

### Asset Price Monitor

#### Local Equity Markets

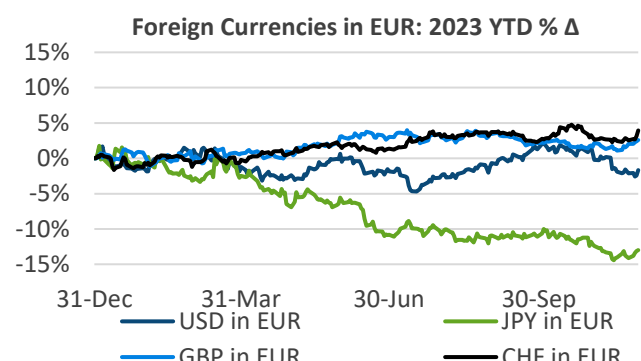
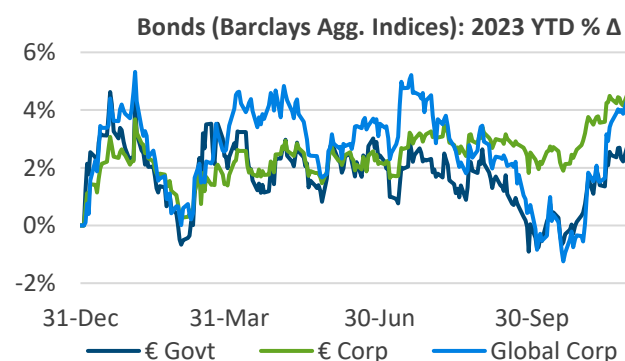
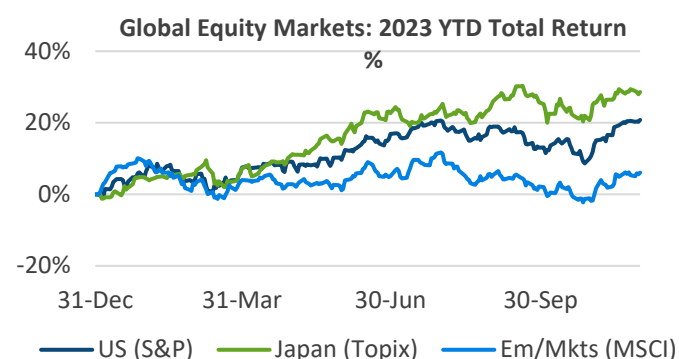
- The performance of global equity markets was positive in November, as inflation dropped, and data indicated central banks have reached the peak of the tightening cycle.
- The Euro Stoxx 50 index was up 8.1% in November, returning 19.3% year-to-date.
- The FTSE 100 index gained 2.3% in November, returning 3.9% year-to-date.

#### Global Equity Markets

- The S&P 500 ended the month up 9.1%, and the Topix index gained 5.4%.
- The MSCI Emerging Markets index gained 8.0%.

#### Bond/FX Markets

- The European government and corporate bond indices both advanced, gaining 2.9% and 2.3%, respectively.
- The Euro had a mixed performance in November, gaining 2.9% against the US Dollar and 0.7% against the Japanese Yen. Meanwhile losing 0.9% against the British Pound.



	Total Returns as of November 30, 2023											
	Euro Stoxx 50	FTSE 100	SMI	US (S&P)	Japan (Topix)	Em/Mkts (MSCI)	€ Govt	€ Corp	CHF in EUR	USD in EUR	JPY in EUR	GBP in EUR
1 Month	8.1%	2.3%	4.5%	9.1%	5.4%	8.0%	2.9%	2.3%	1.0%	-2.9%	-0.7%	0.9%
3 Month	2.3%	0.9%	-2.3%	1.7%	2.8%	1.2%	0.7%	1.8%	0.4%	-0.5%	-2.3%	-0.8%
1 Year	14.3%	2.4%	0.6%	13.8%	22.7%	4.6%	-1.2%	3.4%	3.0%	-5.3%	-10.9%	0.1%
YTD	19.3%	3.9%	4.4%	20.8%	28.5%	6.1%	3.4%	5.3%	3.9%	-1.7%	-13.0%	2.6%

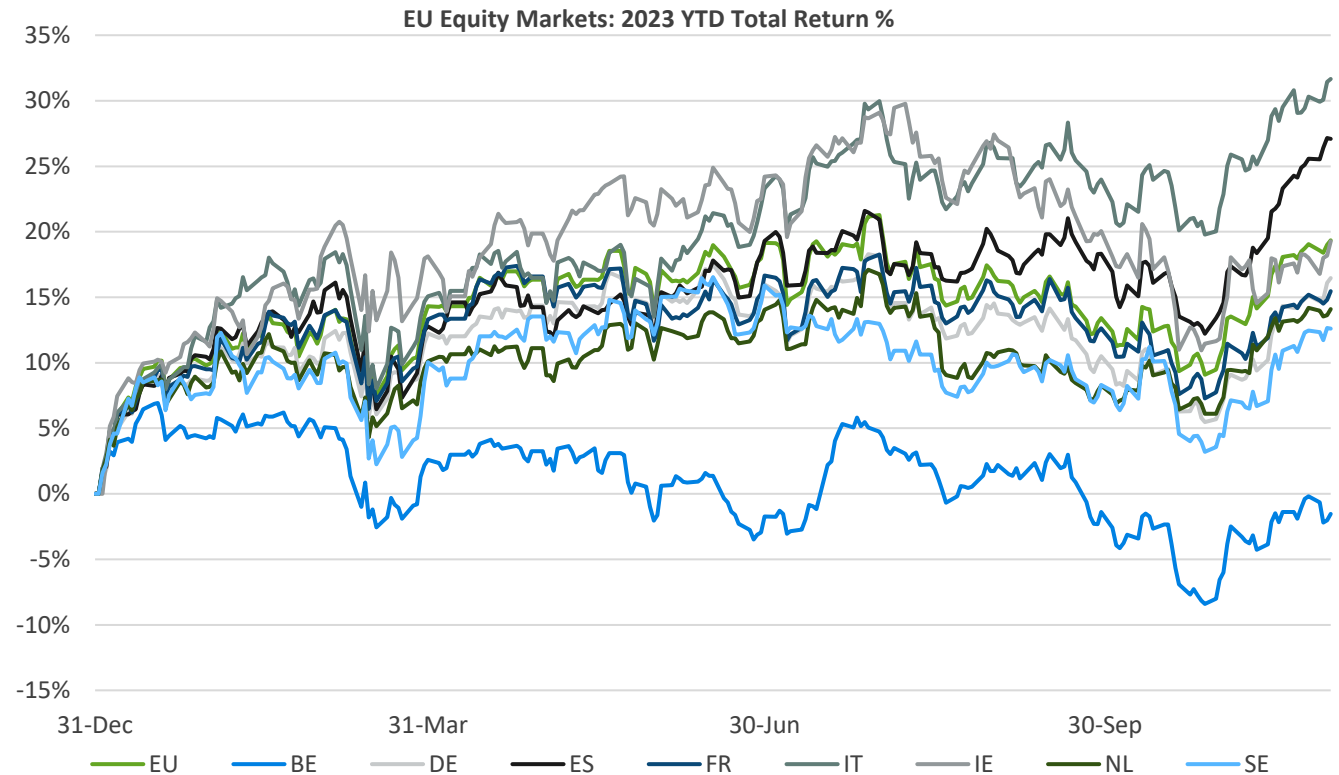
## Milliman Financial Risk Management

EuroZone Market Monitor – 30 November 2023

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

### Eurozone Equity

- All major European equity markets saw gains in November.
- The Spanish equity market saw the largest gains in the month, up 11.6%.
- The Belgian equity market saw the smallest gains, up 5.4%.
- The Belgian equity market remains the worst performer year-to-date, being the only major equity market in the region with a negative return in the eleven months, down 1.5%.
- The Italian equity market is the best performing market year-to-date, having returned 31.7% thus far.

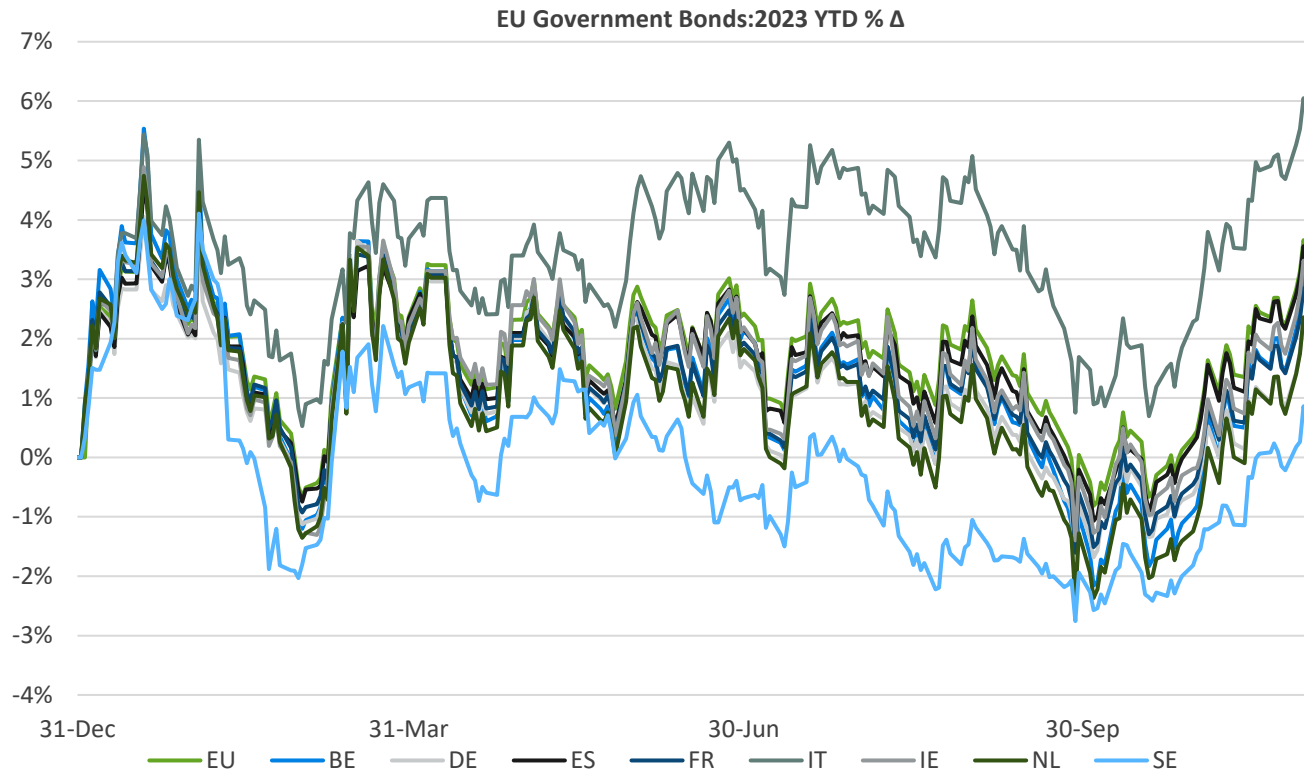


**Equity Returns as of November 30, 2023**

	EU	Belgium	Germany	Spain	France	Italy	Ireland	Netherlands	Sweden
1 Month	8.1%	5.4%	9.5%	11.6%	6.2%	8.1%	6.7%	6.9%	7.7%
3 Month	2.3%	-3.2%	1.7%	6.6%	0.1%	4.1%	-6.4%	3.3%	2.7%
QTD	5.2%	-0.1%	5.4%	7.4%	2.5%	6.2%	-0.7%	5.4%	4.0%
YTD	19.3%	-1.5%	16.5%	27.1%	15.5%	31.7%	19.3%	14.1%	12.6%

**Eurozone Government Bonds**

- All major European government bond indices had a positive performance in November.
- The Belgian government bond index saw the largest monthly increase, up 3.7% in November.
- The Italian government bond index outperformed all the other major European government bond indices, returning 5.7% year-to-date.
- The Swedish government bond index saw the smallest monthly increase, up 2.1%. The Swedish government bond index remains the laggard performer for the year, having gained 0.5% year-to-date.



Bond Returns as of November 30, 2023									
	EU	Belgium	Germany	Spain	France	Italy	Ireland	Netherlands	Sweden
1 Month	2.9%	3.7%	2.6%	2.9%	3.0%	3.3%	3.3%	3.2%	2.1%
3 Month	0.7%	0.7%	0.5%	0.8%	0.6%	0.6%	0.9%	0.6%	1.6%
QTD	3.4%	3.8%	3.0%	3.4%	3.2%	4.0%	3.4%	3.4%	2.5%
YTD	3.4%	2.8%	2.1%	3.2%	2.6%	5.7%	3.1%	2.1%	0.5%

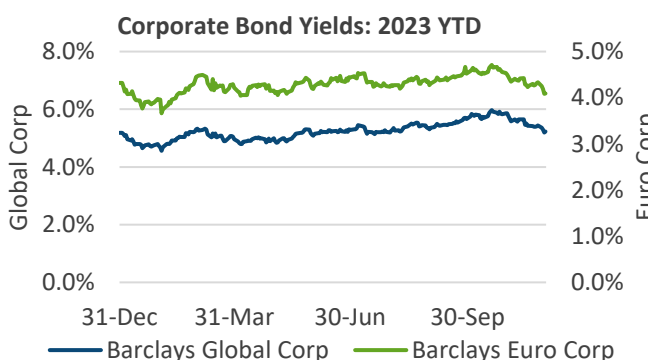
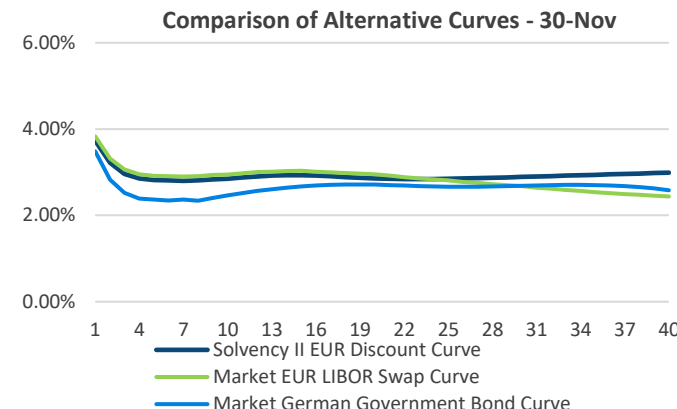
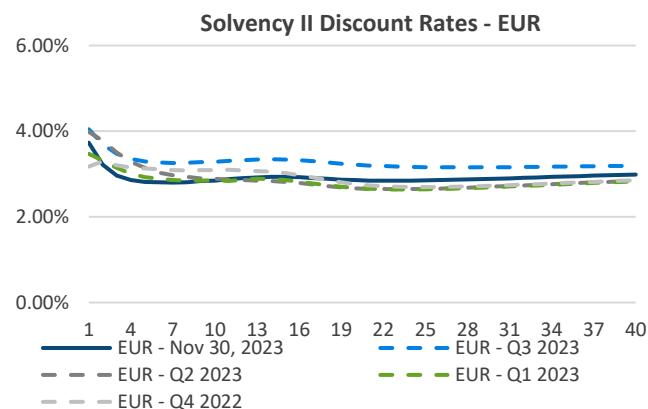
### Liability Valuation Monitor

#### Risk Free Rates

- EUR risk-free rates fell in November.
- The 5 and 10-year EUR risk-free rates decreased by 34 and 41 basis points, respectively.

#### Corporate Bonds

- Both Global and European corporate bond yields declined in November, the former by 63 basis points and the latter by 41 basis points.
- Global and European credit spreads tightened by 20 and 13 basis points, respectively.
- The decline in the risk-free rates combined with the tightening in corporate bond spreads, resulted in gains for the European corporate bond index.



	Change in Solvency II Discount (bps)						Change in Corporate Bond Yields (bps)		Change in Corporate Bond Spreads (bps)	
	1Y	Y5	Y10	Y20	Y30	Y40	Global Corp	Euro Corp	Global Corp	Euro Corp
Since Q3 2023	-31	-48	-44	-36	-27	-21	-43	-43	-13	-6
Since Q2 2023	-25	-33	-4	19	18	15	-5	-35	-17	-16
Since Q1 2023	26	-11	0	18	19	16	27	-13	-31	-23
Since Q4 2022	56	-32	-25	9	16	14	5	-23	-25	-20

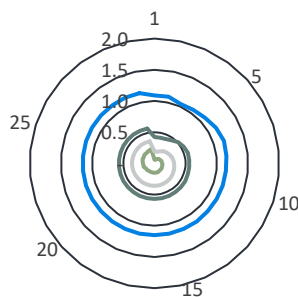
Solvency II Monitor - Spreads

Fundamental Spreads

- The fundamental spread data shown is for the end of October.
- There were no material changes since the last report.

Fundamental Spreads %

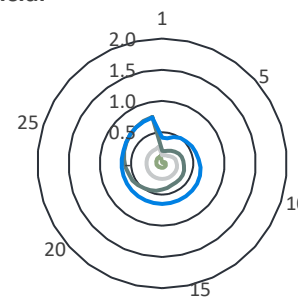
EUR: Financial



— AAA — AA — A — BBB

EUR Financial Fundamental Spread %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.06	0.10	0.13	0.16	0.23
AA	0.19	0.26	0.33	0.36	0.36
A	0.42	0.51	0.56	0.57	0.57
BBB	1.09	1.09	1.15	1.15	1.15
EUR Financial 'Before Floor' %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.00	0.04	0.08	0.16	0.23
AA	0.04	0.07	0.11	0.18	0.26
A	0.06	0.12	0.19	0.32	0.43
BBB	0.14	0.22	0.32	0.47	0.57

EUR: Non-Financial



— AAA — AA — A — BBB

EUR Non-Financial Fundamental Spread %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.01	0.02	0.06	0.08	0.12
AA	0.13	0.17	0.25	0.25	0.27
A	0.20	0.28	0.37	0.52	0.76
BBB	0.41	0.52	0.64	0.65	0.75
EUR Non-Financial 'Before Floor' %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.00	0.01	0.04	0.08	0.12
AA	0.00	0.04	0.09	0.17	0.27
A	0.04	0.15	0.28	0.52	0.76
BBB	0.11	0.22	0.34	0.55	0.75

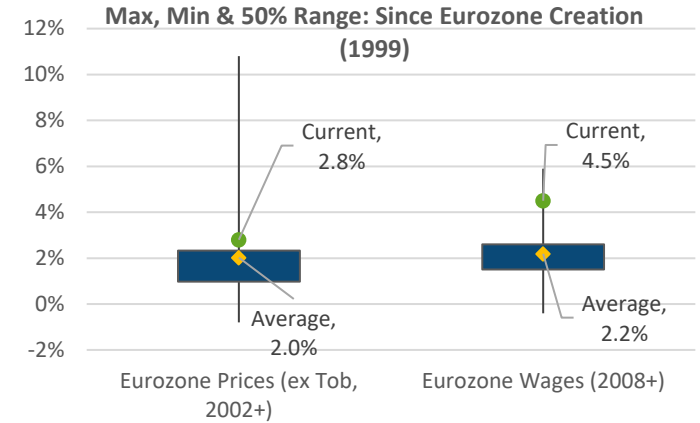
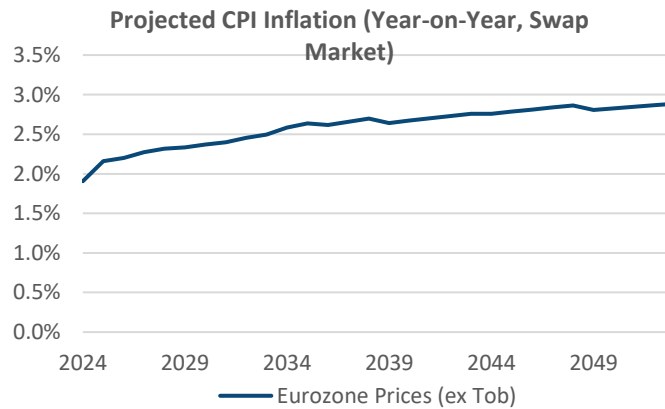
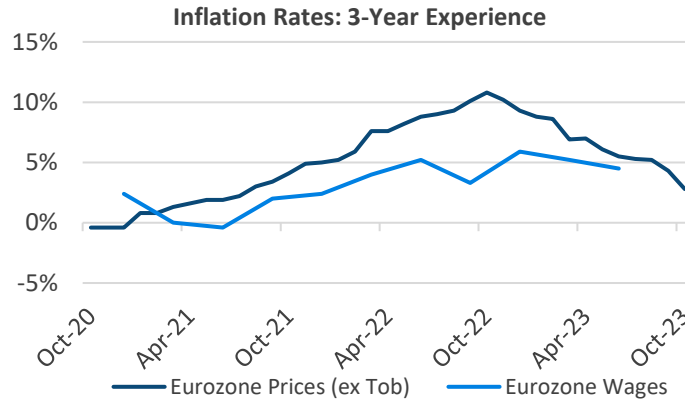
The **Solvency II risk-free discount rates** are based on applying the Smith-Wilson Extrapolation to LIBOR swap rates sourced from Bloomberg (current curve is for 30/11/23) and applying the Credit Risk Adjustment as defined in the Technical Specs. For the official published curves please refer to the [EIOPA](#) website.

The **Credit Risk Adjustment** is a component of the risk-free discount curve defined by EIOPA. It is calculated from actual experience in the 'LIBOR-OIS' spread (3 months for EUR), and is bounded between 0.10 and 0.35. We show actual LIBOR-OIS spread levels and the defined CRA, for EUR.

**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 and as of 31/10/23. **Fundamental spread** = maximum (probability of default + cost of downgrade; 35% of long-term average spread). In the tables we show the **'before floor'** measure = probability of default + cost of downgrade.

**Inflation Monitor**

- Eurozone price inflation decreased by 150 basis points to 2.8% in October.
- The Eurozone projected CPI curve decreased at short and medium term in comparison to the previous month.
- There were no updates to the wage inflation figures this month.



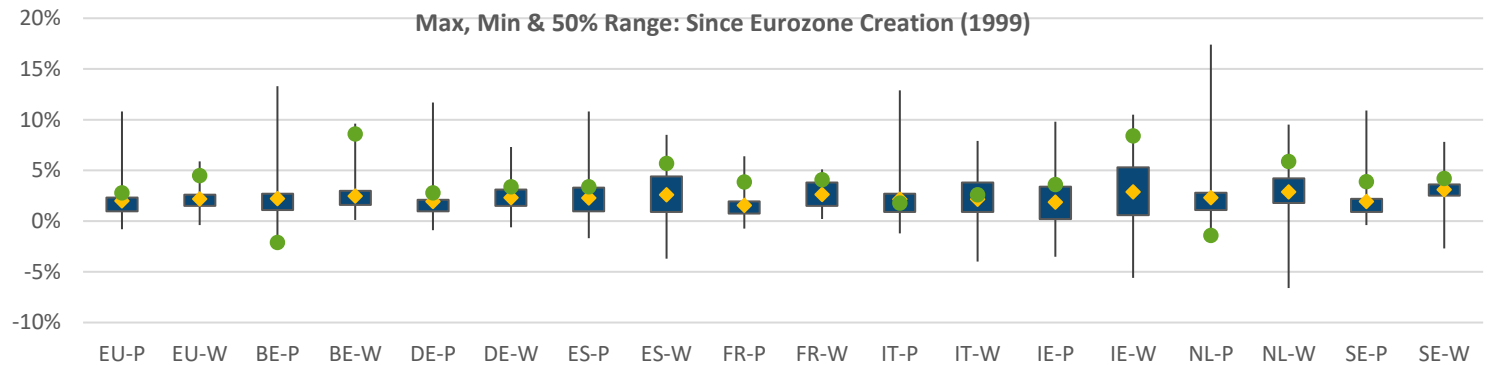
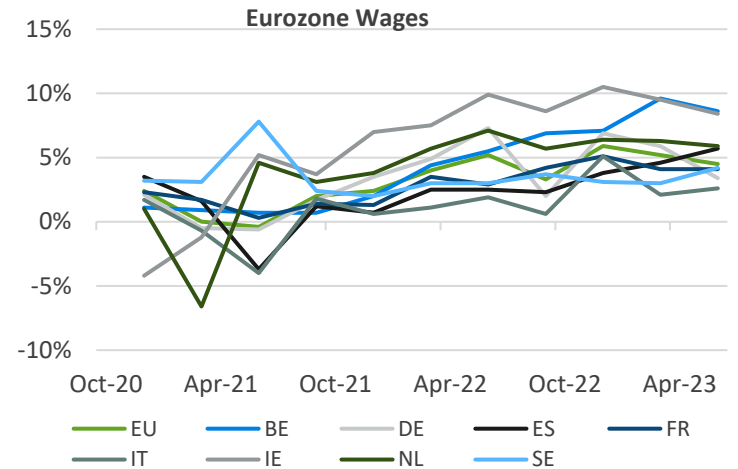
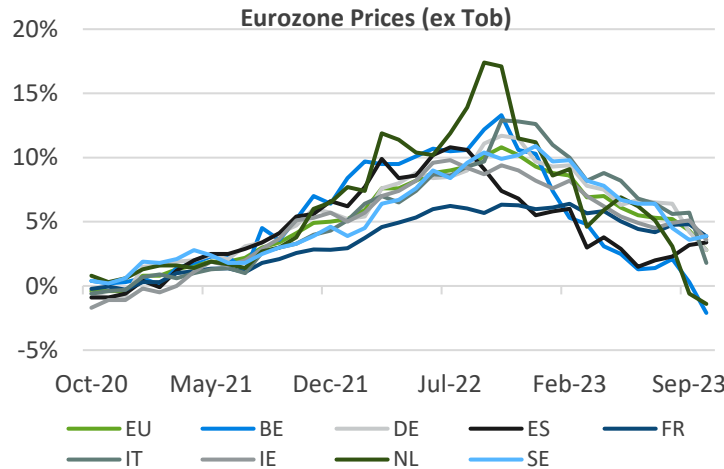
# Milliman Financial Risk Management

EuroZone Market Monitor – 30 November 2023

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

## Inflation Monitor

- Price inflation movements were mixed for major European economies in October.
  - Swedish prices increased the most, rising by 30 basis points to 3.9%. Consequently Sweden, and France, showed the highest level in the region.
  - Italian price inflation decreased the most, falling by 390 basis points to 1.8%.
- Belgium had the lowest price inflation reading in the region at -2.10%, a 240 basis points drop compared to the previous month.
- There were no updates to wage inflation figures this month.



	EU-P	EU-W	BE-P	BE-W	DE-P	DE-W	ES-P	ES-W	FR-P	FR-W	IT-P	IT-W	IE-P	IE-W	NL-P	NL-W	SE-P	SE-W
Avg.	2.0%	2.2%	2.2%	2.5%	1.9%	2.3%	2.3%	2.6%	1.6%	2.6%	2.2%	2.2%	1.9%	2.9%	2.3%	2.9%	1.9%	3.1%
Cur	2.8%	4.5%	-2.1%	8.6%	2.8%	3.4%	3.4%	5.7%	3.9%	4.1%	1.8%	2.6%	3.6%	8.4%	-1.4%	5.9%	3.9%	4.2%

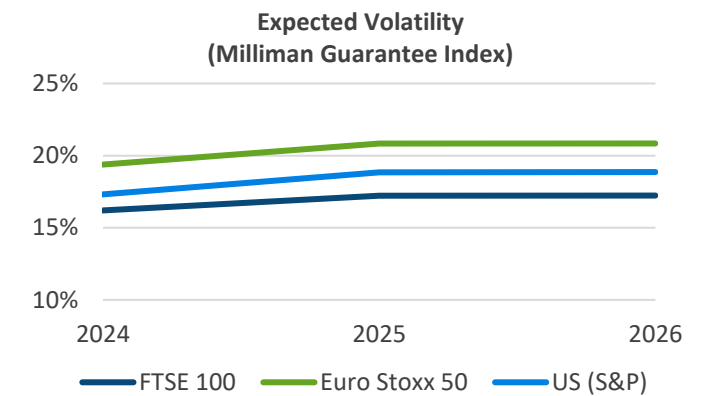
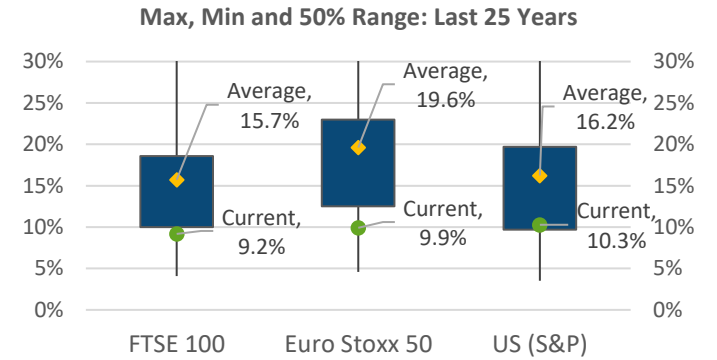
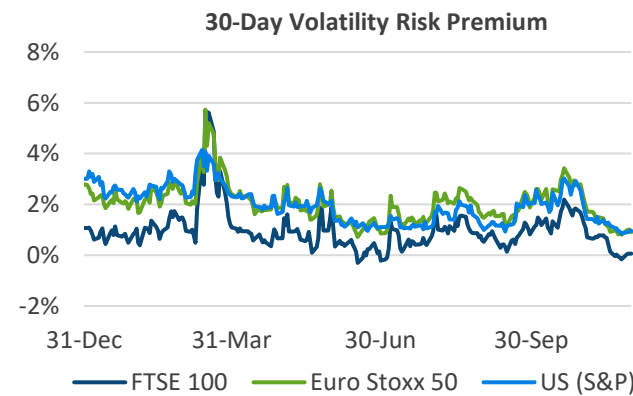
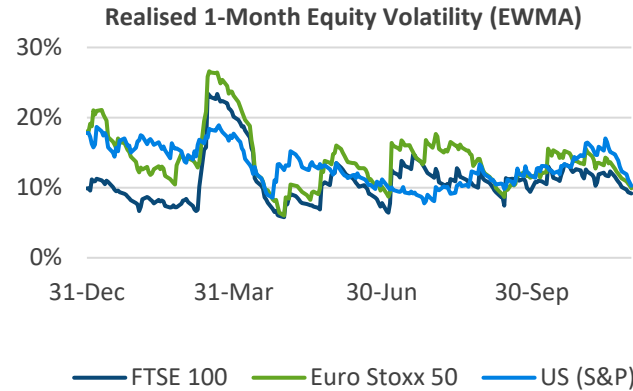


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**Volatility and Hedging Cost Monitor**

- Realised volatilities decreased in November on the back of market strength and decreasing inflation, remaining below historical long-term averages.
- The FTSE 100 ended the month with a realised volatility of 9.2%. The same measure stood at 9.9% and 10.3% on the Euro Stoxx 50 and the S&P 500, respectively.
- Volatility risk premiums on major indices decreased in November. The FTSE 100 had a volatility risk premium of 0.1% at month-end. The volatility risk premium on the Euro Stoxx 50 and the S&P 500 was 0.9% and 1.0%, respectively.

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





## Creating transformational improvement in the retirement savings industry.

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