

Avon Pension Fund

Panel Investment Report Quarter to 31 December 2022

February 2023

Steve Turner
Joshua Caughey

A business of Marsh McLennan



Contents

1) Executive Summary	3
2) Market Background	6
3) Mercer Market Views	9
4) Funding Level and Risk	15
5) Performance Summary	18
6) Asset Allocation	25
7) Current Topics	28
Appendices	30

Executive Summary



Executive Summary

Market background

- The narrative of peaking inflation and resilient economic growth drove positive equity returns during October and November.
- Risk-on sentiment earlier in the quarter and a slower pace of US monetary tightening led to a weaker US dollar.
- In the UK, nominal yields ended the quarter higher, whilst market-implied inflation expectations fell.

Mercer market views

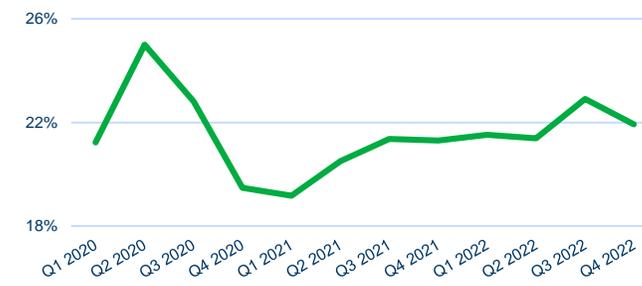
- Our medium term outlook (as at January 2023) is mixed.
- We are slightly negative on equities due to the weak global macroeconomic environment, despite boosts from China's reopening and signs of headline inflation figures starting to fall.
- We continue to have a modest overweight in growth fixed income.

Funding level and risk

- The funding level is estimated to have decreased marginally over the quarter to c.97%, as the assets contracted in value, outweighing the fall in the estimated value of the liabilities.
- It is estimated to be c.5% lower over the year to 31 December 2022* (as illustrated to the right).

**Liability values have been restated for 31 March to 30 September 2022 valuation since our Q3 report.*

- The Value-at-Risk decreased over the quarter to £1,184m due to the fall in absolute value of the Fund's assets and decreases in underlying volatility assumptions for the equity and credit assets.
- It fell as a percentage of liabilities to 21.9%.
- The reversal in Q4 of the small increase in risk levels during Q3 means that the risk as a proportion of liabilities is broadly unchanged compared to one year ago.
- The reduction in risk that can be seen in 2020 was due to the move from a static to dynamic equity protection strategy.



Executive Summary

Performance

- The Fund assets fell in value primarily due to the contraction of the LDI assets, a detraction from the Equity Protection and valuation changes within property-related assets.
- The Currency Hedge added to returns amid the recovery to Sterling, whilst the Infrastructure assets continued to show resilience.

- Underperformance relative to the strategic benchmark over the one year period to 31 December 2022 is mainly due to underperformance of the active equity, Multi-Asset (DGF and MAC), Property and Secured Income mandates.

	3 Months (%)	1 Year (%)	3 Years (% p.a.)
Total Fund (1)	-2.0	-11.0	1.5
Strategic Benchmark (2) (ex currency hedge)	0.3	-2.8	5.7
Relative (1 - 2)	-2.3	-8.2	-4.2

- The main detractors over the three year period were Equity Protection, Overseas Property (though performance is in line with expectations) and Secured Income.

- The Currency Hedge overlay has detracted from returns over the one and three year periods. It should be noted that the benchmark does not make allowance for the currency hedge.

- Absolute returns for the global equity mandates compared to the strategic returns modelled at the strategy review in 2019 have been mixed. The most recently-incepted Paris-Aligned mandate has underperformed due to its point of inception, though the underperformance of the Sustainable Equity mandate is due to active management.
- The Diversified Returns and Multi-Asset Credit mandates have also fallen short of expectations due to 2022's negative returns.
- Property and Secured Income have been mixed, however all of the Infrastructure and Private Debt assets have outperformed.

Asset allocation and strategy

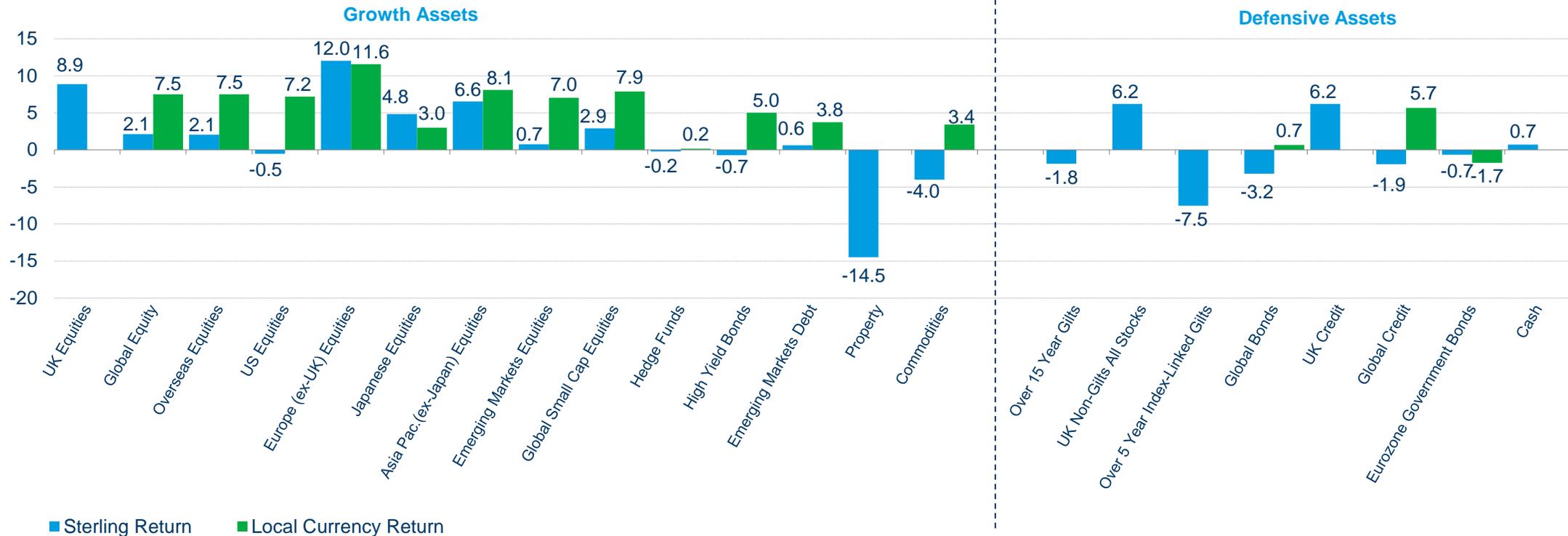
- At the start of the quarter, the BlackRock QIF was topped up by £275m to support the collateral pool. This was funded from the Paris-Aligned Equity mandate, though overall equity exposure was maintained by adding an equivalent amount of synthetic exposure to the MSCI World index accessed by the BlackRock mandate.
- A net amount of c£47m was drawn down to the Brunel private market portfolios during the quarter.
- During the period, c. £150m was disinvested from the overweight Diversified Returns portfolio to meet cashflow requirements elsewhere.
- Post-quarter end, £150m was disinvested from the IFM Core Infrastructure portfolio for liquidity purposes (and to address the overweight position to this mandate which had built up).

Market Background



Market Background

Return over 3 months to 31 December 2022 (%)

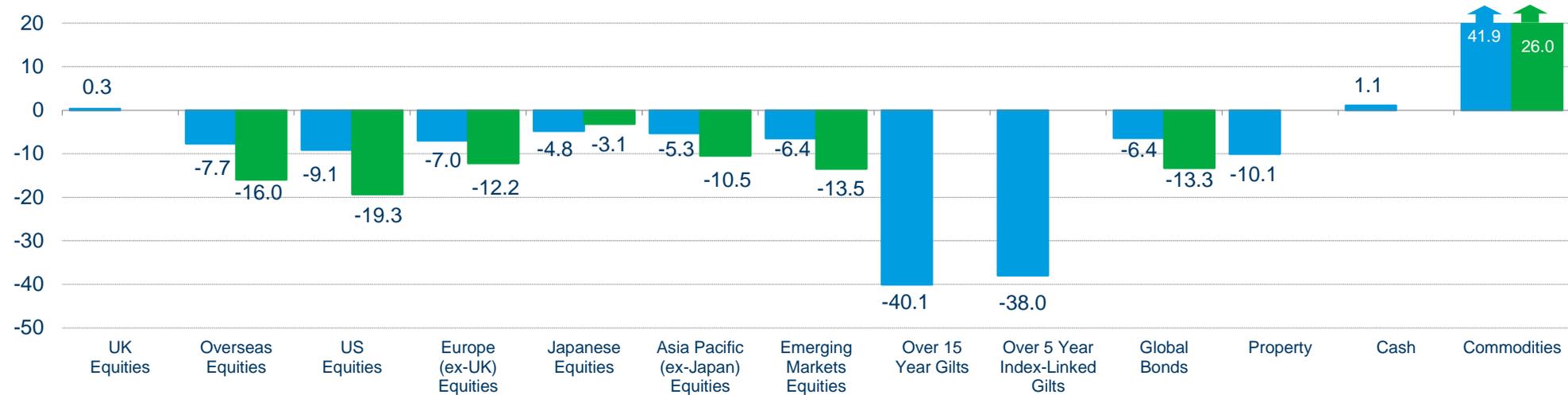


Inflation and central bank policy were once again the key market drivers for Q4 2022. Developed market central banks continued tightening monetary policy throughout the quarter, but the pace of tightening began to slow in the US amid an encouraging downwards trend in inflation, albeit from high levels. In China, a near total reversal of all Covid-related restrictions were a late year boost to its ailing economy.

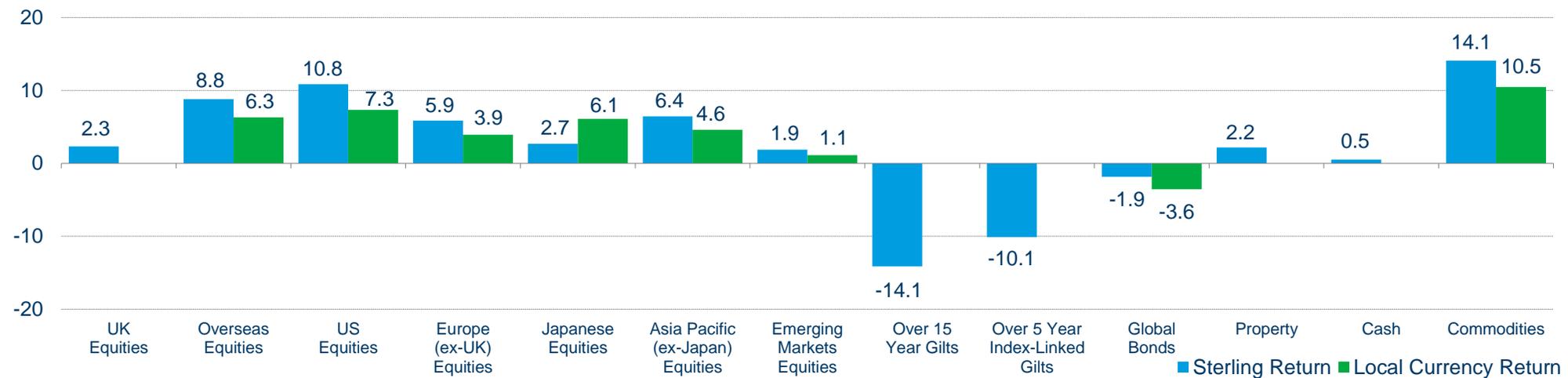
The narrative of peaking inflation and resilient economic growth drove positive equity returns during October and November, but hawkish messaging from central banks in December led to a premature end of the “Santa rally”. Risk-on sentiment earlier in the quarter and a slower pace of US monetary tightening led to a weaker US dollar over the quarter, which detracted from unhedged sterling investors’ US equity returns.

Market Background – 1 & 3 Years

Return over 12 months to 31 December 2022 (%)



Return over 3 years to 31 December 2022 (% p.a.)



Mercer Market Views



Market Outlook (January 2023)

Equities rose in the final quarter by 2% in sterling terms, with little dispersion between the high level equity segments, as inflation showed signs of having peaked, although 2022 as a whole was still one of the worst years on record for most equity markets. Other risk assets such as high yield bonds performed well, with the US dollar weakening, having risen sharply over the last two years. Markets benefited from a decline in headline inflation in many parts of the world while lower natural gas prices in Europe, on the back of mild weather, reduced both growth and inflation fears. Government bond yields were little changed as central banks continued to hike rates, despite the improving inflation news.

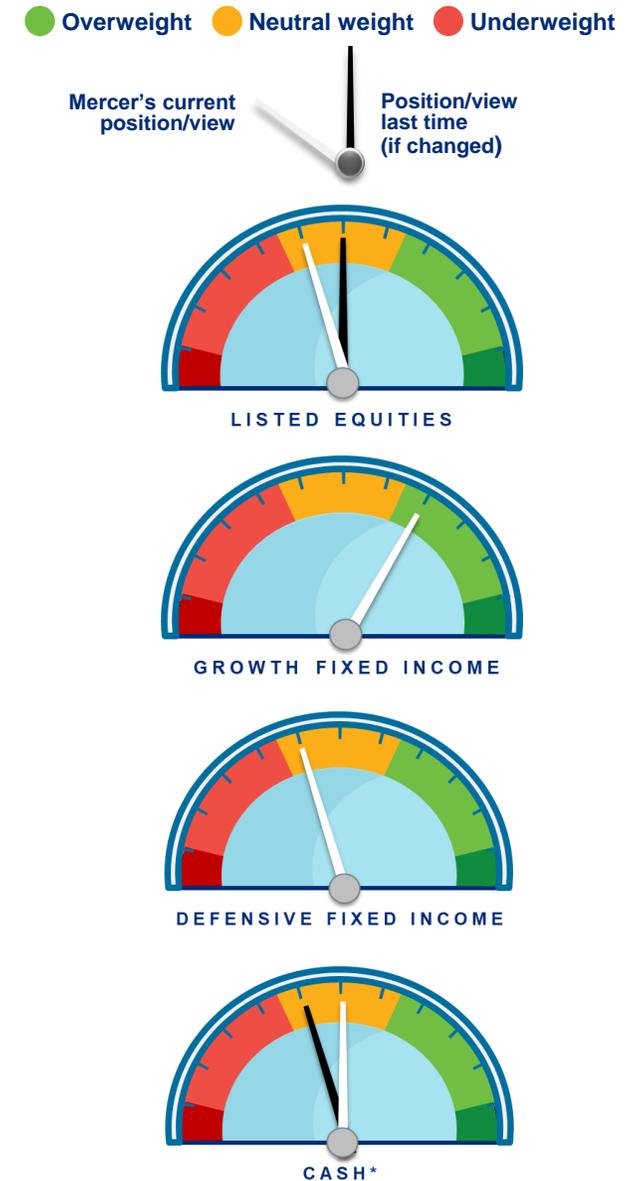
Global economic growth remained weak, despite some resilience in the US. Economic activity was especially weak in China as the ongoing weakness in the property sector together with COVID-related lockdowns pushed Chinese economic growth towards 0%. In Europe, there were signs that the UK and the Eurozone may have entered recession although the sharp decline in natural gas prices raised hopes that any recession would be a mild one.

Inflation remained at very high levels in most countries, with the notable exception of China. However, there were encouraging signs that it may have peaked and that softer commodity prices, easing supply chain disruptions and the softness in overall economic activity should lead to lower inflation in 2023.

Global economic activity is likely to remain weak in 2023, although downside risks to economic activity have perhaps diminished on the back of the decline in European natural gas prices and an imminent sharp recovery in China, as the government rolled out a package of measures to support the property sector and largely ended COVID restrictions. As we have seen elsewhere, the end of covid restrictions leads to a pickup in economic activity as consumers splash out on activities that have been restricted like tourism and retail/entertainment. Chinese economic activity will also be boosted by the property sector support and broad monetary and fiscal policy loosening. The recovery in China will support trade partners and especially Chinese tourism destinations, who would otherwise be under pressure from the ongoing weakness elsewhere. The Japanese economy should have a better 2023, boosted by its COVID reopening and the recovery in China.

Inflation should fall sharply as past rises in commodity prices fall out of YoY comparisons, although the Chinese re-opening creates some upside risks to commodities. It remains to be seen whether inflation will fall back to 2% targets and central banks will remain hawkish until they are confident it will remain moderated. Nonetheless we are expecting most central banks, including the US Fed to pause their hiking cycles in 2023H1 to assess what impact the past 12 months of tightening has had.

We made no material changes to our asset class preferences, continuing to prefer growth fixed income assets (high yield, loans and EMD) to defensive fixed income assets and cash. We remain neutral equities, although nudged our dial rating from 0 to -1, still within the neutral bracket, but reflecting a mildly negative view over the next 1-3 years. While further declines in inflation should support equities, we think corporate profit growth will be flat or negative in the developed world in 2023 and into 2024 and that market expectations of the Fed cutting rates before the end of 2023 are premature. Within equities we moved to overweight emerging market equities as we expect the recovery in China, the pullback in the US dollar and more favourable valuations to support the asset class.



* In lieu of cash, investors might consider liquid alpha-oriented strategies with low sensitivity to equity, credit and duration.

Listed Equities

ASSET CLASS	OCTOBER 2022	JANUARY 2023	COMMENTARY
Developed Equity	Neutral	Underweight	The MSCI World Index returned 2% in GBP terms over 2022Q4 and -7.4% over calendar 2022.¹ We have downgraded our developed market equity sector position to underweight within the global equities portfolio. Valuations have deteriorated meaningfully over the quarter as a result of strong performance. Positive developments over the quarter such as US inflation slowing, the tightening of monetary policy shifting into lower gear and softer yet resilient growth have supported our base case of a soft landing. However, risks surrounding our base case remain. Inflation remains a wildcard, especially with China's reopening being expected to lead to renewed upwards pressure on commodity prices. If that happens, monetary tightening may have to ramp up again. Earnings growth expectations remain optimistic given the current slowing in economic activity. Sentiment has turned from more positive earlier in 2022Q4 to more negative towards year end and remains volatile. We believe that after a strong quarter, valuations offer even less compensation for a less benign scenario than our base case. We prefer to allocate our risk budget to other equity sub-sectors with more compelling valuations.
Global Small Cap Equity	Neutral	Neutral	The MSCI Small Cap index returned 2.9% in GBP terms over 2022Q4 and -8.1% over calendar 2022.¹ We have maintained our small cap equity position at neutral. Valuations have also deteriorated over the quarter as a result of strong performance but unlike for developed equities, small cap valuations remain historically attractive. Earnings have proven remarkably resilient and balance sheets are robust following the experience of the last few years. If our macro economic base case of a soft landing materializes and markets coalesce around such a consensus, small cap equities would be expected to outperform their large cap counterparts. Our preference for small cap vs. large cap is premised on more attractive valuations for small caps which still offer more upside should our base case materialize. Sentiment remains negative but allocators are beginning to decrease their level of conviction that large cap equities will outperform small cap over the coming 12-months. ²
Emerging Markets Equity	Neutral	Overweight	The MSCI Emerging Markets index returned 1.9% in GBP terms over 2022Q4 and -9.6% over calendar 2022.¹ We have upgraded our positioning for emerging markets from neutral to overweight funded by a commensurate decrease in developed market equity. Valuations have deteriorated but still remain attractive relative to other equity sub-asset classes. There is still plenty of valuation compression to recover. China is the largest country in the index and its macroeconomic outlook has improved significantly. The surprising reopening as well as meaningful support for the property sector means that the coming year could see a strong economic recovery from a low base, reminiscent to the western experience in 2021. Other EM regions should continue to be supported by China's recovery, especially commodity producing countries. Emerging market exposure can also mitigate less benign macro outcomes in developed countries and the impact this would have on equities, should our base case not materialize. We therefore prefer to spend our risk budget on emerging markets and upgrade our neutral dial position to overweight.

Growth Fixed Income

ASSET CLASS	OCTOBER 2022	JANUARY 2023	COMMENTARY
Global Loans	Neutral	Underweight	Over 2022Q4, global loans returned -4.7% in GBP terms and 11.9% over calendar 2022. ¹ We have downgraded our position to underweight within growth fixed income. Bank loans have significantly outperformed the other growth fixed income sectors over the course of 2022 as the sector's floating rate profile largely insulated it from sharply higher interest rates. While the headline yield of the loan index appears quite attractive at over 9%, we note the underlying credit quality of the market has deteriorated quite significantly over the last few years. At current, over 70% of the index is now rated single B or lower, which makes the sector vulnerable to further downgrade activity leading to even wider spreads. For context, the same metric for percentage of index rated single B or lower for high yield is just 45%. Given rising recessionary risks, we prefer the credit quality available in high yield relative to bank loans at this point in the cycle.
High Yield	Overweight	Overweight	Over 2022Q4, global high yield returned 4.7% on a GBP hedged basis and -12.6% over calendar 2022. ¹ We have maintained our overweight position within growth fixed income. While high yield generated a strong return during the fourth quarter, the sector still finished the calendar year down -12.6%. Valuations within the asset class remain attractive, in our view, with an index yield over 9% and an average bond price below \$90. The lower average dollar price of the index, which entered 2022 above par, provides ample capital appreciation potential for the asset class going forward. Spread levels remain just slightly wide of longer term averages, but the higher quality make-up of the index is noticeable with 55% of the market rated BB. Solid fundamentals up to this point have supported low default activity and despite macroeconomic pressure, defaults are unlikely to reach recessionary averages over the DAA horizon due to the limited number of upcoming maturities. Overall, we believe investors are getting more appropriately compensated for risk in high yield than in bank loans.
EM Debt (Local Currency)	Neutral	Neutral	EMD local currency market rallied through Q4 2022, posting a return of 0.6% in GBP terms and -0.6% over calendar 2022. We have upgraded our position to neutral/overweight within growth fixed income. We increase our preference relative to Hard Currency due to more attractive spread valuations, historically cheap EM currencies, the lower duration profile and emerging market central banks generally being ahead of developed peers in their monetary cycle. Global growth continues to face a broader slowdown although some headwinds are beginning to alleviate pressure but the timing and the extent to which they do so will dictate much of the emerging market story over the DAA's time horizon.
EM Debt (Hard Currency)	Neutral	Neutral	EMD hard currency markets rallied through Q4 2022, posting a return of 0.3% in GBP terms and -7.4% over calendar 2022. ¹ We have maintained our position to a lower conviction neutral allocation within the growth fixed income portfolio. The index offers an attractive yield but the differential between the IG and HY segment is extremely bifurcated. Whilst spreads tightened over the quarter they remain elevated versus pre-pandemic levels. Rising rates and continuing geo-political risks are headwinds, as is the large duration component of the asset class. However, US dollar strength has begun to unwind with the Federal Reserve's hiking cycle expected to slow and potentially begin reversing in 2023. Sentiment remains vulnerable to the slowdown in global growth, inflation, and the ongoing war in Ukraine.

Defensive Fixed Income

ASSET CLASS	OCTOBER 2022	JANUARY 2023	COMMENTARY
UK Sovereign Fixed Income	Neutral	Neutral	Over 2022Q4, UK Gilts returned 1.7% in GBP terms, but was down 23.9% for 2022. We have moved to the negative side of neutral to accommodate an increased allocation to credit. UK 10-year government bond yields fell during Q4 after being roiled by political uncertainty during Q3. Volatility in the gilt markets has been exceptionally high and will likely remain elevated in the near-term, albeit less extreme. The gilt markets are recovering from the shock of the upheaval that followed the government's ill-fated mini budget in September. It is suggested that there will be record net gilt issuance in the coming year, which is likely to create a floor under gilt yields. However, with the economy heading into late cycle, concrete signs of a slowdown could quickly shift the narrative in favour of gilts as a risk off asset.
UK Inflation-Linked Bonds	Neutral	Neutral	Over 2022Q4, UK inflation linked bonds returned -5.9% in GBP terms and -33.4% for 2022, driven by both surging nominal (and real) yields. We have retained our position of being the negative side of neutral in the defensive fixed income portfolio. Over Q4, long dated UK breakevens fell sharply following the dislocations in the market during Q3. Inflation prints have moderated but remain elevated. At these levels, the UK market in our view continues to trade as expensive. Unions in the UK have become more active as employees demand higher wages to combat the cost of living crisis. We see this a persistent concern that is likely to plague the UK government in the months to come. Easing temporary and supply-side factors could see inflationary pressures moderate, seeing current inflation prints falling but remaining above central bank targets for the foreseeable future. However, timeframes remain highly uncertain.
UK Investment Grade Credit	Neutral	Neutral	UK investment grade credit returned 6.2% in GBP terms during the fourth quarter of 2022 but returned -17.8% for 2022. Although in the neutral range, we have a tilt towards IG credit within defensive fixed income. Credit spreads tightened and credit outperformed equivalent duration government bonds over the quarter, although returns were negative for the year as a whole. Valuations appear attractive in IG credit with spreads remaining significantly above 10-year averages, despite the tightening seen during the quarter, and are higher than global IG spreads. All-in yields are also high based on a 10-year comparison. Corporate fundamentals remain solid, and the trend in global credit ratings has seen a positive skew of upgrades relative to downgrades. There is, however, a risk of a deterioration in earnings and a pick up in downgrades if economic growth remains weak or worsens, and we believe there is greater downside risk to the economic outlook in the UK relative to the US. Sentiment is mixed. Whilst many active fixed income managers are overweight credit risk, they remain nervous that there may be another leg wider in spreads if economic conditions worsen. On the other hand, defined benefit pension schemes in the UK may increase allocations to liquid, high-quality credit as they reduce leverage in their LDI portfolios.

Global Property Market Outlook

With the Q3 2022 data as presented in this report only showing modest impacts from the interest rate increases that characterized capital markets in 2022, Q4 data will show a deepening correction of real estate valuations. We therefore anticipate more widespread negative total returns for Q4 but total returns should remain positive for the calendar year of 2022. Ahead, the most profound impacts are likely to be felt on the yield side of the returns equation, as valuers revert back to a positive yield premium over the relevant risk-free rate (often a 10-year bond yield). However, as key economies are expected to be pushed into a mild recession, the continuing war in Ukraine, geo-political tensions between the US and China, and growing awareness of climate change may potentially add to a gloomy economic perspective. If these events are prolonged, there is a risk that occupier markets will start to feel the pinch too, causing a more significant downturn in real estate markets.

Real estate markets are not decoupled from the macro-economic environment but the resilient and long-term nature of property should assist values in remaining relatively stable as both equity and fixed income portfolios will suffer more from a recessionary environment caused by high inflation and rising interest rates. This notwithstanding, we anticipate that, until monetary policies stabilize at some point in 2023, property portfolios will continue to exhibit weak to negative capital growth, thereby reversing some of the large recent value gains. The overall impact to property returns will, on the one hand, depend on the severity of the economic downturn as they affect rental growth potential, and on the other hand, whether asset-class specific factors may soften the blow. The softening impact of these tail winds may be felt more locally and could include: low vacancy or supply in certain markets; limited use of leverage through the last cycle; willingness of lenders to lend on more sustainable properties; or the persistence of structural trends boosting demand for certain property types.

		EUROPE		
Equity		Core/ Core+	Value Add	Oppor- tunistic
	Themes	CPI Linkage	ESG refurb	PE deals
		Occupier income risks	Niche sectors	Aggregation
		Bond-like long lease	High leverage	Spec Development

Attractive value: Real estate's attractive attributes of long-term contractual cash-flows linked to inflation, illiquidity premiums and potential for GDP de-linking should remain at the forefront of investors' minds. The change in paradigm brought by the rapid rise in interest rates, at this point, is directly benefiting real estate debt strategies as well as opportunistic managers who can exploit capital market distress without relying (much) on external finance themselves.

Worst value: We remain cautious on new commitments in the Core/Core+ segments as downward pressure on valuations is playing out in the near-term. However, NOI growth (helped by strong inflation) is an important positive driver to returns and is strong in sectors such as logistics, residential, and several niches.

Disclaimer: For illustration purposes only. The above table presents a simplified perspective at the time of writing this report and is subject to change without notice. All categories offer attractive opportunities and optimal allocations are subject to manager selection. The outlook represented is for new investors with a non-constrained risk budget over a 3 to 5 year investment horizon. 'Unattractive' positions therefore do not imply advice to liquidate existing investments.

Further guidance is available in Mercer's *Global Market Summary: Quarterly Real Estate Report, January 2023*

Very attractive	Attractive	Neutral	Less Attractive	Unattractive	Not applicable
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Change from previous quarter in pink [No changes in January 2023]

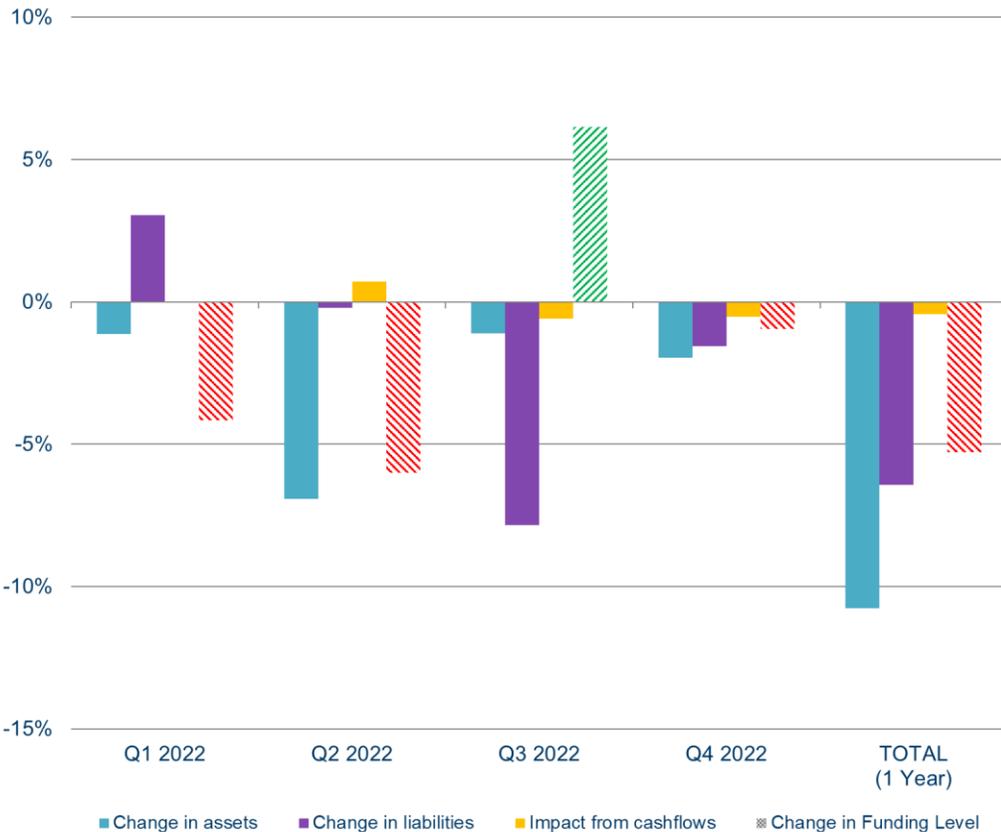
Funding Level and Risk



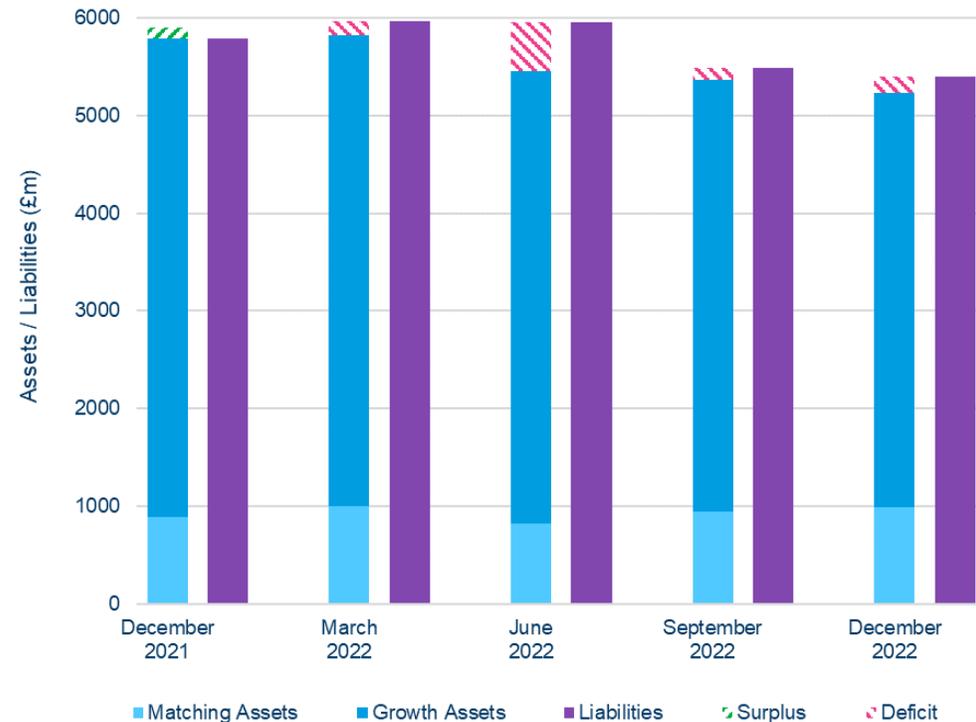
Funding Level and Deficit

The Fund's assets contracted by 2.0% over the quarter, whilst the liabilities are expected to have fallen by c. 1.5%. The combined effect of this, also allowing for expected cashflow over the period, saw the estimated funding level decrease marginally to c.97%*.

The funding level is estimated to be c. 5% lower over the year to 31 December 2022**.



The deficit was estimated to have increased over Q4 to c.£168m:



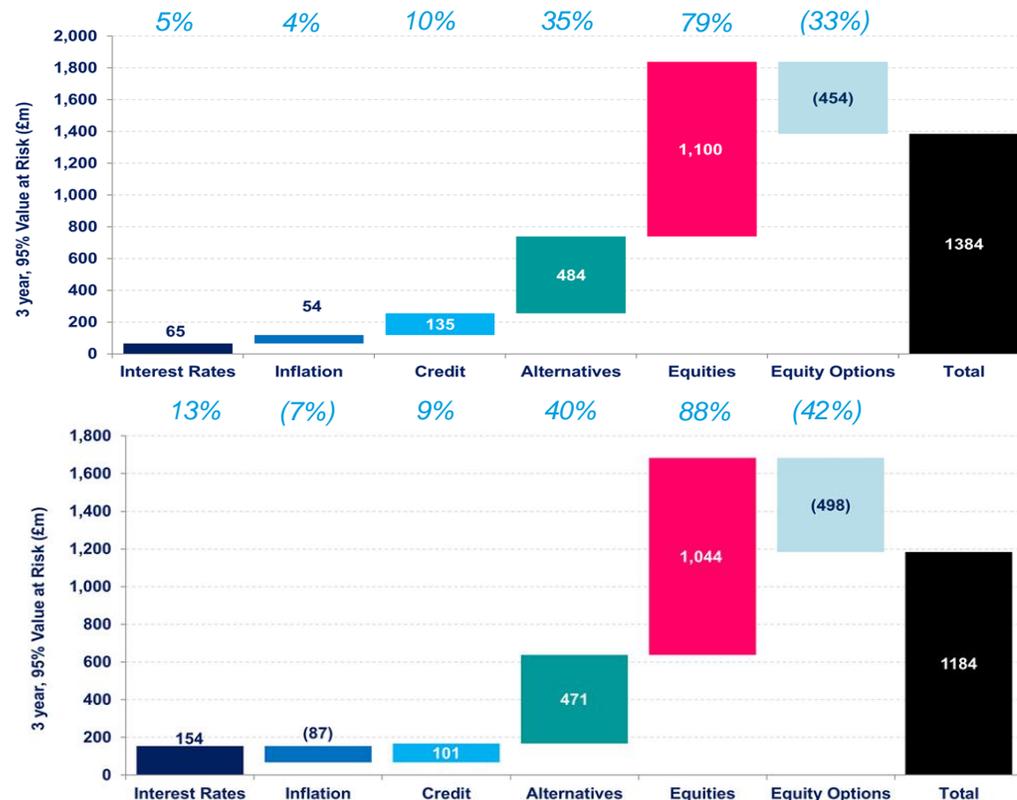
Liability values are estimated by Mercer. They are based on the actuarial valuation assumptions as at 31 March 2022 and the 'CPI plus' discount basis.
 *Since the Q3 investment report, the liability values from March 2022 to September 2022 have been restated to reflect the results of the actuarial valuation.
 **December 2021 liability values are based on the previous actuarial valuation assumptions.
 Impact figures are estimated by Mercer.

Risk Decomposition – 3 Year Value at Risk

- The two charts below illustrate the main risks that the Fund is exposed to, and the size of these risks in the context of the change in the deficit position.
- The purpose of showing these is to ensure there is an awareness of the risks faced and how they change over time, and to initiate debate on an ongoing basis around how to best manage these risks, so as not to lose sight of the 'big picture'.
- The final columns show the estimated 95th percentile Value-at-Risk (VaR) over a one-year period. In other words, if we consider a downside scenario which has a 1-in-20 chance of occurring, what would be the impact on the deficit relative to our 'best estimate' of what the deficit would be in three years' time.

30 September 2022

31 December 2022

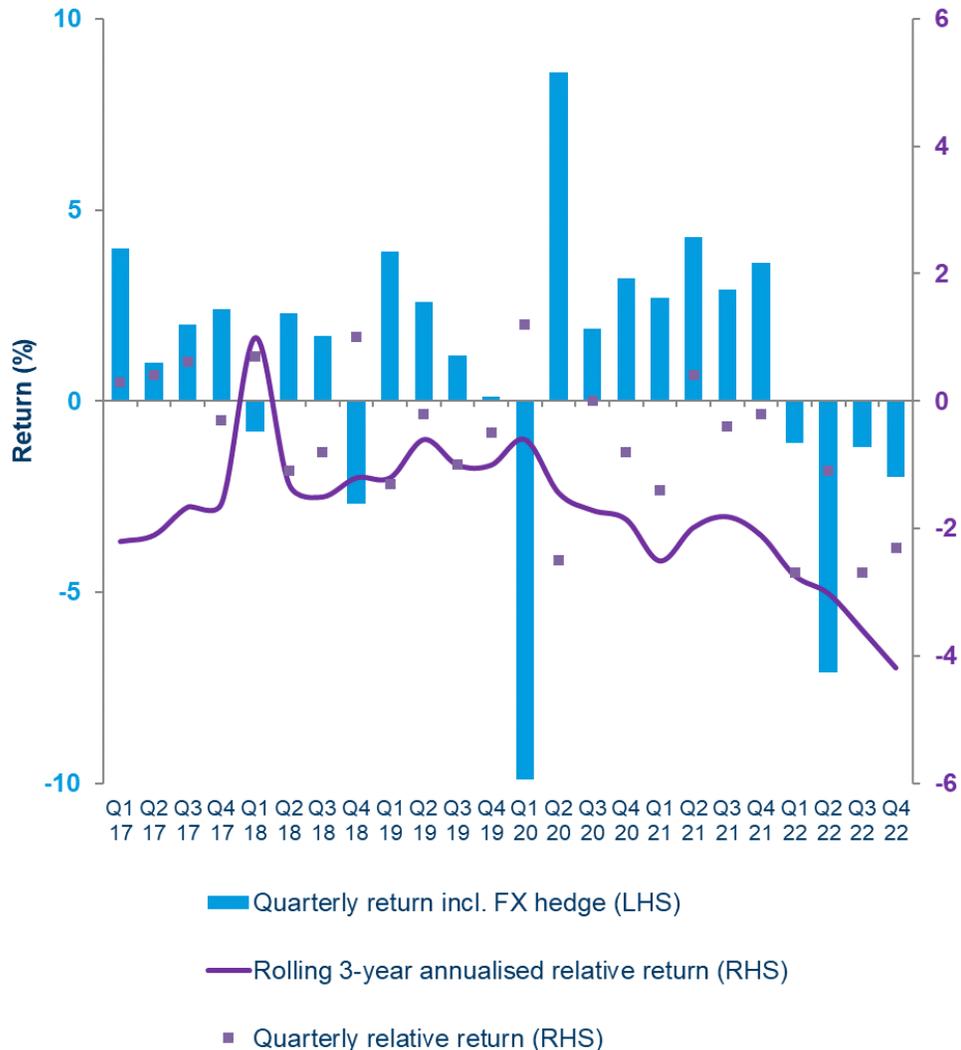


- As at 31 December 2022, if a 1-in-20 'downside event' occurred over the next three years, the funding position could deteriorate by at least an additional **£1.2bn**.
- Each bar to the left of the total represents the contribution to this total risk from the primary underlying risk exposures (interest rates and inflation, changes in credit spreads, volatility of alternative assets and equity markets, and the benefit from equity options).
- Overall **the VaR decreased over the quarter**, due to the fall in absolute value of the Fund's assets and decreases in underlying volatility assumptions for the equity and credit assets.

Performance Summary

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Total Fund Performance



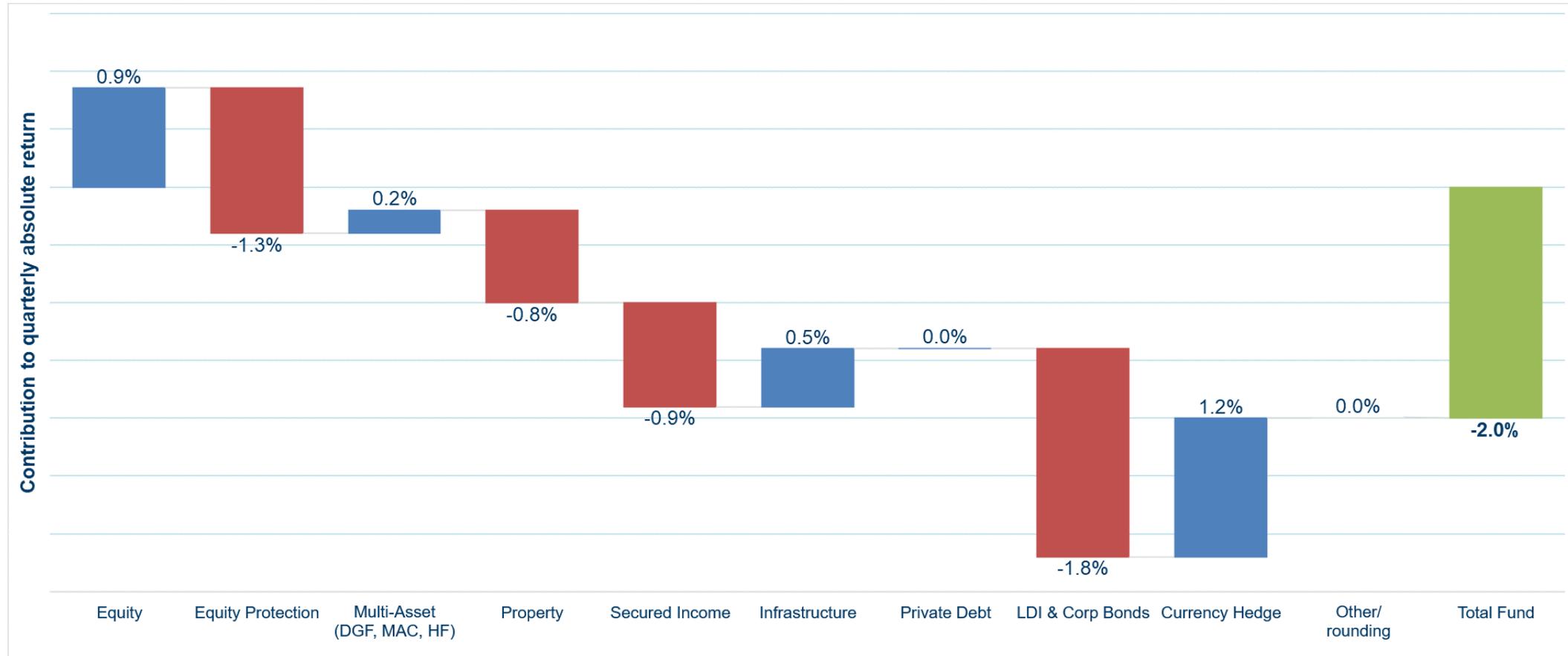
	3 Months (%)	1 Year (%)	3 Years (% p.a.)
Total Fund (1)	-2.0	-11.0	1.5
Total Fund (ex currency hedge)	-3.2	-9.1	2.1
Strategic Benchmark (2) (ex currency hedge)	0.3	-2.8	5.7
Relative (1 - 2)	-2.3	-8.2	-4.2

Source: Custodian, Mercer estimates. Returns are net of fees.

Commentary

- As illustrated on the next slide, the fall in the value of Fund assets over the quarter was driven mainly by the contraction of the LDI assets, a detraction from the Equity Protection and valuation changes within property-related assets.
- The Currency Hedge added to returns amid the recovery to Sterling, whilst the Infrastructure assets continued to show resilience.
- Relative performance in Q4 was generally positive within Equity, Multi-Asset Credit and Infrastructure, but negative within Secured Income, Property and Private Debt.
- Drivers of underperformance over three years include the Equity Protection strategy (as we would expect given the positive performance from the physical equity holdings), Overseas Property and the Secured Income portfolio.

Total Fund Performance Attribution – Quarter



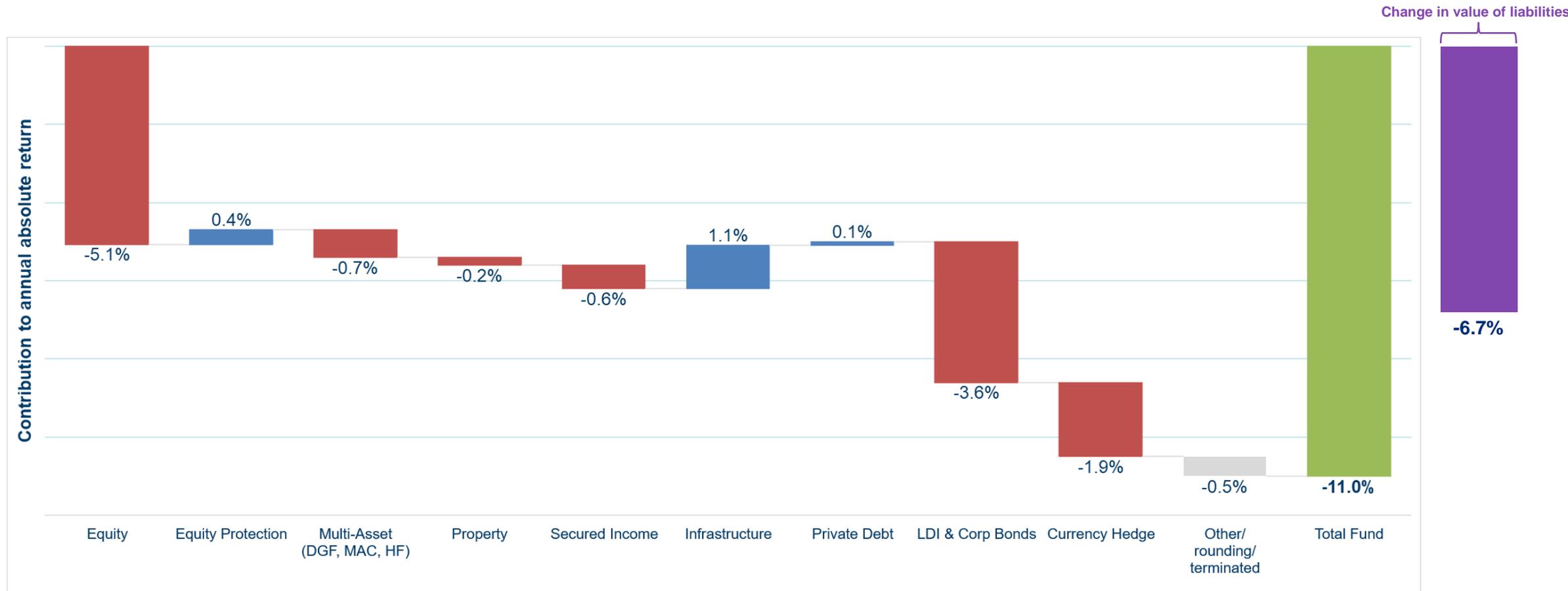
Source: Custodian and Mercer estimates

'Other' contributions to the total can include the relatively small holdings in the ETF, cash, the impact of cashflows and terminated mandates, as well as rounding.

The fall in the value of Fund assets over the quarter was driven mainly by the contraction of LDI assets, as inflation fell. There was also a negative impact on returns from the Equity Protection, and continued challenges to capital valuations within the Property and Secured Income portfolios.

This was offset by positive Equity performance, resilience within Infrastructure and the Currency Hedge overlay.

Total Fund Performance Attribution –1 Year



Source: Custodian and Mercer estimates

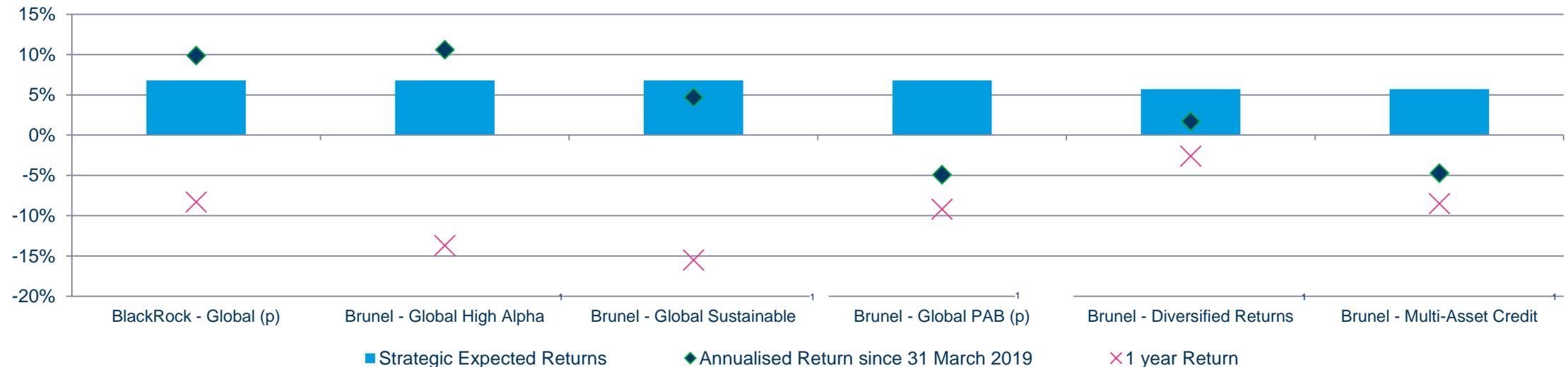
'Other' contributions to the total can include the relatively small holdings in the ETF, cash, the impact of cashflows and terminated mandates, as well as rounding.

The negative returns from equities, LDI and currency hedging were the main drivers of negative performance over the 1 year period.

The Infrastructure portfolio and the Equity Protection cushioned losses.

Performance vs. Expected Strategic Returns

	BlackRock Passive Global Equity	Brunel Global High Alpha	Brunel Global Sustainable	Brunel Passive Global PAB	Brunel Diversified Returns	Brunel Multi-Asset Credit
Benchmark allocation	4.0%	12.5%	15.0%	10.0%	6.0%	6.0%
Commentary	Returns above strategic expectations since inception, but below over the year. Mandate has tracked the underlying market.	Returns above expectations since inception, but below over the year. Relative performance has been weaker during general market rotations from Growth over the past couple of years.	Returns below expectations due to mandate underperformance since inception.	Returns below expectations due to equity market weakness since inception.	Returns below expectations due to weakness in growth asset markets since inception.	Returns below expectations due to the negative returns across fixed income markets in 2022.



Notes:

We have illustrated the performance of the key mandates within the Fund's investment strategy.

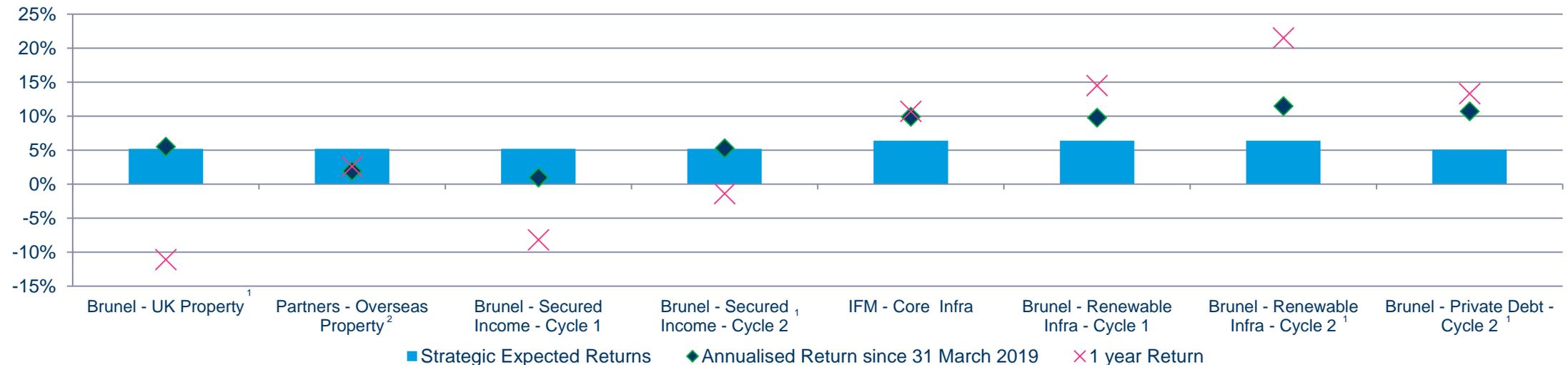
Actual returns are from 31 March 2019 to 31 December 2022, except if otherwise stated below. Returns for periods over a year have been annualised.

The strategic expected returns are from the 2019 strategy review, which reflect the 20 year mean Mercer Q1 2019 asset model assumptions.

¹ Mandate was incepted after 31 March 2019. A list of inception dates can be found in the Appendix.

Performance vs. Expected Strategic Returns

	Brunel UK Property	Partners Overseas Property	Brunel Secured Income	IFM Core Infra	Brunel Renewable Infra	Brunel Private Debt
Benchmark allocation	3.75%	3.75%	10.0%	5.0%	5.0%	5.0%
Commentary	Returns above strategic expectations due to property market strength in 2021 / early 2022, but one year returns are below due to recent signs of stress.	Returns below expectations. Generally the mandate's longer-term performance is stronger.	Returns marginally above expectations for cycle 2 but below for cycle 1, since inception. Recent challenges to property markets have eroded returns, hence the negative returns over the year. Mandates are still in the drawdown phase.	Returns above expectations thanks to strong portfolio returns and the continued general resilience of the asset class.	Returns above expectations for both cycles thanks to strong asset returns, especially within the cycle 2 assets (first drawdown in October 2021). Mandates are still in the drawdown phase.	Returns above expectations thanks to asset class resilience, including because of the exposure to inflation.



Notes:

We have illustrated the performance of the key mandates within the Fund's investment strategy.

Actual returns are from 31 March 2019 to 31 December 2022, except if otherwise stated below. Returns for periods over a year have been annualised.

The strategic expected returns are from the 2019 strategy review, which reflect the 20 year mean Mercer Q1 2019 asset model assumptions.

¹ Mandate was inception after 31 March 2019. A list of inception dates can be found in the Appendix.

² Returns are shown up to 30 September 2022, as this is the latest data available.

Mandate Performance to 31 December 2022

Manager / Asset Class	3 Months			1 Year			3 Year			3 Year Performance Target (% p.a.)**	3 Year Performance vs Target
	Fund (%)	B'mark (%)	Relative (%)	Fund (%)	B'mark (%)	Relative (%)	Fund (% p.a.)	B'mark (% p.a.)	Relative (% p.a.)		
BlackRock Passive Global Equity	2.0	1.9	+0.1	-8.3	-7.8	-0.5	8.1	8.4	-0.3	-	N/A (p)
Brunel Global High Alpha Equity	2.7	2.0	+0.7	-13.7	-7.4	-6.8	10.5	8.9	+1.5	+2-3	Target not met
Brunel Global Sustainable Equity	2.4	2.0	+0.4	-15.5	-7.6	-8.5	N/A	N/A	N/A	+2	N/A
Brunel Passive Global Equity Paris-Aligned	1.9	2.0	-0.1	-9.2	-9.2	0.0	N/A	N/A	N/A	-	N/A (p)
Brunel Diversified Returns Fund	1.0	1.4	-0.4	-2.6	4.4	-6.7	N/A	N/A	N/A	-	N/A
Brunel Multi-Asset Credit	3.7	1.7	+2.0	-8.5	5.5	-13.3	N/A	N/A	N/A	-	N/A
Brunel UK Property	-17.2	-13.4	-4.4	-11.1	-10.0	-1.2	N/A	N/A	N/A	-	N/A
Partners Overseas Property*	-1.0	2.5	-3.4	2.6	10.0	-6.7	0.2	10.0	-8.9	-	Target not met
Brunel Secured Income - Cycle 1	-9.7	2.7	-12.1	-8.2	10.5	-16.9	0.7	5.4	-4.5	+2	Target not met
Brunel Secured Income - Cycle 2	-8.8	2.7	-11.2	-1.4	10.5	-10.8	N/A	N/A	N/A	+2	N/A
IFM Core Infrastructure	5.5	1.9	+3.5	9.9	6.5	+3.2	8.5	5.7	+2.7	-	Target met
Brunel Renewable Infrastructure - Cycle 1	-0.1	2.7	-2.7	14.5	10.5	+3.6	10.5	5.4	+4.8	+4	Target met
Brunel Renewable Infrastructure - Cycle 2	10.1	2.7	+7.2	21.5	10.5	+10.0	N/A	N/A	N/A	+4	N/A
Brunel Private Debt - Cycle 2	-1.5	1.7	-3.1	13.3	5.4	+7.5	N/A	N/A	N/A	-	N/A
BlackRock Corporate Bonds	7.6	7.6	0.0	-30.6	-30.6	0.0	-9.4	-9.4	0.0	-	N/A (p)
BlackRock LDI	-12.4	-12.4	0.0	-26.9	-26.9	0.0	-1.7	-1.7	0.0	-	N/A (p)
Equity Protection Strategy	-3.4	N/A	N/A	0.4	N/A	N/A	-2.9	N/A	N/A	-	N/A

Source: Investment Managers, Custodian, Mercer estimates. Returns are net of fees. Returns are in GBP terms

Relative returns have been calculated geometrically (i.e. the portfolio return is divided by the benchmark return) rather than arithmetically.

A summary of the benchmarks for each of the mandates is given in the Appendix.

Green = mandate exceeded target. Red = mandate underperformed target. Black = mandate performed in line with target (mainly reflecting passive mandates).

Performance for Partners in IRR terms. Performance for IFM is in TWR terms.

Performance of the Equity Protection Strategy is estimated by Mercer based on the change in market value of the options over time, accounting for realised profit/loss upon rolling of the strategy.

*Partners performance is to 30 September 2022, as this is the latest data available.

**Where the outperformance target has not already been incorporated into the benchmark returns shown. See Appendix for further details.

Asset Allocation

6

Valuations by Asset Class

Asset Class	Start of Quarter (£'000)	End of Quarter (£'000)	Start of Quarter (%)	End of Quarter (%)	Benchmark (%)	Ranges (%)	Relative (%)
Global Equity*	1,328,632	1,363,750	24.8	26.1	16.5	11.5 - 21.5	+9.6
Global Sustainable Equity	733,562	751,503	13.7	14.4	15.0	10 - 20	-0.6
Paris-Aligned Equity	256,262	261,256	4.8	5.0	10.0	5 - 15	-5.0
Diversified Returns Fund	481,942	336,229	9.0	6.4	6.0	4 - 10	+0.4
Fund of Hedge Funds**	58,096	33,548	1.1	0.6	-	No set range	+0.6
Multi-Asset Credit	285,847	296,478	5.3	5.7	6.0	3 - 9	-0.3
Property	393,148	351,548	7.3	6.7	7.5	5 - 10	-0.8
Secured Income	498,032	447,365	9.3	8.6	10.0	0 - 15	-1.4
Core Infrastructure	434,221	457,903	8.1	8.8	5.0	2.5 - 7.5	+3.8
Renewable Infrastructure	127,711	148,589	2.4	2.8	5.0	0 - 7.5	-2.2
Private Debt	95,518	130,210	1.8	2.5	5.0	0 - 7.5	-2.5
Corporate Bonds	126,403	166,062	2.4	3.2	2.0	No set range	+1.2
LDI & Equity Protection	603,696	427,177	11.3	8.2	12.0	No set range	+3.8
Other***	-58,164	59,967	-1.1	1.1	-	0 - 5	+1.1
Total	5,365,047	5,231,441	100.0	100.0	100.0		

Source: Custodian, Investment Managers, Mercer. Red numbers indicate the allocation is outside of tolerance ranges.

Totals may not sum due to rounding and other residual holdings.

*Includes synthetic exposure to this asset class, although in practice the physical assets would be located within the LDI allocation. As at 31 December, the synthetic exposure amount to c. £334m.

**Mandate due to be terminated.

***Valuation includes the internal cash, the ETF and currency instruments.

The deviations from target for Global Equity and Paris-Aligned Equity are because assets were transferred from the latter to the former to support the BlackRock QIF. In aggregate the Equity portfolio was only overweight by 3.9%.

The overweight to Core Infrastructure reflects its stronger relative recent performance. Whilst it is offset somewhat by the underweight to Renewable Infrastructure, rebalancing action has been taken with the disinvestment of £150m, which settled in January.

Valuations by Manager

Manager	Asset Class	Start of Quarter (£'000)	Cashflows (£'000)	End of Quarter (£'000)	Start of Quarter (%)	End of Quarter (%)
BlackRock	Global Equity*	678,367	-68,000	676,430	12.6	12.9
Brunel	Global High Alpha Equity	635,774		652,832	11.9	12.5
Brunel	Global Sustainable Equity	733,562		751,503	13.7	14.4
Brunel	Passive Global Equity Paris Aligned	256,262	-28	261,256	4.8	5.0
Brunel	Diversified Returns Fund	481,942	-149,895	336,229	9.0	6.4
JP Morgan	Fund of Hedge Funds	58,096	-20,153	33,548	1.1	0.6
Brunel	Multi-Asset Credit	285,847		296,478	5.3	5.7
Brunel	UK Property	213,281	-28	176,514	4.0	3.4
Partners	Overseas Property	167,737	-3,149	161,741	3.1	3.1
Brunel	Secured Income – Cycle 1	372,574	-2,853	333,634	6.9	6.4
Brunel	Secured Income – Cycle 2	125,458	-698	113,731	2.3	2.2
IFM	Core Infrastructure	434,221		457,903	8.1	8.8
Brunel	Renewable Infrastructure – Cycle 1	90,944	5,402	96,397	1.7	1.8
Brunel	Renewable Infrastructure – Cycle 2	36,767	8,473	49,460	0.7	0.9
Brunel	Renewable Infrastructure – Cycle 3	-	2,732	2,732	-	0.1
Brunel	Private Debt – Cycle 2	95,518	22,455	119,080	1.8	2.3
Brunel	Private Debt – Cycle 3	-	11,035	11,130	-	0.2
BlackRock	Corporate Bonds	126,403	30,000	166,062	2.4	3.2
BlackRock	LDI & Equity Protection	603,696	245,000	427,177	11.3	8.2
Record	Currency Hedging (incl. collateral)	-125,946	50,000	- 5,216	-2.3	- 0.1
BlackRock	ETF	1,980		1,993	0.0	0.0
Internal Cash	Cash	78,853	18,421	96,718	1.5	1.8
Total		5,365,047	-28,396	5,231,441	100.0	100.0

Source: Investment Managers, Mercer. Totals may not sum due to rounding and other residual holdings.

The cashflow column shows only the cash movements within the asset portfolio. It does not include non-investment cash movements such as employer contributions or pension payments made, however these amounts are included in the 'Internal Cash' start and end balance to reflect the asset value position of the total Fund.

*Includes synthetic exposure to this asset class, although in practice the physical assets would be located within the LDI allocation. As at 31 December, the synthetic exposure amount to c. £334m.

Current Topics



Current Topics

Investment Insights

Cashflow Position

- We have seen an increase in schemes that opt for distribution rather than reinvestment of income assets (i.e. credit), to supplement cash flows.
- Negative cash flow adds complexity to investment strategies due to dual imperatives of capital preservation and cash-flow management. There is additional risk in that a large disinvestment may be necessary after a market fall (September 2022), and can be a permanent crystallisation of the loss.

Figure 1. Proportion of schemes that are cash-flow negative

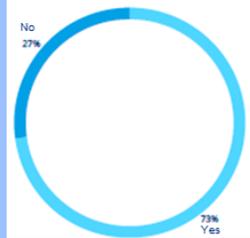
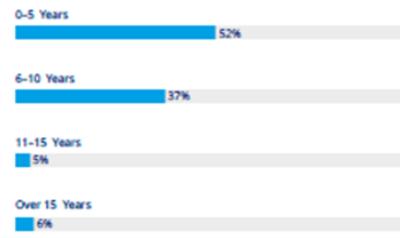


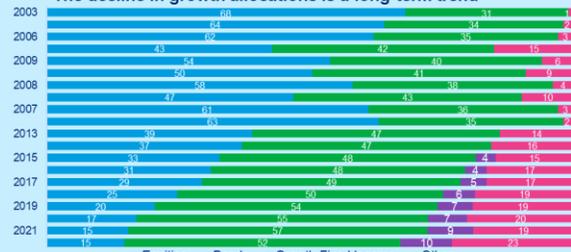
Figure 2. Expected time for cash-flow-positive schemes to become cash-flow negative



Scheme De-Risking

- The direction of travel for most schemes is to de-risk from growth into matching assets over time, and increase hedge ratios as opportunities arise.
- This helps prepare the scheme for the endgame, which in most cases is to move to a self-sufficient position and eventual buy out.

The decline in growth allocations is a long-term trend



Source: The Purple Book

Themes and Opportunities 2023 - Déjà New

History Rhyme

Resources conflict, weak growth, soaring inflation, and unconventional fiscal policy leave investors looking to the lessons of yesteryear on how to be equipped for whatever comes next. With the withdrawal of liquidity, markets will have to stand on their own two feet, increasing the value of capital.

Position for Transition

The decline in commodity availability has highlighted the need for energy security, energy innovation and a long overdue overhaul of ageing infrastructure. Necessity is the mother of invention, and our current challenges will drive the next wave of technologies in energy, the environment, healthcare, and beyond.

Degrees of Freedom

'Degrees of freedom' is mathematics speak for wiggle room. This theme speaks to the power of quality governance: the ability to capitalise on opportunities, the capacity to make and manage sophisticated investments, particularly in private markets, and the potential to dynamically diversify.

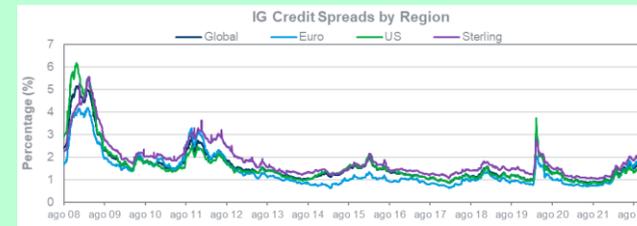
Investment Strategy - Income

- It is critical for schemes in negative cash-flow territory to avoid permanent losses in capital. As such, the scheme should try to avoid sales of assets (equity, credit) in times of market stress such as have been witnessed in recent months.
- An increase in the allocation to income generation assets presents a more stable flightpath, and wider credit spreads over 2022 present an attractive entry point for many investors.
- Some income assets are 'semi-liquid' in terms of capital, which needs to be considered carefully in today's environment, however they may still have a role in generating high levels of predictable income.

Schemes can reduce volatility via income assets



Credit spreads widened in 2022 as markets declined



Relevance to the Fund



The Fund reviewed the level of income generation within the portfolio. As part of this, it was confirmed that the Fund is currently cashflow negative, although the majority of this gap is expected to be covered by income from assets.

It was agreed that exploratory discussions could take in due course with Brunel regarding the possibility of starting to receive income from the Equity and MAC portfolios..



The Fund receives frequent updates on market developments and prospects. The Fund has exposure to assets that are positioned for the transition. The Fund has a degree of dynamism through the Equity Protection strategy.

Appendix

Q4 2022 Equity Market Review

Global equity markets returns were positive in October and November. Positive sentiment was driven by a tentative slowdown in inflation and resilient economies.

In December, equity markets gave back some of their gains as major central banks reiterated their hawkish messaging.

Global Equities returned 7.5% in local currency terms (but 2.1% in sterling terms as the the dollar depreciated versus sterling).

US equities returned 7.2% in local terms, whilst European (ex-UK) equities returned 11.6%. Japanese equities returned 3.0%.

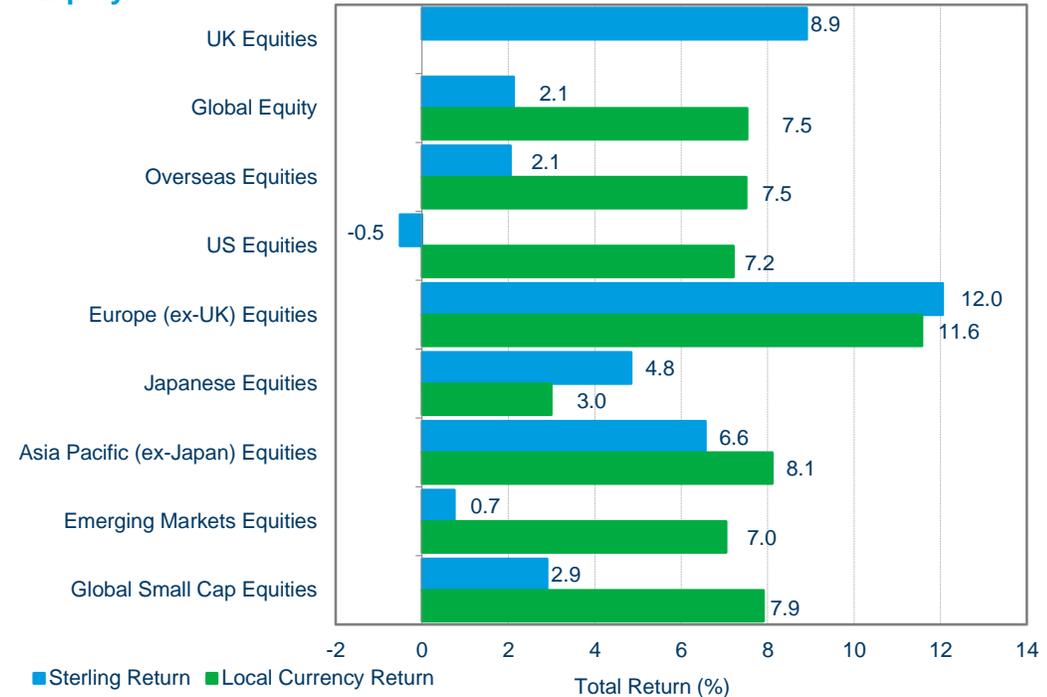
Emerging markets ('EM') equities 7.0% in local terms.

Global small cap stocks returned 7.9% in local terms. Small caps slightly outperformed global equities due to their lower implied duration but remain vulnerable in a recessionary environment due to their cyclical nature.

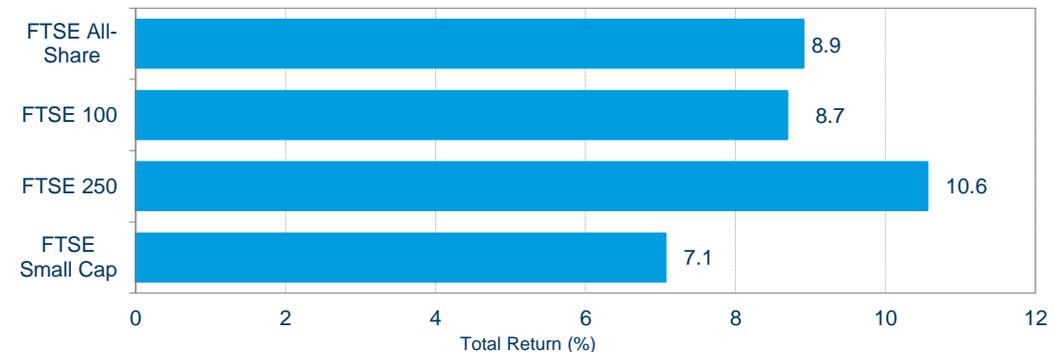
The **FTSE All Share** index returned 8.9% over the quarter with the large cap **FTSE 100** index returning 8.7%. Sentiment towards the UK improved considerably over the quarter, partly due to positive global momentum but also as political stability returned and energy prices fell. The **FTSE 250** therefore outperformed the FTSE 100 and FTSE All Share by a wide margin.

This made **UK large** and **mid-cap** stocks the second best performer for major developed equity markets, after Europe ex UK.

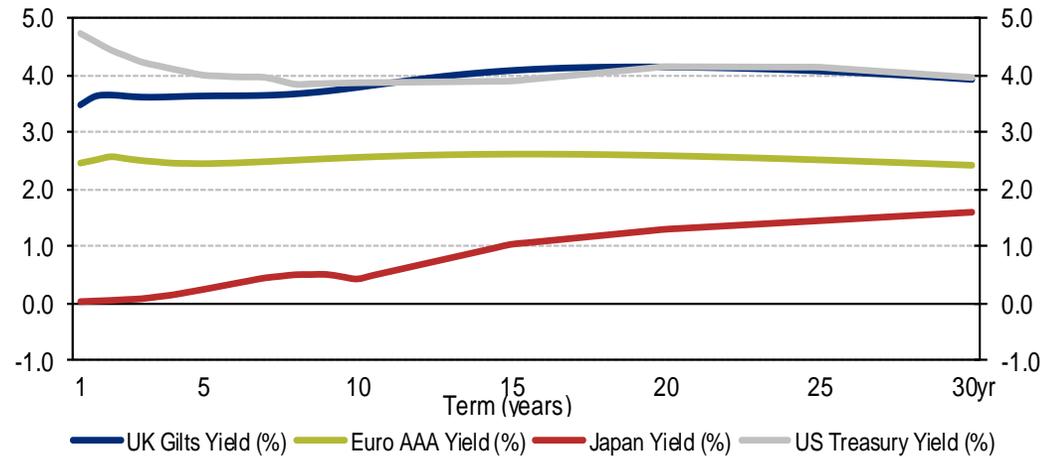
Equity Performance



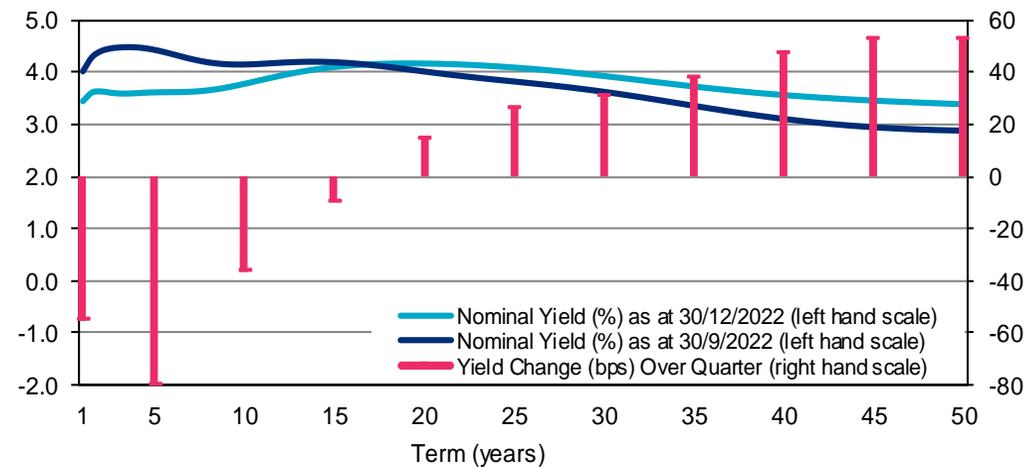
FTSE Performance by Market Cap



Q4 2022 Bond Market Review



Source: Mercer and Bloomberg.



Source: Mercer.

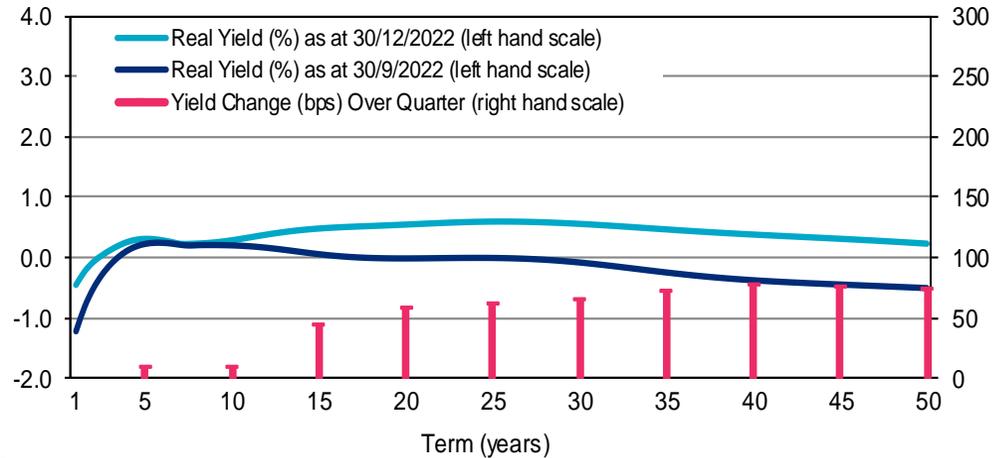
Government Bond Yields

Global government bond yields moved in different directions across regions. In the UK, curves steepened as short-dated bond yields fell and longer dated maturities rose. In the US, the curve remained inverted with short dated bond yields much higher than longer dated bond yields. 2-year yields in the UK fell -66bps and rose 14bps in the US. 10-year gilt yields fell by 42bps while US 10-year treasury yields rose by 5bps.

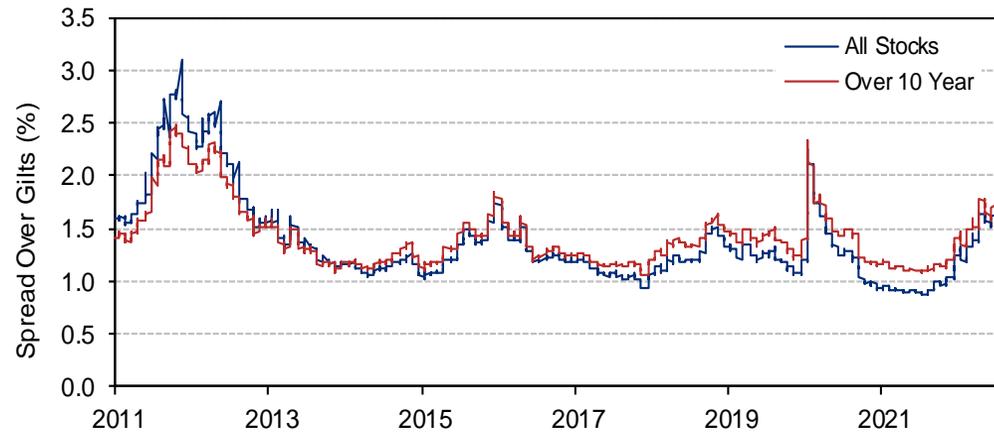
Both the Fed and the Bank of England raised interest rates over the quarter several times and are expected to continue to tighten policy into 2023. In particular, the Bank of England, raised rates twice by a total of 1.25% to 3%. The BoE was also still active in the gilt market early on in the quarter following the gilt-market crisis at the end of Q3.

Eurozone yields also rose significantly; the European Central Bank raised rates twice over the quarter. It primed markets that further hikes would likely follow in 2023.

Q4 2022 Bond Market Review



Source: Mercer.



Source: Refinitiv.

UK Index-Linked Gilt Yields

UK real yields rose across the curve. Real yields for all but the shorted durations are now positive. Market based measures of inflation expectations, in the form of breakeven inflation, fell over the quarter. The UK 10-year breakeven rate fell to 3.6%, 54bps lower than at the end of last quarter as markets expect inflation to peak as tighter monetary policy takes effect and energy prices have stabilized for now.

Corporate bonds

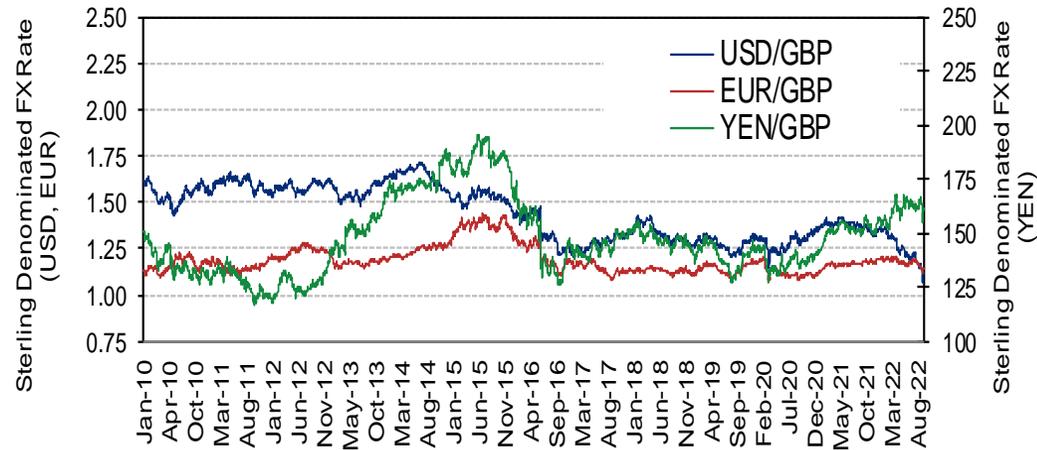
Spreads on UK investment grade credit tightened and outperformed equivalent duration government bonds. This was in line with the positive performance seen elsewhere in risk assets such as equities.

Q4 2022 Currency Market Review

Sterling's performance over the quarter was mixed. It appreciated sharply versus the US dollar driven by general dollar weakness but depreciated slightly versus euro and yen as the inflation outlook turned more favorable for the Eurozone and for Japan relative to the UK.

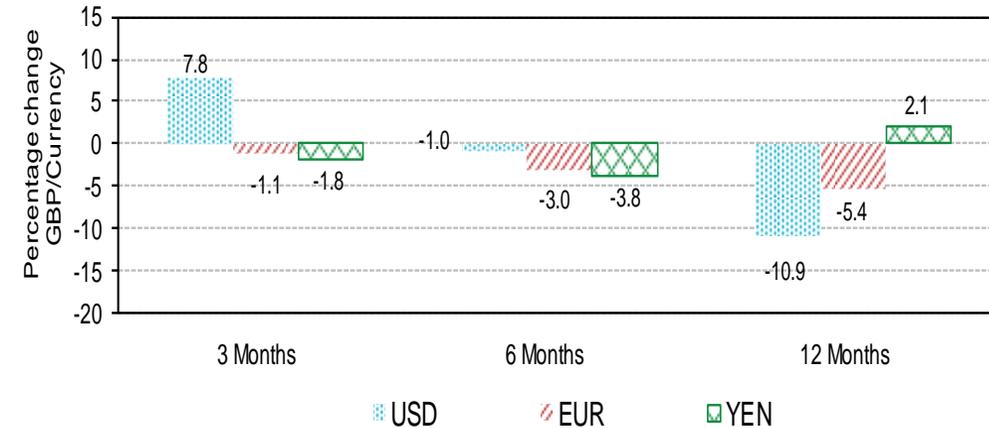
On a 12-months basis, sterling has depreciated considerably versus US dollar and euro but has strengthened slightly versus yen.

Sterling Denominated FX Rate



Source: Refinitiv.

Change in sterling against foreign currencies



Source: Refinitiv.

Q4 2022 Property

UK property as measured by the MSCI Index decreased by 14.5% over the quarter.

Summary of Mandates

Manager	Mandate	Benchmark/Target	Outperformance Target (p.a.)	Inception Date
BlackRock	Passive Global Equity	MSCI World	-	December 2017
Brunel	Global High Alpha Equity	MSCI World	+2-3%	November 2019
Brunel	Global Sustainable Equity	MSCI AC World	+2%	September 2020
Brunel	Passive Global Low Carbon Equity	MSCI World Low Carbon	-	July 2018
Brunel	Passive Global Equity Paris Aligned	FTSE Developed World PAB Index	-	October 2021
Brunel	Diversified Returns Fund	SONIA +3-5% p.a.	-	July 2020
Brunel	Multi-Asset Credit	SONIA +4-5% p.a.	-	June 2021
Brunel	UK Property	MSCI/AREF UK Quarterly Property Fund Index	-	January 2021
Partners	Overseas Property	Net IRR of 10% p.a. (local currency)	-	September 2009
Brunel	Secured Income	CPI	+2%	January 2019
IFM	Core Infrastructure	SONIA +5% p.a.	-	April 2016
Brunel	Renewable Infrastructure	CPI	+4%	January 2019
Brunel	Private Debt	SONIA + 4% p.a.	-	September 2021
BlackRock	Buy-and-Maintain Corporate Bonds	Return on bonds held	-	February 2016
BlackRock	Matching (Liability Driven Investing)	Return on liabilities being hedged	-	February 2016
Record	Passive Currency Hedging	N/A	-	March 2016
BlackRock	Exchange-Traded Fund (ETF)	Bespoke benchmark to reflect total Fund allocation	-	March 2019
Cash	Internally Managed	-	-	-

Market Background Indices

Asset Class	Index
UK Equity	FTSE All-Share
Global Equity	FTSE All-World
Overseas Equity	FTSE World ex UK
US Equity	FTSE USA
Europe (ex-UK) Equity	FTSE World Europe ex UK
Japanese Equity	FTSE Japan
Asia Pacific (ex-Japan) Equity	FTSE World Asia Pacific ex Japan
Emerging Markets Equity	FTSE AW Emerging
Global Small Cap Equity	MSCI World Small Cap
Hedge Funds	HFRX Global Hedge Fund
High Yield Bonds	BofA Merrill Lynch Global High Yield
Emerging Market Debt	JP Morgan GBI EM Diversified Composite
Property	IPD UK Monthly Total Return: All Property
Commodities	S&P GSCI
Over 15 Year Gilts	FTA UK Gilts 15+ year
Sterling Non Gilts	BofA Merrill Lynch Sterling Non Gilts
Over 5 Year Index-Linked Gilts	FTA UK Index Linked Gilts 5+ year
Global Bonds	BofA Merrill Lynch Global Broad Market
Global Credit	Barclays Capital Global Credit
Eurozone Government Bonds	BofA Merrill Lynch EMU Direct Government
Cash	BofA Merrill Lynch United Kingdom Sterling LIBOR 3 month constant maturity

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