

Northamptonshire Pension Fund

Monitoring Report

Quarter to

31 December 2022

Chris West
February 2023



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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 £2,379m to £2,299m).

The Fund's assets (including cash) increased over the quarter by £34.6m to £3,113.4m as at 31 December 2022. The Fund's assets (including cash) have decreased by £340.8m over the last twelve months.

The estimated funding level at 31 December 2022 was c.135%, up from c.129% as at 30 September 2022. For comparison, the funding level at 31 March 2019 (the date of the last actuarial valuation) was 93%

Performance

Short Term Performance

The Fund underperformed the benchmark over the quarter (returning 0.7% vs. 1.5%).

Key Contributors to Relative Performance - Quarter

| | |
|---|-------|
| Outperformance by CBRE - Property | +0.5% |
| Underperformance by Baillie Gifford - Global Equity | -0.4% |
| Underperformance in Private Equity | -0.7% |

Longer Term Performance

| | Fund | B'mark |
|------------------|-------|--------|
| 1 Year (%) | -10.9 | -7.5 |
| 3 Years (% p.a.) | 4.4 | 4.3 |

Asset Allocation

During the reported period there was an investment of c. £40m to UBS Gilts.

| Overweight | | Underweight | |
|--------------|-------|--------------|-------|
| Alternatives | +3.9% | Equities | -2.0% |
| | | Fixed Income | -1.9% |

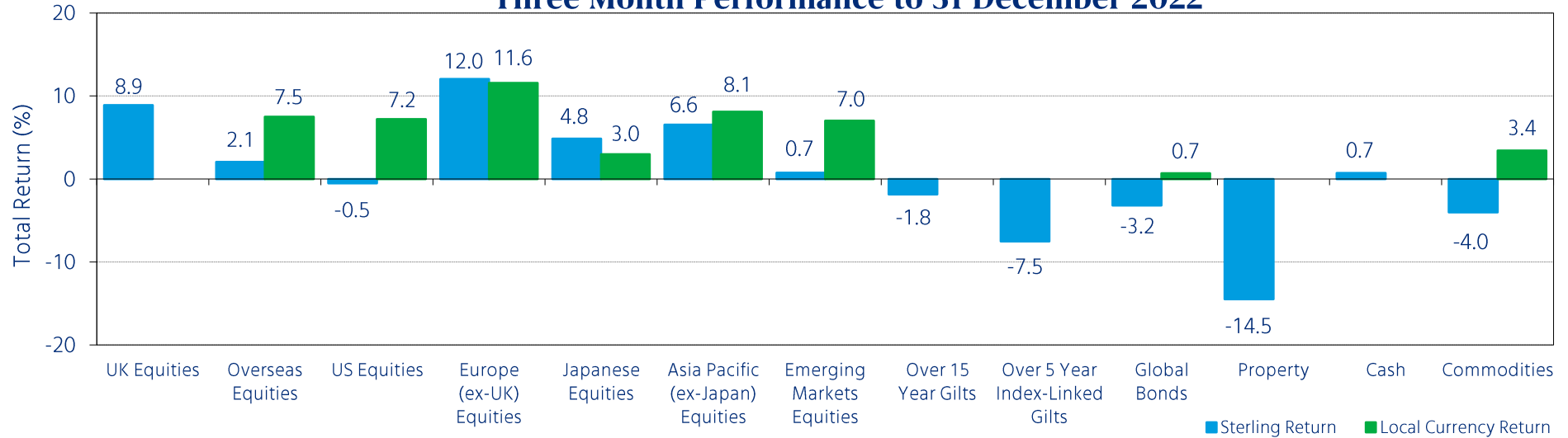
Manager Research

Rating Changes

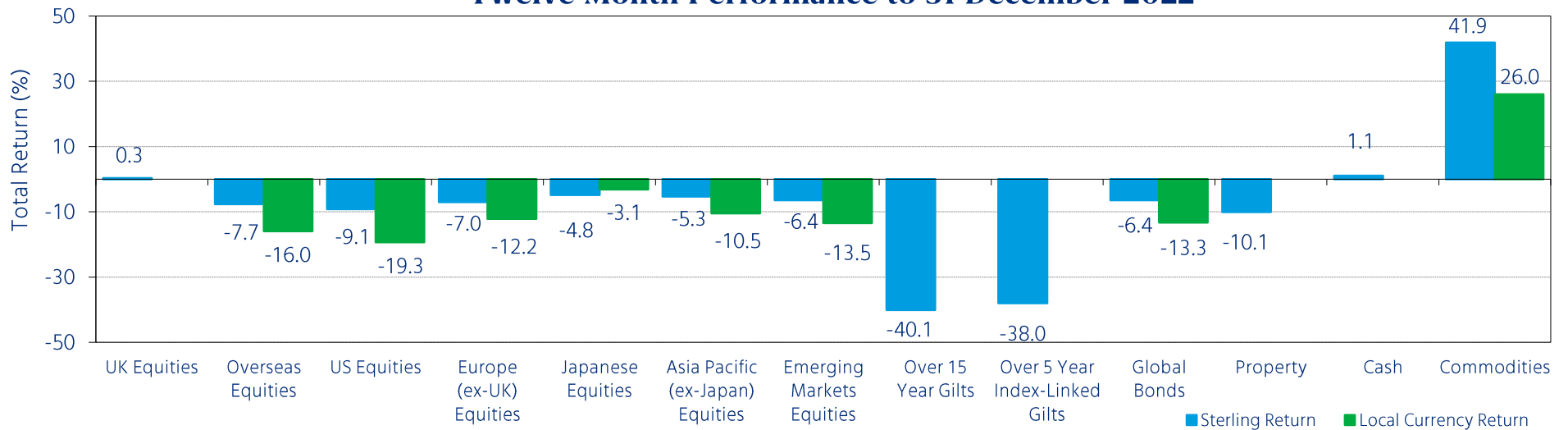
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Market Index Performance

Three Month Performance to 31 December 2022



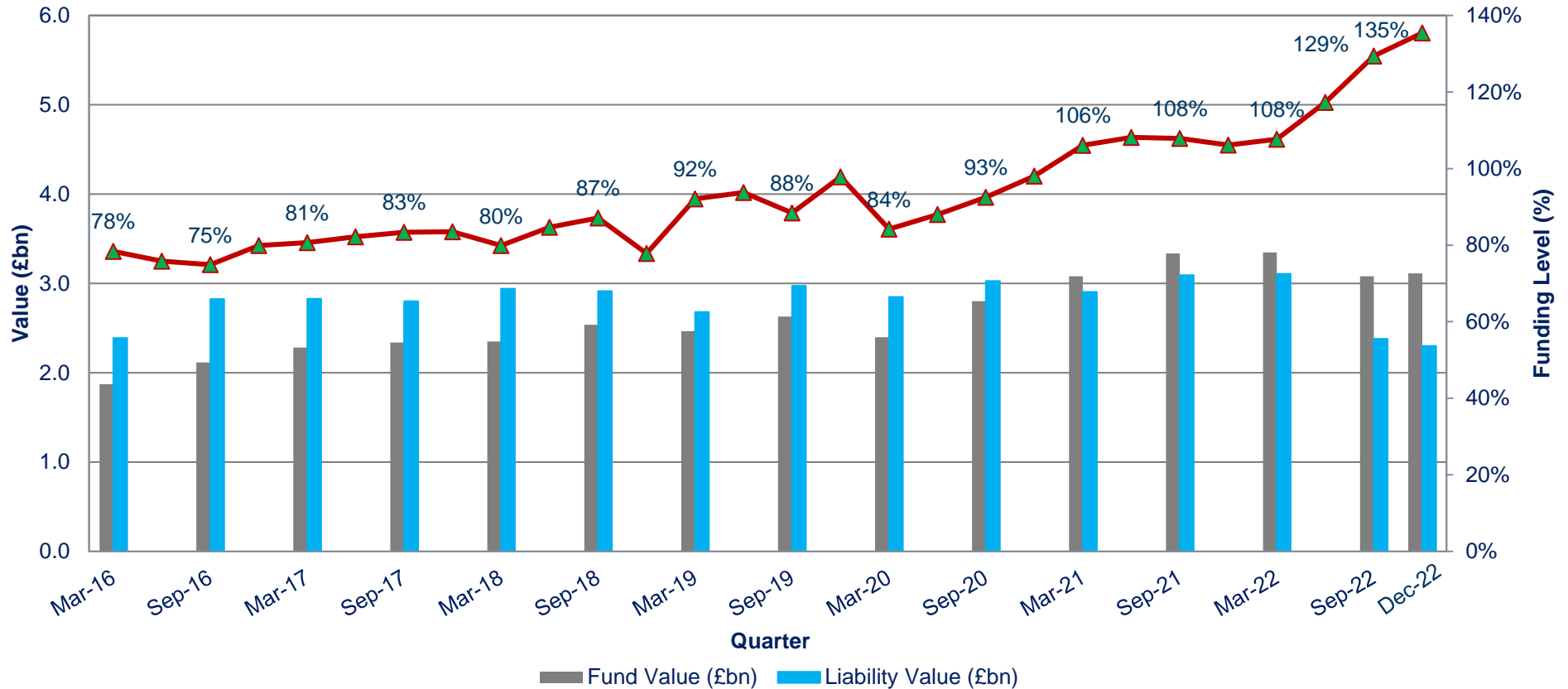
Twelve Month Performance to 31 December 2022



Source: Refinitiv.

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 31 December 2022 was 135%, which is higher than the funding level as at 30 September 2022, driven by a fall in liability value and assets value increase.

Allocation

| | 30/09/2022 Market Value (£M) | 31/12/2022 Market Value (£M) | 30/09/2022 Allocation (%) | 31/12/2022 Allocation (%) | 31/12/2022 B'mark (%) | 31/12/2022 B'mark Range (%) |
|------------------------------|------------------------------|------------------------------|---------------------------|---------------------------|-----------------------|-----------------------------|
| Total Invested Assets | 3,078.8 | 3,103.8 | 100.0 | 100.0 | 100.0 | -- |
| Equities | 1,574.7 | 1,645.4 | 51.1 | 53.0 | 55.0 | 50.0 - 60.0 |
| Fixed Income | 531.3 | 561.8 | 17.3 | 18.1 | 20.0 | 15.0 - 25.0 |
| Alternatives | 915.8 | 896.6 | 29.7 | 28.9 | 25.0 | 20.0 - 30.0 |
| Cash in Transit | 57.0 | -- | 1.9 | -- | -- | -- |

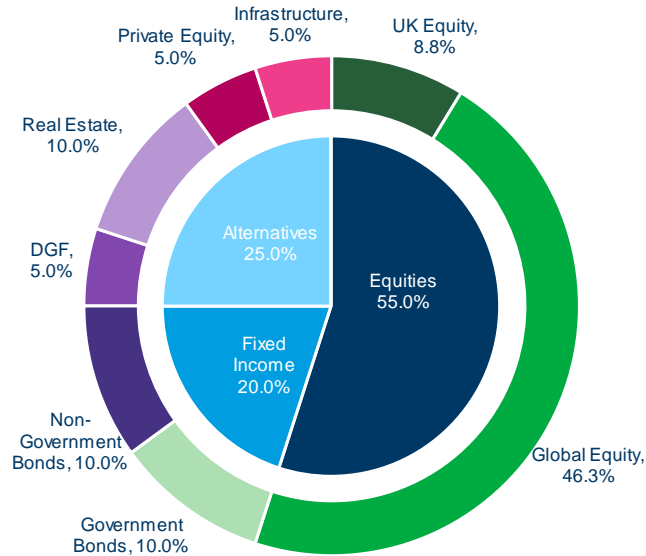
Source: Investment Managers, Link Asset Services and Mercer.

Figures may not sum to total due to rounding.

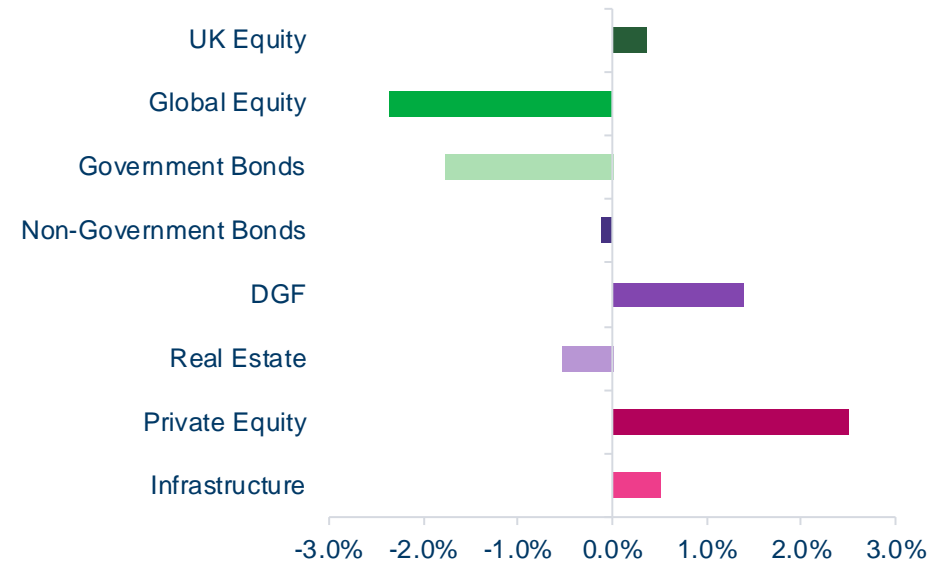
The total market value shown in the table above at quarter end excludes assets invested in Catapult's Private Equity (c. £0.5m at the start and end of the quarter) and cash (c. £9.6m at the end of quarter).

Cash in transit value at the start of the quarter 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 31 December 2022



Deviation from Benchmark Asset Allocation



Manager Allocation (1/3)

| | 30/09/2022 Market Value (£M) | 31/12/2022 Market Value (£M) | 30/09/2022 Allocation (%) | 31/12/2022 Allocation (%) | 31/12/2022 B'mark (%) |
|--|------------------------------|------------------------------|---------------------------|---------------------------|-----------------------|
| Total | 3,078.8 | 3,103.8 | 100.0 | 100.0 | 100.0 |
| Equities | 1,574.7 | 1,645.4 | 51.1 | 53.0 | 55.0 |
| UK Equity | 257.6 | 283.0 | 8.4 | 9.1 | 8.8 |
| Liontrust - UK Equity ^(a) | 257.6 | 283.0 | 8.4 | 9.1 | 8.8 |
| Global Equity | 1,317.1 | 1,362.4 | 42.8 | 43.9 | 46.3 |
| Active Global Equity | 744.4 | 755.8 | 24.2 | 24.4 | 26.3 |
| Newton - Global Equity ^(a) | 290.2 | 296.5 | 9.4 | 9.6 | 8.8 |
| Baillie Gifford - Global Equity ^(a) | 178.1 | 168.5 | 5.8 | 5.4 | 8.8 |
| Longview - Global Equity ^(a) | 276.1 | 290.8 | 9.0 | 9.4 | 8.8 |
| Passive Equity | 572.7 | 606.6 | 18.6 | 19.5 | 20.0 |
| UBS - Passive Equity ^(a) | 572.7 | 606.6 | 18.6 | 19.5 | 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. £9.6m at the end of quarter).

Cash in transit value at the start of the quarter 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.

^(a) The total market value invested in ACCESS is c. £2,162.6m at the start of quarter and c. £2,259.9m at the end of quarter.

Manager Allocation (2/3)

| | 30/09/2022 Market Value (£M) | 31/12/2022 Market Value (£M) | 30/09/2022 Allocation (%) | 31/12/2022 Allocation (%) | 31/12/2022 B'mark (%) |
|---|------------------------------|------------------------------|---------------------------|---------------------------|-----------------------|
| Fixed Income | 531.3 | 561.8 | 17.3 | 18.1 | 20.0 |
| Government Bonds | 234.1 | 255.2 | 7.6 | 8.2 | 10.0 |
| UBS – Gilts ^(a) | 234.1 | 255.2 | 7.6 | 8.2 | 10.0 |
| Non-Government Bonds | 297.1 | 306.6 | 9.7 | 9.9 | 10.0 |
| Bluebay - Multi-Asset Credit | 138.9 | 145.8 | 4.5 | 4.7 | 5.0 |
| M&G - Multi-Asset Credit ^(a) | 158.3 | 160.8 | 5.1 | 5.2 | 5.0 |
| Alternatives | 915.8 | 896.6 | 29.7 | 28.9 | 25.0 |
| DGF | 195.5 | 198.5 | 6.4 | 6.4 | 5.0 |
| Baillie Gifford – DGF ^(a) | 195.5 | 198.5 | 6.4 | 6.4 | 5.0 |
| Real Estate | 316.2 | 293.9 | 10.3 | 9.5 | 10.0 |
| CBRE - Property | 253.7 | 232.2 | 8.2 | 7.5 | 7.0 |
| M&G - Residential Property | 47.9 | 47.1 | 1.6 | 1.5 | 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. £9.6m at the end of quarter).

Cash in transit value at the start of the quarter 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.

^(a) The total market value invested in ACCESS is c. £2,162.6m at the start of quarter and c. £2,259.9m at the end of quarter.

Manager Allocation (3/3)

| | 30/09/2022 Market Value (£M) | 31/12/2022 Market Value (£M) | 30/09/2022 Allocation (%) | 31/12/2022 Allocation (%) | 31/12/2022 B'mark (%) |
|-----------------------------------|------------------------------|------------------------------|---------------------------|---------------------------|-----------------------|
| Private Equity | 238.2 | 233.3 | 7.7 | 7.5 | 5.0 |
| HarbourVest - Private Equity | 139.3 | 130.3 | 4.5 | 4.2 | -- |
| Adams Street - Private Equity | 98.9 | 103.0 | 3.2 | 3.3 | -- |
| Infrastructure | 165.9 | 170.9 | 5.4 | 5.5 | 5.0 |
| AMP Capital - Infrastructure Debt | 37.9 | 36.8 | 1.2 | 1.2 | -- |
| Allianz - Infrastructure Debt | 11.1 | 11.1 | 0.4 | 0.4 | -- |
| IFM - Infrastructure Equity | 67.2 | 66.9 | 2.2 | 2.2 | -- |
| JPM - Infrastructure Equity | 49.6 | 56.1 | 1.6 | 1.8 | -- |
| Cash in Transit | 57.0 | -- | 1.9 | -- | -- |

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. £9.6m at the end of quarter).

Cash in transit value at the start of the quarter 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.

^(a) The total market value invested in ACCESS is c. £2,162.6m at the start of quarter and c. £2,259.9m at the end of quarter.

Net Manager Performance (1/2)

| | 2022 Q4 (%) | B'mark (%) | 1 Yr (%) | B'mark (%) | 3 Yrs (%) | B'mark (%) | 5 Yrs (%) | B'mark (%) |
|---------------------------------|-------------|-------------|--------------|--------------|-------------|-------------|-------------|-------------|
| Total | 0.7 | 1.5 | -10.9 | -7.5 | 4.4 | 4.3 | 4.8 | 4.9 |
| UK Equity | 9.9 | 8.9 | -9.8 | 0.3 | -0.1 | 2.3 | 0.5 | 2.9 |
| Liontrust - UK Equity | 9.9 | 8.9 | -9.8 | 0.3 | -0.1 | 2.3 | 0.6 | 2.9 |
| Global Equity | 3.4 | 3.6 | -12.2 | -8.3 | 8.0 | 6.7 | 8.8 | 7.4 |
| Newton - Global Equity | 2.2 | 1.9 | -9.6 | -8.1 | 7.7 | 7.4 | 8.7 | 7.7 |
| Baillie Gifford - Global Equity | -5.4 | 1.9 | -39.3 | -8.1 | 7.4 | 7.4 | -- | -- |
| Longview - Global Equity | 5.3 | 1.9 | 2.4 | -8.1 | 7.0 | 7.4 | -- | -- |
| UBS - Passive Equity | 5.9 | 5.9 | -8.4 | -8.6 | 5.6 | 5.5 | 6.9 | 6.9 |
| Fixed Income | -1.6 | -1.7 | -22.3 | -22.5 | -4.7 | -3.0 | -1.8 | -0.4 |
| UBS - Gilts | -7.6 | -7.5 | -38.1 | -38.0 | -11.1 | -11.0 | -5.7 | -5.6 |
| Bluebay - Multi-Asset Credit | 5.0 | 4.1 | -9.3 | -7.1 | -- | -- | -- | -- |
| M&G - Multi-Asset Credit | 1.6 | 4.1 | -0.5 | -7.1 | -- | -- | -- | -- |

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.

Totals include performance of terminated mandates.

M&G Multi-Asset Credit performance figures are reported by Link Asset Group with one month lag. M&G Shared Ownership last quarter performance is always assumed zero due the lag in final data.

Net Manager Performance (2/2)

| | 2022 Q4 (%) | B'mark (%) | 1 Yr (%) | B'mark (%) | 3 Yrs (%) | B'mark (%) | 5 Yrs (%) | B'mark (%) |
|-----------------------------------|-------------|-------------|------------|-------------|------------|------------|------------|------------|
| Alternatives | -4.4 | -2.6 | 0.1 | -0.4 | 5.6 | 5.9 | 5.5 | 5.5 |
| Baillie Gifford - DGF | 1.5 | 1.6 | -16.0 | 5.0 | -2.1 | 4.1 | 0.2 | 4.2 |
| CBRE - Property | -8.5 | -14.1 | 0.8 | -9.5 | 3.2 | 2.2 | 3.5 | 2.9 |
| M&G - Residential Property | -1.6 | 1.5 | 3.6 | 6.0 | 2.2 | 6.0 | -- | -- |
| M&G - Shared Ownership | 0.0 | 1.5 | 6.6 | 6.0 | -- | -- | -- | -- |
| HarbourVest - Private Equity | 7.3 | 2.1 | 26.4 | 8.6 | 34.1 | 8.6 | 28.6 | 8.6 |
| Adams Street - Private Equity | 5.8 | 2.1 | 21.6 | 8.6 | 38.2 | 8.6 | 30.2 | 8.6 |
| AMP Capital - Infrastructure Debt | 8.5 | 2.5 | 18.2 | 10.0 | 6.5 | 10.0 | 6.7 | 10.0 |
| Allianz - Infrastructure Debt | -16.1 | 1.0 | -33.5 | 4.0 | -12.6 | 4.0 | -- | -- |
| IFM - Infrastructure Equity | 6.4 | 2.5 | 24.0 | 10.0 | -- | -- | -- | -- |
| JPM - Infrastructure Equity | 6.9 | 2.5 | 18.4 | 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.

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

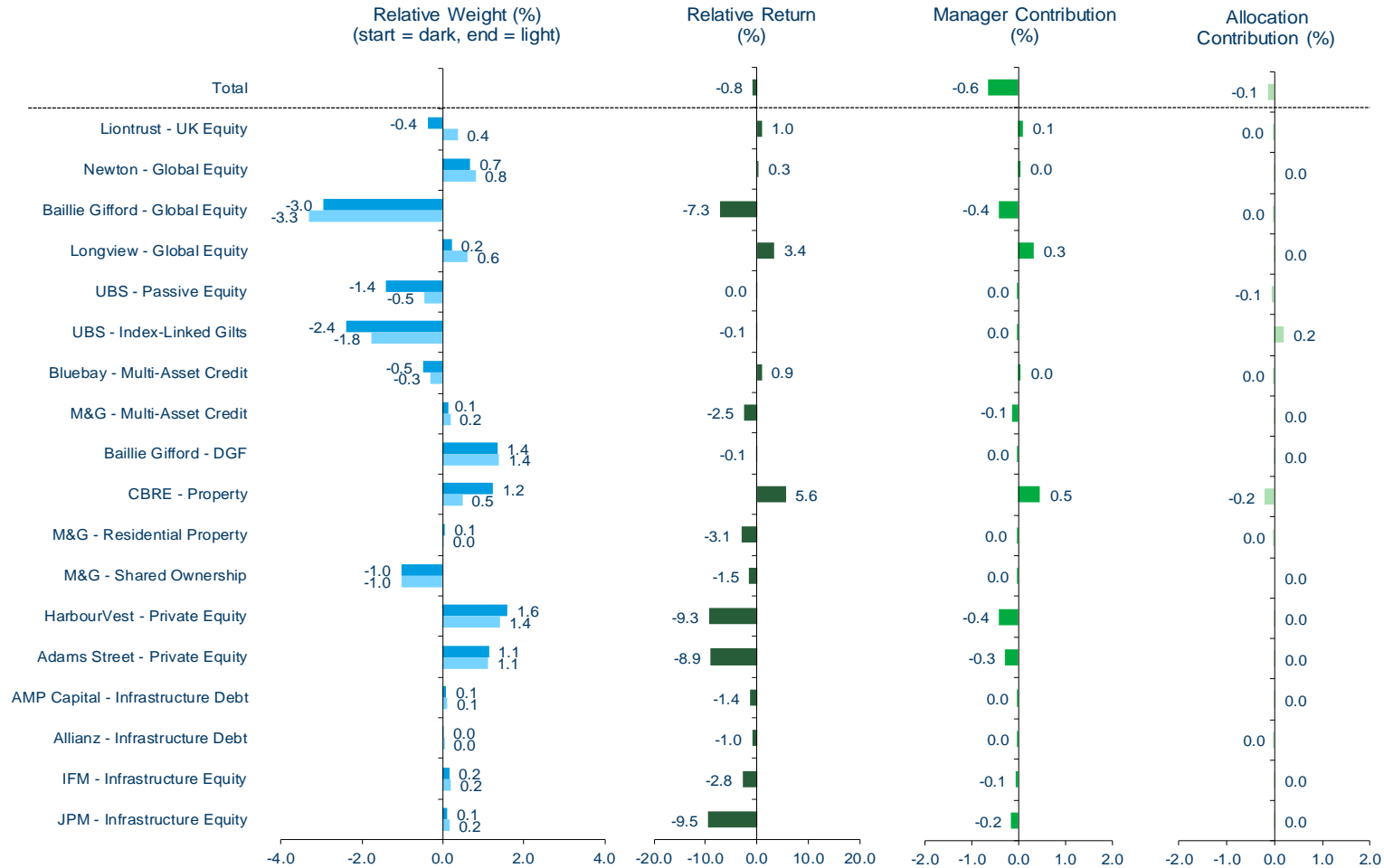
| Name | B'mark (%) | Performance Benchmark | Performance Target | Tracking Error Expectation |
|---------------------------------|--------------|---|----------------------------|----------------------------|
| Total | 100.0 | - | - | - |
| Liontrust - UK Equity | 8.8 | FTSE All-Share Index | +2.0% p.a. (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 | Composite | - | - |
| M&G - Multi-Asset Credit | 5.0 | Composite | - | - |
| Baillie Gifford - DGF | 5.0 | 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) | - |
| Infrastructure | 5.0 | - | - | - |

| Name | B'mark (%) | Performance Benchmark | Performance Target | Tracking Error Expectation |
|-----------------------------------|------------|-----------------------|--------------------|----------------------------|
| 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. | - | - |

Bluebay - Multi-Asset Credit: composite benchmark is 50% ICE BofAML Global High Yield Constrained and 50% Morningstar LSTA US Leveraged Loan 100 Hedged.
M&G - Multi-Asset Credit: composite benchmark is 50% ICE BofAML Global High Yield Constrained and 50% Morningstar LSTA US Leveraged Loan 100 Hedged.

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 in GBP to the quarter end date.

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:

$$\text{Manager Contribution} = (\text{Performance}_{pi} - \text{Performance}_{bi}) \times \text{Initial Actual Allocation}_{pi}$$

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:

$$\text{Allocation Contribution} = (\text{Performance}_{bi} - \text{Performance}_{bT}) \times (\text{Actual Allocation}_{pi} - \text{Benchmark Allocation}_{bi})$$

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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