

### Asset Price Monitor

#### Local Equity Markets

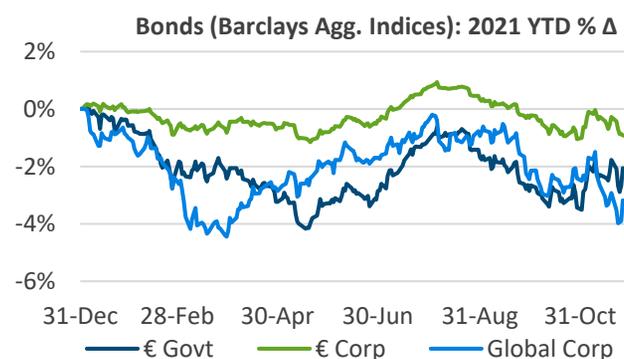
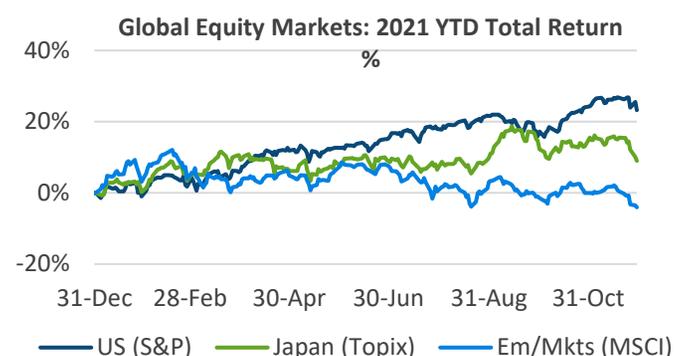
- Equity markets had a positive start to the month, however, on the back of rising COVID infections in Europe and the discovery of the new Omicron variant, they suffered losses and ended the month down.
- The Euro Stoxx 50 lost 4.3% in November.
- The FTSE 100 was down 2.2% at month-end.

#### Global Equity Markets

- Emerging markets suffered heavier losses than most of their developed markets counterparts, with the MSCI Emerging Markets index down 4.1%.
- The S&P 500 lost 0.7% and the Japanese Topix index was down 3.6% at month-end.

#### Bond/FX Markets

- The European government bond index gained 1.6%.
- The European corporate bond index was up 0.2% at month-end.
- The Euro had a mix performance against the major currencies, losing 3.0% and 2.2% against the Japanese Yen and the US Dollar, respectively. Meanwhile, the Euro gained 1.0% against the British Pound.

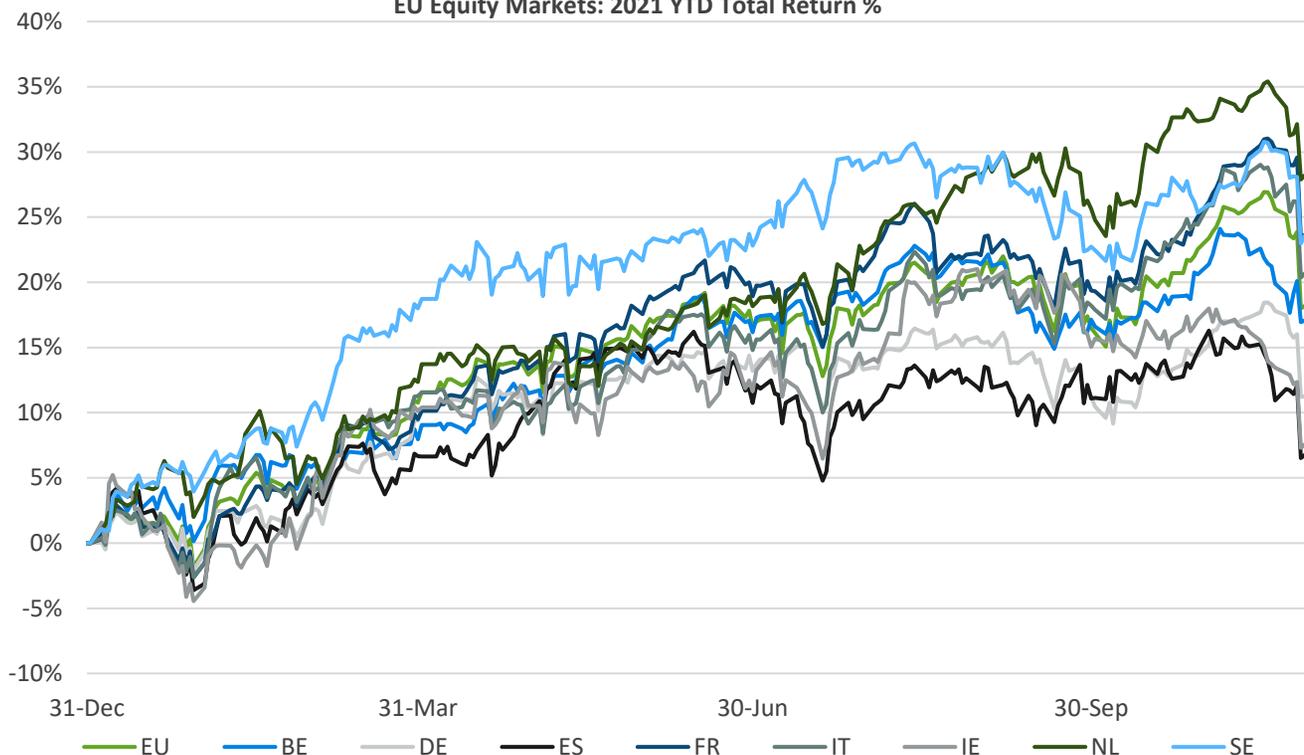


	Total Returns as of November 30, 2021											
	Euro Stoxx 50	FTSE 100	SMI	US (S&P)	Japan (Topix)	Em/Mkts (MSCI)	€ Govt	€ Corp	CHF in EUR	USD in EUR	JPY in EUR	GBP in EUR
1 Month	-4.3%	-2.2%	0.4%	-0.7%	-3.6%	-4.1%	1.6%	0.2%	1.7%	2.2%	3.0%	-1.0%
3 Month	-2.7%	-0.2%	-1.9%	1.3%	-0.8%	-6.9%	-0.2%	-1.2%	3.9%	4.4%	1.5%	0.7%
1 Year	19.3%	16.8%	19.4%	27.9%	12.2%	3.0%	-1.7%	-0.7%	4.0%	5.7%	-2.6%	5.0%
YTD	17.3%	13.1%	16.9%	23.2%	9.0%	-4.1%	-1.9%	-0.9%	3.9%	8.1%	-1.3%	5.0%

**Eurozone Equity**

- All major European equity indices suffered losses in November.
- The French equity index suffered the smallest loss over the month, down 1.5%.
- The worst performing equity markets of the region were Spain and Ireland, both down 8.2% at month-end.
- The Netherlands remains the best performer year-to-date, up 27.2%.
- The Spanish equity market is the laggard performer of the year so far, up 5.3% year-to-date.

**EU Equity Markets: 2021 YTD Total Return %**

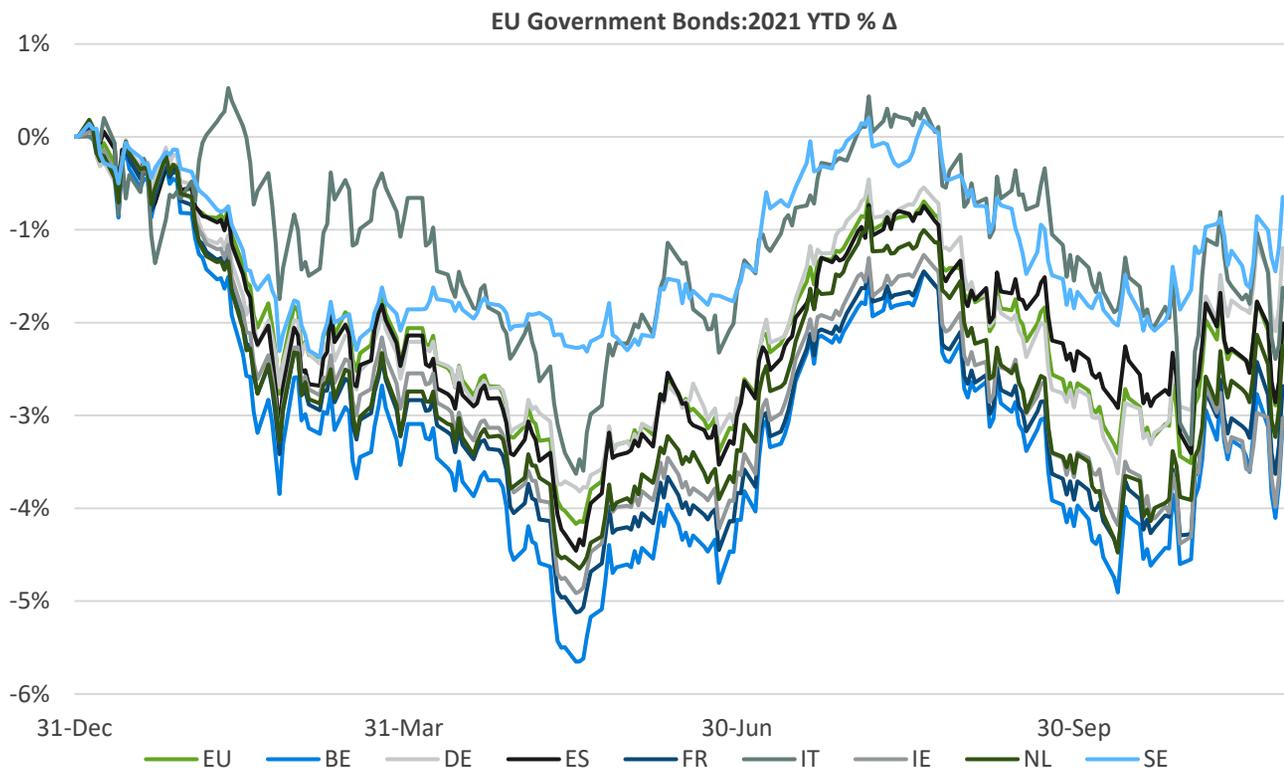


**Equity Returns as of November 30, 2021**

	EU	Belgium	Germany	Spain	France	Italy	Ireland	Netherlands	Sweden
1 Month	-4.3%	-3.4%	-3.8%	-8.2%	-1.5%	-3.4%	-8.2%	-3.9%	-1.9%
3 Month	-2.7%	-4.0%	-4.6%	-5.7%	0.9%	0.7%	-10.5%	-0.7%	-3.7%
QTD	0.7%	-0.5%	-1.1%	-5.2%	3.2%	1.7%	-6.6%	1.2%	0.2%
YTD	17.3%	16.6%	10.1%	5.3%	23.1%	20.2%	7.5%	27.2%	22.9%

**Eurozone Government Bonds**

- All major European government bond indices made gains in November.
- The Dutch, French and Belgian government bond indices all gained 2.0%, outperforming the rest of the region.
- The Spanish, Italian and Swedish government bond indices lagged their European counterparts, returning 1.5%.
- The Swedish government bonds have suffered the smallest loss for the year, down 0.4% year-to-date.
- The Irish government bond index is the worst performer year-to-date, down 2.8%.



Bond Returns as of November 30, 2021									
	EU	Belgium	Germany	Spain	France	Italy	Ireland	Netherlands	Sweden
1 Month	1.6%	2.0%	1.9%	1.5%	2.0%	1.5%	1.7%	2.0%	1.5%
3 Month	-0.2%	0.1%	0.5%	0.0%	0.2%	-0.9%	-0.4%	0.0%	0.1%
QTD	1.0%	1.6%	1.9%	0.8%	1.6%	-0.1%	0.9%	1.7%	1.5%
YTD	-1.9%	-2.7%	-1.0%	-1.8%	-2.4%	-1.6%	-2.8%	-2.0%	-0.4%

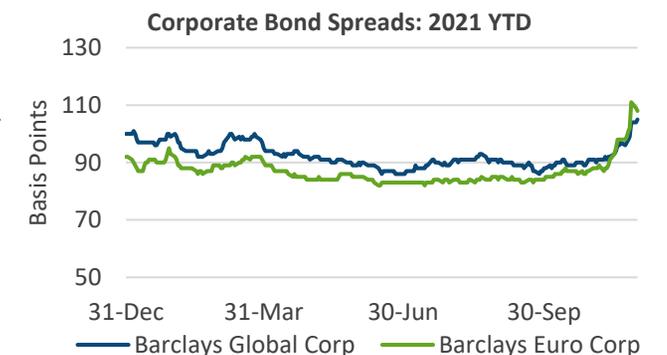
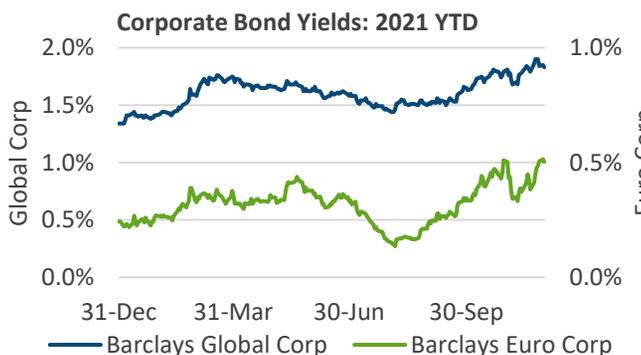
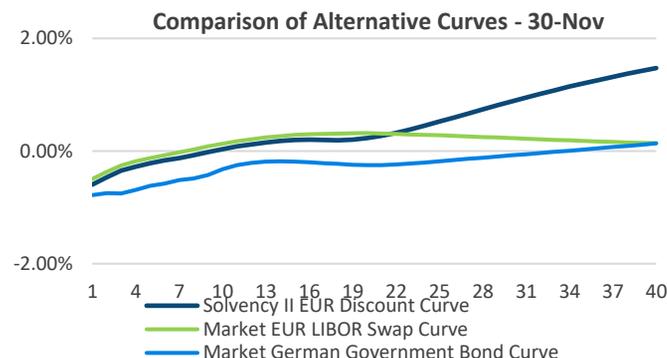
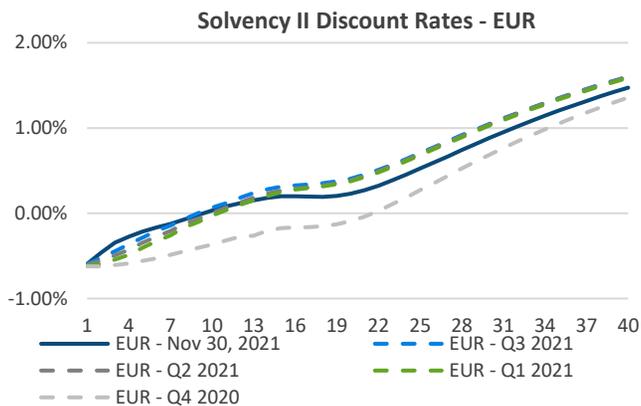
Liability Valuation Monitor

Risk Free Rates

- EUR risk-free rates fell at all terms in November.
- The 5 and 10-year risk-free rates both decreased by 16 basis points.
- The 20-year rate declined by 9 basis points.

Corporate Bonds

- Global corporate bond yields increased by 4 basis points, while their European counterpart fell by 1 basis point.
- Both the European and Global corporate bond spreads widened, the former by 21 basis points and the latter by 14 basis points.
- The fall in risk-free rates was offset by the widening in the European corporate bond spreads, resulted in a marginal gain in 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 2021	0	7	-4	-18	-17	-13	18	16	17	24
Since Q2 2021	1	13	3	-16	-16	-13	25	17	19	25
Since Q1 2021	2	19	6	-15	-15	-12	9	15	10	18
Since Q4 2020	3	34	40	32	20	12	49	26	5	16

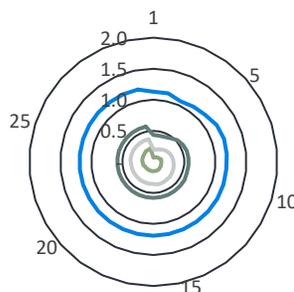
Solvency II Monitor - Spreads

Fundamental Spreads

- There were no material changes since the last report.

Fundamental Spreads %

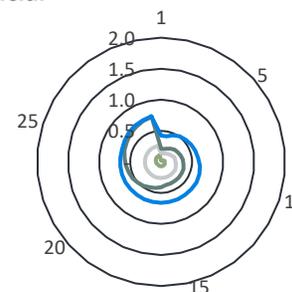
EUR: Financial



— AAA — AA — A — BBB

EUR Financial Fundamental Spread %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.07	0.10	0.13	0.15	0.22
AA	0.20	0.27	0.34	0.36	0.37
A	0.43	0.52	0.57	0.58	0.58
BBB	1.13	1.13	1.19	1.19	1.19
EUR Financial 'Before Floor' %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.00	0.04	0.08	0.15	0.22
AA	0.03	0.07	0.11	0.18	0.26
A	0.06	0.12	0.19	0.32	0.44
BBB	0.15	0.23	0.33	0.47	0.58

EUR: Non-Financial



— AAA — AA — A — BBB

EUR Non-Financial Fundamental Spread %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.02	0.03	0.06	0.07	0.11
AA	0.14	0.18	0.25	0.26	0.26
A	0.21	0.29	0.38	0.50	0.74
BBB	0.42	0.53	0.65	0.66	0.75
EUR Non-Financial 'Before Floor' %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.00	0.01	0.04	0.07	0.11
AA	0.00	0.04	0.08	0.17	0.25
A	0.03	0.14	0.26	0.50	0.74
BBB	0.11	0.22	0.34	0.56	0.75

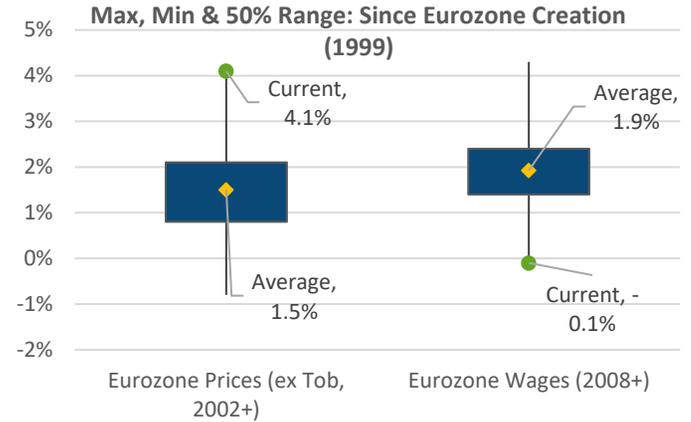
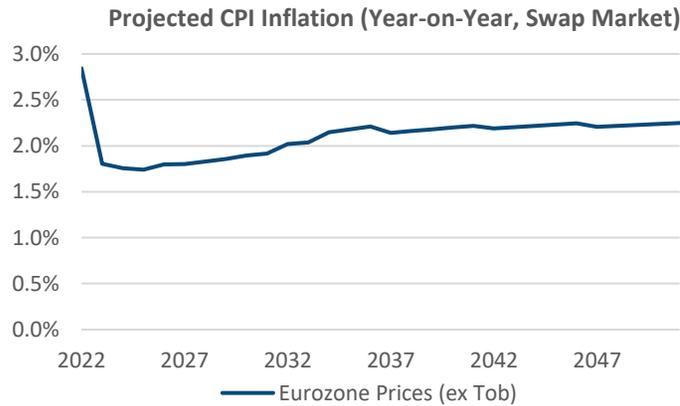
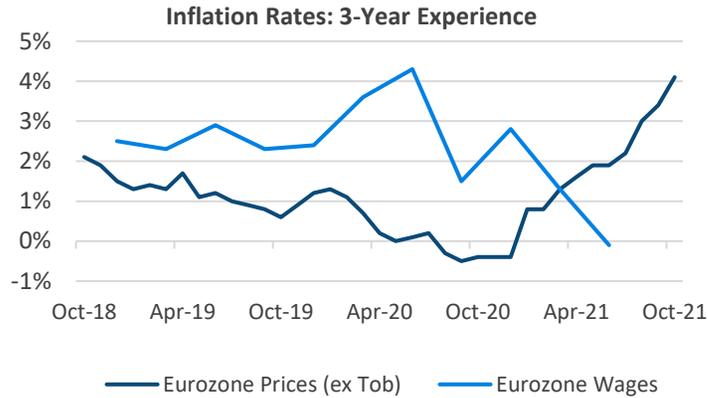
The **Solvency II risk-free discount rates** are based on applying the Smith-Wilson Extrapolation to LIBOR swap rates sourced from Refinitiv and applying the Credit Risk Adjustment as defined in the Technical Specs. The data is provided by EIOPA and as of 30/11/21.

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, 6 months for GBP), and is bounded between 0.10 and 0.35. We show actual LIBOR-OIS spread levels and the defined CRA, for both GBP and 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 30/11/21. **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**

- Price inflation in the Eurozone rose by 70 basis points to 4.1% in October.
- There were no updates to the Eurozone wage inflation figure this month.
- The projected CPI curves was relatively unchanged in comparison to the previous month.



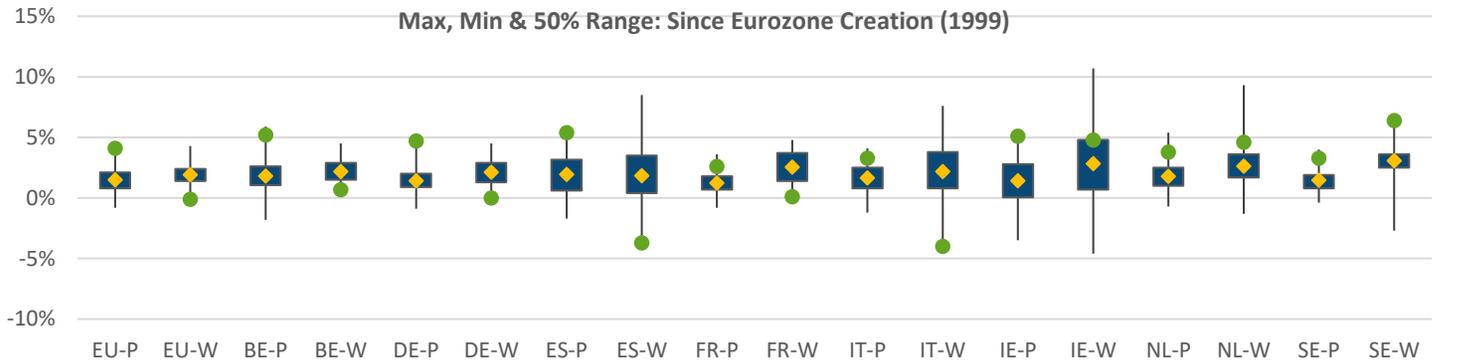
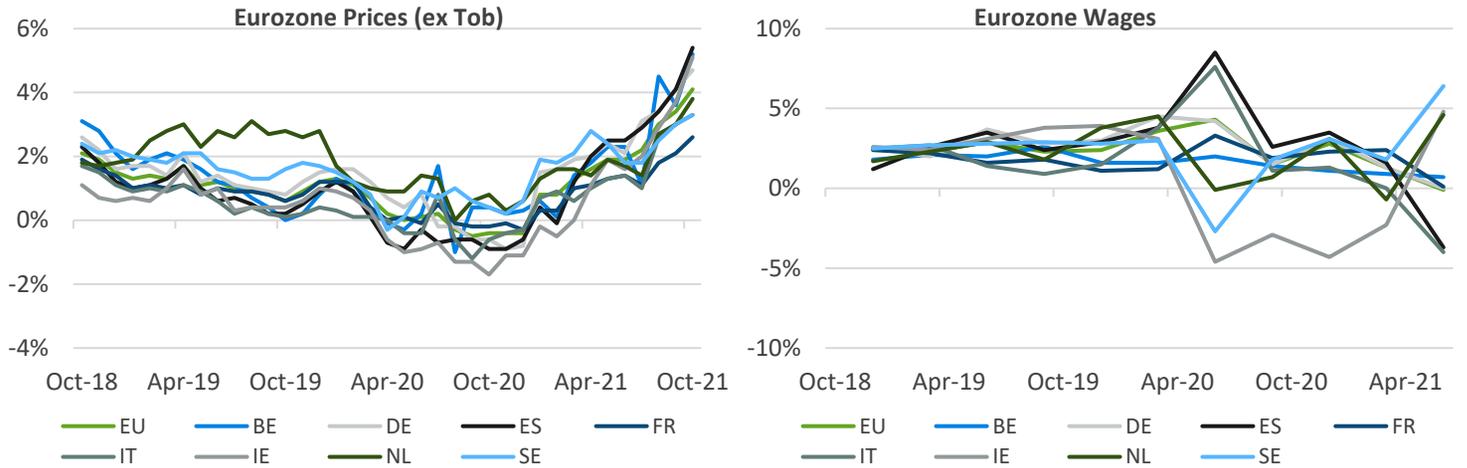
# Milliman Financial Risk Management

EuroZone Market Monitor – 30 November 2021

Data sources: Bloomberg; Barclays; EuroStat; Oxford-Man Institute; Milliman FRM

## Inflation Monitor

- All major European economies saw an increase in their price inflation in October.
- Belgium's price inflation had the largest increase at 160 basis points, to 5.2%.
- Italy and Sweden experienced the smallest increase in the region, as both countries saw their prices rise by 30 basis points.
- Spain's price inflation reading was the highest in October at 5.4%.
- In contrast, France posted the lowest price inflation reading of 2.6%.



	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.	1.5%	1.9%	1.8%	2.2%	1.4%	2.1%	2.0%	1.9%	1.3%	2.6%	1.7%	2.2%	1.4%	2.8%	1.8%	2.6%	1.5%	3.1%
Cur	4.1%	-0.1%	5.2%	0.7%	4.7%	0.0%	5.4%	-3.7%	2.6%	0.1%	3.3%	-4.0%	5.1%	4.8%	3.8%	4.6%	3.3%	6.4%



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## Milliman Financial Risk Management

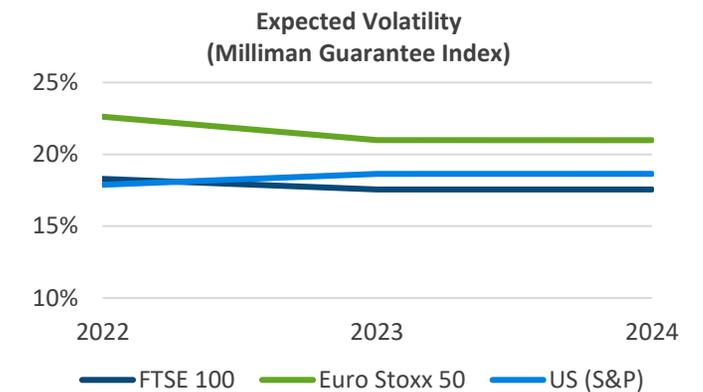
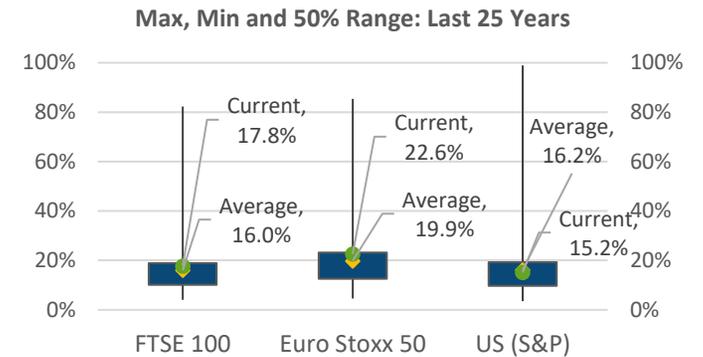
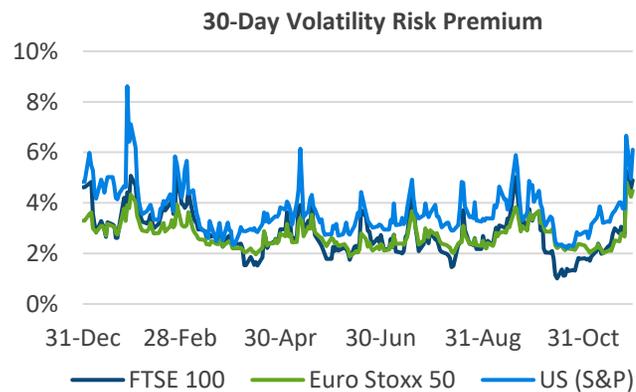
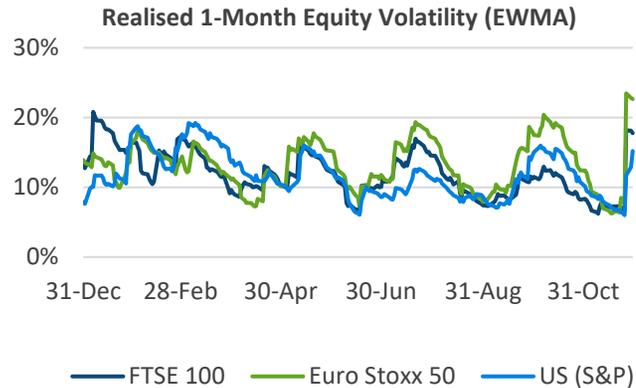
EuroZone Market Monitor – 30 November 2021

Data sources: Bloomberg; Barclays; EuroStat; Oxford-Man Institute; Milliman FRM

### Volatility and Hedging Cost Monitor

- Realised volatility on major indices spiked towards the end of the month, on the back of concerns over the Omicron variant.
- The Euro Stoxx 50 had a realised volatility of 22.6% at month-end. The measure stood at 17.8% and 15.2% for the FTSE 100 and the S&P 500, respectively.
- Volatility risk premiums increased as implied volatilities rose sharply. The FTSE 100 had a volatility risk premium of 4.9% at month-end. The volatility risk premium on the Euro Stoxx 50 and the S&P 500 was 4.5% and 6.1%, 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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