REDINGTON

West Midlands Pension Fund

YOUR MARKET AND INVESTMENT UPDATE

Q3 2022

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WHAT HAPPENED DURING THE QUARTER

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Market Summary

The combination of central banks hiking rates to combat inflation and market expectations that they will be successful in reducing inflation has led to rapid rises in real yields across the world and poor performance from most risk assets. When the UK added a now reversed policy mistake to the mix it led to very high volatility in real yields, with moves in both directions that would normally be observed in several years occurring in just a few days.

This led to vastly increased demand for asset liquidity and the need for Bank of England intervention to ensure an orderly market and to act as a lender of last resort to solvent entities.

Key Points for You

- Expected returns decreased slightly over the quarter from Gilts + 3.4% at 30 June 2022 to Gilts + 3.3% at 30 September 2022. This was largely driven by a lower expected return assumption for property assets.
- Asset-side risk, as measured by VaR 95%, decreased slightly from 16.0% at 30 June 2022 to 15.7% at 30 September 2022.

Market Data

Equity Index	Level	Change since 30-Jun-22	Change since 30-Sep-21
FTSE 100	7046	-2.7%	0.9%
S&P 500	7603	-4.9%	-16.5%
EuroStoxx 50	1487	-3.7%	-15.3%
Nikkei 225	44471	-0.8%	-10.0%
MSCI World	5804	-4.4%	-15.5%
MSCI Emerging Markets	589	-8.2%	-21.5%
FX			
USD vs GBP	1.12	-8.3%	-17.1%
EUR vs GBP	1.14	-1.9%	-2.1%
JPY vs GBP	161.6	-2.2%	7.8%
Credit Spreads			
Sterling Non-Gilt Index	135	8 bps	63 bps
Sterling Non-Gilt 15Y+ Index	188	-7 bps	52 bps
Global Investment Grade	161	6 bps	78 bps
US Investment Grade	183	12 bps	89 bps
Global High Yield	513	-15 bps	179 bps
European High Yield	456	-19 bps	185 bps

Market Data

UK Gilts	Level	Change since 30-Jun-22	Change since 30-Sep-21
10Y	4.19	188 bps	316 bps
30Y	3.71	115 bps	233 bps
UK Nominal Swaps			
10Y	4.65	206 bps	344 bps
30Y	3.71	130 bps	244 bps
Gilt Breakeven Inflation			
10Y	3.99	31 bps	12 bps
30Y	3.74	51 bps	21 bps
UK RPI Swap			
10Y	4.44	39 bps	41 bps
30Y	3.81	45 bps	25 bps
UK Gilt Real Rates			
10Y	0.20	156 bps	303 bps
30Y	-0.02	64 bps	211 bps
US TIPS			
20Y	2.06	71 bps	240 bps
30Y	1.56	67 bps	173 bps

VIEWS FROM THE ASSET CLASS SPECIALISTS

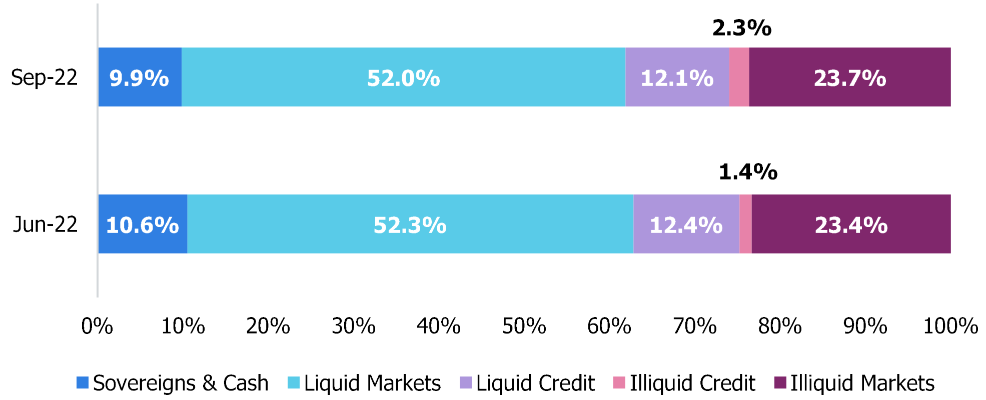
		**Kate Mijakowska** **Government Bonds**	In Q3 2022, at the 30-year point, nominal gilts rose by 126bps while breakeven inflation increased by 52bps, leaving 30yr real yields 75bps up on the quarter. In September, following the mini-budget announcement, long-dated gilt yields saw extreme levels of volatility. Over the 3 business days between 23rd and 27th September, 30-year real yields increased by 172bps. On 28th September by midday they had increased by a further 55bps. For context, historically the largest move over a single day since 1996 was 31bps. On 28th September the Bank of England intervened, which led to real yields falling 108bps from the previous close. As expected, where hedges remained in place, liabilities and LDI portfolio values moved in sync, leaving funding levels broadly unchanged. However, many pension schemes saw their LDI collateral buffers decrease at record speed. This posed a challenge, as LDI capital needed to be replenished much faster than would ordinarily be the case.
		**Oliver Wayne** **Liquid Markets (Equities)**	Over Q3, global developed markets ('DM') and emerging markets ('EM') both delivered negative absolute returns, somewhat driven by a large sell-off occurring at the end of the quarter. The significant weakening of the pound versus the dollar meant these sell-offs were far less pronounced in GBP terms. Similar to Q2, there were concerns about inflation and rising interest rates, with central banks reiterating their focus on fighting inflation. This was coupled with ongoing fears of recession. From a factor perspective, DM saw Momentum perform positively and Quality underperform. Value was the main laggard over the quarter, materially underperforming the benchmark and having now given up a large portion of its gains accumulated earlier in the year. It was a similar story in EM, with Momentum performing the strongest and Value lagging the index; however, Quality performed better in these markets.
		**Tom Wake-Walker** **Liquid Markets (Multi-Asset)**	Q3 offered little respite for broad risk assets used across multi-asset and liquid alternative strategies. Equities, bonds and commodities suffered substantial declines due to heightened concerns about inflation. As a consequence, multi-asset strategies with a long bias generally struggled, while performance across more relative-value-oriented portfolios was more mixed. We saw trend following continue to generate excellent returns, with exposure to USD as well as short bond positioning being particularly profitable. This helped performance for some diversified risk premia strategies, although equity style returns were dependent on relative exposure to the Value factor, which struggled over the quarter. Risk Parity detracted during the period, with returns of -6.27% for the HFRI Risk Parity Index, driven by both fixed income and inflation-sensitive assets. Within event-driven strategies, merger arbitrage performance was negative as spreads widened as a result of risk-off sentiment.

VIEWS FROM THE ASSET CLASS SPECIALISTS

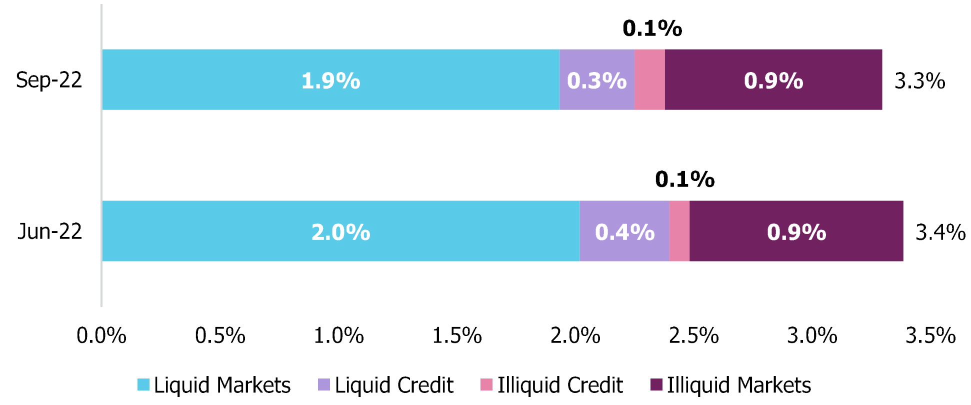
		**Chris Bikos** **Liquid & Semi-Liquid Credit**	Q3 started with a rally, but July's euphoria did not last long and summer blues hit credit markets by mid-August. Developed market central banks continued tightening their economic policies as inflation figures remained higher than expected and energy costs continued their climb higher, especially in Europe. Sterling investment grade and high yield ("HY") were the worst performers. US and European investment-grade credit fared better, with returns still negative as spreads and rates moved higher. HY markets (especially BBs & Bs) witnessed very little in the way of spread dispersion. European HY excess returns (versus equivalent government debt) were positive as credit spreads tightened over the period, but not enough to offset the impact of rate movements. The picture was similar in US HY. Across both sides of the Atlantic, leveraged loan prices declined as a combination of the asset class' unprecedented outperformance and recession concerns outweighed the benefits of a surge in interest rate expectations. US dollar strength and rising US treasury yields continued to put pressure on emerging market bonds, both hard and local currency. Attention has shifted towards corporate health as we enter the corporate reporting season, while UK politics remains a source of volatility in sterling credit and gilt markets.
		**Tricia Ward** **Illiquid Credit**	Amidst widespread volatility, private credit remained robust over Q3. With continued bank finance retrenchment and a 73% decline in IPO values for H1 2022 (Dealogic), private companies are increasingly turning to private credit partners. Elevated demand translated into a further 25-75 bps spread increase vs Q2 and improved issuance discounts, accompanying the natural yield pick-up from the floating reference rates. Downside protection remains the focus. Alongside tighter covenants, loan-to-value ratios were increasingly conservative. Importantly, interest coverage ratios for direct loans remained healthy at approximately 2.6x (Fitch) vs typical 3.0x targets, highlighting the relatively marginal effect to the borrower's cost of capital of all-in rate increases. Private credit secondary transactions offer limited partners a means of rebalancing exposures, while also providing visibility and shorter duration of underlying portfolios (typically 2-3 years) versus primary investments. In H1 2022, recently deployed vintages typically traded at 0-5% discounts. Indications for Q3 bid-offer spreads were 5-10 bps wider, but volumes were thin.
		**Sarah Miller** **Illiquid Markets**	The general expectation of 25-50 bps yield softening in UK real estate going into Q3 occurred, driven by rate rises, with the increased cost of debt impacting commercial developers and private homeowners. With the surge in gilt yields in the last week of September, there was significant upward pressure on property yields and downward pressure on valuations. Price softening will vary; however, with transaction volumes having slowed significantly from the summer onwards, there was limited evidence off which to base changes to valuations in Q3 NAVs – or to generate liquidity. From a fundamental perspective, the flight to quality was underway well before Q3, with investors focused on low vacancy rates, robust rental growth and strong ESG footprints. Residential real estate, particularly in rental, is expected to be one of the most resilient subsectors, supported by the ongoing structural housing supply shortfall, increased demand of post-COVID empty nesters and reduced mortgage availability and affordability.

YOUR ASSET ALLOCATION AND EXPOSURE

Asset Allocation Change

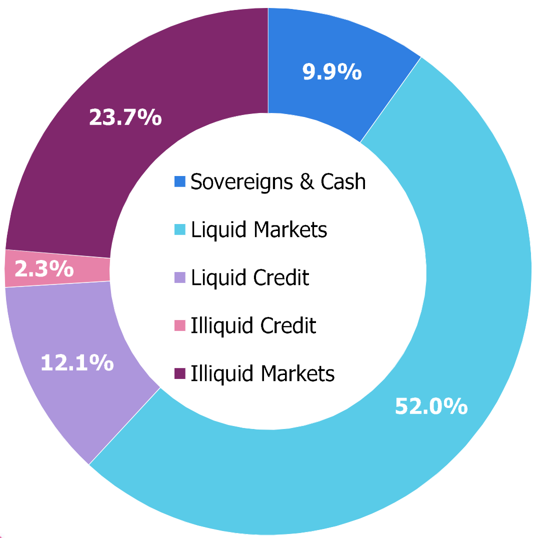


Expected Return Contribution Change (over gilts)



Note, asset class expected returns are in the appendix.

Detailed Asset Allocation

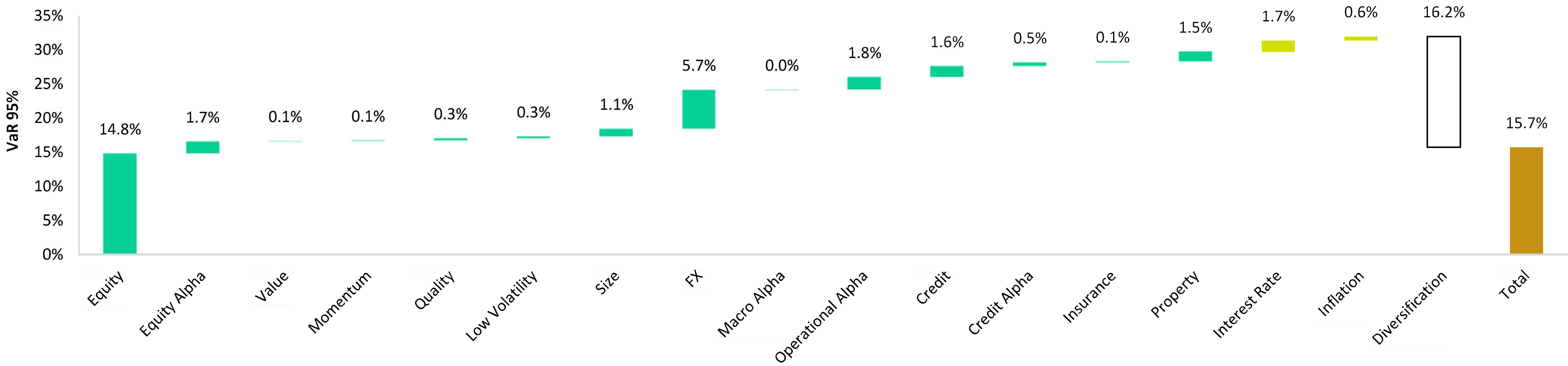


4.5% Cash
4.1% Index-Linked Gilts
0.7% Nominal Gilts
0.5% LGIM Overseas Bond Fund
6.0% ACS LGPS UK Equity Passive Fund
13.6% ACS LGPS Global Ex UK Passive Equity Fund
3.1% ACS LGPS Global Equity Dividend Growth Factor Fund
10.9% ACS LGPS All World Equity Climate Multi Factor Fund
6.0% LGPS Central Global Equity Multi Manager Fund
0.3% LGIM UK All Share
0.3% Equities held with Merrill Lynch
0.1% Smaller Equity Positions
2.4% Sustainable Equities - Impax
2.2% Sustainable Equities - RBC

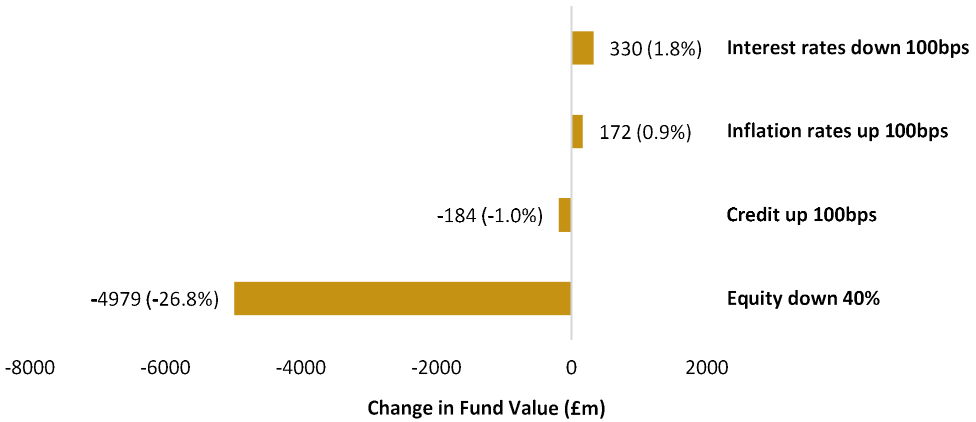
0.6% Sustainable Equities - WHEB
2.3% Emerging Markets Equities - AGF
2.6% Emerging Markets Equities - CTI
1.7% Emerging Markets Equities - Mondrian
1.5% Aegon Short Dated Investment Grade Bond Fund
2.7% UK Corporate Bonds
0.9% LGPS Central Global Active IG Corporate Bond Fund
3.4% Multi-Class Credit
3.7% Emerging Market Debt Funds
2.3% Schroders FOCUS II / LGPSC Private Credit
5.1% Infrastructure
8.4% Property
2.0% Opportunistic Funds
8.1% Private Equity

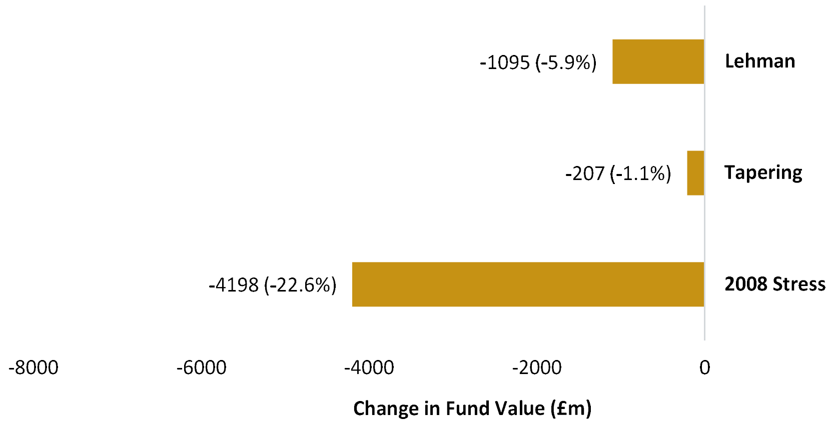
HELPING YOU UNDERSTAND YOUR RISK

Current Value-at-Risk 95% (Asset Only)



Scenario Analysis





APPENDICES

REDINGTON'S EXPECTED RETURNS – SEPTEMBER 2022

Asset Class	Expected Return (Gilts +)	Volatility	Expected Fees (p.a.)
Equity			
Developed Market Equities	3.5% –	16.9% –	0.0%-0.1%
Sustainable Equities	3.8% –	15.9% ↑	0.2%-0.4%
Emerging Markets Equities	4.1% –	20.3% ↑	0.1%-0.2%
Liquid Credit			
Corporate Debt GBP – Passive	1.8% ↑	6.0% ↑	0.1%-0.2%
Corporate Debt GBP – Active	2.2% ↑	6.1% ↑	0.2%-0.3%
Emerging Market Debt – Corporates	3.2% ↑	7.2% ↓	0.4%-0.6%
Emerging Market Debt – Local Currency Sovereign	4.4% –	13.9% ↓	0.5%-0.8%
Emerging Market Debt – Hard Currency Sovereign	3.4% ↑	8.4% ↓	0.5%-0.8%
Multi-Class Credit Global	4.8% ↑	8.4% ↓	0.4%-0.7%
Illiquid Credit			
Diversified Matching Illiquids (Uninvested)	2.3% ↓	7.0% ↓	0.3%-0.5%
Opportunistic Illiquid Credit	5.6% ↓	13.4% ↓	1.0%-1.5% (+ performance fee)
Securitised Opportunities	4.0% ↑	5.9% ↓	0.5%-0.7%
Special Situations	7.8% ↑	16.9% ↓	1.0%-1.5% (+ performance fee)
Illiquid Markets			
Private Equity	4.7% –	30.4% ↓	1.0%-1.5% (+ performance fee)
Commercial Property	2.0% ↓	11.8% –	0.4%-0.6%
Renewable Infrastructure (Whole Projects)	3.3% –	14.5% –	0.5%-0.7% (+ performance fee)

Fee data is estimated based on fees of preferred managers in each strategy. In practice, each fee would be negotiated for West Midlands and may be considerably lower.

GLOSSARY

Term	Description
Annual Management Charge (AMC)	The fee charged by the asset manager for managing the fund, typically expressed as an annual percentage on the invested assets. This excludes additional expenses, e.g. administrative costs, which when combined with the AMC make up a fund's total expense ratio (TER).
Credit Risk	The risk of financial loss as a result of the inability or unwillingness of an entity to make payments as they become due. Many types of relationships involve credit risk, such as those in which a company owes money to its suppliers (trade debt) or where a counterparty is required to make payments under a derivative contract (counterparty credit risk).
Credit Spread	The difference in the yield between two different bonds, due to different credit quality. The credit spread reflects the additional yield an investor can earn from taking incremental credit risk. Is it often quoted in relation to the yield on government bonds.
Inflation	The average rate at which prices (of products and services) increase over time. It gradually reduces the value of money over time – the higher the rate of inflation, the greater the erosion of value.
Risk Attribution	The process of attributing certain components of total risk to various sources such as inflation risk, credit risk, equity risk, etc.
Stress Testing	A tool used to assess a portfolio's exposure to large – but plausible – shocks. In the broadest sense, stress testing is a 'what if' exercise and can be modelled across various scenarios. For example, a stress test can be used to simulate the performance of a portfolio during 9/11, Black Monday and the Global Financial Crisis of 2007-08.
Value-at-Risk (VaR)	The minimum value that the Fund would expect to lose (at risk) for a given confidence level, over a given time horizon. We have used a 1-in-20 (i.e. 95%) confidence level. For example, if a portfolio's 95% 1-year VaR is £200 million, it would have a 5% chance (1-in-20) of suffering a loss over the year of £200 million or more.
Volatility	A measure of variability that is used as a common metric for risk. It represents the value of one standard deviation change in the value of an assets' return. Under certain assumptions, we are able to use this measure to calculate the probability of a given change in the value of the asset or portfolio.
Yield	The income return on an investment. It is based on the received cash flows of a security and is usually expressed as an annual percentage.
Yield Curve	A graphical representation showing the yields of a set of financial instruments by maturity. For example, the par interest rate swap curve or the UK Gilt curve.

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