Mercer

Risk management framework

Monthly Monitoring Report: 30 September 2022

Clwyd Pension Fund

October 2022

Nick Page FIA CERA

welcome to brighter

Overriding objectives

Stable and affordable contribution rate

Versus

Achieve returns in excess of CPI required under funding arrangements

Objectives are two-fold but conflicting

- Risk needs to be taken in order to achieve returns, but risk does not guarantee returns

Need to ensure a reasonable balance between the two objectives

- Do you need to take the same level of risk when 70% funded (say) as when 110% funded?

Executive summary

= as per or above expectations = to be kept under review = action required

Overall funding position at 30 September 2022

- Ahead of existing recovery plan
- Funding level above 100%

The funding position is 102% which is ahead of the target by around 9%. There is continuing uncertainty in the outlook for future returns and inflation which could impact on the future funding requirements.

Liability hedging mandate at 30 September 2022

- Insight in compliance with investment guidelines to 30 June
- Performed broadly in line with the benchmark over Q3
- Interest rate exposure increased from 20% to 50% due to trigger hits

11 interest rate triggers were breached in total over Q3 2022, driven by significant gilt market volatility in September. This led to further collateral being provided to the liability hedging mandate post month end.

Synthetic equity mandate at 30 September 2022

- Insight in compliance with investment guidelines
- Outperformed the benchmark over the month

A dynamic protection structure was implemented in late May 2018, with refinements made in November 2020. The TRS structure rolled on 23 May 2021 with no further changes to the strategy. No action required.

Currency hedging at 30 September 2022

- Currency hedging overlay implemented in the QIF in August 2019
- As at 31 August 2022, the market value of the currency hedge since inception on 22 August 2019 was -£23.0m

No action required.

Cash Plus Funds, collateral and counterparty position at 30 June 2022

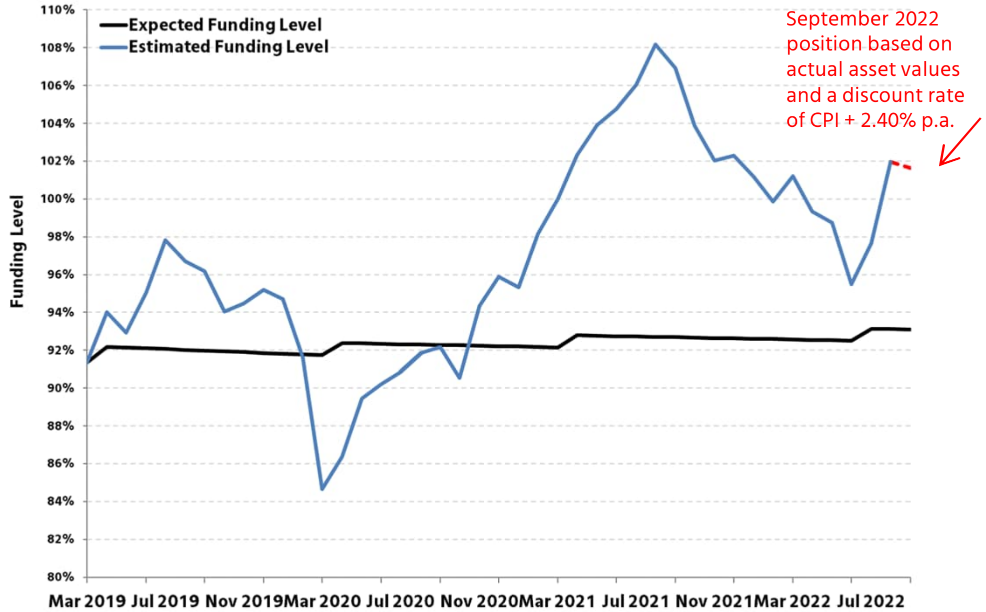
- The Cash Plus Fund has underperformed the benchmark since inception and also over the quarter. We will continue to monitor performance.
- The Insight QIF can sustain at least a 1.7% rise in interest rates or 1.1% fall in inflation without eliminating all headroom.

Overall, the collateral waterfall has returned £6.2m at 30 June 2022 since implementation at 31 January 2019 versus the previous structure.

The Fund has sufficient collateral to withstand the stresses as at 30 June 2022. No action required.

Funding level monitoring to 30 September 2022

Estimated funding position since 31 March 2019



The actual funding level figures include allowance for the impact of the McCloud judgment and GMP equalisation from 31 May 2021 plus the provisional 2022 valuation results from 30 September 2022.

Funding Level Triggers

Following a breach of the 100% soft trigger, it was concluded at the FRMG on 9 July 2021 that the funding level was not currently sufficiently high to warrant de-risking in a traditional sense via a change in long term strategy.

It was agreed that a new trigger will be put in place to prompt FRMG discussions regarding potential actions as the funding level approaches 110% on a consistent approach to the 2019 valuation funding basis. This funding level will be monitored approximately by Mercer on a daily basis.

Comments

The **black line** shows a projection of the *expected* funding level from the 31 March 2019 valuation based on the assumptions (and contributions) outlined as part of the 2019 actuarial valuation. The expected funding level at 30 September 2022 was around 93%.

The **blue line** shows an estimate of the progression of the funding level from 31 March 2019 to 31 August 2022. The **red dashed line** shows the progression of the estimated funding level over September 2022. At 30 September 2022, we estimate the funding level and surplus to be:

102% £36m

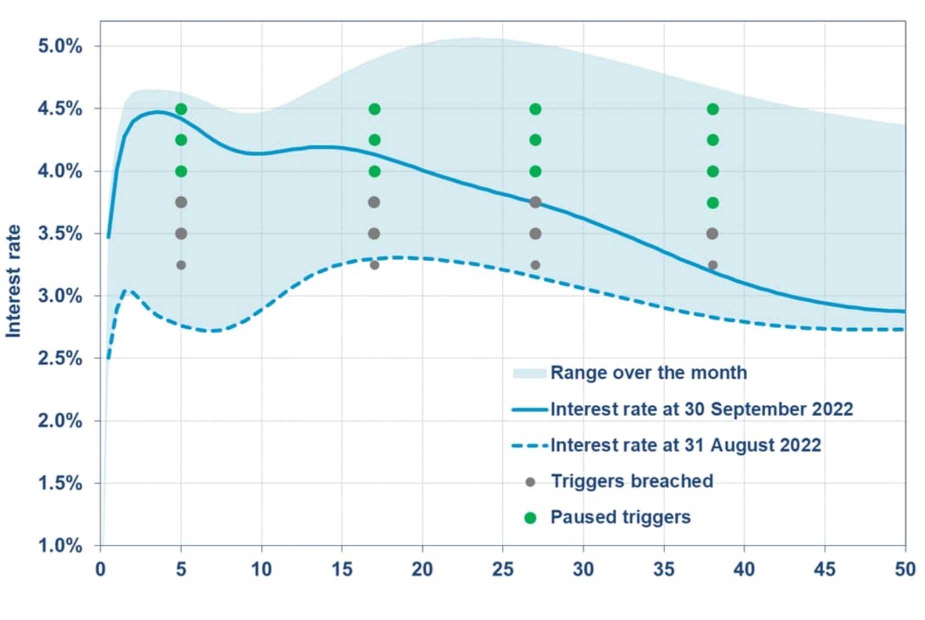
From 30 September 2022, we have allowed for the impact of the 2022 valuation outcomes based on the draft Funding Strategy Statement assumptions. The Fund's position was ahead the expected funding level based on the **2019 valuation** expectations at 30 September 2022 by around 9% on the current funding basis.

Uncertainty continues to be prevalent in the investment and fiscal environments due to the geo-political uncertainty and economic outlook – in particular inflation which has a direct impact on the Fund's liabilities. In particular when assessing the funding levels from 31 March 2022 onwards above, we have incorporated an allowance for observed inflation since September 2021 which will impact on the 2023 pension increase. For these funding levels we have also approximately allowed for the change in interest rate and inflation outlook when considering the appropriate discount rate as noted above.

The funding progression will be restated relative to the final 2022 valuation once the final contributions and assumptions are agreed which will be in March 2023.

Update on market conditions and triggers

Change in interest rates



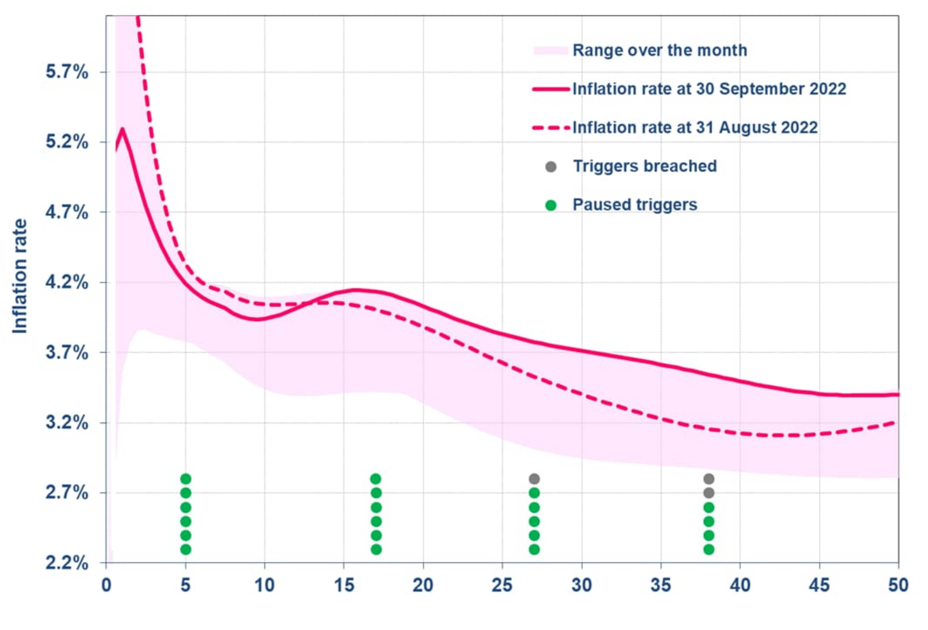
Date	Band 1	Band 2	Band 3	Band 4
30 September 2022	47.2%	50.9%	49.7%	48.7%

Comments

Over September, interest rates rose materially across the curve leading to increases in the interest rate hedge ratio from c. 20% to c. 50%.

Following the pace of hedge ratio increase, the Fund paused the interest rate trigger framework on 23 September 2022.

Change in inflation rates (note: different scale)



Date	Band 1	Band 2	Band 3	Band 4
30 September 2022	39.1%	22.2%	32.2%	58.0%

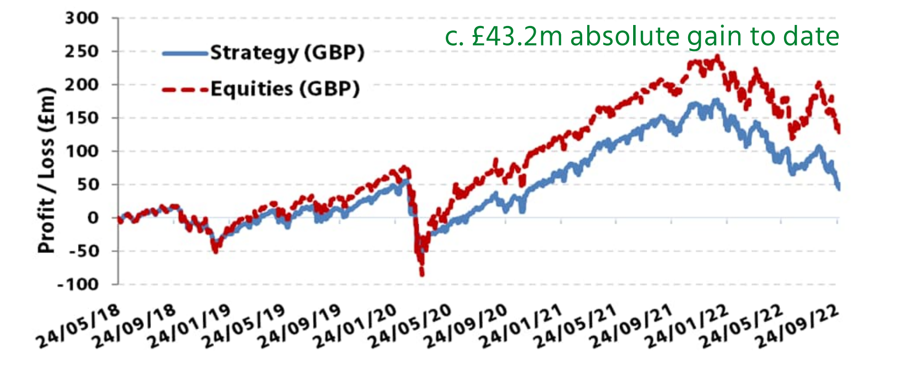
Comments

Inflation expectations rose at longer durations and fell at shorter durations over the period. The inflation hedge ratio is c. 40%.

Hedge ratios calculated with reference to 2019 valuation cash flow analysis and relying on a discount rate of gilts + 3.9% p.a..

Update on equity protection mandate

Strategy versus equity index

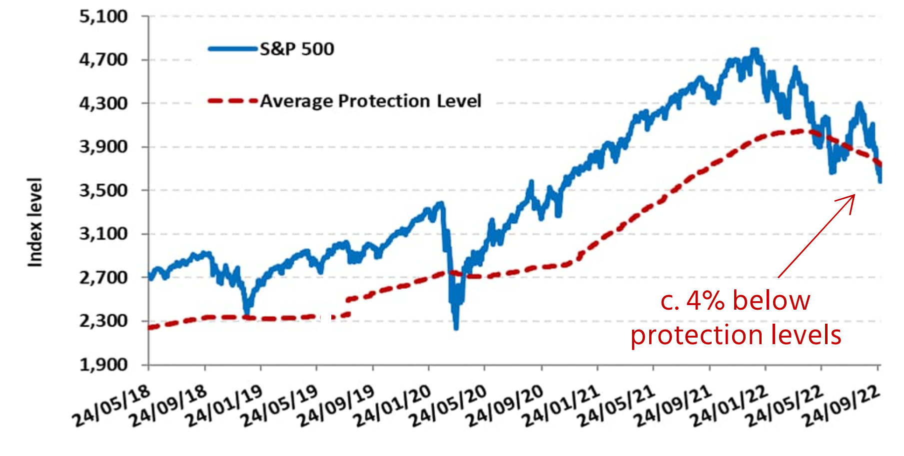


GBP returns	Equity return	Hedging return	Financing return	Costs	Overall return	Relative return
MTD	(10.9%)	3.3%	0.7%	(0.1%)	(6.9%)	4.0%
YTD	(29.2%)	4.6%	0.3%	(0.4%)	(24.7%)	4.5%
SI (per annum)	6.1%	(1.5%)	(1.5%)	(0.5%)	2.6%	(3.5%)

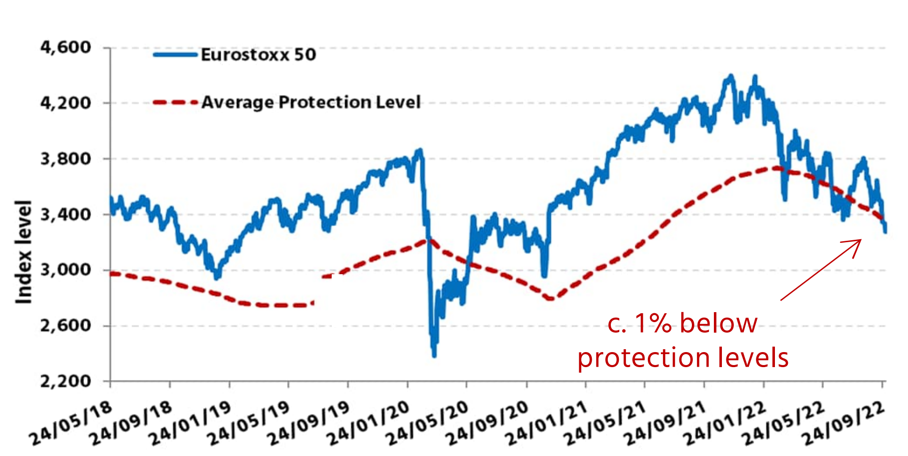
Comments

- The Fund implemented a dynamic equity protection strategy on 24 May 2018 with exposure of £362m. The equity protection strategy was revised in Q4 2020, increasing the call frequency to 2 weekly. This ensures that the Fund can participate in more upside as equity markets rise. The TRS structure was extended for a further 3 years on 23 May 2021 with no further changes to the strategy.
- Equity markets fell over September meaning the equity protection mandate detracted from returns, particularly on the hedging leg. There was a gain on both the hedging and financing legs over the month.
- The strategy has outperformed passive equities year to date. As at 30 September 2022, there was a gain of c. £43.2m on the strategy since inception.
- From inception on 8 March 2019 to 30 September 2022, the currency hedge of the market value of the synthetic equity mandate has resulted in a c. £21.3m loss relative to an unhedged position, as sterling has weakened at an overall level since inception.

US equity exposure



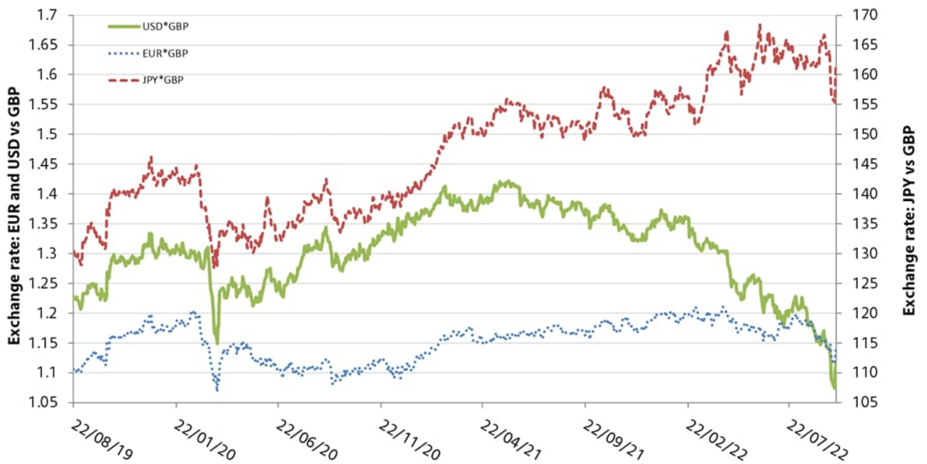
European equity exposure (note: different scale)



Mercer

Developed market physical equity currency hedge

Sterling denominated FX rate



Comments

- A currency hedge was placed on the physical, developed equity portfolio to lock-in gains from sterling weakness and reduce currency risk.
- The hedge has been implemented via a currency overlay, using 3 month forward contracts, within the Insight QIAIF. The hedge is updated quarterly to allow for changes in the underlying equity exposure.
- As at 30 September 2022, the market value of the currency hedge since inception on 22 August 2019 was -£23.0m.
- The market value of the currency hedge has fallen over September, driven predominantly by a weakening of sterling against the dollar. Sterling also weakened against the euro and strengthened slightly versus the yen.

	Currency basket weight	FX performance (since inception*)	FX change in performance since 31 August 2022
EUR	14%	£1.3m	(£0.4m)
JPY	7%	£3.9m	£0.1m
USD	79%	(£28.2m)	(£7.0m)
	100%	**(£23.0m)**	**(£7.3m)**

*Insight transacted on the currency hedge on 22 August 2019.

Figures may not sum due to rounding.

Mercer

Glossary

- **Actuarial Valuation** - The formal valuation assessment of the Fund detailing the solvency position and determining the contribution rates payable by the employers to fund the cost of benefits and make good any existing shortfalls as set out in the separate Funding Strategy Statement.
- **Collateral** – Liquid assets held by the Fund as security which may be used to offset the potential loss to a counterparty.
- **Counterparty** – Commonly an investment bank on the opposite side of a financial transaction (e.g. swaps).
- **Deficit** - The extent to which the value of the Fund's liabilities exceeds the value of the Fund's assets.
- **Dynamic protection strategy** – Strategy to provide downside protection from falls in equity markets where the protection levels vary depending on evolution of the market.
- **Equity option** – A financial contract in which the Fund can define the return it receives for movements in equity values.
- **Flightpath** - A framework that defines a de-risking process whereby exposure to growth assets is reduced as and when it is affordable to do so i.e. when "triggers" are hit, whilst still expecting to achieve the overall funding target.
- **Funding level** - The difference between the value of the Fund's assets and the value of the Fund's liabilities expressed as a percentage.
- **Funding & Risk Management Group (FRMG)** - A subgroup of Pension Fund officers and advisers set up to discuss and implement any changes to the Risk Management framework as delegated by the Committee. It is made up of the Clwyd Pension Fund Manager, Pension Finance Manager, Fund Actuary, Strategic Risk Adviser and Investment Advisor.
- **Hedging** - A strategy aiming to invest in low risk assets when asset yields are deemed attractive. Achieved by investing in government backed assets (or equivalent) with similar characteristics to the Fund future CPI linked benefit payments.
- **Hedge ratio** – The level of hedging in place in the range from 0% to 100%.
- **Insight QIAIF (Insight Qualifying Investor Alternative Investment Fund)** – An investment fund specifically designed for the Fund to allow Insight to manage the liability hedging and synthetic equity assets.

Important notices

References to Mercer shall be construed to include Mercer LLC and/or its associated companies.

This contains confidential and proprietary information of Mercer and is intended for the exclusive use of the parties to whom it was provided by Mercer. Its content may not be modified, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's prior written permission.

The findings, ratings and/or opinions expressed herein are the intellectual property of Mercer and are subject to change without notice. They are not intended to convey any guarantees as to the future performance of the investment products, asset classes or capital markets discussed. Past performance does not guarantee future results. Mercer's ratings do not constitute individualized investment advice.

Information contained herein has been obtained from a range of third party sources. While the information is believed to be reliable, Mercer has not sought to verify it independently. As such, Mercer makes no representations or warranties as to the accuracy of the information presented and takes no responsibility or liability (including for indirect, consequential or incidental damages), for any error, omission or inaccuracy in the data supplied by any third party.

This does not constitute an offer or a solicitation of an offer to buy or sell securities, commodities and/or any other financial instruments or products or constitute a solicitation on behalf of any of the investment managers, their affiliates, products or strategies that Mercer may evaluate or recommend.

For the most recent approved ratings of an investment strategy, and a fuller explanation of their meanings, contact your Mercer representative.

For Mercer's conflict of interest disclosures, contact your Mercer representative or see www.mercer.com/conflictsofinterest.

The analysis contained in this paper is subject to and compliant with TAS 100 regulations.

Mercer