Quarterly Funding & Investment Report

End March 2024

Prepared for: North Yorkshire Pension Fund
Prepared by: Aon
Date: 15 May 2024

Signatory of: 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

At a glance…

Funding*

Since the results of the valuation at 31 March 2022 the Fund's ongoing funding level has deteriorated, falling 2% to 114%, and the surplus has decreased by £74M.

This has been primarily driven by a reduction in asset values and pension increases being higher than expected, although this has been partially offset by an increase in the net discount rate.

Asset Allocation and Implementation

The Committee reviewed the asset allocation and discussed potential commitments to BCPP Alternatives programmes. A number of commitments were agreed to, outlined on later in this report (p16).

Performance

The Fund underperformed the composite benchmark over the quarter and 3 year period but outperformed over the 1 year and 5 year period.

Market Background and Investment Outlook (April 2024)*

In Q1 2024, global equity markets rose significantly. The MSCI All Country World Index rose 9.6% in local currency terms. However, sterling depreciated against the US dollar but an appreciation against the euro and the yen pushed down returns in sterling terms to 9.3%.

Inflation is still falling, but slower than many market participants had hoped. Expectations for interest rate cuts later this year have been substantially scaled back. The geopolitical flashpoints globally have become too concerning for markets to carry on ignoring and they are now influencing markets.

The tech sector's long-term success in equity markets is fundamentally based on its lower earnings cyclicality and consistency. Excess optimism, not higher interest rates, are more likely threats to its performance lead.

A low equity risk premium alongside a rising risk of macroeconomic or other setbacks keeps us cautious on equities. Any rebalancing should keep portfolio weights no higher than target with spare cash deployed in other opportunities within alternative asset classes.

Higher credit yields in recent years are a draw, but spreads are too tight, which indicates low reward for credit risk. Strategic credit buyers should 'average-in' and we suggest slowing the pace now to take advantage of better entry points to come. Tactical credit allocations should be in securitised credit where spread duration is lower.

Note: *The opinions referenced are as of the date of publication and are subject to change due to changes in the market or economic conditions and may not necessarily come to pass. Information contained herein is for informational purposes only and should not be considered investment advice.

Key actions

1. Committee members to consider the contents of this report.
2. Further discussions around short-term tactical asset allocation changes and rebalancing opportunities are set to take place with Officers and Advisors, prior to the May PFC meeting. Any subsequent recommendations will be tabled at the May PFC meeting for consideration.

*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 (allowing for pension increases awarded in April 2023 and April 2024).

Key Stats – Q1 2024

Assets

£4,634m

Assets reduced by £1m since 2022 valuation

£4,635m at 2022 valuation

Funding level

114%

Funding level decreased by 2% since 2022 valuation

116% at 2022 valuation

Return on Assets since 2022 Valuation

0.2% pa

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

+6.8%

0.9% increase since 2022 valuation

5.9 % at 2022 valuation

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

+6.8%

0.7% increase since 2022 valuation

6.1% at 2022 valuation

Discount rate

4.6%

Discount rate has increased by 0.4% since 2022 valuation

4.2% at 2022 valuation

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

£883m

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

£862m

Estimated Total Employer cost

14.7%

Estimated Total Employer cost decreased by 2.7% 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 (allowing for pension increases awarded in April 2023 and April 2024).

2. Funding

A review of your funding position and contributions

Funding position

Funding level

114%

at end 31 March 2024

Down from 116% at 31 March 2022

Surplus

£566M

at end 31 March 2024

Down from £640m at 31 March 2022

Comments

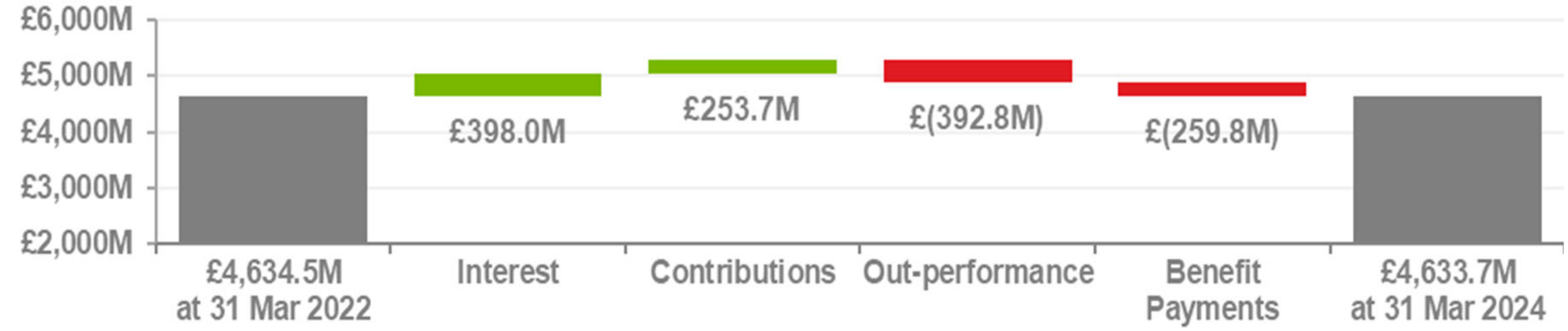
Since the results of the valuation at 31 March 2022 the Fund's ongoing funding level has deteriorated, and the surplus has decreased by £74M.

This has been primarily driven by a reduction in asset values and pension increases being higher than expected, although this has been partially offset by an increase in the net discount rate.

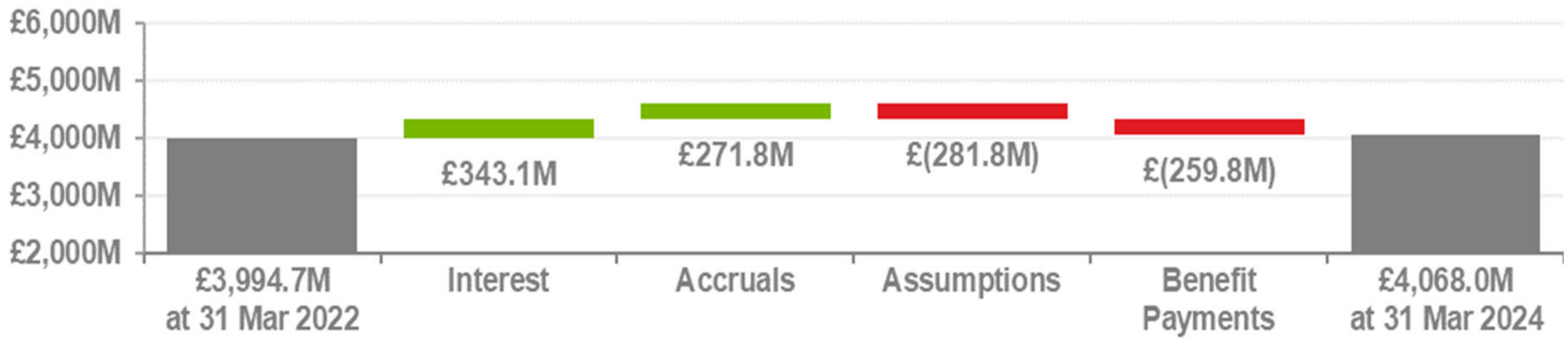
Change to funding level since 31 March 2022

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 £74M.

Aggregate Employer contributions – ongoing funding target

Total employer contribution rate

14.7%

at 31 March 2024

Down from 17.4% at 31 March 2022

Employer cost of accrual

16.7%

at 31 March 2024

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 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.

Funding position – Low Risk funding target

Funding level

89%

31 March 2024

▲ **25%**
vs 31 Mar 2022

64%

31 Mar 2022

Deficit

£582M

31 March 2024

▼ **£1,991M**
vs 31 Mar 2022

£2,573M

31 Mar 2022

Basis	Low Risk funding target
Effective date	31 March 2024

Comments

The funding level on the low risk basis has increased since the last valuation due to a rise in gilt yields over the period, leading to a decrease in the liabilities.

Low risk funding target

Change to funding level since 31 March 2022

Notes

This chart is provided to give an illustration of the change in the funding level based on the low-risk funding target since the 2022 valuation date. It has been produced based on changes in daily gilt yields and market implied inflation assumptions.

3. Asset allocation

A review of your strategic asset allocation

Asset allocation – Q1 2024

Asset Group	Manager	Valuation (£m)	Current allocation	31 March 2024 Long-term strategy	Difference	Rebalancing Range	Possible action
Equities		**2,213.9**	**47.8%**	**50.0%**	**-2.2%**		
	BCPP UK Equity	180.4	3.9%	4.0%	-0.1%	TBC	
	BCPP Global Equity	1,372.7	29.6%	28.0%	+1.6%	+/- 5%	
	Baillie Gifford LTGG	660.8	14.3%	18.0%	-3.7%	+/- 3%	
Absolute Return		**6.4**	**0.1%**	**0.0%**	**+0.1%**		
	Leadenhall Remote Risk	2.9	0.1%				
	Leadenhall Diversified	2.5	0.1%				
	Leadenhall Nat Cat	1.0	0.0%				
Property		**260.8**	**5.6%**	**7.5%**	**-1.9%**	**TBC**	
	Hermes	16.7	0.4%				
	L&G	44.5	1.0%				
	Threadneedle	199.6	4.3%				

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

OFFICIAL - SENSITIVE

Asset allocation – Q1 2024 (cont'd)

Asset Group	Manager	Valuation (£m)	Current allocation	Long-term strategy	Difference	Rebalancing Range	Possible action
		31 March 2024					
Infrastructure		**615.1**	**13.3%**	**10.0%**	**+3.3%**		
	BCPP Infrastructure	308.0	6.6%				
	BCPP Listed Alts	266.4	5.7%				
	BCPP Climate Opportunities	40.8	0.9%				
Private Credit		**184.6**	**4.0%**	**5.0%**	**-1.0%**		
	BCPP Private Credit	149.0	3.2%				
	Arcmont	26.1	0.6%				
	Permira	9.4	0.2%				
Non-Investment Grade Credit		**241.0**	**5.2%**	**5.0%**	**+0.2%**	**TBC**	
	BCPP Multi Asset Credit	241.0	5.2%				
Investment Grade Credit		**338.1**	**7.3%**	**7.5%**	**-0.2%**	**TBC**	
	BCPP Investment Grade Credit	338.1	7.3%				

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

Asset allocation – Q1 2024 (cont'd)

Asset Group	Manager			31 March 2024			
		Valuation (£m)	Current allocation	Long-term strategy	Difference	Rebalancing Range	Possible action
Gilts		**576.6**	**12.4%**	**15.0%**	**-2.6%**	**TBC**	✓
	BCPP Index Linked Bonds	576.6	12.4%				
Cash		**197.1**	**4.3%**	**0.0%**	**+4.3%**	**TBC**	✓
	Internal Cash	197.1	4.3%				
Total		**4,633.7**	**100.0%**	**100.0%**			

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

Investment strategy update

Asset allocation options

- At the March PFC meeting, the Committee reviewed the current asset allocation and considered commitments to BCPP Alternatives programmes. It was agreed to:
  - Make a commitment of £70m to BCPP Private Credit
  - Make a commitment of £120m to BCPP Infrastructure
  - Target a 4% allocation to BCPP Climate Opportunities, and agree the associated commitment needed to achieve the target allocation
  - Target a 1% allocation to BCPP UK Opportunities, and agree the associated commitment needed to achieve the target allocation

Transitions and cashflows

The following rebalancing activities took place over the quarter:

- 3 divestments from Baillie Gifford, totalling £150m.
  - £14m was invested into the Border to Coast Investment Grade Credit fund
  - The remaining balance was redeemed to cash
- Border to Coast made:
  - Climate opportunities, 6 calls for £18.5m.
  - Infrastructure, 25 calls (£31.9m), 18 distributions (£5.6m), £26.3m paid net
  - Private Credit, 16 calls (£16.9m), 11 distributions (£2.9m), £14.0m paid net
- A redemption instruction was submitted to Hermes in Q4 2023, to proceed with the disposal of 5,344,757 units held by NYPF in the Federated Hermes Property Unit Trust:
  - £15m was divested to cash, received 10 April
  - The remaining balance of c. £16m is expected to be received in the first week of July

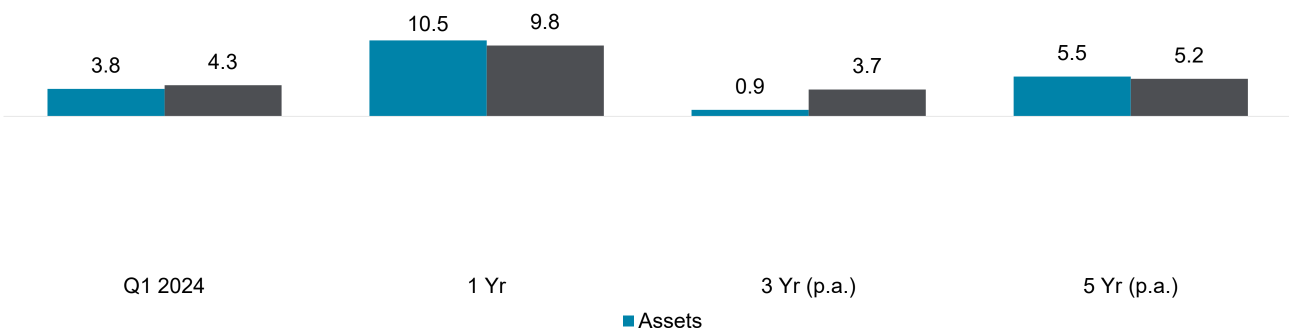
4. Fund performance

A review of your investment performance

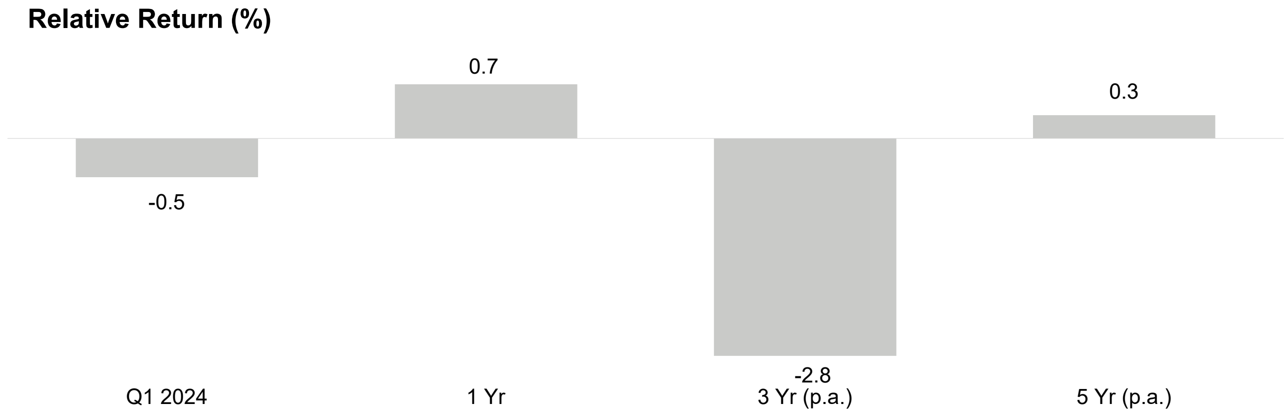
AON

Total Fund performance – Snapshot

Fund performance & benchmark



Relative performance



Quarterly (relative)

-0.5%

The Fund underperformed the benchmark returning 3.8% vs 4.3% over the quarter.

3 year (relative)

-2.8%

Over 3 years the Fund has underperformed the benchmark returning 0.9% vs 3.7%.

Comments

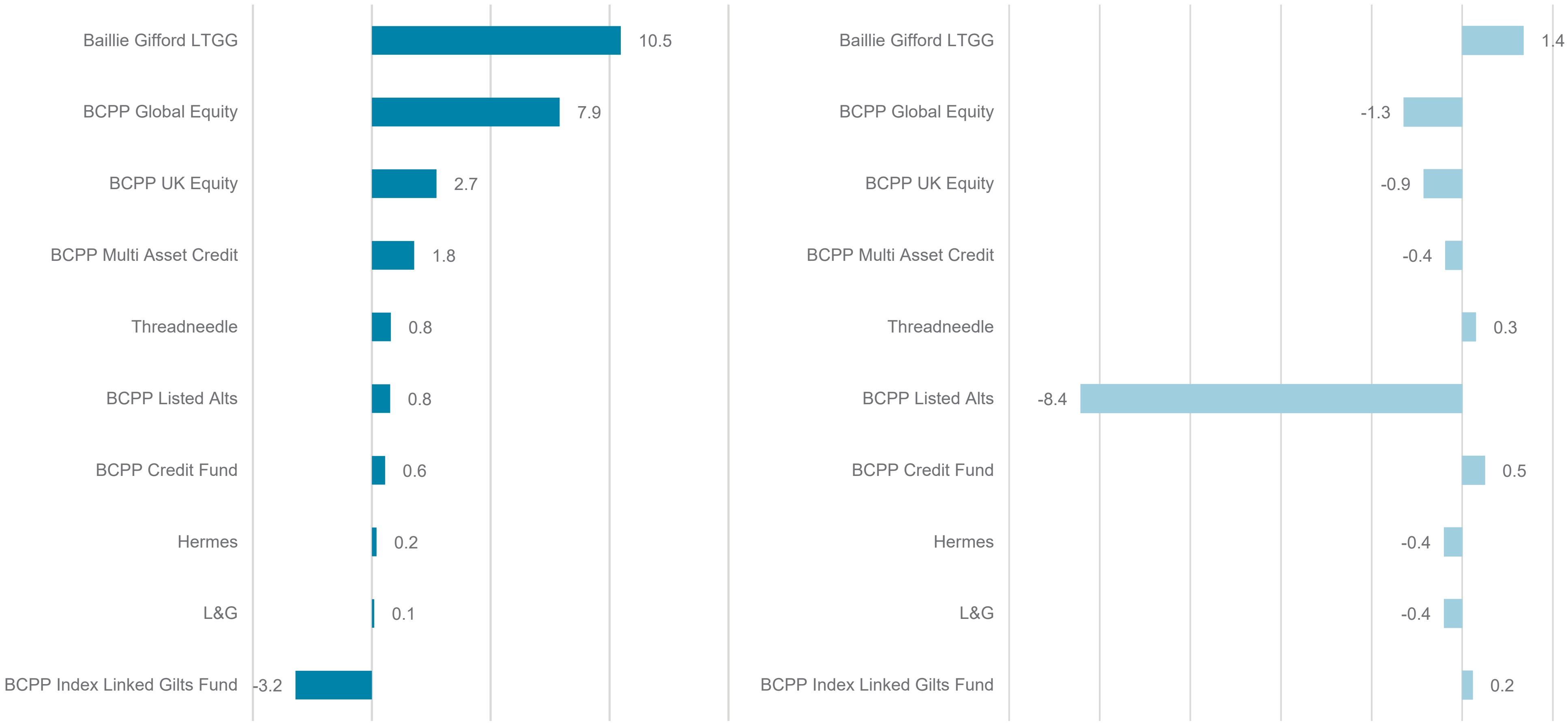
Total Fund performance is ahead of the composite benchmark over the 1 year and 5 periods but behind over the quarter and 3 year period to 31 March 2024.

Source: Northern Trust, Aon

Manager performance – Quarter Snapshot

Absolute performance

Relative performance



Source: Northern Trust, Managers, Aon.
Note: 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	5.1	8.4	-3.3	2.8	8.1	-5.3	-	-	-	3.4	5.0	-1.6	Jun-19
Global Equity													
BCPP Global Equity	18.4	20.6	-2.2	9.7	10.3	-0.6	-	-	-	11.2	11.7	-0.5	Oct-19
Baillie Gifford LTGG	27.0	21.0	6.0	-2.0	10.6	-12.6	15.2	12.1	3.1	14.9	9.9	5.0	Sep-06
Property													
Hermes	-2.7	-1.3	-1.4	0.8	1.3	-0.5	1.0	1.3	-0.3	-	-	-	Mar-12
L&G	0.9	-0.7	1.6	2.2	1.5	0.7	1.8	1.4	0.4	-	-	-	Dec-12
Threadneedle	0.5	-0.7	1.2	2.4	1.5	0.9	1.7	1.4	0.3	-	-	-	Jun-12
Infrastructure													
BCPP Listed Alts	11.4	20.6	-9.2	-	-	-	-	-	-	1.2	9.0	-7.8	Feb-22
Investment grade credit													
BCPP Investment Grade Credit	7.5	6.1	1.4	-2.4	-3.3	0.9	-	-	-	-1.9	-3.1	1.2	Aug-20
Non-investment grade credit													
BCPP Multi-Asset Credit	9.4	8.6	0.8	-	-	-	-	-	-	0.1	-	-	Nov-21
Gilts													
BCPP Index Linked Bonds	-11.4	-11.9	0.5	-17.5	-17.7	0.2	-	-	-	-16.2	-17.0	0.8	Oct-20
Total	**10.5**	**9.8**	**0.7**	**0.9**	**3.7**	**-2.8**	**5.5**	**5.2**	**0.3**	**7.1**	**7.4**	**-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. Performance for Leadenhall is not shown as mandates only hold residual assets.

Border to Coast Pensions Partnership – Private Markets Performance Summary

BCPP Infrastructure

Fund	Q1 2024 Position				
	Capital Committed	Capital Drawn	Capital Distributed[1]	IRR[2]	TVPI[2]
Series 1A	**98.7%**	**83.8%**	**15.0%**	**9.0%**	**1.19x**
Series 1B	**98.7%**	**64.7%**	**3.4%**	**5.3%**	**1.08x**
Series 1C	**100.0%**	**80.2%**	**11.3%**	**9.7%**	**1.15x**
Series 2A	**99.7%**	**44.4%**	**1.0%**	**-**	**-**
Series 2B	**78.7%**	**10.1%**	**0.0%**	**-**	**-**

BCPP Private Credit

Fund	Q1 2024 Position				
	Capital Committed	Capital Drawn	Capital Distributed[1]	IRR[2]	TVPI[2]
Series 1A/B	**99.5%**	**82.1%**	**20.7%**	**9.7%**	**1.16x**
Series 1C	**99.5%**	**65.4%**	**12.9%**	**9.7%**	**1.10x**
Series 2A	**100.0%**	**29.6%**	**3.9%**	**-**	**-**
Series 2B	**99.1%**	**11.3%**	**0.0%**	**-**	**-**

BCPP Climate Opportunities

Fund	Q1 2024 Position				
	Capital Committed	Capital Drawn	Capital Distributed[1]	IRR[2]	TVPI[2]
Series 2C	**99.9%**	**30.7%**	**0.7%**	**-**	**-**

Source: BCPP. [1]Includes recallable distributions. [2]Performance metrics are as at 31 December 2023

Border to Coast Pensions Partnership – Private Markets Commitments Summary

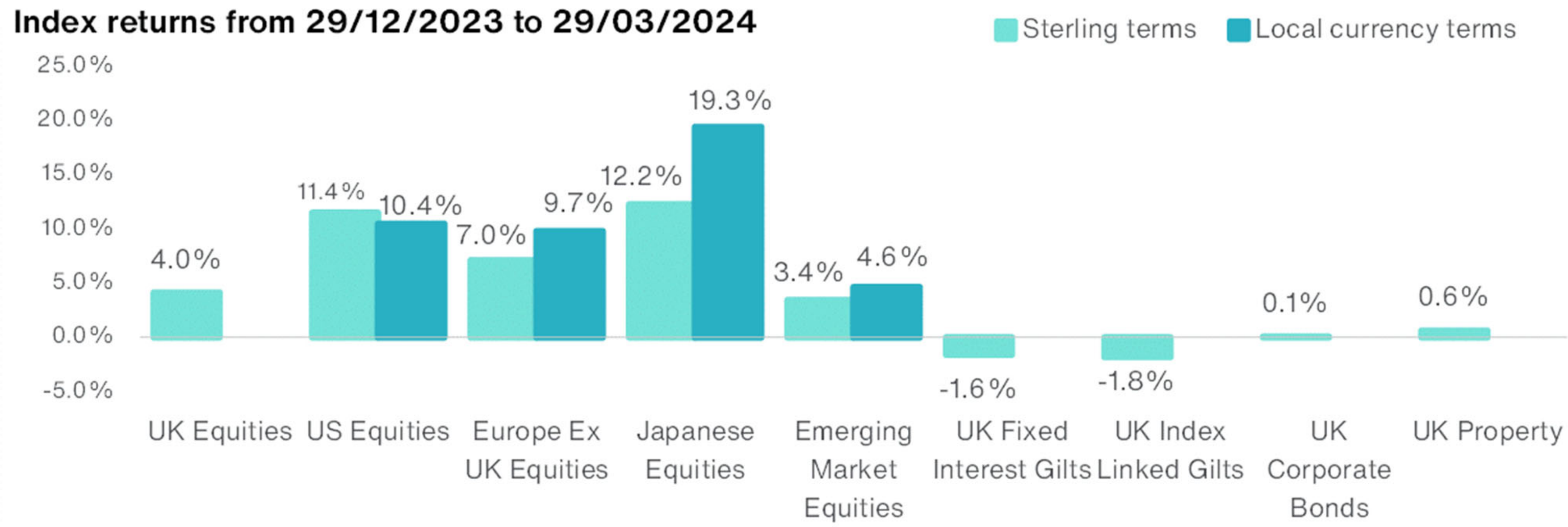
Strategy	**Total Commitments**							
	Series 1	1A	1B	1C	Series 2	2A	2B	2C
Private Credit	**£195m**	**£75m**		**£120m**	**£210m**	**£70m**	**£70m**	**£70m**
Infrastructure	**£320m**	**£70m**	**£50m**	**£200m**	**£360m**	**£120m**	**£120m**	**£120m**
Climate Opportunities	**N/A**	**N/A**			**£260m**	**£140m**		**£120m**
UK Opportunities	**N/A**	**N/A**			**£50m**	**N/A**		**£50m**

Source: BCPP, Aon, 31 March 2024.

5. Market background and investment outlook

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

Market – Background Q1 2024



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

Equities

In Q1 2024, global equity markets rose significantly. The MSCI All Country World Index rose 9.6% in local currency terms. However, sterling depreciated against the US dollar but an appreciation against the euro and the yen pushed down returns in sterling terms to 9.3%.

Bonds

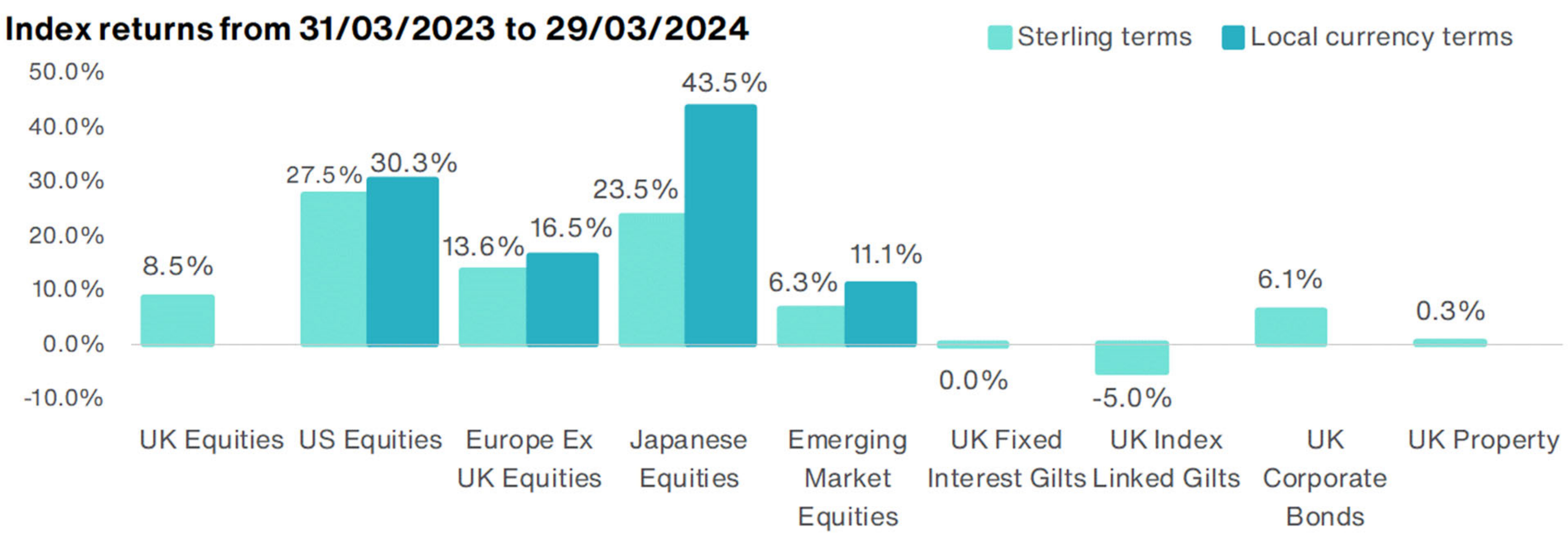
UK investment grade credit spreads fell by 0.14% to 1.07%, based on the iBoxx Sterling Non-Gilts index. Higher-quality bond credit spreads contracted less than their lower-quality counterparts, with AAA-rated non-gilt spreads falling by 0.11% to 0.30% while BBB-rated non-gilt spreads fell by 0.19% to 1.57%. The iBoxx Sterling Non-Gilts Index posted a return of 0.1%. Global investment grade credit spreads fell by 0.14% to 1.01% over the quarter.

Gilts

The UK nominal gilt curve shifted upwards over the quarter as yields rose across maturities.

The index-linked gilt yield curve also shifted upwards over the quarter as yields rose across maturities.

Market – Background 12 month



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

Equities

Global equities generated positive returns over the last twelve months. The MSCI ACWI rose 25.0% in local terms. Inflation began to moderate in most major economies as the global economy proved more resilient than previously anticipated. The rally in Information Technology stocks (MSCI ACWI - IT 42.1%) was a major contributor to equity market gains over the past year, 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 0.60% to 1.07%. The index rose 6.1% over the year.

Gilts

The UK gilt curve shifted upwards over the year as yields rose across maturities. 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. In Q4 2023, the UK nominal gilt curve shifted downwards as yields fell sharply across maturities. In Q1 2024, the UK nominal gilt curve shifted upwards as yields rose across maturities..

Quarterly Investment Outlook – April 2024*

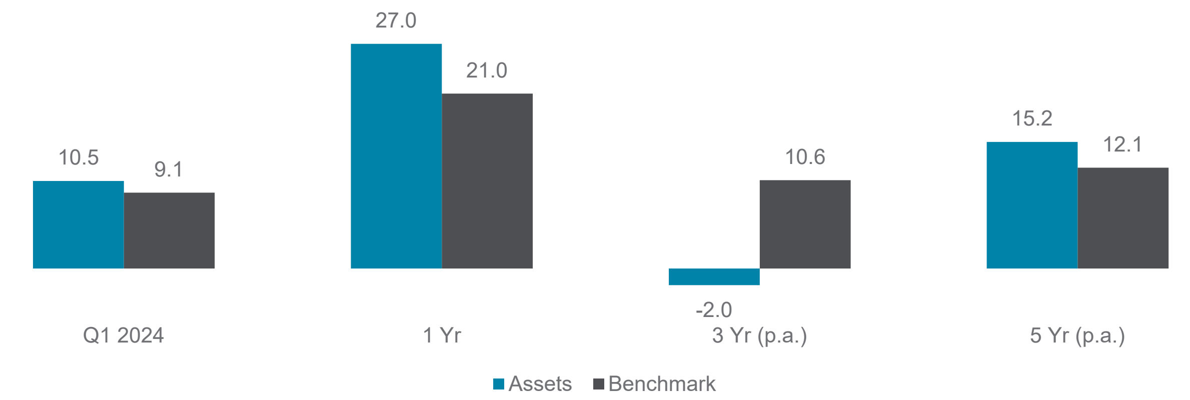
- Inflation is still falling, but slower than many market participants had hoped. Expectations for interest rate cuts later this year have been substantially scaled back.
- The geopolitical flashpoints globally have become too concerning for markets to carry on ignoring and they are now influencing markets.
- In a similar vein, still large government deficits and rising public debt that is more expensive to service, are harder for bond markets to shrug off.
- Any strong bond investor push-back to these fiscal trends would risk still higher bond yields, bringing prolonged market volatility. This is far from inevitable, but it is a rising risk that needs monitoring.
- On a two-year view we see yields being lower, but we anticipate that the journey will remain a volatile one.
- Higher credit yields in recent years are a draw, but spreads are too tight, which indicates low reward for credit risk. Strategic credit buyers should ‘average-in’ and we suggest slowing the pace now to take advantage of better entry points to come. Tactical credit allocations should be in securitised credit where spread duration is lower.
- The tech sector’s long-term success in equity markets is fundamentally based on its lower earnings cyclicality and consistency. Excess optimism, not higher interest rates, are more likely threats to its performance lead.
- A low equity risk premium alongside a rising risk of macroeconomic or other setbacks keeps us cautious on equities. Any rebalancing should keep portfolio weights no higher than target with spare cash deployed in other opportunities within alternative asset classes.
- History suggests that further appreciation of the US dollar is unlikely to be sustained. Likewise, the pound may have a floor that limits downside.

6. Manager review

Aon ratings and understanding manager performance

Baillie Gifford - LTGG

Fund performance & benchmark



Performance comments

The strategy outperformed over the period; the strategy was well positioned for the AI theme which continued to drive markets in Q1 2024. Strong contributions were seen from Nvidia, Spotify and ASML.

On the negative side, some of these gains were offset by negative contributions from PDD, Tesla and Atlassian.

NVIDIA's share price nearly doubled over the quarter, boosted by its strives in AI technology, resulting in record growth and earnings.

Spotify performed well over the period, with the market rewarding the company's focus on profitability and continued user growth.

ASML (semiconductor supplier) also benefitted from the prevailing AI theme, which is expected to underpin semiconductor growth.

PDD saw its share price pull back following a period of strong performance, whilst Tesla saw its share price suffer over fears of competition in the global Electric Vehicle (EV) market.

Buy

Reviewed: April 2024

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 period the team revised its EV exposure, with NIO (China, Luxury EV) being sold over increased competition whilst Rivian (EV trucks) was purchased. Given the dynamics in the EV market, and its recent share price weakness, it is worth noting Tesla is currently a relatively small position in the portfolio (c.2%) compared to a much more material (c.10%) position three years ago.

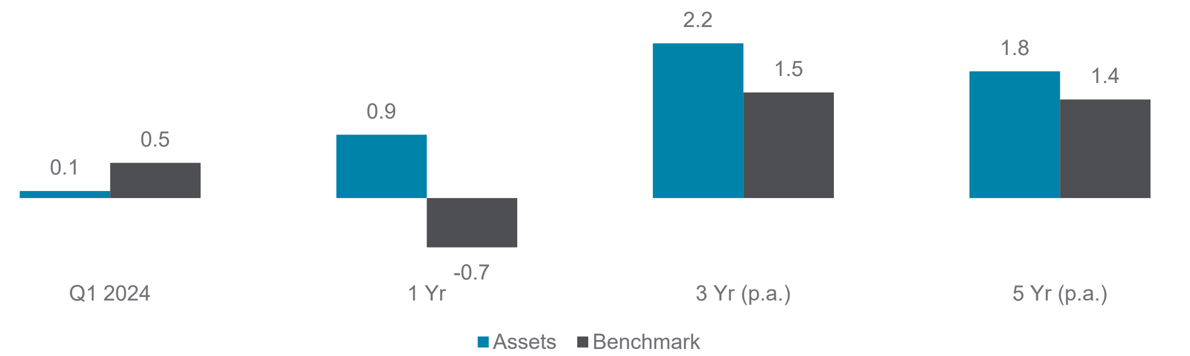
Alibaba (China, Ecommerce) was sold in the period after a prolonged period of scrutiny, whilst Nu Bank (Brazil, Fintech), Moncler (Italian, Luxury) and Symbotic (Robotics) were purchased.

The team trimmed AI exposed names such as NVIDIA, though they remain top holdings.

The strategy remains concentrated (c.40 holdings), with significant exposure to tech-related businesses.

LGIM – Managed Property Fund

Q1 Fund performance & benchmark



Buy

Reviewed: February 2024

Q4 2023 Monitoring comments

As of Q4 2023, the Fund exhibits a predominant overweight position in the alternatives sector compared to the benchmark (17% vs 13.2%), and a strong cash position of (10.3% vs 7.6%). The Fund has seen a large amount of DC pension inflows (net inflows of £18 million monthly over the trailing 12 months) and is yielding c.5.6% in the Fund's cash account. Compared to the benchmark, the Fund is under weighted to the industrial sector (37.9% vs 39.8%), (18.9% vs 21.2%) in the office sector and (15.8% vs 18.2%) in the retail sector (based on GAV).

The manager has highlighted that the office exposure will be further reduced through strategic sales. Moreover, despite the managers cautious outlook on retail, especially high street and shopping centres, the Manager remains relatively positive on retail warehousing, which is proving to be resilient. 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. The Fund void rate has risen marginally since last quarter (11.7% vs 11.3%). However, 2.2% is strategic void, 2.1% is under refurbishment and 1.9% is under offer.

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

LGIM – Managed Property Fund (cont.)

Q4 2023 Transactions

One transaction occurred over the quarter, with the purchase of the remaining 50% holding (£140m) in Woodside Industrial Estate, Dunstable, previously held by a JV partner. Woodside provides a unique opportunity to own and hold a 1.5m sq ft, unbroken Freehold Southeast estate situated in a resilient macro location, close to the M1. Originally purchased in 2018, the asset has a proven performance record, having delivered 10.4% p.a. total return over the hold period to date. The estate has an excellent tenant line up, with good industry type diversification. There are a number of asset management opportunities with inherent rental growth and the manager's forecast a return of 9% p.a., for the asset over the next 5 years.

Major Developments – Rating upgrade

The LGIM Managed Property Fund's rating has been changed from Qualified to Buy rated. At a high level, the change in rating to a Buy from Qualified reflects the repositioning of the portfolio and a change in the portfolio manager that resulted in improved performance.

The full detail was included in an updated InTotal report, issued on the 28th of February.

BCPP – Quarterly high level monitoring (Q1 2024)

Changes to views of External and Internal Managers

- BCPP Global Equity Alpha
  - Loomis Sayles: The manager was first placed on the Watchlist in Q1 2023 due to a material level of turnover within the analyst pool. 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. BCPP expect to conclude their Watchlist process as part of the upcoming Annual Review.
- BCPP UK Equity Alpha
  - Redwheel: The manager was placed on the Watchlist during December following the UK Value team's launch of a new Global Value strategy. Whilst the UK Value team will increase from 5 to 8, with three additional analyst resources, who are moving internally to the UK Value team, BCPP are concerned that this may not adequately compensate for the additional time required to manage a global strategy as well as maintaining the current level of focus on the UK strategy. CPP's review is ongoing as part of the annual review process. BCPP propose revisiting the Watchlist position at the end of June.
  - BCPP have negotiated a fee saving arrangement, equating to a 10% (c. £100k) saving in year 1.
- BCPP Multi-Asset Credit
  - BCPP EMD: The internal BCPP Emerging Market Debt mandate has been put on the Watchlist following the announcement of Daniel Loughney's departure at the end of January 2024. BCPP is currently searching for a replacement senior portfolio manager, and the mandate is expected to stay on the Watchlist for at least six months to assess the new team and any impact on the process or performance.

Changes to Senior Management at BCPP

- Jane Firth will be leaving her role as Head of Responsible Investment later this year.
- Following Richard Charlton's departure, Andrew Glessing joined in January to support BCPP while a permanent Chief Risk Officer is recruited. Andrew has undertaken a range of risk and regulatory supervisory roles in a career spanning the Life and Pensions sector, the FSA and, most recently, Alpha FMC, a leading global provider of specialist consultancy services to asset owners and asset & wealth managers, where he was their Head of Regulatory Compliance & Risk Practice.

Source: Aon, BCPP External Quarterly Reports (UK and Global Equity Alpha, and Fixed Income Q1 2024), BCPP Quarterly investment Report (NYPF) Q1 2024. 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	Q1 2024 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
UK Equity Alpha	**44.6**	**7.8**
Benchmark (FTSE All Share)	**81.4**	**7.8**

Global Equity Alpha Fund

Fund	Q1 2024 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
Global Equity Alpha	**60.5**	**7.1**
Benchmark (MSCI ACWI)	**117.6**	**6.8**

Sterling Investment Grade Credit Fund

Fund	Q1 2024 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
Sterling Investment Grade Credit	**61.9**	**7.2**
Benchmark (iBoxx Sterling Non Gilt Index)	**65.5**	**7.5**

Listed Alternatives Fund

Fund	Q1 2024 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
Listed Alternatives	**145.0**	**7.3**
Benchmark (MSCI ACWI)	**117.6**	**6.8**

Source: BCPP/MSCI[1]

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7. Further information

Key reference information about your Fund

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 31 March 2024 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 *	Discount rate – Low risk funding target	CPI inflation – Low risk funding target
31 March 2022	4.20%	3.55%	2.30%	1.7%	3.4%
31 December 2023	4.60%	3.35%	2.10%	3.9%	2.9%
31 March 2024	4.60%	3.35%	2.10%	4.2%	3.0%

* 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 31 March 2024
- 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	6.9%	18.7%
Property	6.6%	12.6%
Infrastructure	7.8%	15.8%
Listed alternatives	6.9%	19.4%
Illiquid credit	8.1%	6.6%
Investment grade credit	5.1%	9.7%
Non-investment grade credit	6.1%	8.9%
Absolute Return	8.0%	5.6%
Gilts	3.4%	9.6%
Cash	3.8%	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%	23%	1%	54%	22%	-8%	-2%
Property		100%	19%	36%	22%	3%	28%	9%	-1%	7%
Infrastructure			100%	63%	12%	2%	22%	22%	-3%	1%
Listed Alternatives				100%	22%	1%	53%	22%	-8%	-3%
Illiquid credit					100%	58%	59%	14%	6%	24%
IG Credit						100%	24%	16%	50%	39%
Non-IG Credit							100%	18%	1%	9%
Absolute Return								100%	9%	31%
Gilts									100%	30%
Cash										100%

Data and assumptions

Date of calculation	31 March 2024
Number of simulations	5000
Time horizon	10 years
Asset value	£ 4,633,667,132

- 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.

This document, and the work relating to it, complies with 'Technical Actuarial Standard 100: General Actuarial Standards' ('TAS 100') (updated July 2023).

The compliance is on the basis that North Yorkshire Council is the addressee and the only user and that the document is for information only and is not to be used to make any decisions on the contributions payable or the investment strategy, and is also to be used to assess the expected return and Value at risk of the Fund's assets on a quarterly basis. If you intend to make any decisions after reviewing this document, please let me know and I will consider what further information I need to provide to help you make those decisions.

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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