

Market Price Monitor

Local Equity Markets

- Global equity markets had a mixed performance in September, as investors came to terms that rates may be staying higher for longer as central banks voiced their commitment to suppress inflation.
- The Euro Stoxx 50 index was down 2.8% in September, losing 4.8% in Q3.
- The FTSE 100 index gained 2.4% in September, returning 2.2% over the quarter.

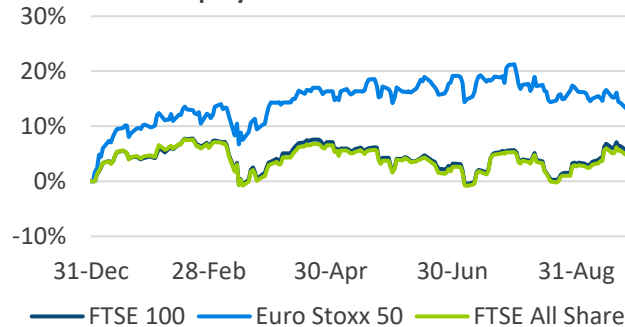
Global Equity Markets

- Developed markets had a mixed performance, with the S&P 500 down 4.8%, whereas the Topix index gained 0.5%.
- The MSCI Emerging Markets index declined by 2.6%.

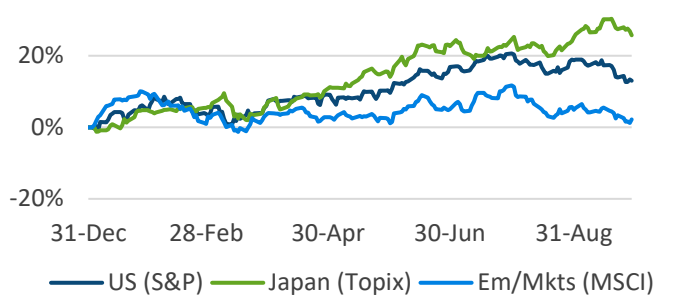
Bond/FX Markets

- The British government bond index ended the month down 1.0%, while the British corporate bond index remained flat.
- The global corporate bond index lost 2.7%.
- The British Pound had a negative performance in September, losing 3.8% against the US dollar, 1.2% against the Euro, and 1.1% against the Japanese Yen.

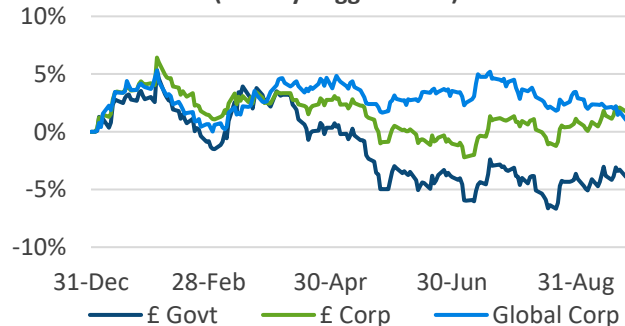
Local Equity Markets: 2023 YTD Total Return %



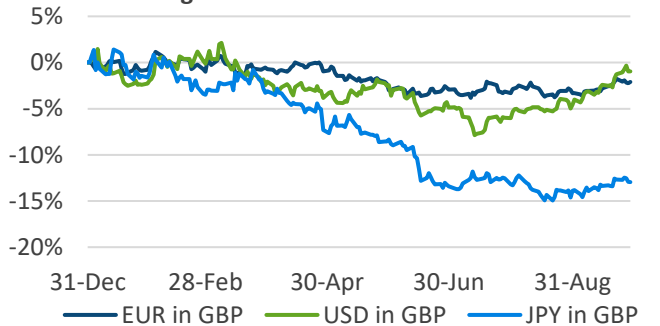
Global Equity Markets: 2023 YTD Total Return %



Bonds (Barclays Agg. Indices): 2023 YTD % Δ



Foreign Currencies in GBP: 2023 YTD % Δ



Total Returns as of September 29, 2023

	FTSE 100	FTSE All Share	Euro Stoxx 50	US (S&P)	Japan (Topix)	Em/Mkts (MSCI)	£ Govt	£ Corp	Global Corp	EUR in GBP	USD in GBP	JPY in GBP
1 Month	2.4%	1.8%	-2.8%	-4.8%	0.5%	-2.6%	-1.0%	0.0%	-2.7%	1.2%	3.8%	1.1%
3 Month	2.2%	1.9%	-4.8%	-3.3%	2.5%	-2.8%	-0.7%	2.2%	-2.7%	0.9%	4.1%	0.5%
1 Year	14.7%	13.8%	30.0%	21.6%	29.8%	12.2%	-3.0%	8.1%	6.1%	-1.2%	-8.4%	-11.3%
YTD	5.5%	4.5%	13.4%	13.1%	25.7%	2.2%	-4.6%	1.2%	0.7%	-2.1%	-1.0%	-13.0%

Milliman Financial Risk Management

London Market Monitor – 29 September 2023

Data sources: Bloomberg; Barclays; EIOPA; PRA; ONS; Milliman FRM

Insurance Monitor

Solvency II Risk Free Rates

- Short-term GBP risk-free rates decreased in September, whilst the rest of curve rose.
- The 1 and 5-year GBP risk-free rates declined by 30 and 16 basis points, respectively. In contrast, the 20 and 30-year rates increased by 25 and 30 basis points.
- EUR risk-free rates increased for all tenors in September though the increase was more pronounced for longer dated tenors.
- The 5 and 20-year EUR risk-free rates increased by 28 and 39 basis points, respectively.
- The EUR CRA was unchanged and remains floored at 10 basis points.

The Solvency II risk-free discount rates are calculated independently based on applying the Smith-Wilson Extrapolation to swap rates sourced from Bloomberg and applying the Credit Risk Adjustment as defined in the Technical Specs. For the official published curves please refer to [EIOPA](#) and [PRA](#) websites.

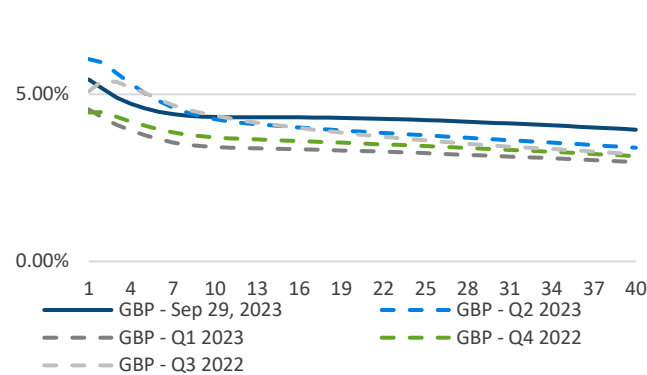
Solvency II Fundamental Spreads

- There were no material changes since the start of the year.

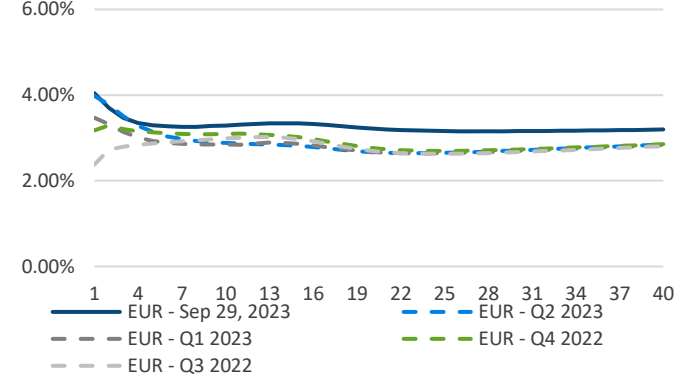
EIOPA fundamental spreads show the credit spread corresponding to the risk of default or downgrading of an asset. This is shown here across financial and non-financial assets, credit quality steps 0-3 and durations of 1-30 years. The data is provided by EIOPA.

Fundamental spread = maximum (probability of default + cost of downgrade; 35% of long-term average spread). For fundamental spreads on other tenors please refer to the [EIOPA](#) website.

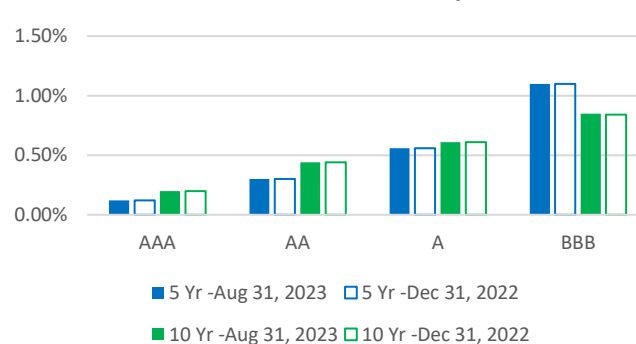
Solvency II Discount Rates - GBP



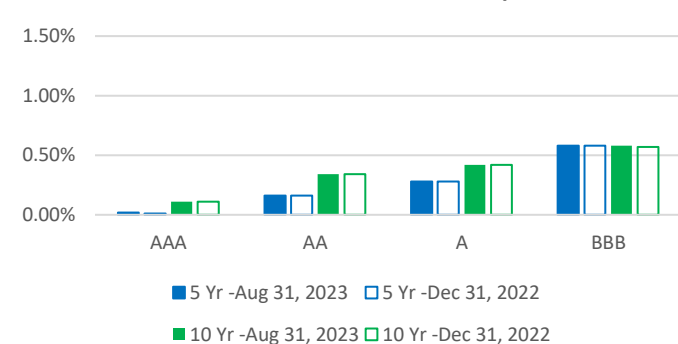
Solvency II Discount Rates - EUR



GBP Financial Fundamental Spreads



GBP Non-Financial Fundamental Spreads



Change in GBP Discount Rates (bps)

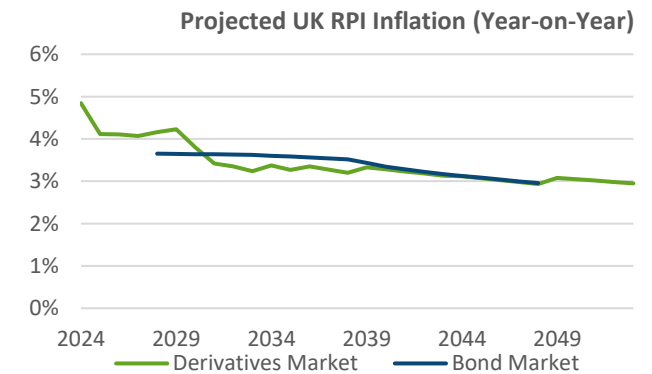
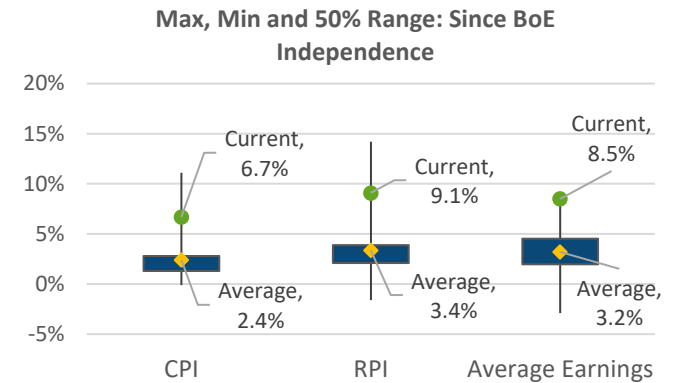
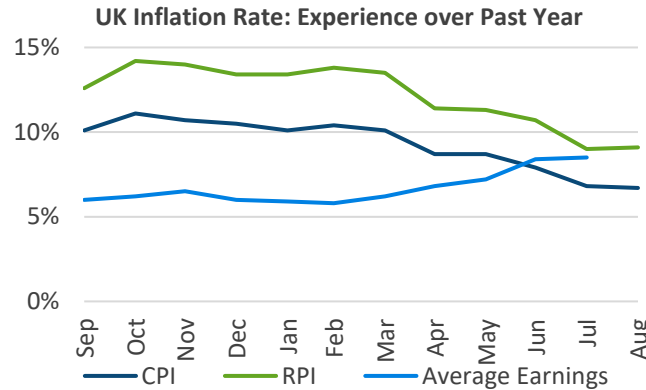
	1Y	Y5	Y10	Y20	Y30
Since Q2 2023	-61	-45	6	39	49
Since Q1 2023	89	80	90	98	99
Since Q4 2022	98	52	61	75	79
Since Q3 2022	35	-46	-5	48	68

Change in EUR Discount Rates (bps)

	1Y	Y5	Y10	Y20	Y30	CRA
Since Q2 2023	6	15	40	55	45	0
Since Q1 2023	57	36	44	54	46	0
Since Q4 2022	87	16	20	45	43	0
Since Q3 2022	167	42	30	52	49	0

UK Inflation Monitor

- UK's CPI declined by 10 basis points in August to 6.7%.
- UK's RPI measure increased by 10 basis points to 9.1% in August.
- According to the ONS: *“The largest downward contributions came from food, where prices rose by less in August 2023 than a year ago, and accommodation services, where prices can be volatile and fell in August 2023. Rising prices for motor fuel led to the largest upward contribution to the change.”*
- Average earnings rose by 10 basis points to 8.5% in July after the previous month's reading was revised higher by 20 basis points.
- The projected RPI curve increased at the very short end, whilst the rest of the curve was relatively unchanged in comparison to the previous month.



Historical year-on-year inflation rate is assessed by the % change on:

- **Consumer Price Index (CPI)** – measuring the monthly price of a basket of consumer goods and services
- **Retail Price Index (RPI)** – similar to CPI, but the main difference due the addition of mortgage payments, council tax and other housing costs
- **Average Earnings** – measuring the average total weekly employee remuneration over the previous 3 months.

Projection year-on-year inflation rate is the forward rate calculated from market data:

- **Derivatives Market View** – constructed from zero coupon inflation par swap rates against the RPI index at various tenors
- **Bond Market View** – constructed from the difference between the nominal rates implied by the conventional gilts and the real rates implied by the index-linked (RPI) gilts.

Milliman Financial Risk Management

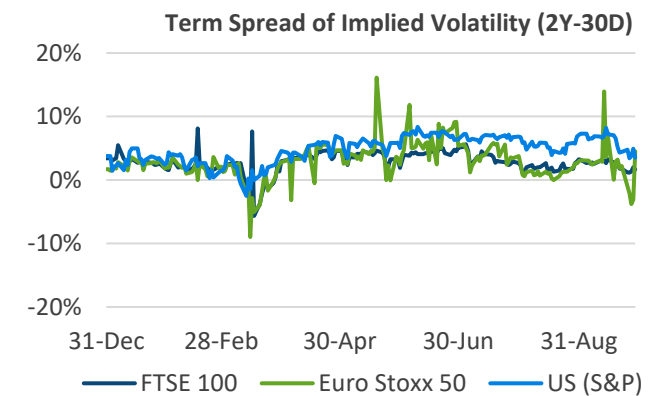
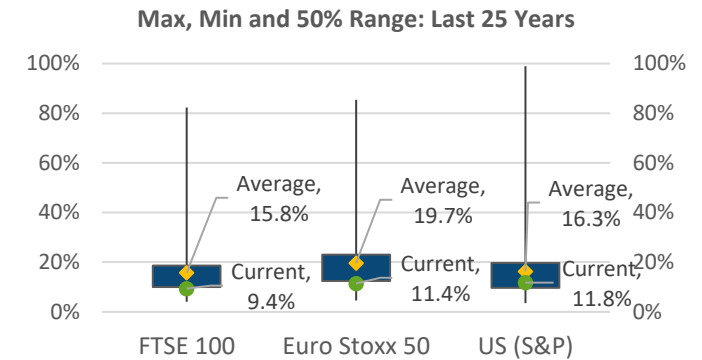
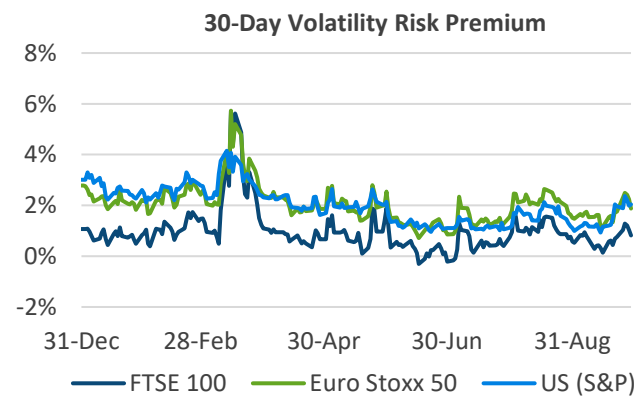
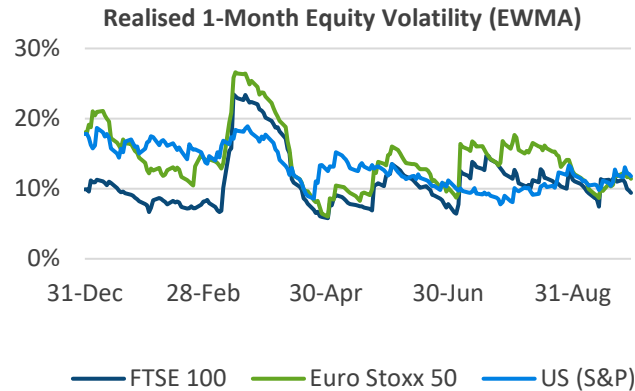
London Market Monitor – 29 September 2023

Data sources: Bloomberg; Barclays; EIOPA; PRA; ONS; Milliman FRM

Volatility and Hedging Cost Monitor

- Realised volatilities marginally declined for each of the three major indices, remaining below historical long-term averages for all major indices.
- The FTSE 100 ended the month with a realised volatility of 9.4%. The same measure stood at 11.4% and 11.8% on the Euro Stoxx 50 and the S&P 500, respectively.
- Volatility risk premiums on major indices increased in September. The FTSE 100 had a volatility risk premium of 0.8% at month-end. The volatility risk premium on the Euro Stoxx 50 and the S&P 500 was 1.9% and 2.0%, respectively.
- The change in spread between implied volatility of 2-year and 30-day at-the-money options was mixed but remained positive for all major indices at month-end.

Please contact Milliman for more information on the basis and methodology used for these results.



Actual realised equity volatility is measured by the weighted standard deviation of 1 month daily index change. The Exponentially Weighted Moving Average (EWMA) methodology places more importance to the recent returns in the calculation of the volatility.

Volatility Risk Premium is estimated as the difference between 30-day implied volatility and projected realised volatility. This reflects the additional cost of hedging from purchasing a basket of options, in comparison to managing a dynamic delta hedge with futures (ignoring rolling transaction costs).

Volatility Term Premium is calculated as the difference between the implied volatility of an at-the-money 2-year maturity option and the implied volatility of an at-the-money 30-day option. This gives an indication of market demand for protection over the longer term, relative to demand for protection in the shorter-term. Bloomberg as the source of the data interpolates between listed options to provide implied volatility data for these fixed terms.

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