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

Market Price Monitor

Local Equity Markets

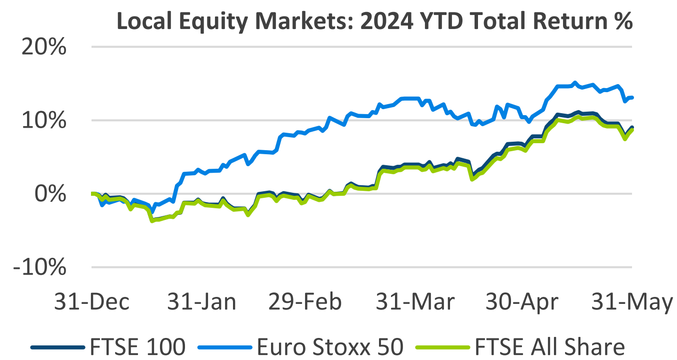
- Global equity markets had a positive performance in May, as continued optimism around global growth and expectations of interest rate cuts boosted investor risk appetite.
- Euro Stoxx 50 ended the month up 2.4%.
- The FTSE 100 gained 2.1%.

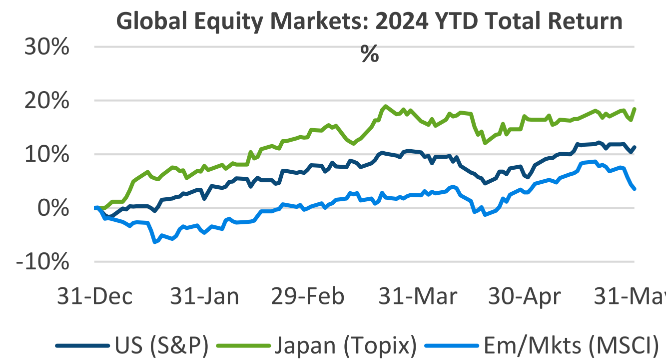
Global Equity Markets

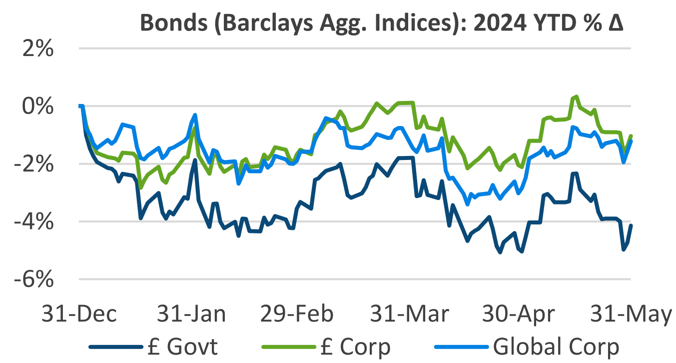
- Developed markets outperformed their emerging markets counterparts, with the S&P 500 up 5.0% and the Topix index returning 1.2%. The MSCI Emerging Markets index gained 0.6%.

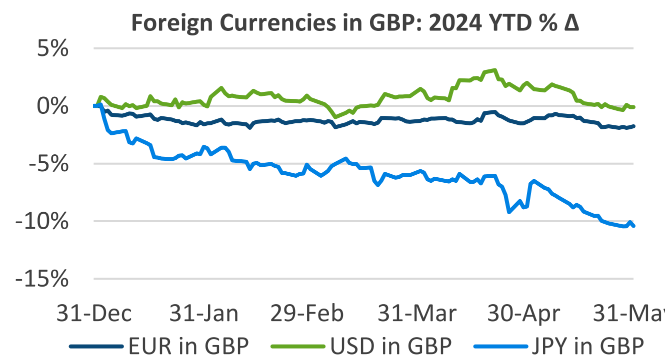
Bond/FX Markets

- Both the British government and corporate bond indices were up, gaining 0.8% and 1.0%, respectively.
- The global corporate bond index returned 1.9%.
- The British Pound had a positive performance, up 1.8% against both the US Dollar and the Japanese Yen.









Total Returns as of May 31, 2024

	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	2.1%	2.4%	2.4%	5.0%	1.2%	0.6%	0.8%	1.0%	1.9%	-0.3%	-1.8%	-1.8%
3 Month	9.9%	9.9%	4.5%	3.9%	4.7%	3.6%	-0.6%	0.7%	0.7%	-0.5%	-1.0%	-5.6%
1 Year	15.6%	15.4%	22.0%	28.2%	33.1%	12.8%	2.8%	8.4%	5.4%	-0.9%	-2.8%	-13.6%
YTD	9.0%	8.7%	13.1%	11.3%	18.4%	3.5%	-4.1%	-1.0%	-1.2%	-1.8%	-0.1%	-10.4%

Insurance Monitor

Solvency II Risk Free Rates

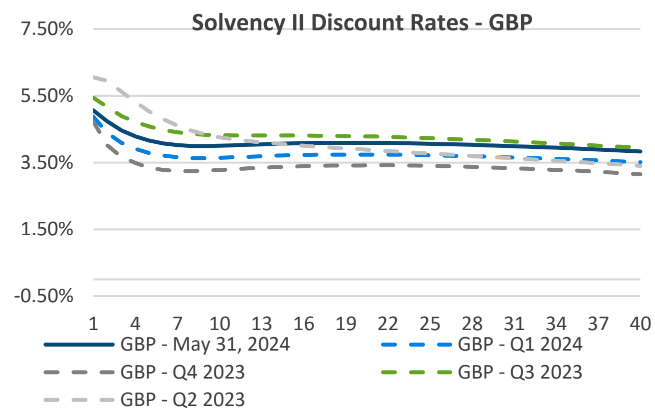
- GBP risk-free rates saw a decrease of around 5 basis points in May, except for the 1-year rate which increased by 3 basis points.
- In contrast, EUR risk-free rates saw an increase of around 5 basis points in May, except for the 1-year rate which declined by 1 basis point.
- The EUR CRA was unchanged and remains floored at 10 basis points.

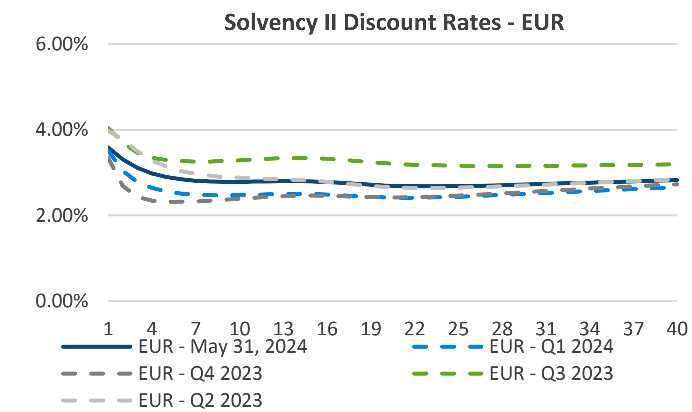
The **Solvency II risk-free discount rates** are calculated independently based on applying the Smith-Wilson Extrapolation to swap rates sourced from Bloomberg and applying the Credit Risk Adjustment as defined in the Technical Specs. For the official published curves please refer to EIOPA and PRA websites.

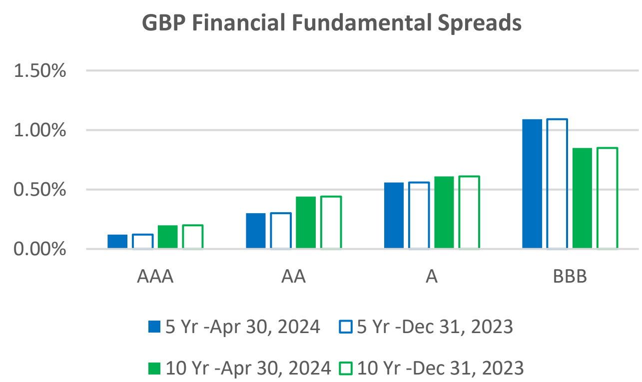
Solvency II Fundamental Spreads

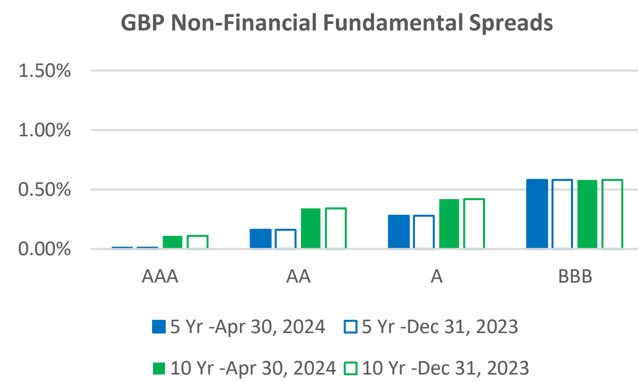
- There were no material changes since the start of the year.

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.









Change in GBP Discount Rates (bps)

	1Y	Y5	Y10	Y20	Y30
Since Q1 2024	19	38	36	35	34
Since Q4 2023	34	81	73	68	66
Since Q3 2023	-38	-42	-31	-19	-14
Since Q2 2023	-99	-87	-25	20	35

Change in EUR Discount Rates (bps)

	1Y	Y5	Y10	Y20	Y30	CRA
Since Q1 2024	7	34	30	28	22	0
Since Q4 2023	24	58	39	28	17	0
Since Q3 2023	-45	-40	-50	-52	-43	0
Since Q2 2023	-39	-25	-10	3	2	0

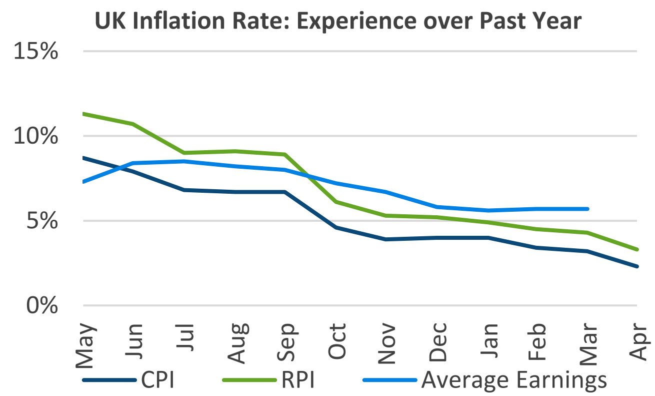
Milliman Financial Risk Management

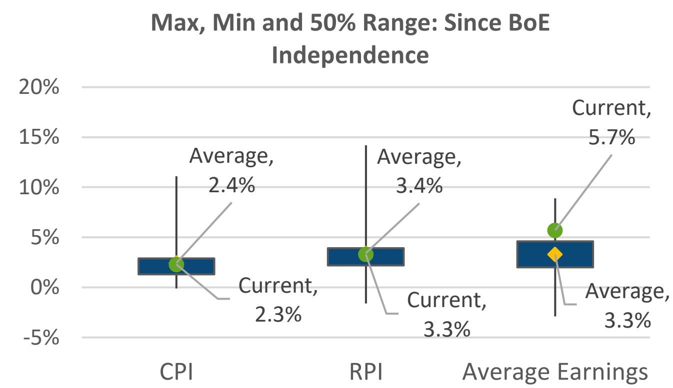
London Market Monitor – 31 May 2024

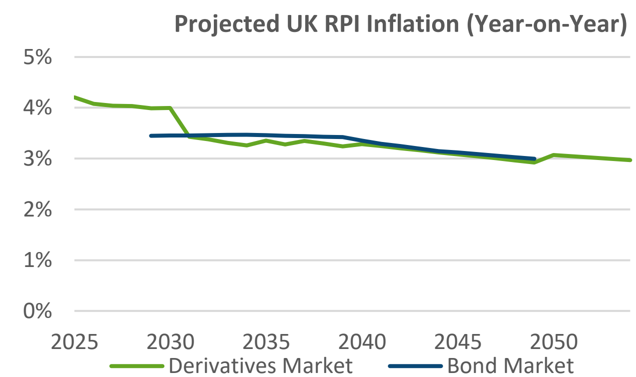
Data sources: Bloomberg; Barclays; EIOPA; PRA; ONS; Milliman FRM

UK Inflation Monitor

- UK's CPI decreased in April to 2.3%, a 90 basis points decline from the previous month.
- UK's RPI measure decreased by 90 basis points to 3.4% in April.
- According to the ONS: *"Falling gas and electricity prices resulted in the largest downward contributions, while the largest, partially offsetting, upward contribution came from motor fuels, with prices rising this year but falling a year ago."*
- Average earnings remained unchanged at 5.7% in March, after the previous month's figure was revised higher by 10 basis points.
- UK's Q1 2024 GDP growth figure rose by 40 basis points from the previous quarter to 0.2%.
- The projected RPI 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.

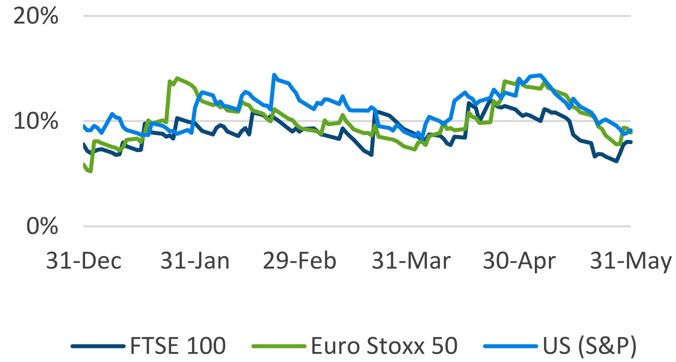
Projection year-on-year inflation rate is the forward rate calculated from market data:

- **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.

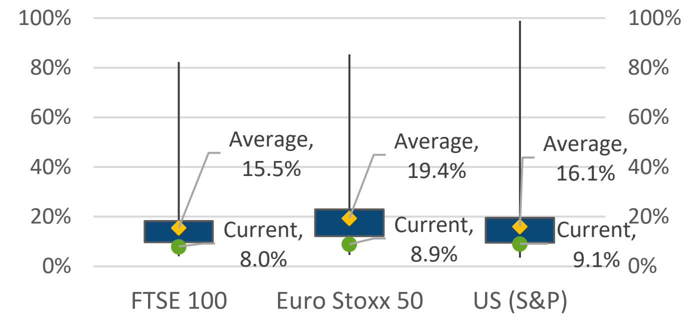
Volatility and Hedging Cost Monitor

- Realised volatilities on major equity indices declined in May.
- The FTSE 100 ended the month with a realised volatility of 8.0%. The same measure stood at 8.9% and 9.1% on the Euro Stoxx 50 and the S&P 500, respectively.
- Similarly, volatility risk premiums on major indices decreased in May. The FTSE 100 had a volatility risk premium of 0.3% at month-end. The volatility risk premium on both the Euro Stoxx 50 and the S&P 500 was 1.0%.
- The change in spread between implied volatility of 2-year and 30-day at-the-money options was mixed but remained positive for the major indices at month-end.

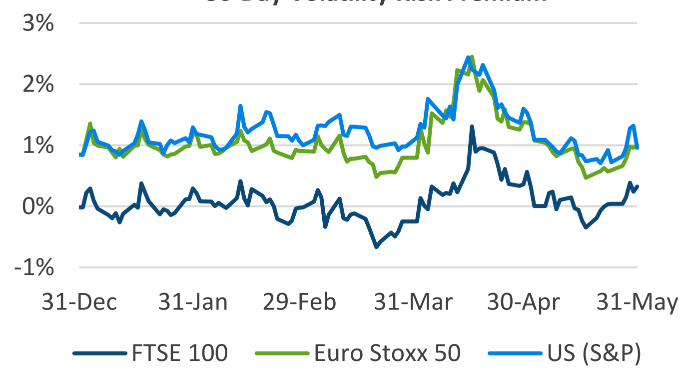
Realised 1-Month Equity Volatility (EWMA)



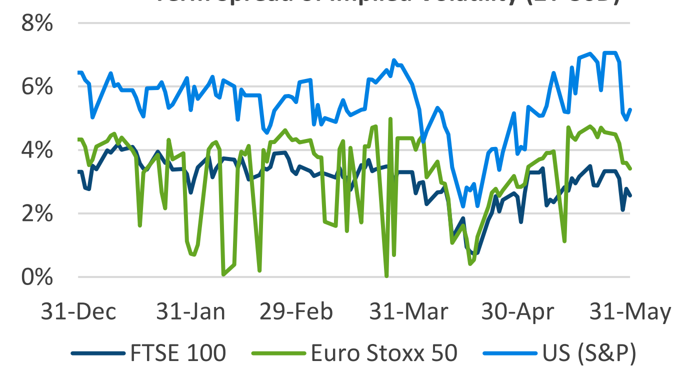
Max, Min and 50% Range: Last 25 Years



30-Day Volatility Risk Premium



Term Spread of Implied Volatility (2Y-30D)



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.

Milliman
FINANCIAL RISK MANAGEMENT

Chicago

71 South Wacker Drive
Chicago, IL 60606
+1 855 645 5462

London

11 Old Jewry
London
EC2R 8DU
UK
+44 0 20 7847 1557

Sydney

Level 5, 60-62 Clarence St
Sydney, NSW 2000
Australia
+610 2 8090 9100

Amsterdam

Haaksbergweg 75
Amsterdam, 1101 BR
Netherlands
+31 6 211 70 583

Creating transformational improvement in the retirement savings industry.

Milliman Financial Risk Management LLC / Milliman Financial Strategies Ltd. is a global leader in financial risk management to the retirement savings industry. Milliman FRM provides investment advisory, hedging, and consulting services on approximately $176.1 billion USD in global assets (31 December 2021).

Established in 1998, the practice includes professionals operating from four trading platforms around the world (Chicago, London, Amsterdam and Sydney).

MILLIMAN.COM/FRM

Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in healthcare, property & casualty insurance, life insurance and financial services, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

The recipient should not construe any of the material contained herein as investment, hedging, trading, legal, regulatory, tax, accounting or other advice. The recipient should not act on any information in this document without consulting its investment, hedging, trading, legal, regulatory, tax, accounting and other advisors. The materials in this document represent the opinion of the authors and are not representative of the views of Milliman, Inc. Milliman does not certify the information, nor does it guarantee the accuracy and completeness of such information. Use of such information is voluntary and should not be relied upon unless an independent review of its accuracy and completeness has been performed. Materials may not be reproduced without the express consent of Milliman.