Quarterly Funding & Investment Report

End September 2022

Prepared for: North Yorkshire Pension Fund
Prepared by: Aon
Date: 15 November 2022

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

AON

At a glance…

Funding*

Since the initial results of the valuation at 31 March 2022 the Fund's ongoing funding level has deteriorated and the surplus has decreased by £352M, falling 8% to 107%.

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.

Asset Allocation and Implementation

A number of short/medium term changes to the asset allocation have been agreed by the Committee in light of the agreed long-term investment strategy. Over the quarter, a full redemption from Dodge & Cox was made for £172m, £144m of the proceeds were invested in the Ballie Gifford Long Term Global Growth fund (to move to an 18% allocation), with £28m retained as cash to meet capital calls.

Performance

The Fund underperformed the composite benchmark over the quarter, 1 year and 3 year periods.

Market Background and Investment Outlook

In Q3 2022, capital markets were dominated by soaring inflation and geopolitical uncertainty against the backdrop of a higher interest rate environment. Volatility remained elevated throughout the quarter, while yields trended higher, with major central banks indicating a further tightening of monetary policy to control rising inflation.

This economic cycle is much more challenging for investors than previous ones in living memory. Persistent inflation makes the growth-inflation trade-off harder to manage for central banks, delaying asset market relief from lower interest rates. We continue to expect the global economy to slow further, slipping into recession sometime in the first half of 2023.

Global equities have had some downside support from so-far resilient US corporate profits. As the business cycle rolls over in 2023, this will no longer help. Furthermore, the sharp rise in bond yields has removed a key support seen in the era of ultra-low bond yields. Bottom-hunting should wait.

Thanks to the large rise in global yields and some widening of credit spreads, credit is shaping up to become a return opportunity for 2023.

Key actions

1. Committee members to consider climate change scenario analysis at the November PFC meeting, with a view to the upcoming investment strategy review which is now due to take place in the first quarter of 2023.

*The funding update makes allowance for the initial results of the 2022 valuation of the Fund. This includes a 10% loading for short term inflationary impacts.

Key Stats – Q3 2022

Assets

£4,010m

Assets reduced by £617m since 2022 valuation

£4,627m at 2022 valuation

Funding level

107%

Funding level decreased by 8% since 2022 valuation

115% at 2022 valuation

Return on Assets Since 2022 Valuation

-25.4% pa

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

+7.4%

1.5% increase since 2022 Valuation

5.9 % at 2022 valuation

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

+7.5%

1.4% 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)

£852m

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

£776m

Estimated Total Employer cost

17.2%

Estimated Total Employer cost decreased by 0.7% since 2022 valuation

17.9% at 2022 valuation

Note: The funding update makes allowance for the initial results of the 2022 valuation of the Fund. This includes a 10% loading for short term inflationary impacts.

2. Funding

A review of your funding position and contributions

Funding position

Funding level

107%

at end 30 September 2022

Down from 115% at 31 March 2022

Surplus

£258.2M

at end 30 September 2022

Down from £610m at 31 March 2022

Comments

Since the initial results of the valuation at 31 March 2022 the Fund's ongoing funding level has deteriorated and the surplus has decreased by £352M.

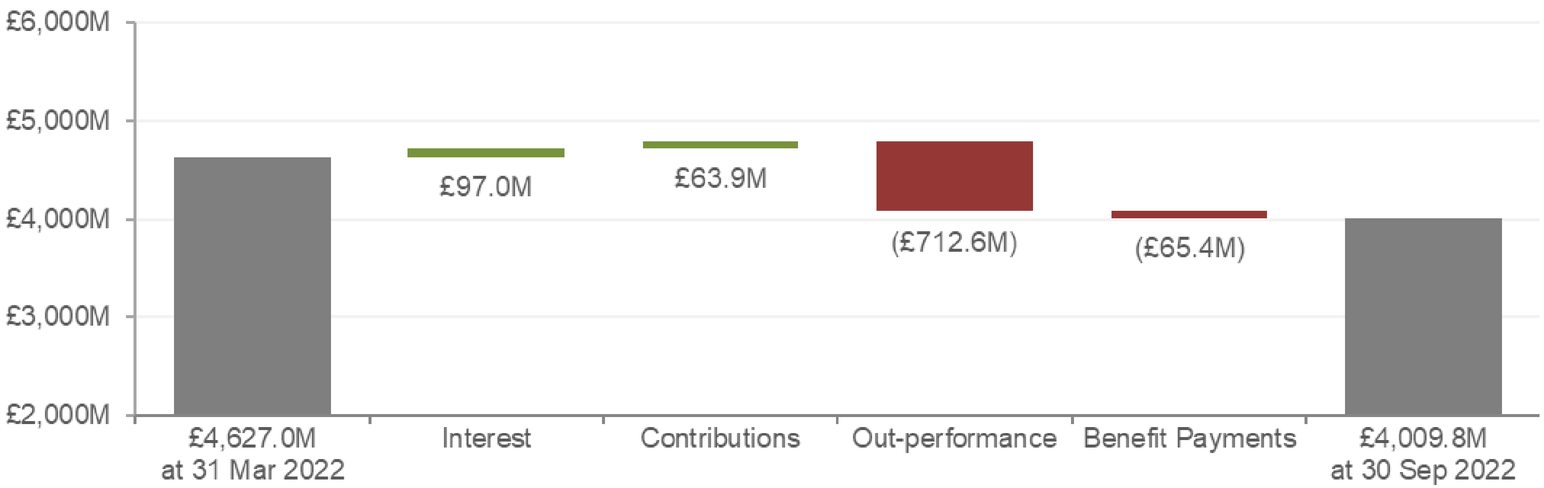
This has been primarily driven by a reduction in asset values although this has been partially offset by an increase in the net discount rate.

Change to funding level since 31 March 2022

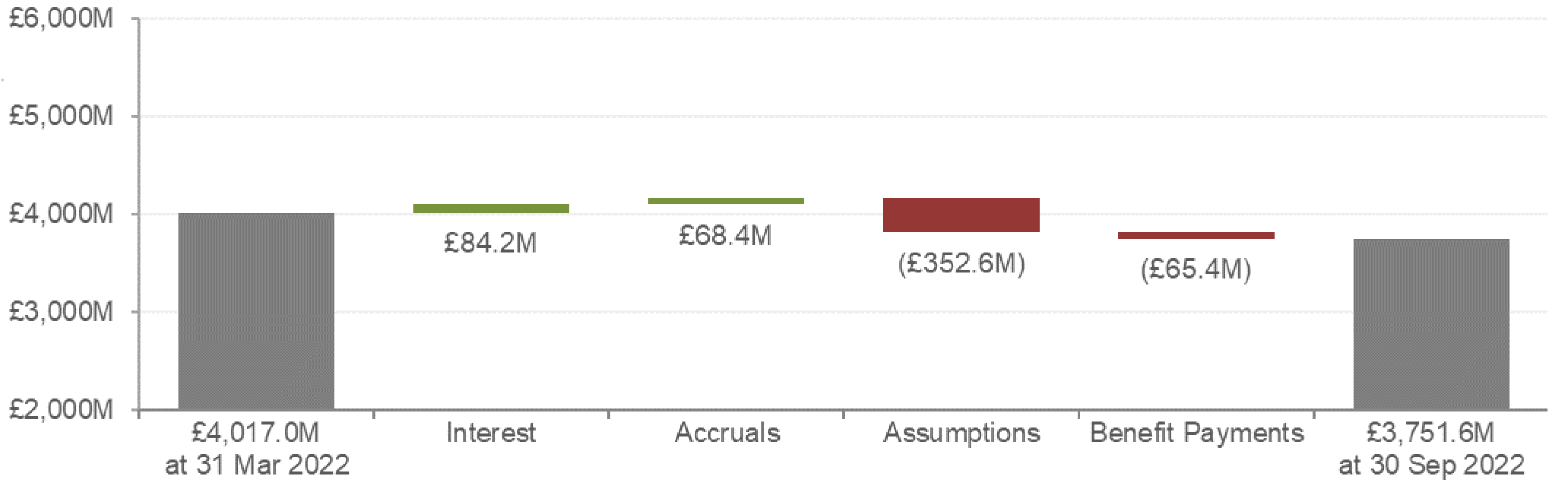
Note: This funding update makes allowance for the initial results of the 2022 valuation of the Fund. This includes a 10% loading for short term inflationary impacts.

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 £352M.

Note: This funding update makes allowance for the initial results of the 2022 valuation of the Fund. This includes a 10% loading for short term inflationary impacts.

Aggregate Employer contributions – ongoing funding target

Total employer contribution rate

17.2% ▼

at 30 September 2022

Down from 20.2% at 31 March 2022

Employer cost of accrual

17.2% ▼

at 30 September 2022

Down from 17.9% 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 increased 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 are in the process of being reviewed as part of the triennial valuation at 31 March 2022.

Note: This funding update makes allowance for the initial results of the 2022 valuation of the Fund. This includes a 10% loading for short term inflationary impacts.

3. Asset allocation

A review of your strategic asset allocation

Asset allocation – Q3 2022

Asset Group	Manager	Valuation (£m)	Current allocation	30 September 2022 Long-term strategy	Difference	Rebalancing Range	Possible action
Equities		**2,100.0**	**52.4%**	**50.0%**	**+2.4%**		
	BCPP UK equity	155.2	3.9%	4.0%	-0.1%	TBC	
	BCPP Global Equity	1,201.6	30.0%	28.0%	+2.0%	+/- 5%	
	Baillie Gifford LTGG	743.3	18.5%	18.0%	+0.5%	+/- 3%	
Absolute Return		**10.5**	**0.3%**	**0.0%**	**+0.3%**		
	Leadenhall Remote Risk	3.5	0.1%				
	Leadenhall Diversified	4.0	0.1%				
	Leadenhall Nat Cat	3.0	0.1%				
Property		**346.0**	**8.6%**	**7.5%**	**+1.1%**	**TBC**	
	Hermes	39.7	1.0%				
	L&G	89.7	2.2%				
	Threadneedle	216.5	5.4%				

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

Asset allocation – Q3 2022 (cont'd)

Asset Group	Manager	Valuation (£m)	Current allocation	Long-term strategy	Difference	Rebalancing Range	Possible action
		30 September 2022					
Infrastructure		**433.5**	**10.8%**	**10.0%**	**+0.8%**		
	BCPP Infrastructure	146.5	3.7%				
	BCPP Listed Alts	287.1	7.2%				
Private Credit		**127.0**	**3.2%**	**5.0%**	**-1.8%**		
	BCPP Private Credit	72.5	1.8%				
	Arcmont	29.7	0.7%				
	Pemira	24.8	0.6%				
Non-Investment Grade Credit		**204.9**	**5.1%**	**5.0%**	**+0.1%**	**TBC**	
	BCPP Multi Asset Credit	204.9	5.1%				
Investment Grade Credit		**275.5**	**6.9%**	**7.5%**	**-0.6%**	**TBC**	
	BCPP Investment Grade Credit	275.5	6.9%				

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

Asset allocation – Q3 2022 (cont'd)

Asset Group	Manager	Valuation (£m)	Current allocation	Long-term strategy	Difference	Rebalancing Range	Possible action
		30 September 2022					
Gilts		**479.2**	**11.9%**	**15.0%**	**-3.1%**	**TBC**	
	BCPP Index Linked Bonds	479.2	11.9%				
Cash		**33.2**	**0.8%**	**0.0%**	**+0.8%**	**TBC**	
	Internal Cash	33.2	0.8%				
Total		**4,009.8**	**100.0%**	**100.0%**			

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

Investment strategy update

Decisions taken at the July Pension Fund Committee meeting:

- The Pension Fund Committee agreed to disinvest from Dodge & Cox, and reinvest into Baillie Gifford up to their strategic allocation of 18% of the value of the Fund, in two tranches and as soon as practicable, with any surplus being invested at the discretion of the Treasurer.

Implementation actions over Q3 2022:

- £172m full redemption from Dodge & Cox
  - £144m invested into Baillie Gifford Long Term Global Growth (to move to an 18% allocation)
  - £28m retained as cash to meet capital calls
- £5m disinvestment from BCPP Listed Alternatives
  - retained as cash to meet capital calls

Post quarter end, Officers and selected Committee members:

- Considered implementing currency hedging in light of market conditions. A decision was taken not to proceed.
- Agreed to sell c.3% overweight to equities (BCPP Global Alpha) with 50% of proceeds transferred to cash and 50% the BCPP inflation linked bonds fund
  - £120m was redeemed from BCPP Global Alpha with £60m of proceeds transferred to cash and £60m invested in the BCPP Inflation Linked Bonds fund
  - Trading took place in early October 2022 and was completed in two tranches
- Agreed to sell c.£20m from property assets if possible
  - £20m was successfully redeemed from the LGIM Managed Property fund, with a follow-up redemption of £16m deferred by LGIM
- In light of market conditions, it was agreed to defer the investment strategy review to the Q1 2023 PFC meeting
- In addition, another £5m was redeemed from BCPP Listed Alternatives to meet capital calls

Transitions and cashflows

The following rebalancing activities took place over the quarter:

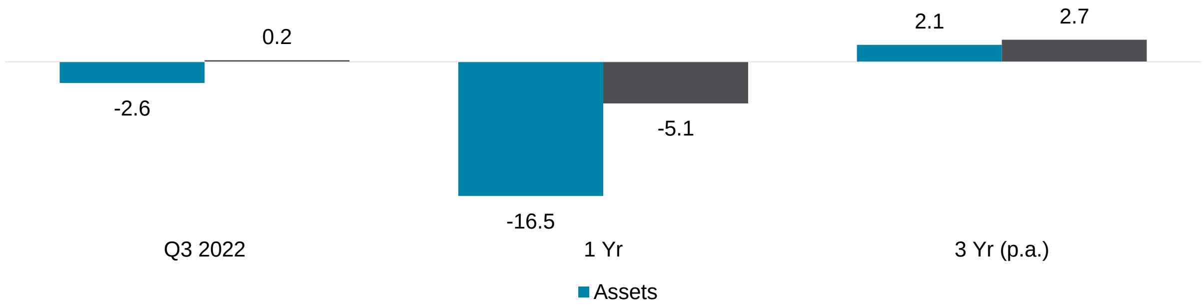
- £172m full redemption from Dodge & Cox
  - £144m invested into Baillie Gifford Long Term Global Growth (to move to 18% allocation)
  - £28m retained as cash to meet capital calls
- Border to Coast made 18 Infrastructure capital calls over the quarter totalling £7m, and 11 Private Credit capital calls totalling £20m.
- Arcmont made one distribution of £3m.
- Border to Coast made 6 Infrastructure distributions in the quarter for £1m.
- £5m was disinvested from BCPP Listed Alternative to meet capital calls

4. Fund performance

A review of your investment performance

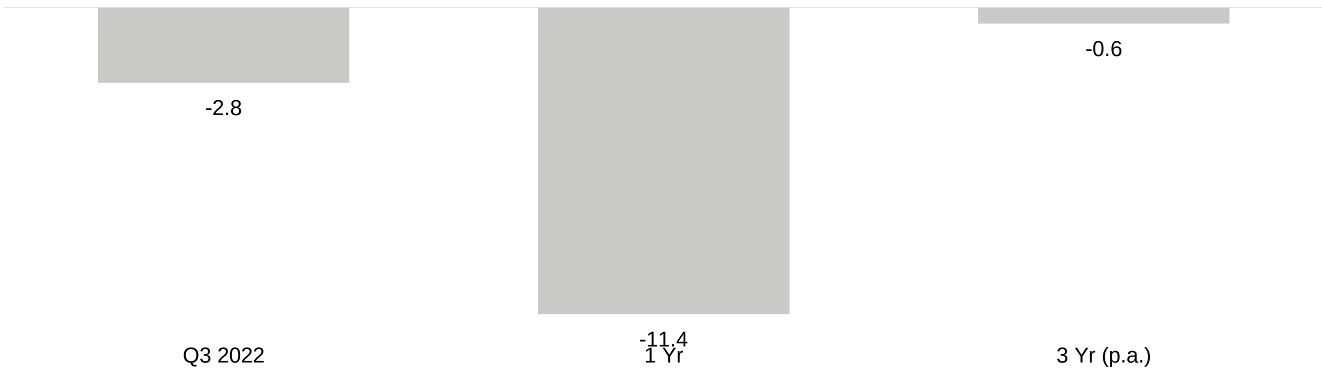
Total Fund performance – Snapshot

Fund performance & benchmark



Relative performance

Relative Return (%)



Source: Northern Trust, Aon

Quarterly (relative)

-2.8%

The Fund underperformed the benchmark returning -2.6% vs 0.2% over the quarter.

3 year (relative)

-0.6%

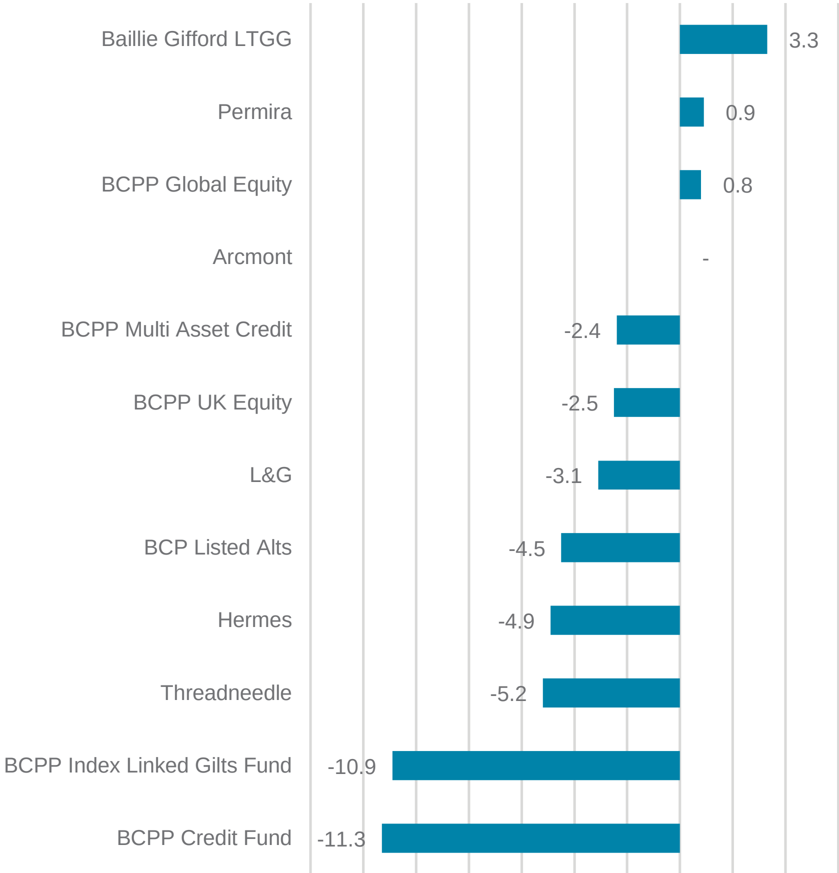
Over 3 years the Fund has outperformed the benchmark returning 2.1% vs 2.7%.

Comments

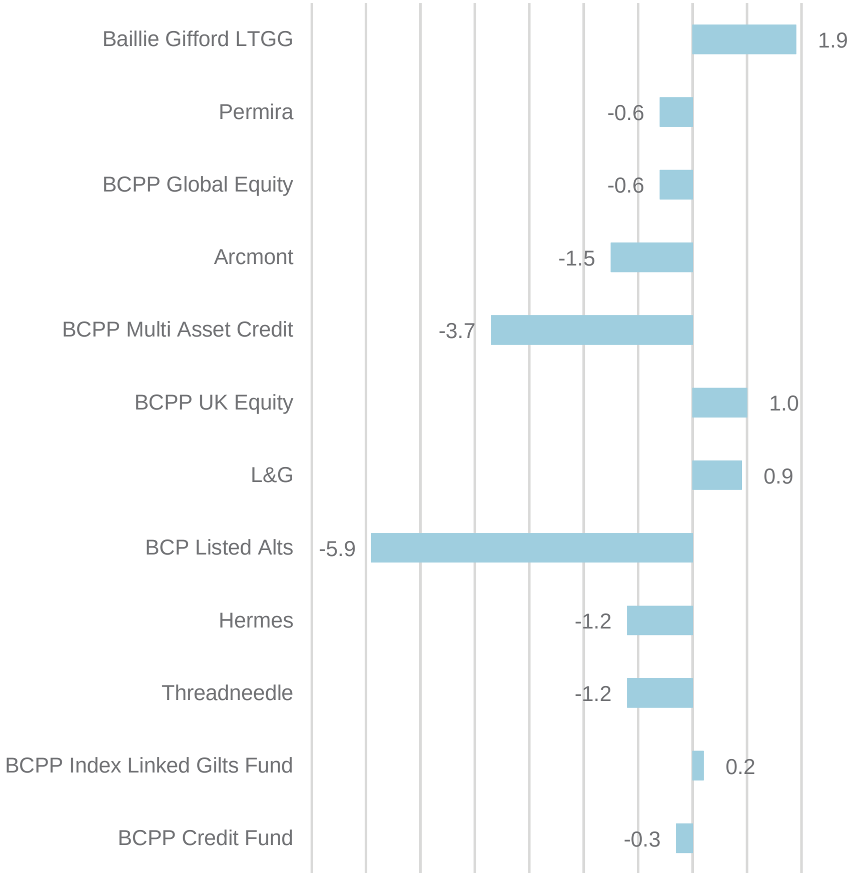
Total Fund performance is behind the composite benchmark over the quarter, 1 year period and 3 year period to 30 September 2022.

Manager performance – Quarter Snapshot

Absolute performance



Relative performance



Source: Northern Trust, Managers, Aon.
Note: 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. Hermes, L&G, Threadneedle; MSCI data was used for benchmarking purposes, total fund performance was calculated using Northern Trust data.

Manager performance – Longer term

	1 Year (%)			3 Years (% p.a.)			Since inception			
	Perf	B'mark	Rel	Perf	B'mark	Rel	Perf	B'mark	Rel	Inception date
Equity										
UK Equity										
BCPP UK Equity	-15.9	-4.0	-11.9	-0.6	0.8	-1.4	-0.7	1.2	-1.9	Jun-19
Global Equity										
BCPP Global Equity	-7.9	-4.2	-3.7	6.7	7.2	-0.5	6.7	7.2	-0.5	Oct-19
Baillie Gifford LTGG	-37.8	-3.6	-34.2	13.7	7.7	+6.0	14.2	9.5	+4.7	Sep-06
Property										
Hermes	11.6	13.3	-1.7	7.2	7.6	-0.4	-	-	-	Mar-12
L&G	14.4	13.3	+1.1	7.8	7.6	+0.2	-	-	-	Dec-12
Threadneedle	12.7	13.3	-0.6	7.3	7.6	-0.3	-	-	-	Jun-12
Infrastructure										
BCPP Listed Alts	-	-	-	-	-	-	-9.8	-6.0	-3.8	Feb-22
Investment grade credit										
BCPP Investment Grade Credit	-21.8	-21.9	+0.1	-	-	-	-10.1	-11.1	+1.0	Aug-20
Non-investment grade credit										
BCPP Multi-Asset Credit	-	-	-	-	-	-	-10.2	2.4	-12.6	Nov-21
Gilts										
BCPP Index Linked Bonds	-35.1	-35.4	+0.3	-	-	-	-18.3	-19.6	+1.3	Oct-20
Total	**-16.5**	**-5.1**	**-11.4**	**2.1**	**2.7**	**-0.6**	**6.9**	**7.4**	**-0.5**	**Jan-02**

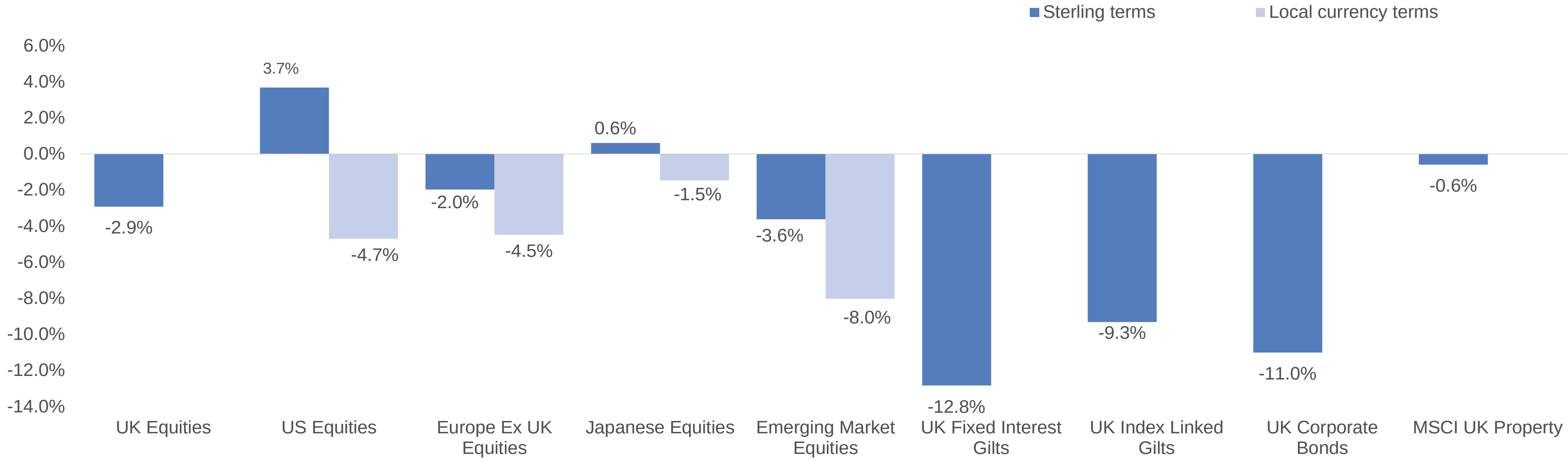
Source: Northern Trust, Managers, Aon. Numbers may not sum due to rounding.
Note: Hermes, L&G, Threadneedle; MSCI data was used for benchmarking purposes. BCPP Infrastructure returns and BCPP Private Credit returns not shown during initial investment drawdown phase. Permira and Arcmont longer term returns not available. Since Inception returns for Property funds not available. 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 2022

Index returns from 30/06/2022 to 30/09/2022



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

Equities

The MSCI AC World index posted a -4.7% return as inflationary pressures and corresponding tighter monetary policy continued to drive market sentiment. However, the sharp depreciation of sterling against most major currencies pushed up the returns in sterling terms to 1.5%.

UK equities fell by 2.9% in sterling terms in Q3. Amongst the major sectors, Financials and Healthcare performed poorly, falling 6.8% and 13.3%, respectively.

Bonds

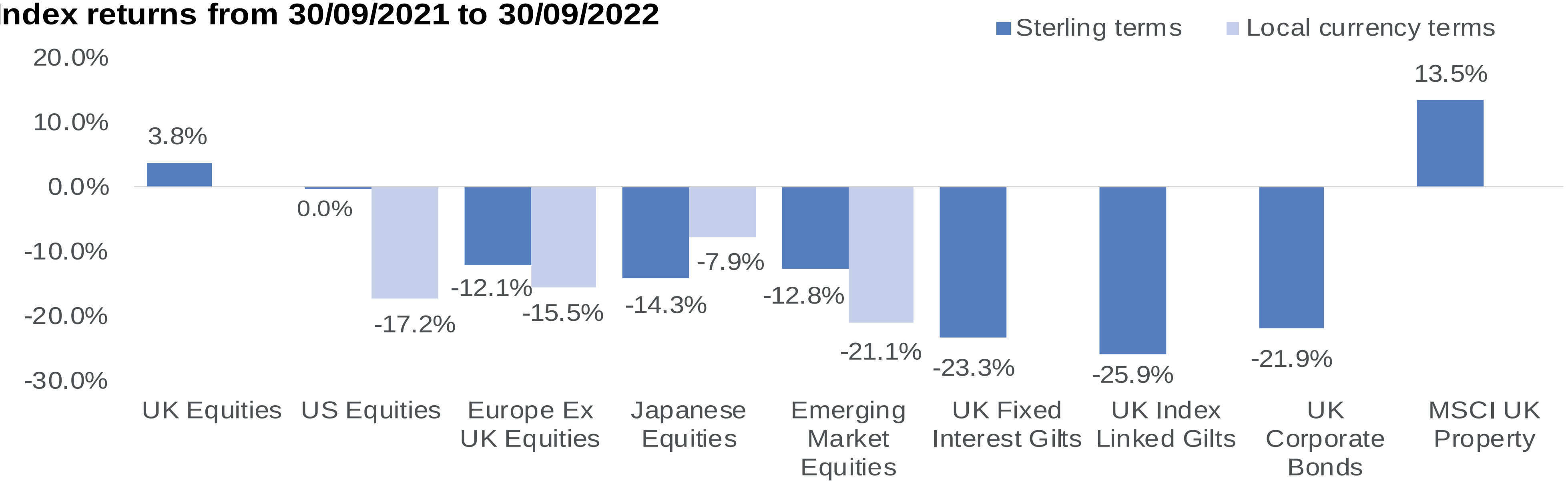
Credit spreads widened over the quarter. UK investment grade credit spreads rose by 0.27% to 2.02%, based on IBoxx Sterling Non-Gilts data. Lower-quality bond credit spreads widened more than their higher-quality counterparts, with BBB-rated non-gilt spreads rising by 0.40% to 2.94%. The increase in spreads and the significant rise in government bond yields led the Sterling Non-Gilts Index to post a return of -11.0%.

Gilts

The UK gilt curve rose across all maturities over the third quarter. The BoE temporarily announced an emergency £65bn bond-buying program to stabilise the government debt market after the tax-cutting package increased investor concern over the sustainability of public finances, resulting in a considerable jump in yields. The sharpness of the sell-off was exacerbated by the forced unwinding of LDI positions, as UK schemes struggled to provide collateral to LDI managers as yields rose sharply.

Market – Background 12 month

Index returns from 30/09/2021 to 30/09/2022



Equities

Global equities generated negative returns over the last twelve months. Equities delivered solid returns in 2021, however, markets erased all their gains by Q2 2022 as geopolitical risk took center stage with Russia invading Ukraine. Furthermore, inflation fears appeared and began to unsettle towards the end of 2021 and much of 2022, leading to significant rate rises across the globe.

Bonds

Credit markets declined 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, widened by 1.02% to 2.02%.

Gilts

The UK gilt curve rose sharply across all maturities over the third quarter. The BoE temporarily announced an emergency £65bn bond-buying program to stabilise the government debt market after a tax-cutting fiscal package was announced after the appointment of Prime Minister Liz Truss. The package increased investor concern over the sustainability of public finances, resulting in a considerable jump in yields. The sharpness of the sell-off was exacerbated by the forced unwinding of LDI positions, as UK pension schemes struggled to provide collateral to LDI managers as yields rose sharply. Overall, according to FTSE All-Stocks indices, UK fixed-interest gilts fell by 23.3% and index-linked gilts fell by 25.9% over the last twelve months.

Quarterly Investment Outlook – October 2022

Q3 performance

Return-seeking and liability-matching portfolios sold off materially, amidst soaring inflation, elevated geopolitical uncertainty and sharply rising yields. However, some categories of hedge fund strategies benefitted from high volatility and the rising rate environment. Returns in sterling terms were boosted for unhedged global asset classes as sterling fell.

Gilt market crisis

A confidence crisis arising from the UK's 'mini-budget' rolled into a gilt market crisis, sweeping up many UK schemes using leveraged liability-driven investments. The resulting flood of collateral calls were met by some forced selling in gilts, swaps, and even credit. The BoE was finally forced to intervene to restore normal market functioning.

U-turn in fiscal policy

The fiscal policies triggering turmoil in the gilt market have largely been reversed, owing to the anticipated political and economic fallout from substantially higher yields. The worst of the market storm may be behind us but its reverberations will echo for some time.

Where do gilts head from here?

We see gilt yields moving lower eventually but uncertainties remain very high and there is still a risk of them moving a little higher first. Damaged market confidence in UK economic policy may lead to higher yields than had the market shock not occurred. A scenario approach may be useful as a planning tool for portfolio hedging.

Investment strategy revised

Liquidity is likely to become a greater focus for schemes as collateral management is strengthened. To maintain high hedge levels, investment strategies will likely need reviewing, where existing asset allocations may no longer be sufficient to maintain safeguards. This is likely to have a knock-on effect to expected returns.

Choppy waters

This economic cycle is much more challenging for investors than previous ones in living memory. Persistent inflation makes the growth-inflation trade-off harder to manage for central banks, delaying asset market relief from lower interest rates. We continue to expect the global economy to slow further, slipping into recession sometime in the first half of 2023.

Credit starting to look attractive

Thanks to the large rise in global yields and some widening of credit spreads, credit is shaping up to become a return opportunity for 2023. Credit spreads have yet to fully complete their upward journey, but some likely further increases should not derail those improved return prospects for next year.

Further pain in the equity market

Global equities have had some downside support from so-far resilient US corporate profits. As the business cycle rolls over in 2023, this will no longer help. Furthermore, the sharp rise in bond yields has removed a key support seen in the era of ultra-low bond yields. Bottom-hunting should wait.

Commercial property downturn

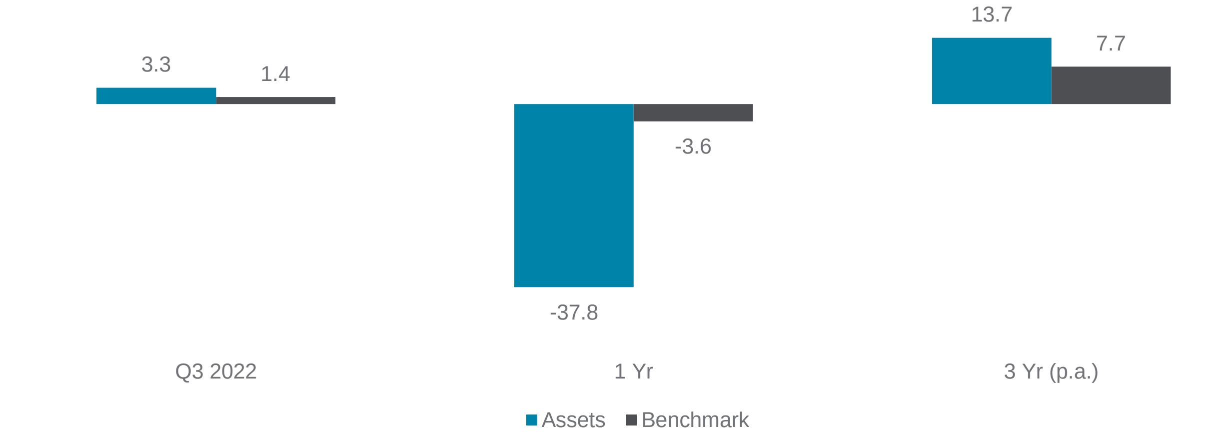
Commercial property is now suffering globally from higher interest rates and a weaker economic outlook. It is not surprising that the UK is leading the turn into weakness. Some further declines lie ahead, as the gilt market shock is allowed for and fading economic activity keep the backdrop unfavourable

6. Manager review

Aon ratings and understanding manager performance

Baillie Gifford - LTGG

Fund performance & benchmark



Performance comments

During the quarter, the strategy slightly outperformed. Growth stocks tended to perform better in Q3 2022, and strong contributors to performance included Tesla, The Trade Desk and Coupang.

Tesla's announced operational results were viewed favourably, with revenue growing 40%.

The Trade Desk also performed well within its advertising sector. As advertising budgets have come under pressure in the market downturn, the firm’s flexibility and better return on investment have been rewarded. Coupang, a Korean e-commerce firm, also performed despite market concerns about delayed profitability.

Some of these gains were offset by the team’s Chinese exposure, with the market concerned over continued regulatory intervention, COVID-19 lock-downs and slower domestic and global demand. As such, the largest detractors to performance over the quarter were Tencent, Alibaba and CATL, reflecting the market sentiment in China.

Buy

Reviewed: November 2022

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

Beyond Meat was sold in the period. Whilst the team views the long-term growth opportunity favourably, the team has lost relative conviction in management's ability to execute the strategy, and the position has resultantly been sold. Post quarter end, Peloton and Billibilli have also been sold.

Several positions remaining in the portfolio continue to be assessed closely as the manager reassesses positions in light of company fundamentals and the current market environment, and we would anticipate more changes in quarters to come as the team reaffirms views or finds exit points. Examples of stocks in this camp are some of the Chinese holdings and Netflix.

One increasingly unique exposure in this strategy relative to global peers is the extent of its allocation to Chinese-domiciled stocks. These are consensually considered to carry an increasingly higher risk premium in a global context. The team appears to acknowledge some of these risks, and we would expect a readjustment of this exposure through time, likely consolidating to what the team believes to be the most compelling asymmetric risk/return opportunities. We would anticipate this to be relatively smaller companies in an earlier stage of lifecycle and growth trajectory, so compensate for the higher risk. A live example in the portfolio has been adding to Nio, characterized as the Tesla of China. Nevertheless, the extent of this exposure should be noted by investors.

No new purchases were made over the period.

Major developments

Research Visit

Post quarter end, we performed an on-site review of Baillie Gifford Long Term Global Growth. The review's background is partly due to the passage of time since our last on-site review and also in acknowledgement of a very steep drawdown in relative performance.

While the direction and magnitude of relative underperformance can arguably be explained because of the strategy's investment style and risk profile, with higher interest rates and higher inflation, the prior ten years of market conditions which so greatly supported the relative performance of the strategy are unlikely to be repeated. As such, we believe a closer look at growth-tilted strategies is warranted, and we believe our top-rated growth strategies will likely need to adapt. As such, our review of Baillie Gifford focused particularly on lessons learned over the last 18 months, the team's sell discipline, and looking for signs of adaption in process and portfolio, and for signs that the team recognize that what has worked previously may not work prospectively. Whilst accepting this is a higher risk proposition than many broad-based global strategies, given the extent of the draw drawdown, we also spent time on portfolio construction and risk management.

We spent two days in Edinburgh and are conducting follow-up engagements with the manager. We anticipate formerly debriefing the strategy in Q1 2023, at which point we will communicate any changes in our views.

Border to Coast Pensions Partnership – RI Quarterly Report Snapshot

UK Equity Alpha Fund

Fund	Q3 2022 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
UK Equity Alpha	**61.7**	**7.7**
Benchmark (FTSE All Share)	**124.2**	**7.8**

Global Equity Alpha Fund

Fund	Q3 2022 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
Global Equity Alpha	**89.9**	**6.9**
Benchmark (MSCI ACWI)	**165.3**	**6.7**

Sterling Investment Grade Credit Fund

Fund	Q3 2022 Position	
	Weighted Average Carbon Intensity	Weighted ESG Score
Sterling Investment Grade Credit	**60.2**	**7.4**
Benchmark (iBoxx Sterling Non Gilt Index)	**54.8**	**7.8**

Source: BCPP/MSCI[1]

[1]This disclosure was developed using information from MSCI ESG Research LLC or its affiliates or information providers. Although Border to Coast information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the "ESG Parties"), obtain information (the "Information") from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness, of any data herein and expressly disclaim all express or implied warranties, including those of merchantability and fitness for a particular purpose. The Information may only be used for your internal use, may not be reproduced or redisseminated in any form* and may not be used as a basis for, or a component of, any financial instruments or products or indices. Further, none of the Information can in and of itself be used to determine which securities to buy or sell or when to buy or sell them. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein, or any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

*In accordance with the Licence Agreement between Border to Coast Pensions Partnership Limited and MSCI ESG Research (UK) Limited

7. Further information

Key reference information about your scheme

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 initial 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 initial 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 initial results 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 2022 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 2022	4.50%	3.45%	2.20%
30 September 2022	4.70%	3.55%	2.30%

* Plus an allowance for short term inflationary increases

Risk/Return Assumptions

- The table below sets out the asset and liability return assumptions over 10 years, together with the asset allocation and exposures used. These are based on Aon's Capital Market assumptions as at 30 September 2022.

High level asset class	Expected Return	Expected Volatility
Equities	7.8%	18.9%
Property	5.2%	12.6%
Infrastructure	7.9%	15.8%
Listed alternatives	7.8%	19.3%
Illiquid credit	8.7%	6.0%
Investment grade credit	6.3%	9.8%
Non-investment grade credit	7.1%	9.5%
Absolute Return	6.9%	5.3%
Gilts	3.6%	9.4%
Cash	3.9%	1.6%

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%	29%	4%	55%	21%	-8%	-1%
Property		100%	19%	36%	31%	5%	27%	9%	-1%	8%
Infrastructure			100%	63%	15%	3%	23%	20%	-3%	3%
Listed Alternatives				100%	28%	4%	54%	22%	-8%	-1%
Illiquid credit					100%	55%	67%	18%	9%	30%
IG Credit						100%	26%	19%	58%	44%
Non-IG Credit							100%	18%	0%	10%
Absolute Return								100%	12%	36%
Gilts									100%	36%
Cash										100%

Data and assumptions

Date of calculation	30 September 2022
Number of simulations	5000
Time horizon	10 years
Asset value	£ 4,009,818,030

- 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 90% long-duration index-linked gilts and 10% long-duration fixed-interest 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%

Key assumptions of the model (1)

- The purpose of the model is to consider and monitor the return and risk characteristics of the current and long term investment strategy of the Scheme.
  - The analysis considers the expected return of the Scheme's investment strategy and the 1-in-20 downside 5th percentile Value at Risk implied by the strategy.
  - These metrics are considered as at the stated quarter-end.

- Investment risk is included in the model outputs but this is not the only risk that the Scheme faces; other risks include covenant risk, longevity risk, timing of member options, basis risks and operational risks.
- Investment risk has been calculated on an asset only basis.

Key assumptions of the model (2)

- The calculation of portfolio risk is approximate;
  - The calculation considers (5000 stochastic) simulations of returns over a single year of the Scheme's investment strategy.
  - The simulations are constructed using Aon Solution's Asset Model – the details and assumptions of which are outlined in this appendix.
  - The calculation does not take into account any cashflows payable over the year; if cashflows are expected to be material the result is likely to be different.
  - Risks are attributed into the categories outlined in the chart only; the investment strategy may be exposed to further risk categories not shown.
  - The calculation does not take into account longevity risk (i.e. liability values increasing due to members living longer than assumed).
  - Owing to these approximations, a more detailed ALM study is likely to result in a different result to the VaR calculation.
  - Other portfolios with different risk and return characteristics may be available to the Scheme along the journey to full funding.

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 County 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: Principles for Technical Actuarial Work' ('TAS 100').

The compliance is on the basis that North Yorkshire County 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. 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 initial results report of the 2022 actuarial valuation of the Fund dated 27 September 2022.
- Our paper entitled 'Financial assumptions – Actuarial valuation as at 31 March 2022'
- The latest Funding Strategy Statement.

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

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