

Northamptonshire Pension Fund

Monitoring Report
Quarter to
30 September 2022

Chris West
November 2022



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Please also note:

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

Chris West

Executive Dashboard

Funding

The present value of the Fund's liabilities decreased over the quarter (from £2,645m to £2,379m).

The Fund's assets (including cash) decreased over the quarter by £19.3m to £3,083.8m as at 30 September 2022. The Fund's assets (including cash) have decreased by £251.2m over the last twelve months.

The estimated funding level at 30 September 2022 was c.130%, up from c.117% as at 30 June 2022. For comparison, the funding level at 31 March 2019 (the date of the previous actuarial valuation) was 93%.

Asset Allocation

In September 2022, £57m was disinvested from the UBS passive equity portfolios. These assets are earmarked to meet capital calls expected from the Fund's private equity managers and M&G Shared Ownership.

Overweight Underweight

Alternatives +4.9% Equities -3.9% Cash in transit +1.8% Fixed Income -2.8%

Performance

Short Term Performance

The Fund outperformed the benchmark over the quarter, returning -0.8% vs a benchmark return of -1.4%.

Key Contributors to Relative Performance - Quarter

Outperformance by CBRE - Property	+0.3%
Outperformance by HarbourVest - Private Equity	+0.3%
Underperformance by Baillie Gifford - DGF	-0.3%

Longer Term Performance

	Fund	B'mark
1 Year (%)	-8.2	-4.4
3 Years (% p.a.)	4.7	4.2

Manager Research

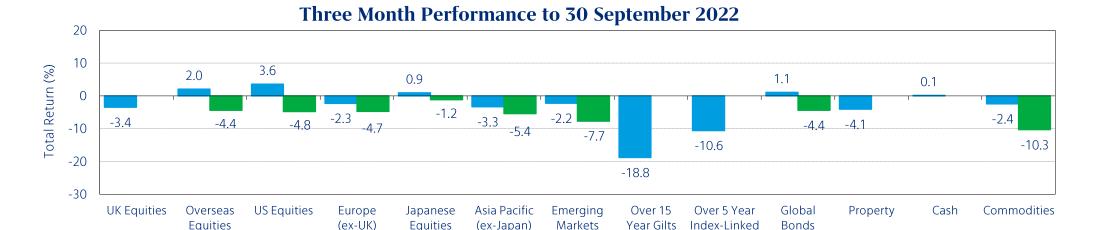
Rating Changes

Redacted.

■ Local Currency Return

Market Index Performance

Equities

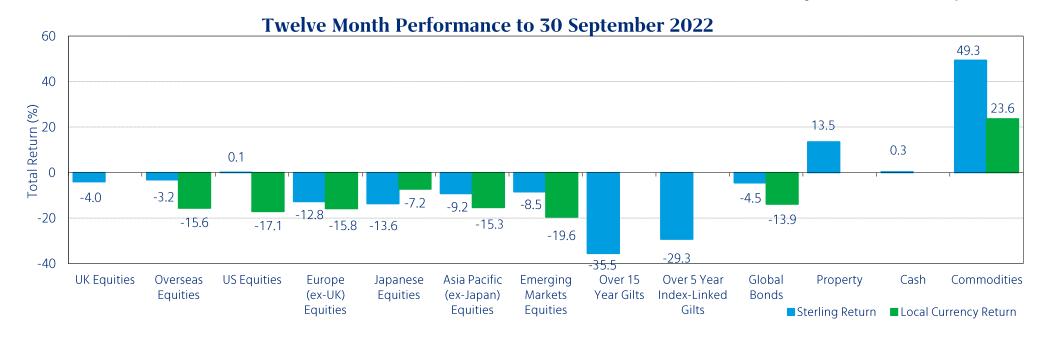


Equities

Gilts

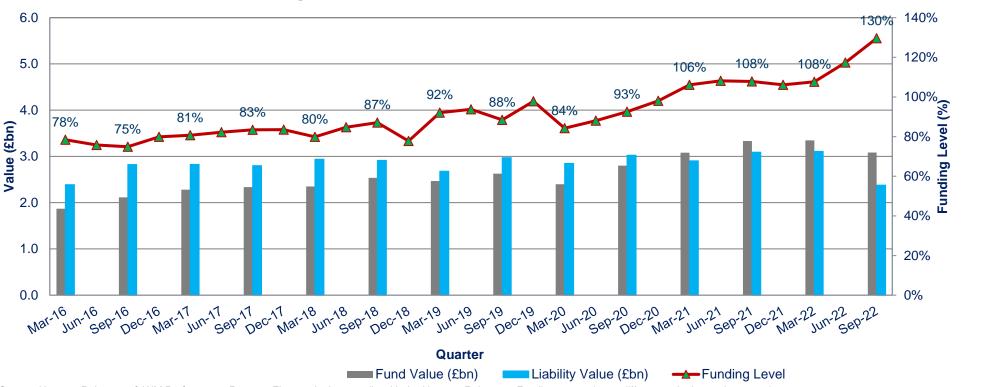
■Sterling Return

Equities



Funding

Funding Level since March 2016 Valuation



Source: Hymans Robertson & WM Performance Reports. Figures don't reconcile with the Hymans Robertson Funding report due to differences in the total asset value. The Funding Level is a ratio of assets to liabilities.

- There has been a general trend from 2016 to 2021 of a rise in both liabilities and assets.
- There was an increase in funding level at the March 2016 and March 2019 valuations.
- The funding level as at 30 September 2022 was 130%, which is higher than the funding level as at 30 June 2022, largely driven by a fall in liability value.

Allocation

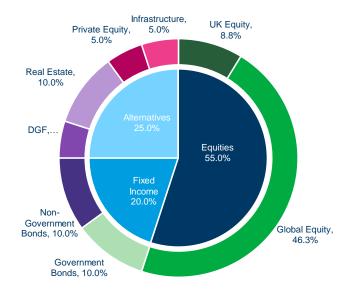
	30/06/2022 Market Value (£M)	30/09/2022 Market Value (£M)	30/06/2022 Allocation (%)	30/09/2022 Allocation (%)	30/09/2022 B'mark (%)	30/09/2022 B'mark Range (%)
Total Invested Assets	3,094.9	3,083.8	100.0	100.0	100.0	
Equities	1,642.7	1,574.7	53.1	51.1	55.0	50.0 - 60.0
Fixed Income	563.5	531.3	18.2	17.2	20.0	15.0 - 25.0
Alternatives	888.7	920.8	28.7	29.9	25.0	20.0 - 30.0
Cash in transit		57.0		1.8		

Source: Investment Managers, Link Asset Services and Mercer.

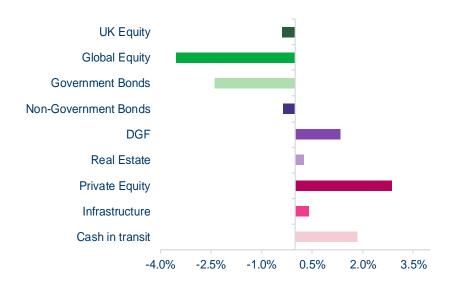
Figures may not sum to total due to rounding.

The total market value shown in the table above excludes assets invested in Catapult's Private Equity (c. £0.5m at the start and end of the quarter) and cash (c. £8.2m) at the start of quarter. Cash value at quarter end includes proceeds of £57m disinvestment from UBS equity in September 2022, earmarked to meet capital calls expected from the Fund's private equity managers and M&G Shared Ownership.

Benchmark Asset Allocation as at 30 September 2022



Deviation from Benchmark Asset Allocation



Manager Allocation (1/3)

	30/06/2022 Market Value (£M)	30/09/2022 Market Value (£M)	30/06/2022 Allocation (%)	30/09/2022 Allocation (%)	30/09/2022 B'mark (%)
Total	3,094.9	3,083.8	100.0	100.0	100.0
Equities	1,642.7	1,574.7	53.1	51.1	55.0
UK Equity	268.7	257.6	8.7	8.4	8.8
Liontrust - UK Equity	268.7	257.6	8.7	8.4	8.8
Global Equity	1,374.0	1,317.1	44.4	42.7	46.3
Active Global Equity	731.5	744.4	23.6	24.1	26.3
Newton - Global Equity	286.5	290.2	9.3	9.4	8.8
Baillie Gifford - Global Equity	172.3	178.1	5.6	5.8	8.8
Longview - Global Equity	272.7	276.1	8.8	9.0	8.8
Passive Equity	642.5	572.7	20.8	18.6	20.0
UBS - Passive Equity	642.5	572.7	20.8	18.6	20.0

Source: Investment Managers, Link Asset Services and Mercer.

Figures may not sum to total due to rounding.

The total market value shown in the table above at quarter end excludes assets invested in Catapult's Private Equity (c. £0.5m at the start and end of the quarter) and cash (c. £8.2m at the start of quarter and c. £55.6m at the end of quarter).

Cash value at quarter end includes proceeds of £57m disinvestment from UBS equity in September 2022, earmarked to meet capital calls expected from the Fund's private equity managers and M&G Shared Ownership.

The HarbourVest, Adams Street, AMP Capital, Allianz and JPM end of quarter valuations are provisional.

The total market value invested in ACCESS is c. £2,266.3m at the start of quarter and c. £2,162.6m at the end of quarter (shown in pink in the table above).

Manager Allocation (2/3)

	30/06/2022 Market Value (£M)	30/09/2022 Market Value (£M)	30/06/2022 Allocation (%)	30/09/2022 Allocation (%)	30/09/2022 B'mark (%)
Fixed Income	563.5	531.3	18.2	17.2	20.0
Government Bonds	261.9	234.1	8.5	7.6	10.0
UBS - Gilts	261.9	234.1	8.5	7.6	10.0
Non-Government Bonds	301.6	297.1	9.7	9.6	10.0
Bluebay - Multi-Asset Credit	142.1	138.9	4.6	4.5	5.0
M&G - Multi-Asset Credit	159.5	158.3	5.2	5.1	5.0
Alternatives	888.7	920.8	28.7	29.9	25.0
DGF	202.2	195.5	6.5	6.3	5.0
Baillie Gifford - DGF	202.2	195.5	6.5	6.3	5.0
Real Estate	315.8	316.2	10.2	10.3	10.0
CBRE - Property	254.2	253.7	8.2	8.2	7.0
M&G - Residential Property	47.1	47.9	1.5	1.6	1.5
M&G - Shared Ownership	14.6	14.6	0.5	0.5	1.5

Source: Investment Managers, Link Asset Services and Mercer.

Figures may not sum to total due to rounding.

The total market value shown in the table above at quarter end excludes assets invested in Catapult's Private Equity (c. £0.5m at the start and end of the quarter) and cash (c. £8.2m at the start of quarter and c. £55.6m at the end of quarter).

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The total market value invested in ACCESS is c. £2,266.3m at the start of quarter and c. £2,162.6m at the end of quarter (shown in pink in the table above).

Manager Allocation (3/3)

	30/06/2022 Market Value (£M)	30/09/2022 Market Value (£M)	30/06/2022 Allocation (%)	30/09/2022 Allocation (%)	30/09/2022 B'mark (%)
Private Equity	211.7	242.5	6.8	7.9	5.0
HarbourVest - Private Equity	124.8	141.0	4.0	4.6	
Adams Street - Private Equity	86.9	101.5	2.8	3.3	
Infrastructure	159.0	166.6	5.1	5.4	5.0
AMP Capital - Infrastructure Debt	35.2	35.6	1.1	1.2	
Allianz - Infrastructure Debt	13.5	13.3	0.4	0.4	
IFM - Infrastructure Equity	63.2	67.2	2.0	2.2	
JPM - Infrastructure Equity	47.2	50.5	1.5	1.6	
Cash in transit	-	57.0		1.8	

Source: Investment Managers, Link Asset Services and Mercer.

Figures may not sum to total due to rounding.

The total market value shown in the table above at quarter end excludes assets invested in Catapult's Private Equity (c. £0.5m at the start and end of the quarter) and cash (c. £8.2m at the start of quarter and c. £55.6m at the end of quarter).

Cash value at quarter end includes proceeds of £57m disinvestment from UBS equity in September 2022, earmarked to meet capital calls expected from the Fund's private equity managers and M&G Shared Ownership.

The HarbourVest, Adams Street, AMP Capital, Allianz and JPM end of quarter valuations are provisional.

The total market value invested in ACCESS is c. £2,266.3m at the start of quarter and c. £2,162.6m at the end of quarter (shown in pink in the table above).

Manager Performance (1/2)

	2022 Q3 (%)	B'mark (%)	1 Yr (%)	B'mark (%)	3 Yrs (%)	B'mark (%)	5 Yrs (%)	B'mark (%)
Total	-0.8	-1.4	-8.2	-4.4	4.7	4.2	5.4	5.4
UK Equity	-4.1	-3.4	-15.0	-4.0	-1.7	0.8	-0.8	2.2
Liontrust - UK Equity	-4.1	-3.4	-15.0	-4.0	-1.7	0.8	-0.9	2.2
Global Equity	-0.4	-0.4	-11.7	-6.1	8.1	6.3	9.1	7.7
Newton - Global Equity	1.4	1.4	-5.5	-4.2	7.4	7.2	9.3	8.4
Baillie Gifford - Global Equity	3.4	1.4	-37.9	-4.2				
Longview - Global Equity	1.3	1.4	0.7	-4.2				
UBS - Passive Equity	-2.6	-2.7	-8.4	-8.6	5.1	4.9	6.7	6.7
Fixed Income	-5.7	-4.9	-19.1	-14.0	-5.9	-3.9	-1.0	0.4
UBS - Gilts	-10.6	-10.6	-29.4	-29.3	-11.7	-11.6	-3.4	-3.4
Bluebay - Multi-Asset Credit	-2.3	0.4	-14.2	0.7				
M&G - Multi-Asset Credit	-0.8	1.4	-2.6	4.7				

Figures shown are net of fees and based on performance provided by the Investment Managers, Link Asset Services, Mercer estimates and Refinitiv.

For periods over one year the figures in the table above have been annualised.

M&G Shared Ownership last quarter performance is always assumed zero due the lag in final data.

The HarbourVest, Adams Street, AMP Capital and Allianz guarterly returns are provisional.

Total Fund and Alternatives performances include quarterly performances for HarbourVest, Adams Street, AMP Capital, Allianz and JPM calculated by Mercer using a Modified Dietz approach based on data provided by these managers. Over the long term, performances are chain linked using quarterly Total Fund performances. Performance shown is net of illiquid mandates' fees. Performance for the underlying private equity and infrastructure mandates is shown in the GBP currency with a quarter lag. Benchmark performance shown for the underlying private equity mandates is the rolling 3 year MSCI World Index return, averaged on a quarterly basis.

Totals include performance of terminated mandates.

Manager Performance (2/2)

	2022 Q3 (%)	B'mark (%)	1 Yr (%)	B'mark (%)	3 Yrs (%)	B'mark (%)	5 Yrs (%)	B'mark (%)
Alternatives	2.4	0.2	9.1	6.8	7.8	7.2	6.9	6.5
Baillie Gifford - DGF	-3.3	1.3	-14.1	4.3	-1.7	3.9	0.1	4.0
CBRE - Property	-0.2	-4.0	16.0	13.3	6.3	7.6	5.9	6.7
M&G - Residential Property	1.9	1.5	6.5	6.0	2.9	6.0		
M&G - Shared Ownership	0.0	1.5	9.1	6.0				
HarbourVest - Private Equity	5.6	2.3	32.2	9.2	34.2	9.2	28.2	9.7
Adams Street - Private Equity	1.5	2.3	31.5	9.2	38.2	9.2	30.5	9.7
AMP Capital - Infrastructure Debt	4.3	2.5	12.6	10.0	4.6	10.0	5.1	10.0
Allianz - Infrastructure Debt	-12.3	1.0	-22.4	4.0	-6.3	4.0		
IFM - Infrastructure Equity	8.3	2.5	23.9	10.0				
JPM - Infrastructure Equity	6.2	2.5	15.1	10.0				

Figures shown are net of fees and based on performance provided by the Investment Managers, Link Asset Services, Hymans, Mercer estimates and Refinitiv.

For periods over one year the figures in the table above have been annualised.

M&G Shared Ownership last quarter performance is always assumed zero due the lag in final data.

The HarbourVest, Adams Street, AMP Capital and Allianz quarterly returns are provisional.

Total Fund and Alternatives performances include quarterly performances for HarbourVest, Adams Street, AMP Capital, Allianz and JPM calculated by Mercer using a Modified Dietz approach based on data provided by these managers. Over the long term, performances are chain linked using quarterly Total Fund performances. Performance shown is net of illiquid mandates' fees. Performance for the underlying private equity and infrastructure mandates is shown in the GBP currency with a quarter lag. Benchmark performance shown for the underlying private equity mandates is the rolling 3 year MSCI World Index return, averaged on a quarterly basis.

Totals include performance of terminated mandates.

Appendix

Appendix A

Benchmarks

lame	B'mark (%)	Performance Benchmark	Performance Target	Tracking Error Expectation
otal	100.0		•	•
Liontrust - UK Equity	8.8	FTSE All-Share Index	+2.0% p.a. (gross of fees)	2.0% - 6.0% p.a.
Global Equity	46.3	-	-	-
Newton - Global Equity	8.8	MSCI AC World (NDR) Index	+2.0% p.a. (gross of fees)	2.0% - 6.0% p.a.
Baillie Gifford - Global Equity	8.8	MSCI AC World (NDR) Index	-	-
Longview - Global Equity	8.8	MSCI World (NDR) Index	-	-
UBS - Passive Equity	20.0	Composite	To match the benchmark	-
Fixed Income	20.0	-	-	-
UBS - Gilts	10.0	Composite	To match the benchmark	-0.1% - 0.1% p.a.
Bluebay - Multi-Asset Credit	5.0	SONIA	-	-
M&G - Multi-Asset Credit	5.0	SONIA +4% p.a.	-	-
Baillie Gifford - DGF	8.0	Bank of England UK Base Rate +3.5% p.a.	-	0.0% - 10.0% p.a.
Real Estate	10.0	-	-	-
CBRE - Property	7.0	MSCI All Balanced Property Funds Index	+1.0% p.a. (gross of fees)	0.0% - 3.0% p.a.
M&G - Residential Property	1.5	Absolute Return of 6.0% p.a.	-	-
M&G - Shared Ownership	1.5	Absolute Return of 6.0% p.a.	-	-
Private Equity	5.0	-	-	-
HarbourVest - Private Equity		MSCI World Index	+3.0% p.a. (gross of fees)	-
Adams Street - Private Equity		MSCI World Index	+3.0% p.a. (gross of fees)	-

Name	B'mark (%)	Performance Benchmark	Performance Target	Tracking Error Expectation
Infrastructure	5.0	-	-	-
AMP Capital - Infrastructure Debt		IRR of 10.0% p.a.	-	-
Allianz - Infrastructure Debt		IRR of 4.0% p.a.	-	-
IFM - Infrastructure Equity		IRR of 10.0% p.a.	-	-
JPM - Infrastructure Equity		IRR of 10.0% p.a.	-	-

Appendix B

Detailed Attribution Analysis - Quarter



Please note that the relative return and relative weight charts use unrounded performance and allocation figures to calculate the relative difference, hence the numbers are not directly comparable to the implied relative difference given in the performance and allocation tables. Figures shown for the private equity and infrastructure mandates (with the exception of IFM) are estimated.

Explanation of Attribution Analysis Chart

The purpose of the attribution analysis chart is give a visual representation of the contribution of each portfolio to the relative performance of the Total Scheme against the Total Benchmark". The contribution is apportioned between "Manager Contribution" and "Allocation Contribution. Further explanation of the terms used in the chart is given below.

Relative Weight - This is the difference in percentage terms of the actual Scheme allocation and benchmark allocation at both the start and end of the period. A bar greater (less) than zero indicates that the Scheme was overweight (underweight) to that portfolio.

Relative Performance - This shows the relative performance of the portfolio against its benchmark performance. A bar greater than zero indicates there was outperformance, whereas a bar less than zero indicates underperformance.

Quarterly Manager Contribution - This shows the contribution at a total level of the relative performance achieved by the portfolio, taking into account the initial actual allocation. A larger allocation will lead to a greater contribution at a total level (all other things being equal).

Positive (negative) relative performance will result in positive (negative) manager contribution. Note that for passive mandates manager contributions should be close to zero, given its performance objective of tracking the benchmark. In calculation terms this is as follows:

```
Manager\ Contribution = (Performance_{pi} - Performance_{bi}) \times Initial\ Actual\ Allocation_{pi}
```

Quarterly Allocation Contribution - The allocation contribution shows whether a portfolio underweight / overweight position has had a positive or negative effect on the Total Scheme outperformance / underperformance in relation to the Total Scheme Benchmark.

For example, an overweight allocation to a portfolio whose benchmark performance was superior to that of the Total Scheme Benchmark would result in a positive contribution. In calculation terms this is as follows:

```
Allocation Contribution = (Performance_{bi} - Performance_{bT}) \times (Actual Allocation_{vi} - Benchmark Allocation_{bi})
```

Please note that the relative return and relative weight figures shown in the chart use unrounded performance and allocation figures to calculate the relative differences. Therefore, the numbers are not directly comparable to the implied relative differences given in the performance table and allocation tables.

Key: $pi = portfolio\ I$; $bi = portfolio\ I$ benchmark; $bT = Total\ Fund\ benchmark$

Attribution for Quarters with Significant Events - In cases where there are significant events over the quarter (for example large cashflows, new or terminated portfolios), both manager and allocation contributions are first calculated for the underlying part periods. The quarterly contributions are then a sum of the part period contributions.



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