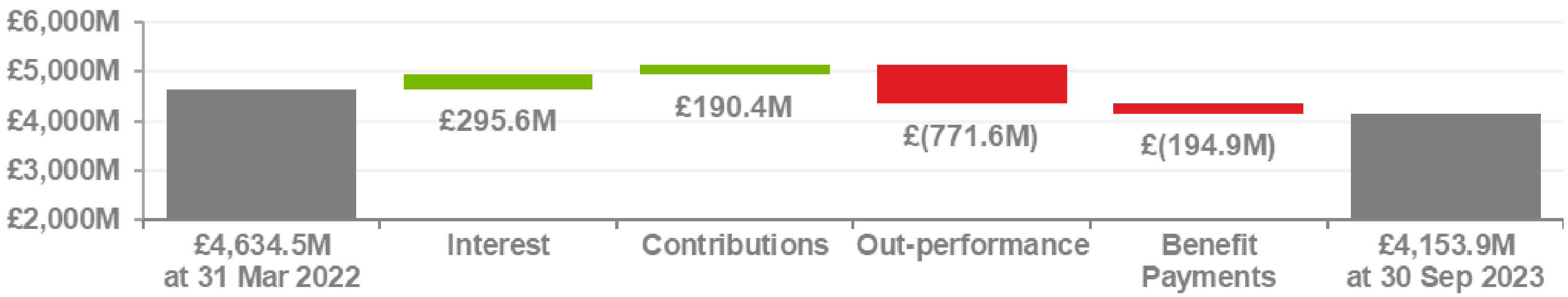
Since the results of the valuation at 31 March 2022 the Fund's ongoing funding level has deteriorated and the surplus has decreased by £327M.

This has been primarily driven by a reduction in asset values although this has been partially offset by an increase in the net discount rate.

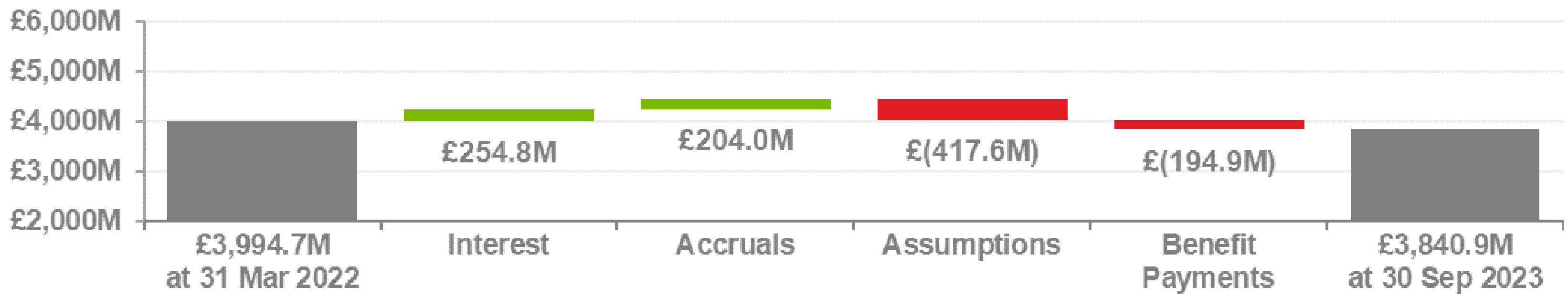
Change to funding level since 31 March 2022

Analysis – ongoing funding target

Reason for change since 31 March 2022 – Asset Attribution



Reason for change since 31 March 2022 – Liability Attribution



Comments

Since the 2022 valuation the surplus has decreased by £327M.

Aggregate Employer contributions – ongoing funding target

Total employer contribution rate

16.2%

at 30 September 2023

Down from 17.4% at 31 March 2022

Employer cost of accrual

16.2%

at 30 September 2023

Down from 20.1% at 31 March 2022

Comments

The cost of accrual has decreased since 31 March 2022 due to the increase in net discount rate. However, the surplus has decreased which has offset this to an extent. Overall there is a small reduction in the total employer contribution rate.

Notes

The total employer contribution rate quoted above is based on the average total employer contribution rates across the Fund. Individual employer contributions can be very different to the average figure across the Fund shown above depending on their own characteristics, membership profile and funding target. The individual employer contributions have been reviewed as part of the triennial valuation at 31 March 2022.

3. Asset allocation

A review of your strategic asset allocation

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Asset allocation – Q3 2023

Asset Group	Manager	Valuation (£m)	Current allocation	30 September 2023 Long-term strategy	Difference	Rebalancing Range	Possible action
Equities		**2,095.4**	**50.4%**	**50.0%**	**+0.4%**		
	BCPP UK equity	169.8	4.1%	4.0%	+0.1%	TBC	
	BCPP Global Equity	1,199.8	28.9%	28.0%	+0.9%	+/- 5%	
	Baillie Gifford LTGG	725.7	17.5%	18.0%	-0.5%	+/- 3%	
Absolute Return		**8.0**	**0.2%**	**0.0%**	**+0.2%**		
	Leadenhall Remote Risk	3.1	0.1%				
	Leadenhall Diversified	3.0	0.1%				
	Leadenhall Nat Cat	1.9	0.0%				
Property		**277.5**	**6.7%**	**7.5%**	**-0.8%**	**TBC**	
	Hermes	32.8	0.8%				
	L&G	44.2	1.1%				
	Threadneedle	200.6	4.8%				

Source: Northern Trust, Aon. Note: Numbers may not sum due to rounding.

Asset allocation – Q3 2023 (cont'd)

Asset Group	Manager	Valuation (£m)	Current allocation	Long-term strategy	Difference	Rebalancing Range	Possible action
		30 September 2023					
Infrastructure		**526.1**	**12.7%**	**10.0%**	**+2.7%**		
	BCPP Infrastructure	267.8	6.4%				
	BCPP Listed Alts	238.1	5.7%				
	BCPP Climate Opportunities	20.2	0.5%				
Private Credit		**165.0**	**4.0%**	**5.0%**	**-1.0%**		
	BCPP Private Credit	124.6	3.0%				
	Arcmont	26.1	0.6%				
	Permira	14.3	0.3%				
Non-Investment Grade Credit		**223.5**	**5.4%**	**5.0%**	**+0.4%**	**TBC**	
	BCPP Multi Asset Credit	223.5	5.4%				
Investment Grade Credit		**299.1**	**7.2%**	**7.5%**	**-0.3%**	**TBC**	
	BCPP Investment Grade Credit	299.1	7.2%				

Source: Northern Trust, Aon. Note: Numbers may not sum due to rounding.

Asset allocation – Q3 2023 (cont'd)

Asset Group	Manager	Valuation (£m)	Current allocation	Long-term strategy	Difference	Rebalancing Range	Possible action
		30 September 2023					
Gilts		**523.3**	**12.6%**	**15.0%**	**-2.4%**	**TBC**	
	BCPP Index Linked Bonds	523.3	12.6%				
Cash		**36.0**	**0.9%**	**0.0%**	**+0.9%**	**TBC**	
	Internal Cash	36.0	0.9%				
Total		**4,153.9**	**100.0%**	**100.0%**			

Source: Northern Trust, Aon. Note: Numbers may not sum due to rounding.

Investment strategy update

Equity allocation review

- A separate paper will be provided to Committee members, describing the review of the Fund’s equities and setting out options for changing the allocations.

Investment strategy review

- The Committee should consider reviewing the investment strategy in early 2024 given increased expected returns, market environment and new Border to Coast funds.

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Transitions and cashflows

The following rebalancing activities took place over the quarter:

- Border to Coast made17 capital calls and 15 distributions for infrastructure over the quarter totalling £7.1m, 15 capital calls and 11 distributions for Private Credit totalling £2.0m and 7 capital calls and 1 distribution for Climate Opportunities totalling £2.2m
- Permira made 2 distributions over the quarter, totalling £3.1m
- Arcmont made 2 distributions over the quarter, totalling £1.1m
- A Baillie Gifford redemption from the Long Term Global Growth Investment Fund, totalling £90m
- A Border to Coast Redemption from the UK Listed Equity Alpha Fund, totalling £7m
- A Border to Coast Redemption from the Global Equity Alpha Fund, totalling £63m
- A Border to Coast Redemption from the Listed Alternative Fund, totalling £30m
- A Border to Coast subscription to the Sterling Index-Linked Bond Fund, totalling £70m

4. Fund performance

A review of your investment performance

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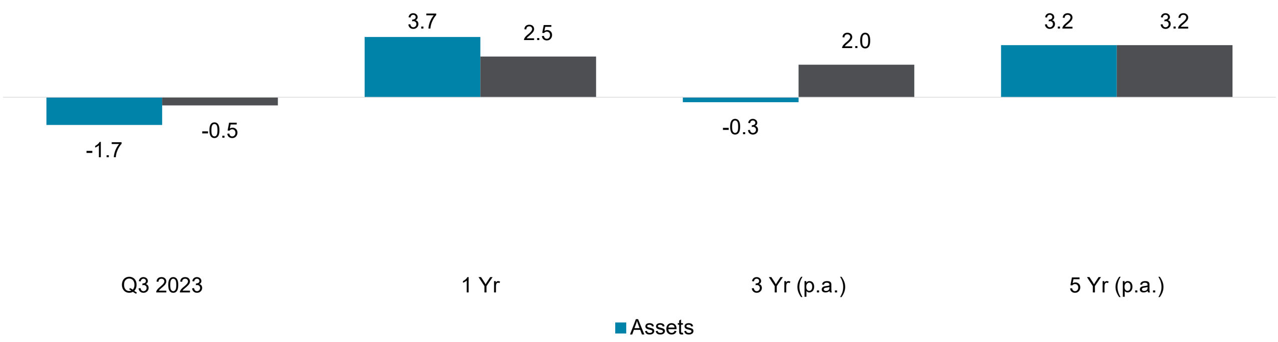
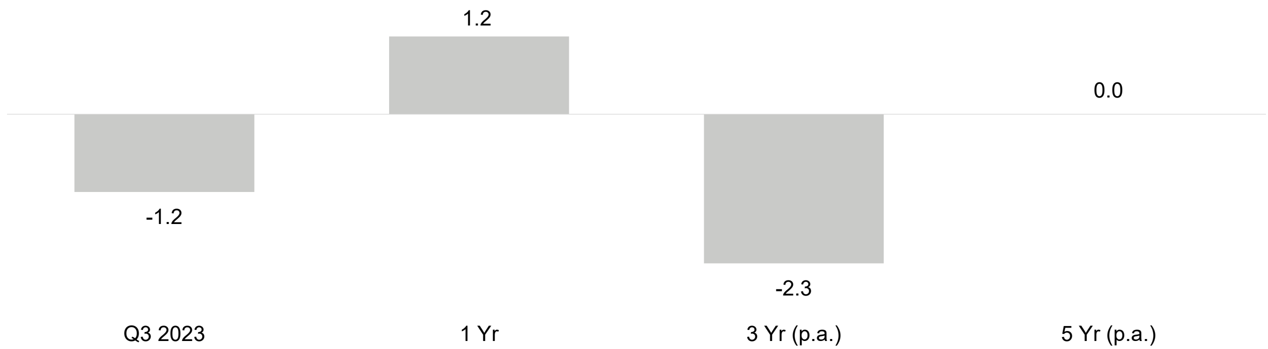
Total Fund performance – Snapshot

Fund performance & benchmark



Relative performance



Quarterly (relative)

-1.2%

The Fund underperformed the benchmark returning -1.7% vs -0.5% over the quarter.

3 year (relative)

-2.3%

Over 3 years the Fund has underperformed the benchmark returning -0.3% vs 2.0%.

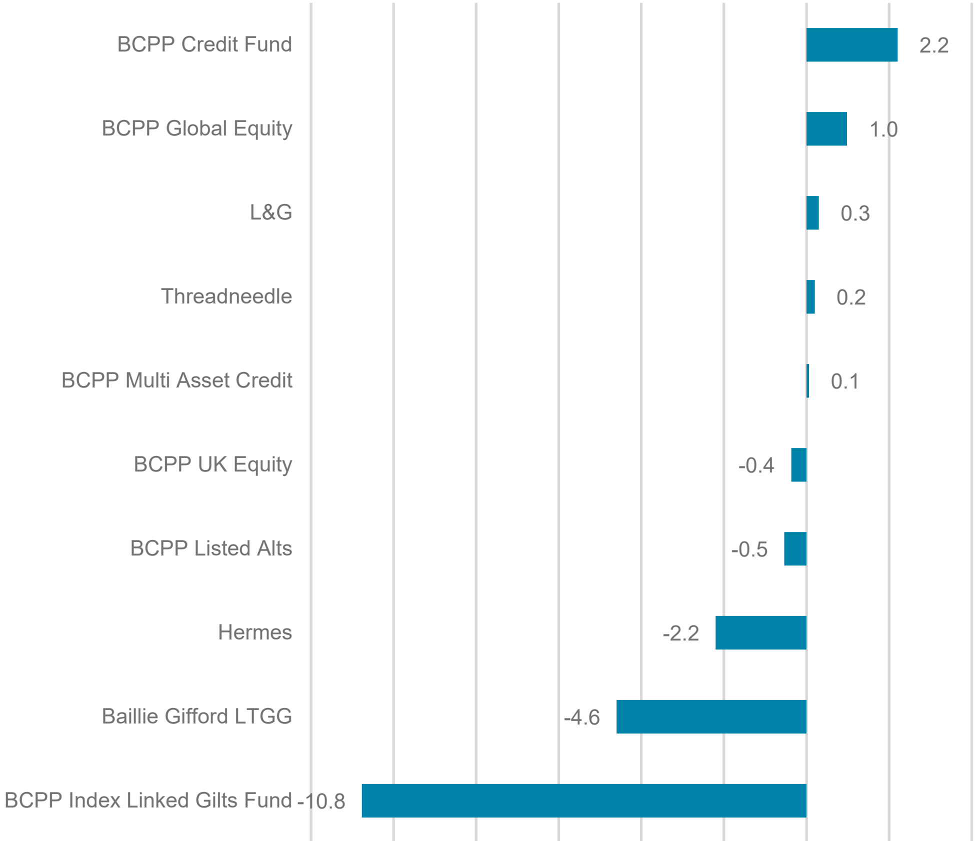
Comments

Total Fund performance is behind the composite benchmark over the quarter and 3 year periods but ahead over the 1 year period to 30 September 2023.

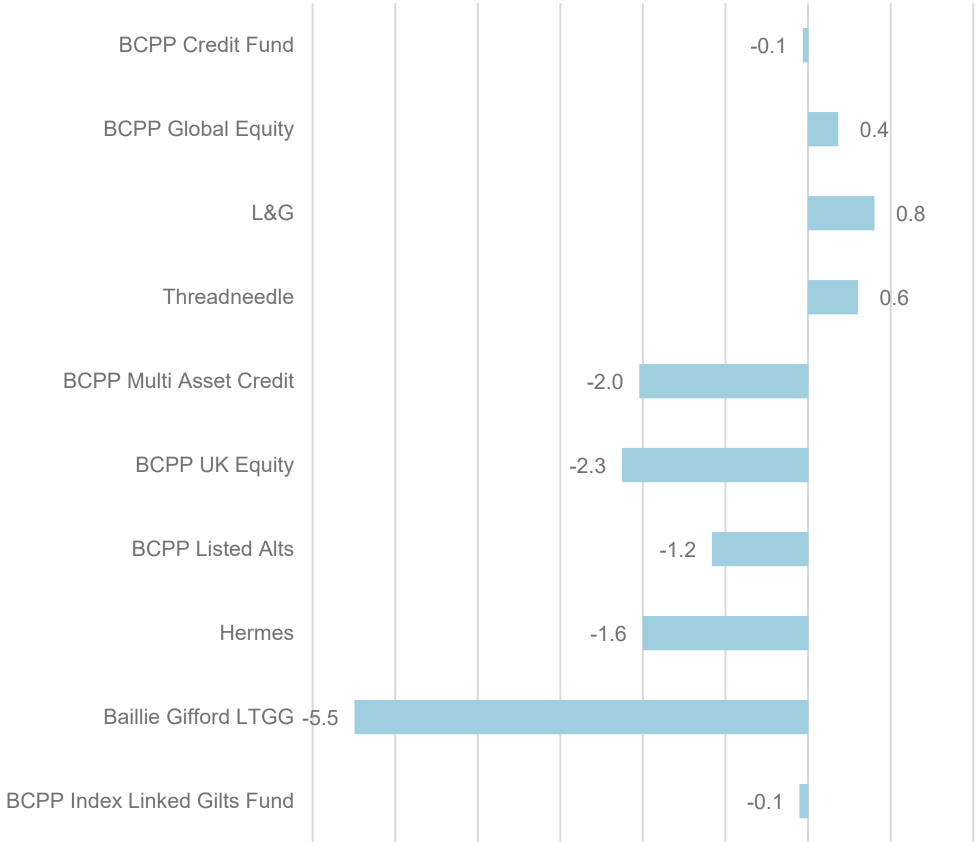
Source: Northern Trust, Aon

Manager performance – Quarter Snapshot

Absolute performance



Relative performance



Source: Northern Trust, Managers, Aon.
Note: Infrastructure and Private Credit returns not shown during initial investment drawdown phase. Performance for Leadenhall is not shown as mandates only hold residual assets. Hermes, L&G, Threadneedle; MSCI data was used for fund performance and benchmarking purposes, total fund performance calculated using Northern Trust data.

Manager performance – Longer term

	1 Year (%)			3 Years (% p.a.)			5 Years (% p.a.)			Since inception			
	Perf	B'mark	Rel	Perf	B'mark	Rel	Perf	B'mark	Rel	Perf	B'mark	Rel	Inception date
Equity													
UK Equity													
BCPP UK Equity	13.8	13.8	0.0	8.6	11.8	-3.2	-	-	-	2.4	4.0	-1.6	Jun-19
Global Equity													
BCPP Global Equity	16.1	10.5	+5.6	11.7	9.2	+2.6	-	-	-	9.0	9.1	-0.1	Oct-19
Baillie Gifford LTGG	9.0	11.1	-2.1	-6.2	9.5	-15.7	9.8	8.4	+1.4	13.9	9.3	+4.6	Sep-06
Property													
Hermes	-14.5	-14.5	0.0	2.6	3.0	-0.4	1.7	1.8	-0.1	-	-	-	Mar-12
L&G	-14.1	-14.3	+0.6	3.4	3.2	+0.2	1.9	1.8	+0.1	-	-	-	Dec-12
Threadneedle	-12.2	-14.3	+2.1	3.7	3.2	+0.5	2.1	1.8	+0.3	-	-	-	Jun-12
Infrastructure													
BCPP Listed Alts	1.7	10.5	-8.8	-	-	-	-	-	-	-5.1	2.3	-7.4	Feb-22
Investment grade credit													
BCPP Investment Grade Credit	8.6	7.0	+1.6	-5.0	-6.0	+1.0	-	-	-	-4.6	-5.8	+1.2	Aug-20
Non-investment grade credit													
BCPP Multi-Asset Credit	9.1	7.6	+1.5	-	-	-	-	-	-	-3.7	-	-	Nov-21
Gilts													
BCPP Index Linked Bonds	-26.6	-26.6	0.0	-21.2	-22.0	+0.8	-	-	-	-21.2	-22.0	+0.8	Oct-20
Total	**3.7**	**2.5**	**+1.3**	**-0.3**	**2.0**	**-2.3**	**3.2**	**3.2**	**0.0**	**6.7**	**7.1**	**-0.3**	**Jan-02**

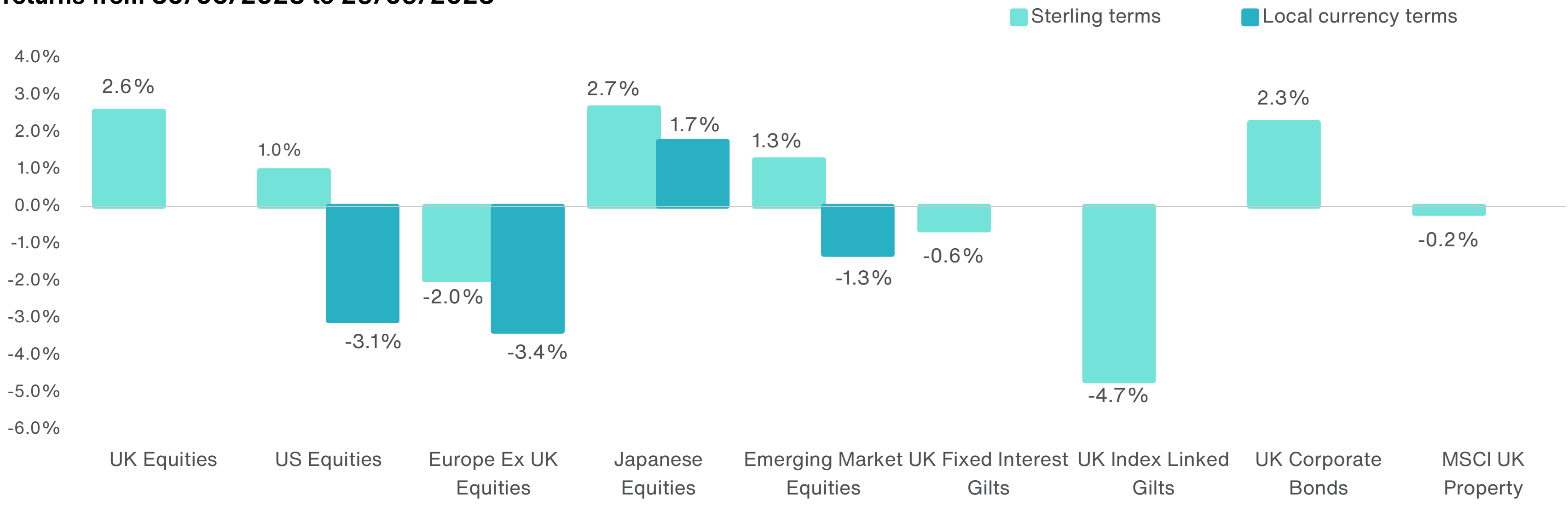
Source: Northern Trust, Managers, Aon. Numbers may not sum due to rounding.
Note: Hermes, L&G, Threadneedle; MSCI data was used fund performance and benchmarking purposes. BCPP Infrastructure returns and BCPP Private Credit returns not shown during initial investment drawdown phase. Performance for Leadenhall is not shown as mandates only hold residual assets.

5. Market background and investment outlook

Aon’s views on the market outlook and snapshot of investment markets and key economic data

Market – Background Q3 2023

Index returns from 30/06/2023 to 29/09/2023



Sources: FactSet, MSCI (Equities, Property), FTSE (Gilts), iBoxx (Credit).

Equities

The MSCI AC World index fell 2.4% in local currency terms. However, sterling depreciation against the US dollar pushed returns in sterling terms up to 0.7%.

UK equities delivered positive returns in Q3 2023. Comparatively higher exposure to the Commodities sector led to the relative outperformance of UK equities compared to its developed market peers. Rising commodity prices helped the sizeable resource sector as the Energy and Materials rose by 14.1% and 6.8% respectively. Amongst other major sectors, Financials rose 1.1%.

Bonds

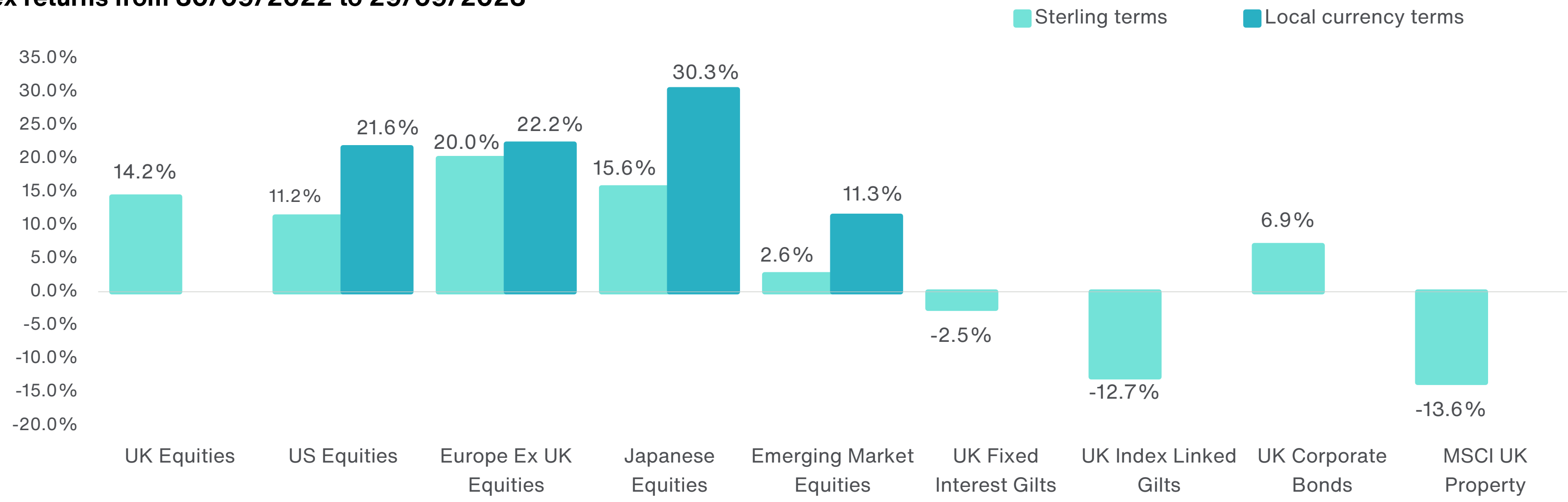
UK investment grade credit spreads fell by 0.1% to 1.44%, based on the IBoxx Sterling Non-Gilts index. Higher-quality bond credit spreads contracted less than their lower-quality counterparts, with AAA-rated non-gilt spreads falling by 0.04% to 0.47% whilst BBB-rated non-gilt spreads fell by 0.15% to 2.07%. The IBoxx Sterling Non-Gilts Index posted a return of 2.3%.

Gilts

The UK nominal gilt curve fell at short to medium maturities but rose at longer end of the curve.

Market – Background 12 month

Index returns from 30/09/2022 to 29/09/2023



Sources: FactSet, MSCI (Equities, Property), FTSE (Gilts), iBoxx (Credit).

Equities

Global equities generated positive returns over the last twelve months, rising sharply particularly over the first half of 2023. Inflation began to moderate in most major economies as the global economy proved to be more resilient than previously anticipated. The rally in Information Technology stocks was a major contributor to equity market gains in 2023, as investor excitement over artificial intelligence grew.

Bonds

The UK Credit market performed positively over the past twelve months. UK investment-grade credit spreads (the difference between corporate and government bond yields), based on the iBoxx Sterling Non-Gilt Index, narrowed by 0.58% to 1.44%. The index rose 6.9% over the year.

Gilts

The UK gilt curve rose across longer maturities over the year whilst falling at shorter to medium maturities (except at the shortest end of the curve) as inflationary concerns drove yields higher. In Q1 2023, the UK nominal gilt curve fell across all maturities except for the shortest end of the curve, as markets priced in additional rate increases in the immediate future but a lower terminal rate thereafter. In Q2 2023, the UK nominal gilt curve rose back up across all maturities with yields rising more at the short end of the curve relative to longer maturities. In Q3 2023, the UK nominal gilt curve fell at short to medium maturities but rose at the longer end of the curve. Overall, according to FTSE All-Stocks indices, UK fixed-interest gilts fell by 2.5% and index-linked gilts fell by 12.7% over the last twelve months.

Quarterly Investment Outlook – October 2023

- Interest rates remain a market preoccupation and the recent upward pressure on longer-duration bond yields has been a particular concern.
- Markets currently see the Israel-Gaza conflict as largely a contained regional problem but will take more notice should it start to widen out to involve more countries and bring economic consequences in its wake.
- UK rates pressure has eased, but longer duration gilt yields have stayed under pressure, amidst a strong sell-off in the US bond market.
- Though fixed gilt yields are in broadly attractive territory, weaker than normal demand for index-linked gilts could see some pressures remain.
- Higher credit yields are proving a good inducement to bring in buyers. The credit risk premium over government bonds is less obviously attractive, however, in an environment where some credit losses could start to build.
- Equity markets remain in fragile territory, as the pressures from higher interest rates and the gradual deterioration in the economic and corporate profits environment make themselves felt. We continue to look elsewhere for sources of return.
- Many schemes are looking to boost liquidity, and illiquid asset disposals are a particular area of difficulty in a weak demand and pricing environment. For those with illiquidity budgets to spare, some private markets are opening opportunities.

6. Manager review

Aon ratings and understanding manager performance

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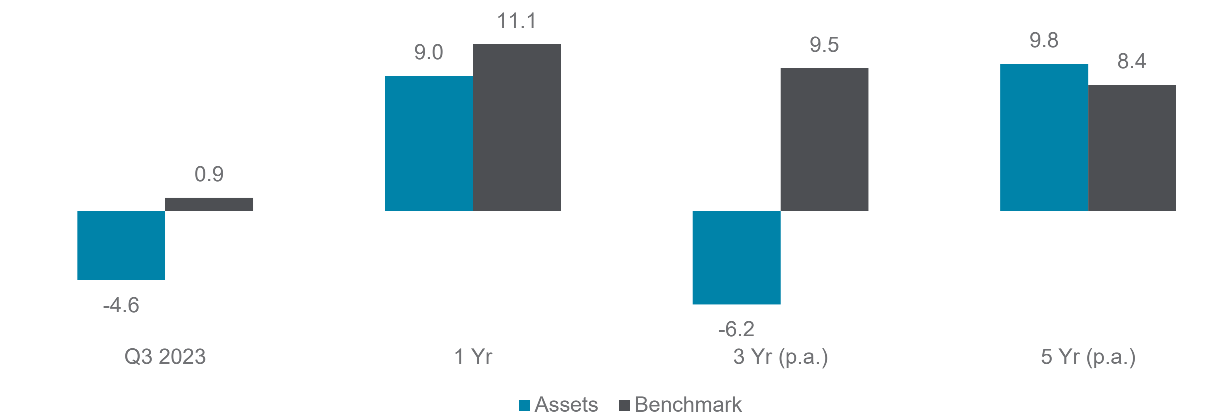
Baillie Gifford - LTGG

Fund performance & benchmark



Performance comments

Performance for Q3 2023 was behind the index. The strategy is still ahead of the index on a YTD basis, and over longer-term rolling periods, though the 2021 and 2022 drawdowns weigh heavily on the three-year relative return number.

Growth-orientated strategies trailed in Q3, with the Energy sector comfortably the strongest performing sub-set of the market. The LTGG strategy was no exception to this trend and lagged the benchmark.

Adyen and Dexcom detracted from relative performance in the period. Adyen shares experienced a severe drawdown in August of 2023 after the company reported a tempering of growth and employee cost increases.

The LTGG team is confident the company is investing for the future and that the company addresses a structural growth opportunity. Dexcom experienced market concerns over competition and lower overall growth due to progress in obesity drugs.

PDD Holdings (Chinese internet retail), Atlassian (global software) and NVIDIA (software, AI) were the strategy's better-performing names in the period.

Buy

Reviewed: November 2023

Ratings detail

ODD:	A1 pass	**Risk:**	●●○○
Business:	●●●●	**Perf:**	●●●○
Staff:	●●●○	**Terms:**	●●●○
Process:	●●●○	**ESG:**	Integrated

Key info

Appointed: 29 September 2006

Vehicle: Baillie Gifford Long Term Global Growth (+3% over 5-10yrs)

Mandate: Global Unconstrained Equities

Benchmark: FTSE All World Index from 31 March 2008

Target: To outperform the benchmark by 3% p.a. over rolling three-year periods.

Source: Aon, Northern Trust, data for periods longer than 12 months are annualised.

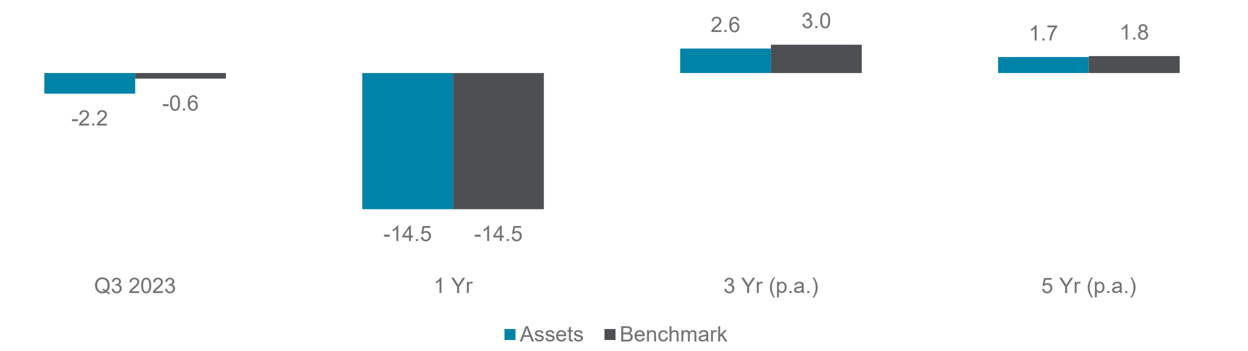
Baillie Gifford – LTGG (cont.)

Positioning and Transactions

During the quarter the team trimmed NVIDIA as it trended toward a risk guideline for a 10% maximum weight. The proceeds were recycled across the portfolio, with more notable additions to Sea Limited and BioNTech. There were no new purchases or outright sales in the period.

Hermes – Property Unit Trust

Q3 Fund performance & benchmark



Buy

Reviewed: October 2023

Q2 2023 Monitoring comments

Industrial assets continued to see large value write downs, impacted by further outward yield expansion. The Fund's Industrial Portfolio has seen a 24.7% correction since Q2 2022. however over the quarter, industrial contributed 2.4% to the weighted return relative to the whole portfolio. The largest detractors to performance over the 12-month period are the Peterwood Park Croydon asset (-35.1%), Fairway Trading Estate (-35.2%) and the M2 City Link in Rochester (-33.5%). Overall, the Fund maintains and underweight holding to industrial vs the benchmark (c. 5%) at 31.8%, detracting from performance over the quarter. Despite the sharp correction in industrial valuations, the industrial sector is still expected to provide strong rental growth over the medium term. In contrast to the above, West End Offices returned -6.9% over the 12-month period to weighted portfolio performance, with 27 Soho Square and Great George Street London office the main contributors, returning -3.5% & -8.8% respectively.

Overall, the Fund has a 76% allocation to core property, 15% to value add and 9% to special situations. Over time the Fund will look to reduce core to the 65% fund target.

The Fund remains focused on rental collection. As at 90 days post quarter end, the Fund has collected 99% of outstanding rent for Q2 and 90% of rent demanded for Q3 after 21 days. This is in line with the previous quarter. Portfolio Vacancy currently stands at 12.4%, with 8.3% being strategic void under refurbishment. The Fund has an outstanding cash allocation of 8.9%.

As mentioned, the Fund remains a committed seller to address the outstanding redemption queue and has a clear sales strategy address the redemption queue. The Fund sold two assets over the quarter, one office and one industrial Asset.

Key info

Appointed: 27 February 2012

Vehicle: Property Unit Trust

Mandate: UK Property Pooled Fund

Benchmark: IPD Other Balanced Property Fund Index

Target: To Outperform the benchmark by 0.5% over three year rolling periods.

Source: MSCI data was used for fund performance and benchmarking purposes

Hermes – Property Unit Trust (cont.)

Q2 2023 Monitoring comments (cont.)

Soho Square (office), was sold for £45 million, reflecting a net initial yield of 4%, and an 8.4% premium to valuation. The Asset had recently been refurbished and is a multi-let to 5 tenants. The Fund also sold Erdington Estate (Industrial), for £27.2 million, reflecting a net initial yield of 4.5% and a 12.6% uplift to the most recent valuation. The asset required extensive capex and posed an asbestos risk.

Q2 2023 Major Developments

The Fund has generated c.£204 million in sales proceeds since last year (sold industrial asset in West Horndon for £93 million, 40% ahead of valuation last July). In terms of redemptions, the most recent redemption requests have been of insignificant amounts (below £5 million), with the investor base now mostly local authority pension funds (most of which are still open). As at the time of reporting, the Fund had pending redemption requests of £117 million to pay out, expecting to be paid by end-September and will use £75 million from the sales proceeds to cover this.

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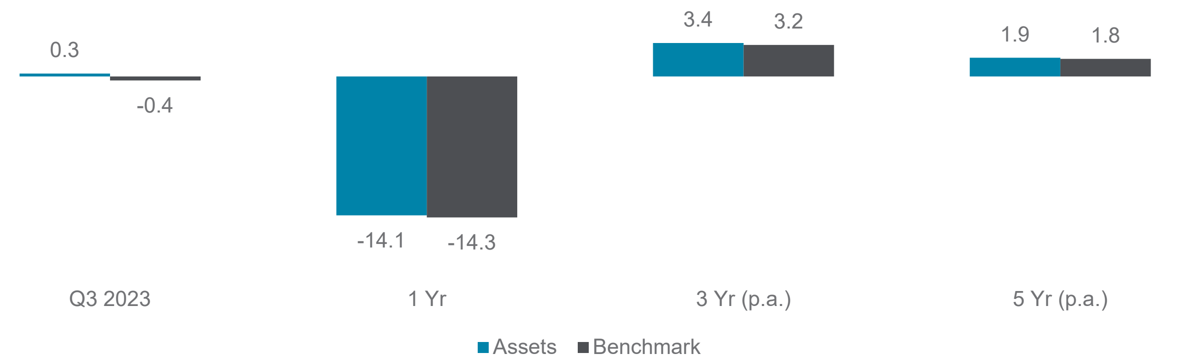
LGIM – Managed Property Fund

Q3 Fund performance & benchmark



Qualified

Reviewed: August 2023

Q2 2023 Monitoring comments

The Manager continues to have a largely negative view on the retail sector, particularly shopping centres and high street retail, despite forecasting that the relative performance gap will continue to narrow vs All Property. The Fund will therefore continue to be marginally underweight to retail assets, currently at 17% vs the benchmark weighting of 19%. Despite this cautious outlook the Manager remains relatively positive on retail warehousing, which is proving to be resilient following a pick-up in consumer sales. The Manager also has a positive view on leisure assets, especially those located in core locations, with the Fund gaining exposure through the LGIM leisure Fund. LGIM forecasts that this segment will outperform All Property over the next 3 years and offer an attractive yield profile, also presenting opportunities for asset management initiatives.

Leisure assets remains one of the largest alternatives holding, with an overall alternative weighting of 15.7% vs the benchmark at 12.1%, with the Manager highlighting the compelling relative value case and attractive yield profile. The Fund is also materially underweight to office vs the benchmark (20.6% vs 22.9%) which was the largest detractor to performance over the quarter. The Manager also continues to favour other areas of the alternative sector, forecasting outperformance in the near-term vs traditional sectors. Most notably, the Manager has a desire to increase the Fund's exposure to student accommodation and urban residential, the latter through its recent allocation to LGIM's Build to Rent (BTR) Fund and acquiring smaller direct holdings.

Key info

Appointed: 1 November 2012

Vehicle: Property Fund

Mandate: UK Property Pooled Fund

Benchmark: IPD All Balanced Property Fund Index

Target: To outperform the benchmark by over three year rolling periods.

Source: MSCI data was used for fund performance and benchmarking purposes

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LGIM – Managed Property Fund (cont.)

Q2 2023 Monitoring comments (cont.)

The Build to Rent allocation is expected to reach 5% by the end of Q3 2023. As previously mentioned, the Manager has previously looked to increase the portfolio's industrial exposure in the past. However, pricing expectations of sellers remains a concern. The Manager also believes that the Fund's current industrial holdings are of good quality and focussed in the South-East with further room for rental growth, despite a cooling occupier market. The underweight position to industrials now stands at (34.1% versus 38.2%).

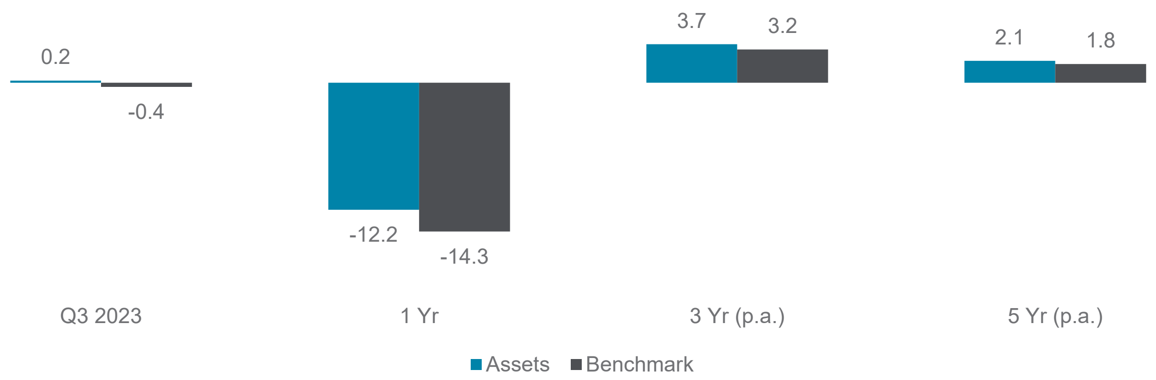
The Fund void rate has remained stable at 11.3% vs last quarter. However, 1.4% is strategic void, 2.8% is under refurbishment and 1% is under offer. The Fund's cash level remains considerably above the benchmark at 12.5% (as a % of GAV), following large DC pension inflows into the Fund (net inflows of £18 million monthly over the trailing twelve months) and is yielding 4.9% in the Funds cash account.

Q2 2023 Transactions

The were no transactions to report over the quarter.

Threadneedle – TPEN

Q3 Fund performance & benchmark



Buy

Reviewed: September 2023

Q2 2023 Monitoring comments

Short term outperformance was primarily due to the Fund's higher income return and we would expect this to continue to be the main driver of performance in the short term.

Despite the redemptions received and the fall in real estate prices, the NAV of the Fund remains at a level that we are comfortable with. At the end of the quarter the NAV stood at £1.5 billion.

With regards to sector weightings, the Fund remains overweight to industrial assets (44% versus 38.2%), which should benefit performance over the short and medium terms given the expected continued rental growth. The Manager will continue to dispose of industrial assets where capex requirements outweigh the investment upside. The Fund also maintains a meaningful allocation to the retail warehouse sector, albeit only marginally higher than the benchmark (14.1% versus 12.1%).

The Fund does have a material overweight position to offices at 25.2% (benchmark, 22.9%), with the Manager actively looking to reduce this overweight position over the remainder of 2023.

The Fund continued to sell assets over the quarter to build up liquidity. One asset was sold during the quarter, a four-acre site with planning permission for a last-mile multi-let warehouse development in Woodford Green, London. The asset was sold for £24 million. The current site is an aged poor quality industrial site with significant short term leasing risk. The planning permission created an c. £8 million profit on the land value.

No assets were acquired during the quarter.

Key info

Appointed: 21 June 2012

Vehicle: Property Fund

Mandate: UK Property Pooled Fund

Benchmark: IPD All Balanced Property Fund Index

Target: To outperform the benchmark by 1 to 1.5%.

Source: MSCI data was used for fund performance and benchmarking purposes

Threadneedle – TPEN (cont.)

Major Developments

As at the time of our update, the Fund had cleared its redemption queue, but will keep in place the redemption deferral mechanism while the Fund rebuilds its cash position. The mechanism will be removed once the cash position has grown from the c.4% at quarter end to 10%.

Source: MSCI data was used for fund performance and benchmarking purposes

BCPP – Quarterly high level monitoring (Q3 2023)

Changes to views of External Managers

- BCPP Global Equity Alpha
  - Loomis Sayles: The manager was first placed on the Watchlist in Q1 2023 due to resignations and departures from their dedicated analyst team. BCPP have held several engagements with the CEO, CIO and the investment team at Loomis around their thoughts on challenges in recruitment and retention. The risks associated with recruitment, retention and resourcing have now crystallised. There are also questions over the support by the wider business for Equity and more specifically this strategy.
- BCPP Multi-Asset Credit
  - PIMCO: The manager was placed on the Watchlist in December 2022 for an initial 6-month period due to the departure of Eve Tournier (lead portfolio manager). It was determined that their position on the Watchlist should be extended by a further 6-months and to include an on-site visit and additional due diligence. Following an on-site visit, BCPP want to emphasise several areas that were discussed. A summary of PIMCO's position on the Watchlist is being included in the Annual Review paper that is due to be completed ahead of the December Investment Committee.

Changes to Senior Management at BCPP

- BCPP have welcomed Sally Ronald as their new Head of Research. Sally most recently led the Department for Business and Trade's German operations based in the British Embassy in Berlin, promoting the UK as an investment destination and trading partner.
- BCPP have welcome Teodora Harrop to the second line team, as their new Head of Compliance. Teodora joins BCPP from the Link Group, where she was most recently the Head of Risk & Compliance at a subsidiary operating in the banking and credit management servicing sector.

Changes to Listed Alternatives portfolio management team

- Ryan Boothroyd, Portfolio Manager for the Listed Alternatives Fund, will be leaving BCPP at the end of the year. Ryan will continue to act in his capacity as portfolio manager on the Listed Alternatives Fund until his departure, with the ongoing oversight of Will Ballard (Head of Equities) and the support of the Internal Team, the Research Team and the Alternatives Team. BCPP have started the recruitment process for an additional portfolio manager within the internal team.

Source: Aon, BCPP Q3 2023 Internal Management Customer Presentation, BCPP External Quarterly Reports (UK and Global Equity Alpha, and Fixed Income Q3 2023), BCPP Quarterly investment Report (NYPF) Q3 2023, BCPP advisor update 10 October 2023.
Note: BCPP quarterly assurance data will now be released annually and has not been included above.

Border to Coast Pensions Partnership – RI Quarterly Report Snapshot

UK Equity Alpha Fund

Fund	Q3 2023 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
UK Equity Alpha	**46.0**	**7.8**
Benchmark (FTSE All Share)	**88.6**	**7.8**

Global Equity Alpha Fund

Fund	Q3 2023 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
Global Equity Alpha	**72.4**	**7.1**
Benchmark (MSCI ACWI)	**131.3**	**6.8**

Sterling Investment Grade Credit Fund

Fund	Q3 2023 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
Sterling Investment Grade Credit	**67.1**	**7.2**
Benchmark (iBoxx Sterling Non Gilt Index)	**68.3**	**7.6**

Listed Alternatives Fund

Fund	Q3 2023 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
Listed Alternatives	**171.0**	**7.3**
Benchmark (MSCI ACWI)	**131.3**	**6.8**

Source: BCPP/MSCI[1]

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7. Further information

Key reference information about your scheme

OFFICIAL - SENSITIVE

Explanation of Ratings – Overall ratings

Overall ratings

An overall rating is then derived taking into account both the above outcomes for the product. The table lists how the overall rating can be interpreted.

The comments and assertions reflect our views of the specific investment product and our opinion of its quality. Differences between the qualitative and Aon InForm outcome can occur and if meaningful these will be explained within the Key Monitoring Points section. Although the Aon InForm Assessment forms a valuable part of our manager research process, it does not automatically alter the overall rating where we already have a qualitative assessment. Overall rating changes must go through our qualitative manager vetting process. Similarly, we will not issue a Buy recommendation before fully vetting the manager on a qualitative basis.

Overall Rating	What does this mean?
Buy	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products
Buy (Closed)	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products, however it is closed to new investors
Qualified	A number of criteria have been met and we consider the investment manager to be qualified to manage client assets
Not Recommended	A quantitative assessment of this strategy indicates it does not meet our desired criteria for investment. This strategy is not recommended.
Sell	We recommend termination of client investments in this product
In Review	The rating is under review as we evaluate factors that may cause us to change the current rating

Explanation of Ratings – Overall ratings

ESG Factor

The ESG factor is assigned a rating and can be interpreted as follows:

	Key
Advanced	The fund management team demonstrates an advanced awareness of potential ESG risks in the investment strategy. The fund management team can demonstrate advanced processes to identify, evaluate and potentially mitigate these risks across the entire portfolio.
Integrated	The fund management team has taken appropriate steps to identify, evaluate and mitigate potential financially material ESG risks within the portfolio.
Limited	The fund management team has taken limited steps to address ESG considerations in the portfolio.

Method

The funding update has been prepared in accordance with the framework below.

- This funding update is consistent with the calculations for the results of the actuarial valuation as at 31 March 2022. The assumptions used have been modified only insofar as is necessary to maintain consistency with the approach set out in the latest Funding Strategy Statement, reflecting the change in the effective date and in relevant market conditions.
- The funding update is projected from the results of the actuarial valuation as at 31 March 2022 valuation and is therefore approximate. Since the update is not based on up-to-date membership data, it becomes more approximate the longer the period of time that has elapsed since the last actuarial valuation.
- The funding update takes account of the following over the period since the last formal actuarial valuation:
  - Cashflows into and out of the Fund estimated based on the 2022 valuation results;
  - Actual price inflation and its impact on benefit increases.
- Demographic experience since the last formal actuarial valuation has been assumed to be in line with the assumptions set out in the 2022 Valuation report.
- This update is designed to give a broad picture of the direction of funding changes since the actuarial valuation but does not have the same level of reliability as, and therefore does not replace the need for, formal actuarial valuations.
- It does not reflect any changes to assumptions which would be made if a full actuarial valuation were to be carried out to reflect, for example, changes to the investment strategy or economic outlook.
- For the purpose of this funding update, we have used an un-audited value of the assets as at 30 September 2023 provided by the Administering Authority.
- The whole of fund total employer contribution rates shown in this funding update allow for a recovery period ending 31 March 2041 and allow for any surplus in excess of 110% to be recovered as set out in the Funding Strategy Statement
- The assumptions used in this funding update are as follows:

	Discount rate	Pay growth	Pension increases *
31 March 2022	4.20%	3.55%	2.30%
30 June 2023	4.60%	3.35%	2.10%
30 September 2023	4.70%	3.35%	2.10%

* Plus an allowance for short term inflationary increases

Risk/Return Assumptions

- The table to the right sets out the 10-year median returns and volatility assumptions in absolute terms used in the modelling.
- Assumptions are based on Aon's Capital Market Assumptions as at 30 September 2023
- Allocations modelled are those set out in the main body of this presentation. Allocations are assumed to be annually rebalanced.
- Allowance for active management is made in some of the assets classes, in particular where there is no real passive version of the asset, for example private equity funds.
- Unless stated otherwise, all returns are net of underlying manager fees.

High level asset class	Expected Return	Expected Volatility
Equities	6.8%	18.7%
Property	6.4%	12.6%
Infrastructure	7.6%	15.8%
Listed alternatives	6.8%	19.3%
Illiquid credit	8.5%	6.4%
Investment grade credit	5.9%	9.6%
Non-investment grade credit	6.6%	9.0%
Absolute Return	7.0%	5.3%
Gilts	3.7%	9.7%
Cash	4.3%	1.4%

Note: all statistics are 10 year median expected returns/volatility of returns.

Correlation Table

High level asset class	Equities	Property	Infrastructure	Listed Alternatives	Illiquid credit	IG Credit	Non-IG Credit	Absolute Return	Gilts	Cash
Equities	100%	37%	62%	100%	26%	3%	55%	21%	-8%	-2%
Property		100%	19%	36%	26%	4%	28%	9%	-1%	7%
Infrastructure			100%	63%	14%	2%	23%	21%	-3%	2%
Listed Alternatives				100%	25%	3%	54%	22%	-8%	-2%
Illiquid credit					100%	58%	65%	15%	6%	24%
IG Credit						100%	28%	17%	50%	40%
Non-IG Credit							100%	19%	1%	9%
Absolute Return								100%	9%	33%
Gilts									100%	30%
Cash										100%

Data and assumptions

Date of calculation	30 September 2023
Number of simulations	5000
Time horizon	10 years
Asset value	£ 4,153,913,060

- Infrastructure is modelled as a blend of 37.5% EU and 62.5% US Infrastructure in line with BCPP's mandate.
- Listed Alternatives are modelled as passive global equities (including emerging markets).
- Private Credit modelled as combination of 2/3 Senior Direct Lending (for Arcmont and Permira) and 1/3 Whole Property Debt (for BCPP).
- Gilts are modelled as a 62.9% 15 year index-linked gilts and 37.1% 20 year index-linked gilts.
- Property is modelled as UK Property.
- Liquid IG Credit modelled as UK corporate bonds (A-rated with average duration of 10 years)
- Liquid Non-IG Credit modelled as high yield multi-asset credit.
- Absolute Return is modelled as Leadenhall Insurance Linked Securities modelled as an equal blend of Aggressive, Conservative and Moderate ILS.
- The Fund has an allocation to Equities which make up 50% of the long term allocation.
- For modelling purposes (and for consistency with the approach taken by the Actuary) we do not allow for any outperformance from active management (alpha).
- We have not allowed for the impact of equity protection on the risk and return of the portfolio
- Equities have been modelled using region splits in line with the long term allocation:

Passive UK Equity	10%
Passive Global Equity (including Emerging Markets)	90%

Purpose, key assumptions and judgements of the model

The purpose of this analysis is to consider and monitor the return and risk characteristics of the current and long term investment strategy of the Fund. The key assumptions and judgements of the model are set out below and we believe are reasonable for the intended purpose.

- The calculation considers (5000 stochastic) simulations of annual absolute returns over the period modelled. The simulations are constructed using Aon's Stochastic Asset Model, further details and assumptions are outlined in this appendix.
- A liability proxy is not considered.
- Allocations are assumed to be annually rebalanced, in practice this may not always be possible for illiquid assets.
- The calculations do not take into account any cashflows payable.

Limitations

Material risks to the Fund include covenant, longevity, market, inflation, contributions, expenses and liquidity.

- Our stochastic scenarios include market risk only, and this risk is present in the distribution of returns and is reflected in the risk metrics shown. Market risk has been calculated on an asset only basis.
- This modelling does not cover liability basis, inflation, covenant, longevity, contributions, expenses and liquidity risk. When using the modelling analysis, the user should consider how these risks apply and whether they are material to the decisions under consideration.

There are other factors that could materially affect the Fund's funding and strategy decisions, or the exposure or realisation of the risks above:

- These other factors include external factors such as climate change or political, regulatory and legislative change.
- The general risk factors of economic or technological change are reflected in our economic assumptions and the prevalence of extreme events in our economic model, but not all specific risks can be captured (e.g. disruptions to the financial system, or technological change leading to improvements in longevity).
- There are other risks to which the Fund is exposed that we assume are not material to long-term funding and investment strategy decisions, such as timing of member options or operational risks.

Limitations (continued)

There are necessarily some limitations associated with the stochastic scenarios calibrated to Aon's Capital Market Assumptions used for asset-liability modelling.

- **CMAs and asset-liability modelling**. Asset-liability projections rely on views of the future and whilst median projections are our Aon-house views (intended to reflect no bias), we do not know what will materialise in practice (for example it cannot be predicted exactly how the equity market and bond market will develop over the next year). To help build up a more complete picture of possible outcomes, we project assets and liabilities stochastically with the aim of capturing the uncertainty associated with the projections. This approach is designed to be coherent with each asset being calibrated to target a CMA median return, volatility and set of interdependencies (correlations) assumptions. Nevertheless, there remain some limitations, including but not limited to those set out below.
- Whilst Aon's CMA assumptions are supported by historical data, current financial market prices and expert views there are <u>necessary some limitations in the analysis, including, but not limited to, the following</u>:
  - **Long-term versus short-term.** The stochastic scenario calibration primarily seeks to capture a realistic long-term distribution of outcomes but is also mindful of short-term risk behaviours. These, sometimes competing, objectives can lead to some trade-offs within stochastic scenario calibration and the requirement for significant expert judgement. Where significant focus is applied to an individual asset class, particularly for more extreme outcomes, the user should bear this limitation in mind, and/or may wish to consider the use of deterministic scenarios.
  - **Only 5,000 scenarios are produced**. There is necessarily a trade-off between running more scenarios and spurious accuracy. Notably as you approach extreme tails, i.e., 1-200 this is an area of the distributions where there is insufficient market information to apply rigorous statistical analysis to explicitly calibrate models to, as such seeking to define the model outcome with a high degree of confidence is to some extent spurious and will be heavily driven by model selection.
  - **Data used for the CMAs may be limited and/or be subject to interpretation for relevance today**. The issues that arise from a lack of or poor historical data may be compounded by changing context. For example, for part of the last 100 years the UK was either on the gold standard or a quasi-gold standard, which is a very different economic framework than floating currencies. This obviously creates significant issues for the relevance of any cash rate and bond yield data.
  - **Defined randomness rather than chaotic behaviour**. The model, by necessity, assumes an underlying distribution of returns and yields. This presumes the underlying asset returns are random in nature rather than deterministic and chaotic. In a deterministic and/or chaotic framework the concept of a 1-in-X event has no meaning and so is not used in this modelling.
  - **Some extreme events are not modelled.** Our model is built on the premise that the current monetary and political framework will continue and presumes that there will not be a breakdown of civil order, a major natural disaster, UK government default or a significant global armed conflict. We view these risks as being outside the typical use case, however where very extreme scenarios are considered these may be relevant and should be addressed through deterministic scenario analysis.
  - **Unknown unknowns.** The model deals with known risks and therefore does not allow for "black swan events" or "unknown unknowns", while our model does have fat tails, it is not possible to fully allow for these types of unknown risks.
  - **Volatilities and correlations**. Volatility and the correlation of assets are only observable after the fact and can change over time. Within the stochastic scenario calibration, volatility and correlations vary for each of 5,000 scenarios, with the distribution of outcomes largely a function of the chosen economic models and the median long-term volatility and correlation targets. Some correlation behaviour is introduced in the tails e.g., large equity falls with more downward credit transitions.

Capital Market Assumptions

Aon's Capital Market Assumptions (CMAs) are our asset class return, volatility, and correlation assumptions. The return assumptions are "best estimates" of annualised returns. Below we set out the key features and approach taken in setting these assumptions.

- **Aon's CMAs.** Market risk is the primary risk considered as part of the CMA setting process.
  - The return assumptions are Aon's "best estimate" returns, with the uncertainty around the expected return represented by the volatility (annualised standard deviation of returns over the projection period) assumptions. Correlation assumptions allow for the interconnectedness of the risks facing different asset classes.
  - By 'best estimate' we specifically refer to the median annualised return. That is, there is a 50/50 chance that outcomes will be above or below the assumptions.
  - Assumptions are set by Aon's Global Asset Allocation Team and represent the long-term (10 and 30 year) market outlook.
  - Our long-term assumptions are based on historical results, current market characteristics, our professional judgment, and forward-looking consensus views.
- **Consideration of other approaches.** Alternative approaches include using generalized global models, such as the Capital Asset Pricing Model (CAPM) or a fixed risk premia approach, but we believe these approaches over-simplify the analysis and do not capture as much of the intricacies around each asset class.
- **Climate risks**. We consider the impacts of climate change when setting our assumptions. Making direct adjustments is challenging and subject to a high degree of subjectivity, as climate change effects are extremely 'non-linear'. Aon's capital market assumptions (CMAs) are based on long-term consensus views of what is priced into the market, and therefore indirectly capture the climate risk that is currently captured in current market conditions. **A separate range of deterministic scenarios focusing on climate change scenarios can be used to inform and help aid decisions.**
- **Other risks**. The effects of other internal or external environmental factors, such as technological, economic, political and geopolitical, regulatory and legislative changes, are also indirectly captured, in consensus views on the economic outlook and market pricing, which feed into our return assumptions.

Aon's Stochastic Scenario Generator (SSG) Model

Aon's Stochastic Scenario Generator (SSG) Model is a set of 5,000 stochastic scenarios, calibrated quarterly to Aon's Capital Market Assumptions. These stochastic scenarios can be used to evaluate the risk and return characteristics of a Fund's assets versus its liabilities.

Asset-liability modelling

- **Stochastic scenarios.** Aon's Capital Market Assumptions CMAs are used as targets to calibrate a set (typically 5,000) of stochastic scenarios for each economic variable. This allows us to perform stochastic asset-liability studies i.e. project portfolios of assets and liabilities many times into the future, building up a coherent picture of possible outcomes. Allowing for the interactions of asset and liabilities stochastically impacts median outcomes and enables percentile outcomes and probabilistic metrics to be considered.
- **Consistent framework**. All the major markets and asset classes are modelled within a consistent framework allowing for the interactions between them to be properly taken into account.
- **Model choice**. When setting assumptions, we have opted to use different economic models for different asset classes (listed on this slide), as we believe this would be the best way to capture the specific characteristics associated with each asset class.

Key economic models used

- **Nominal yields** are modelled using an extended displaced Black-Karasinski model, which enables us to model full yield curves. Yields are positively skewed, and the model can fit the starting curve. In the current calibration, average nominal yields are assumed to broadly follow the market for the first c.20 years of the projections.
- **Real yields** are modelled using a Hull-White model, this enables us to model unbounded full yield curves. The model can fit the starting curve. In the current calibration, average real yields are assumed to broadly follow the market for the first c.20 years of the projections
- **Inflation** is taken as the difference between nominal and real short rates, and the positive skew of the nominal yield model ensures realised inflation is positively skewed. For realised inflation a 'surprise' element is allowed for making inflation more volatile that purely predicted by the short rates.
- **Investment grade corporate bonds** are modelled using an extended Jarrow-Lando-Turnbull framework which assumes bonds can be modelled based on their credit rating and anticipated cashflows. This ensures positive credit spreads with positive skew and ratings transitions which broadly reflect historically observed transitions.
- **Return-seeking assets** are modelled using exposures to factors, where each factor can contain stochastic volatility and/or jump diffusion process. This gives the flexibility to capture more complex tail behaviour than is typically observed in simpler log-normal models.
- **Other assets** generally use outputs from the models above and exposure to some degree of idiosyncratic element in order to capture desired properties for the asset being considered.

TAS compliance

This document has been prepared in accordance with the framework below.

This document has been requested by the Administering Authority. It has been prepared under the terms of the Agreement between the North Yorkshire Council and Aon Solutions UK Limited on the understanding that it is solely for the benefit of the addressee.

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This report should be read in conjunction with:

- The Report on the actuarial valuation of the North Yorkshire Pension Fund as at 31 March 2022 dated 29 March 2023.
- The latest Funding Strategy Statement.

If you require further copies of any of these documents, please let me know.

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