

## Asset Price Monitor

### Local Equity Markets

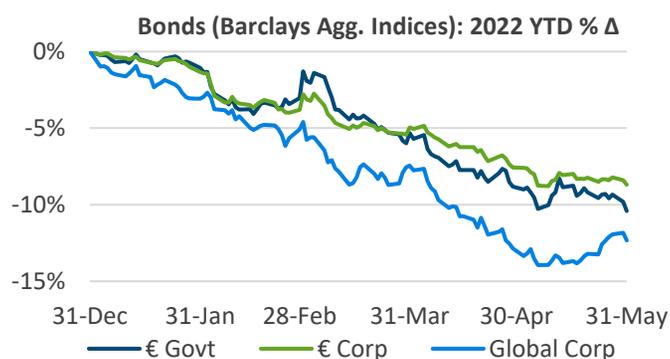
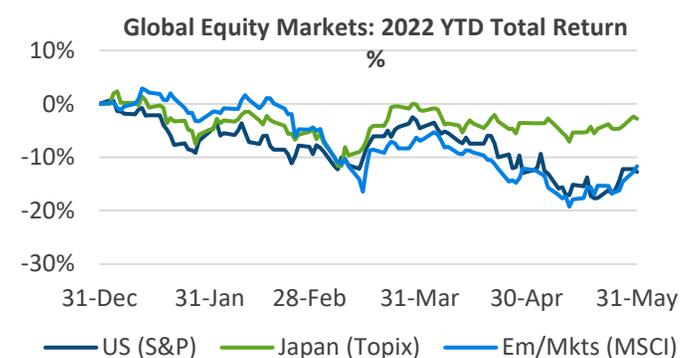
- Most major equity markets ended the month of May with modest gains, despite a volatile start to the month, as the war in Ukraine, lockdowns in China, and global tightening monetary policy continued to weigh on risk sentiment.
- The FTSE 100 gained 1.1%, up 4.8% year-to-date.
- The Euro Stoxx 50 was up 1.3%.

### Global Equity Markets

- The S&P 500 ended the month relatively flat, whilst the Japanese Topix index returned 0.8%.
- The MSCI Emerging Market index was up 0.5% at month-end.

### Bond/FX Markets

- The European government bond index ended the month down 1.7%. The European corporate bond index lost 1.2%.
- The Euro recovered its losses from earlier in the month and was up against most major currencies at month-end, gaining 1.8% and 1.4% against the US Dollar and the British Pound, respectively.



|         | Total Returns as of May 31, 2022 |          |       |          |               |                |        |        |            |            |            |            |
|---------|----------------------------------|----------|-------|----------|---------------|----------------|--------|--------|------------|------------|------------|------------|
|         | 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 | 1.3%                             | 1.1%     | -4.1% | 0.2%     | 0.8%          | 0.5%           | -1.7%  | -1.2%  | -0.2%      | -1.8%      | -0.8%      | -1.4%      |
| 3 Month | -1.2%                            | 3.3%     | -0.5% | -5.2%    | 2.6%          | -7.2%          | -7.6%  | -5.1%  | 0.1%       | 4.4%       | -6.5%      | -1.6%      |
| 1 Year  | -3.0%                            | 12.4%    | 5.1%  | -0.3%    | 1.8%          | -19.6%         | -10.5% | -8.9%  | 6.9%       | 14.0%      | -2.9%      | 1.2%       |
| YTD     | -9.5%                            | 4.8%     | -7.4% | -12.8%   | -2.8%         | -11.7%         | -10.4% | -8.7%  | 0.9%       | 6.0%       | -5.1%      | -1.1%      |

## Milliman Financial Risk Management

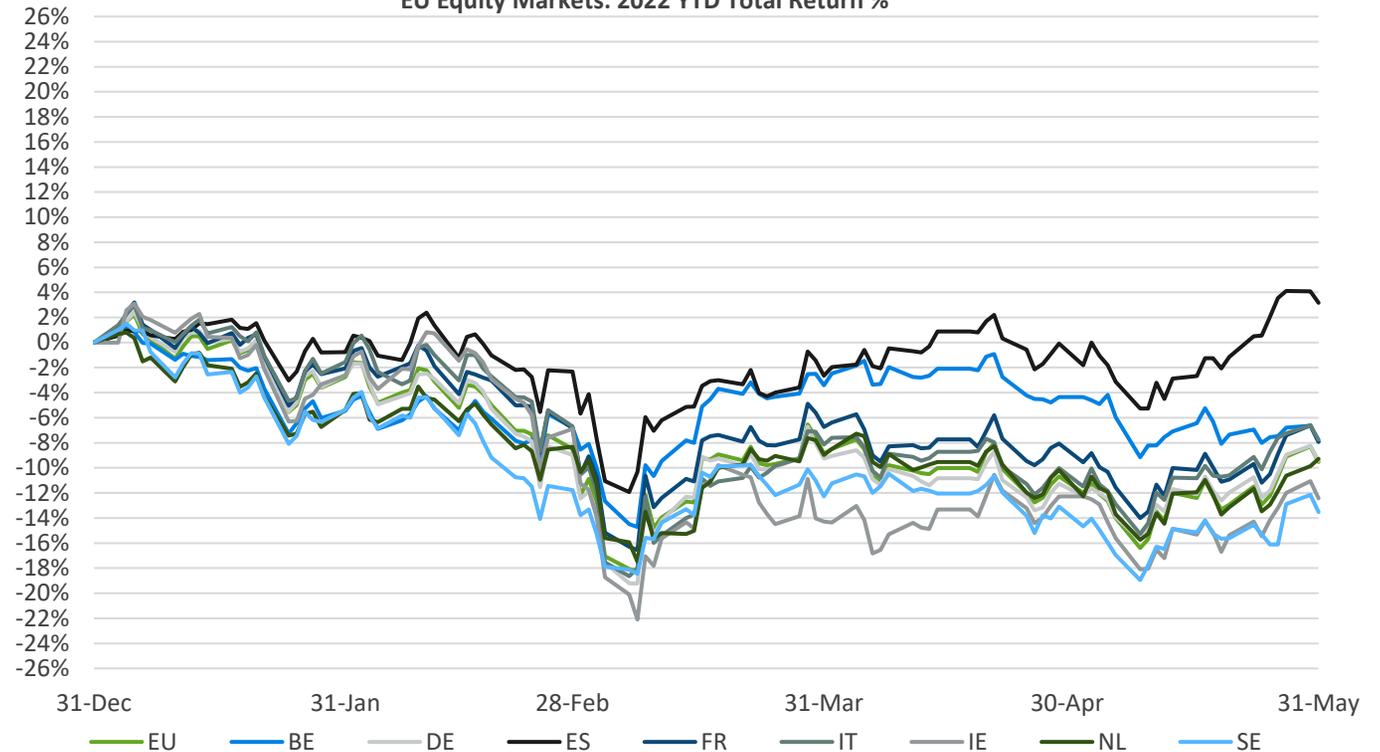
EuroZone Market Monitor – 31 May 2022

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

### Eurozone Equity

- European equity markets had a mixed performance in May.
- The Belgian equity index was the worst performer of the month, down 3.7%.
- The Spanish equity market outperformed its European peers in May, gaining 3.2%. The index remains the best performer of the region for the year so far, up 3.2% year-to-date.
- The Swedish equity market has suffered the largest losses in 2022, falling by 13.5% year-to-date.

EU Equity Markets: 2022 YTD Total Return %



Equity Returns as of May 31, 2022

|         | EU    | Belgium | Germany | Spain | France | Italy | Ireland | Netherlands | Sweden |
|---------|-------|---------|---------|-------|--------|-------|---------|-------------|--------|
| 1 Month | 1.3%  | -3.7%   | 2.1%    | 3.2%  | 0.1%   | 2.5%  | -0.2%   | 1.0%        | -0.5%  |
| 3 Month | -1.2% | -1.2%   | -0.5%   | 5.6%  | -1.2%  | -1.1% | -5.9%   | -1.1%       | -2.0%  |
| QTD     | -0.7% | -4.6%   | -0.2%   | 6.0%  | -1.3%  | 0.4%  | 2.2%    | -0.3%       | -1.4%  |
| YTD     | -9.5% | -7.9%   | -9.4%   | 3.2%  | -7.9%  | -7.7% | -12.4%  | -9.3%       | -13.5% |

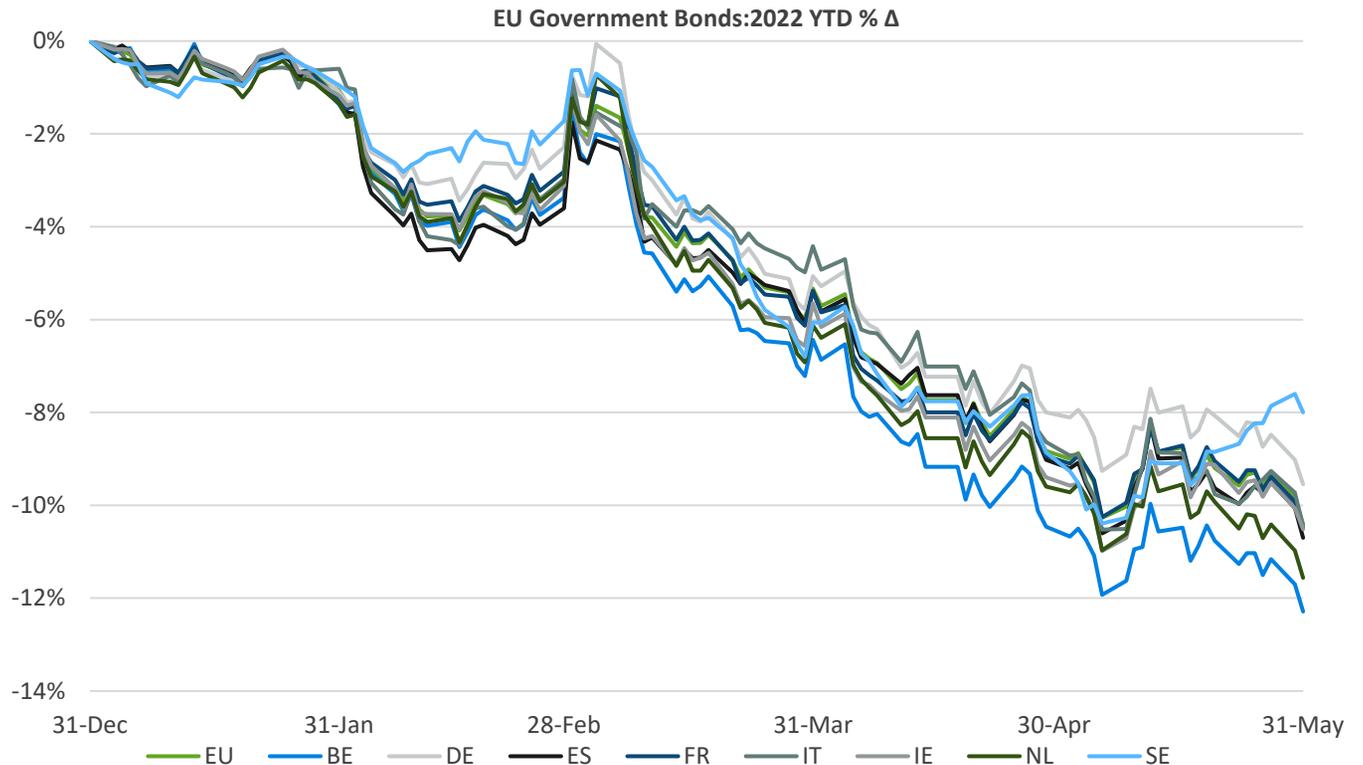
## Milliman Financial Risk Management

EuroZone Market Monitor – 31 May 2022

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

### Eurozone Government Bonds

- All major European government bond indices continued their selloff in May, except for Sweden, which saw its government bond index gain 0.9%.
- The Dutch government bond index lost 2.2%, the largest fall in the region.
- The Belgian government bond index remains the worst performer year-to-date, down 12.3%.
- The Swedish government bond index has witnessed the smallest drop for the year, down 8.0% year-to-date.



### Bond Returns as of May 31, 2022

|         | EU     | Belgium | Germany | Spain  | France | Italy  | Ireland | Netherlands | Sweden |
|---------|--------|---------|---------|--------|--------|--------|---------|-------------|--------|
| 1 Month | -1.7%  | -2.0%   | -1.7%   | -1.8%  | -1.7%  | -2.0%  | -1.2%   | -2.2%       | 0.9%   |
| 3 Month | -7.6%  | -9.2%   | -7.4%   | -7.4%  | -7.9%  | -7.7%  | -7.6%   | -8.8%       | -6.4%  |
| QTD     | -5.4%  | -6.3%   | -4.7%   | -5.6%  | -5.4%  | -6.3%  | -5.2%   | -5.8%       | -2.1%  |
| YTD     | -10.4% | -12.3%  | -9.5%   | -10.7% | -10.5% | -10.5% | -10.5%  | -11.6%      | -8.0%  |

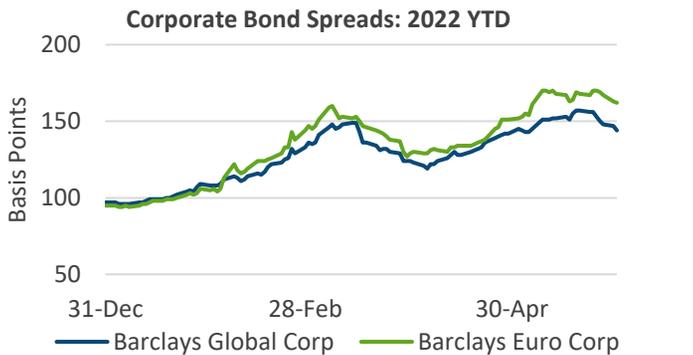
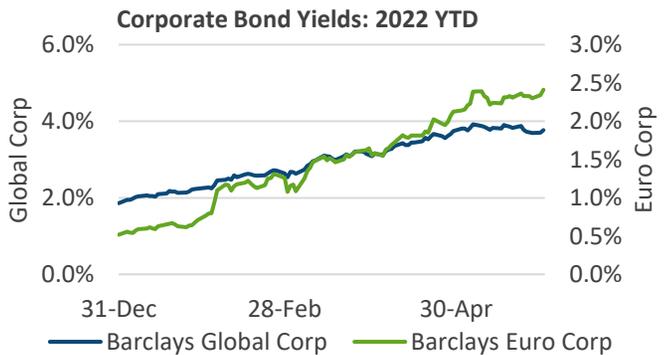
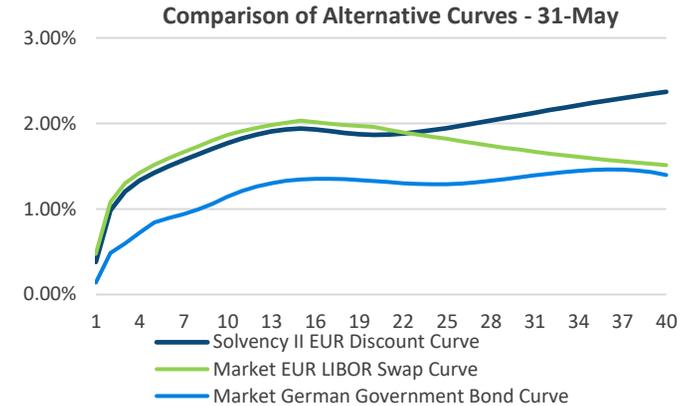
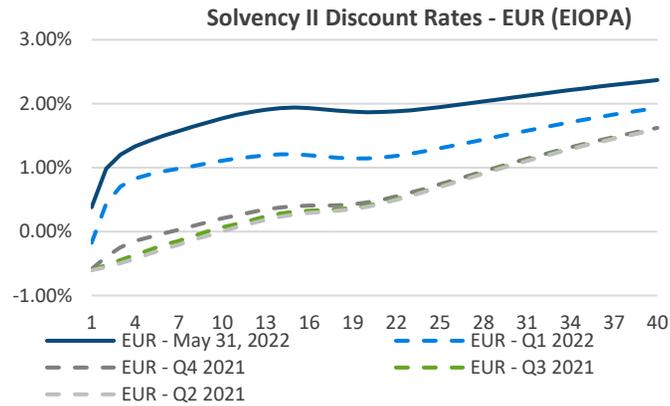
## Liability Valuation Monitor

### Risk Free Rates

- EUR risk-free rates increased at all terms for the fourth consecutive month in May.
- The 1-year risk-free rate rose by 22 basis points.
- The 30 and 20-year risk-free rates increased by 15 and 18 basis points, respectively.

### Corporate Bonds

- European corporate bond yields rose by 29 basis points, whilst their global counterpart increased by 3 basis points.
- Credit spreads continued to widen in May, with the European and global corporate spreads widening by 11 and 2 basis points, respectively.
- The rise in risk-free rates combined with the widening in the European corporate bond spreads, resulted in losses 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 Q1 2022 | 56                                   | 53  | 66  | 72  | 56  | 43  | 68                                    | 86        | 20                                     | 33        |
| Since Q4 2021 | 97                                   | 151 | 157 | 141 | 102 | 75  | 191                                   | 189       | 47                                     | 67        |
| Since Q3 2021 | 98                                   | 171 | 170 | 146 | 105 | 77  | 212                                   | 207       | 56                                     | 78        |
| Since Q2 2021 | 99                                   | 177 | 177 | 148 | 105 | 77  | 219                                   | 208       | 58                                     | 79        |

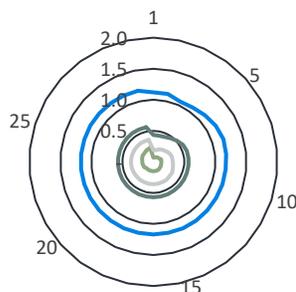
## Solvency II Monitor - Spreads

### Fundamental Spreads

- There were no material changes since the last report.

### Fundamental Spreads %

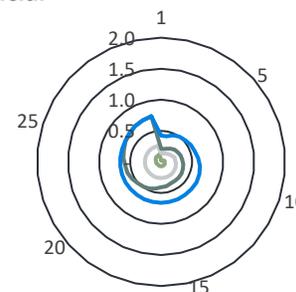
#### EUR: Financial



— AAA — AA — A — BBB

| EUR Financial Fundamental Spread % |      |      |      |      |      |
|------------------------------------|------|------|------|------|------|
|                                    | 1Y   | Y5   | Y10  | Y20  | Y30  |
| AAA                                | 0.07 | 0.10 | 0.13 | 0.15 | 0.23 |
| AA                                 | 0.19 | 0.26 | 0.33 | 0.36 | 0.36 |
| A                                  | 0.43 | 0.51 | 0.57 | 0.57 | 0.57 |
| BBB                                | 1.12 | 1.12 | 1.17 | 1.17 | 1.17 |
| EUR Financial 'Before Floor' %     |      |      |      |      |      |
|                                    | 1Y   | Y5   | Y10  | Y20  | Y30  |
| AAA                                | 0.00 | 0.04 | 0.08 | 0.15 | 0.23 |
| AA                                 | 0.04 | 0.07 | 0.11 | 0.18 | 0.26 |
| A                                  | 0.06 | 0.12 | 0.18 | 0.31 | 0.42 |
| BBB                                | 0.15 | 0.24 | 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 | 0.12 |
| AA                                     | 0.14 | 0.18 | 0.25 | 0.26 | 0.26 |
| A                                      | 0.21 | 0.29 | 0.37 | 0.51 | 0.75 |
| BBB                                    | 0.42 | 0.52 | 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 | 0.12 |
| AA                                     | 0.00 | 0.04 | 0.09 | 0.17 | 0.26 |
| A                                      | 0.04 | 0.15 | 0.27 | 0.51 | 0.75 |
| BBB                                    | 0.11 | 0.21 | 0.34 | 0.55 | 0.75 |

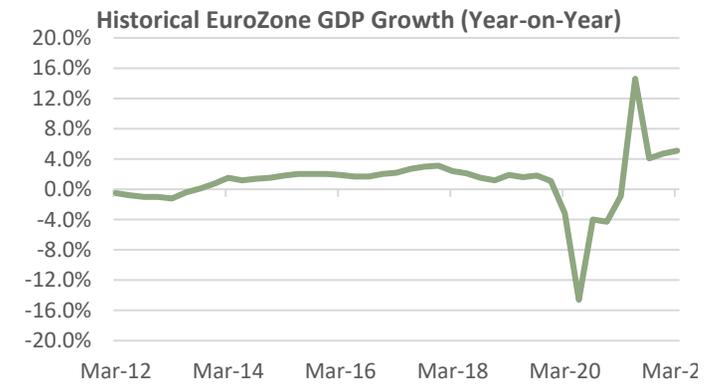
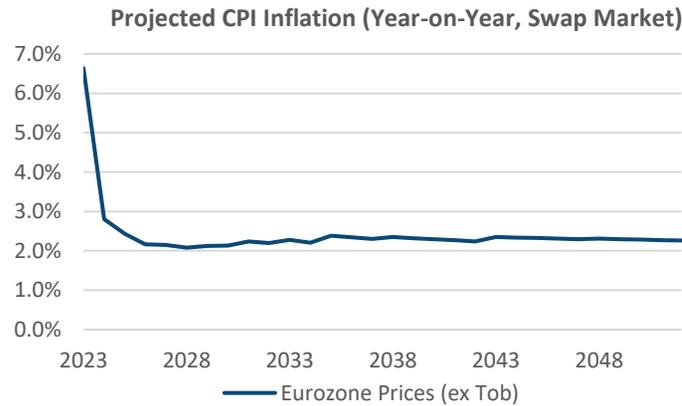
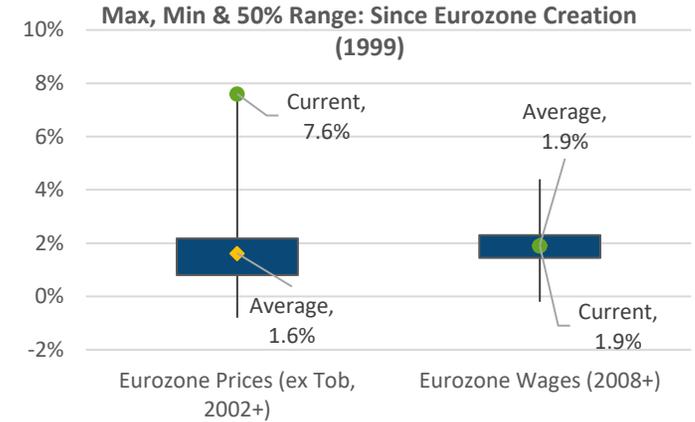
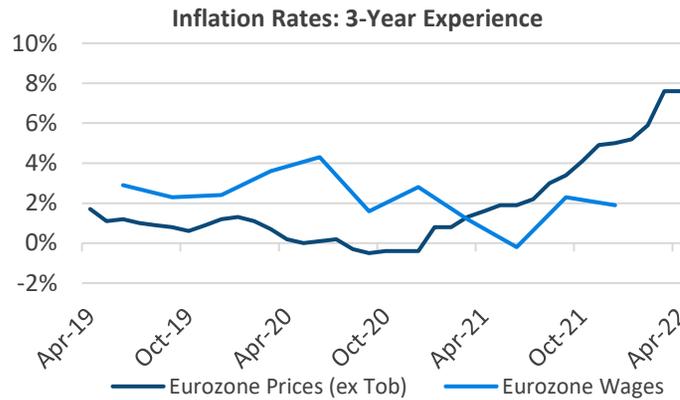
The **Solvency II risk-free discount rates** are based on applying the Smith-Wilson Extrapolation to LIBOR swap rates sourced from Refinitiv and applying the Credit Risk Adjustment as defined in the Technical Specs. The data is provided by EIOPA and as of 31/05/22.

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 31/05/22. **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.

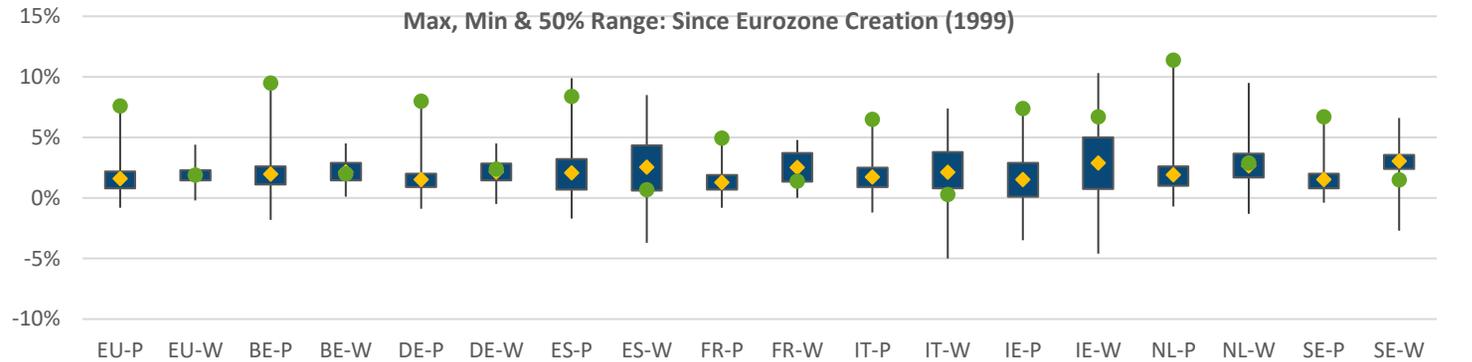
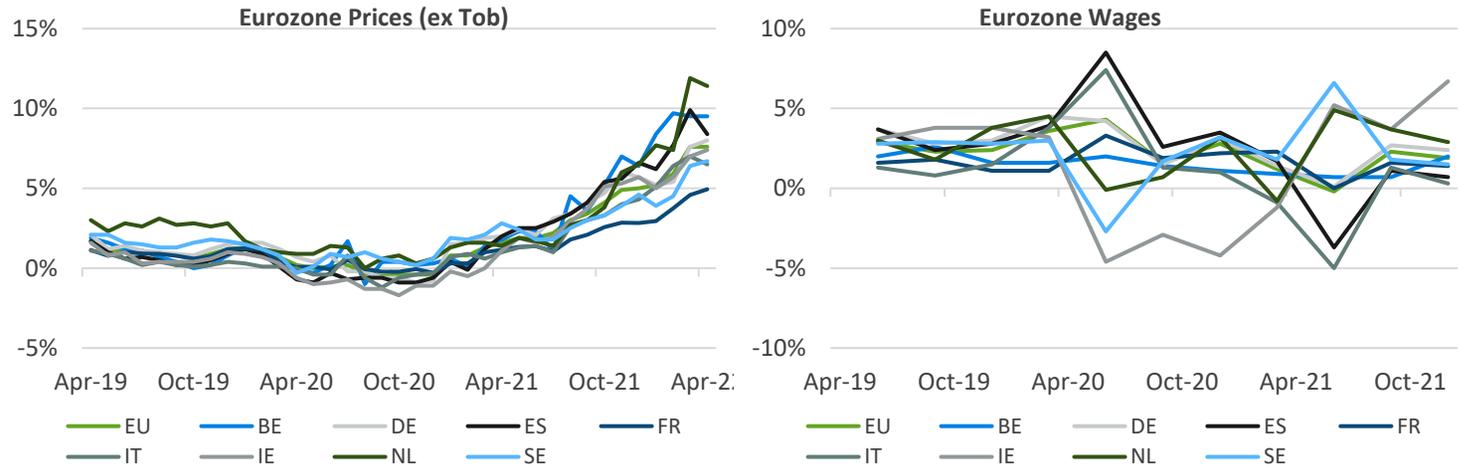
**Inflation Monitor**

- Eurozone price inflation was unchanged in April at 7.6%.
- The projected CPI curve saw a small decline from the previous month in almost all tenors.
- There were no updates to the wage inflation figure this month.



**Inflation Monitor**

- Changes in price inflation were mixed in the Eurozone in April.
- Spain witnessed the largest drop in its price inflation in April, with a decline of 150 basis points to 8.4%.
- Both Germany and Ireland saw their price inflation increase by 40 basis points in April, the largest increase in the region.
- France remains the country with the lowest price inflation in the region, at 4.9%.
- The Netherlands posted the highest headline figure, at 11.4%.

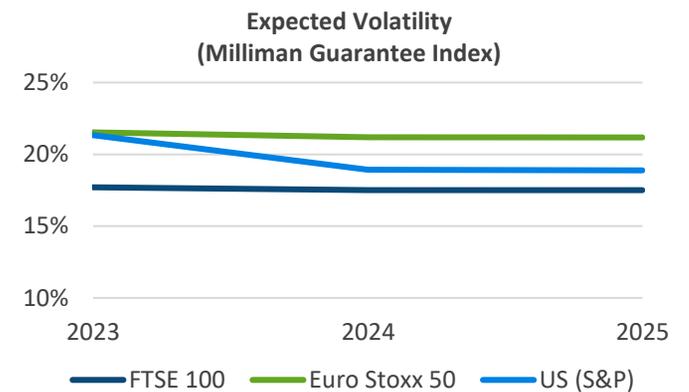
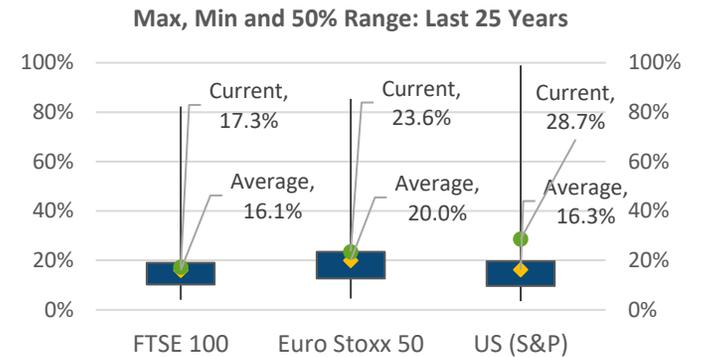
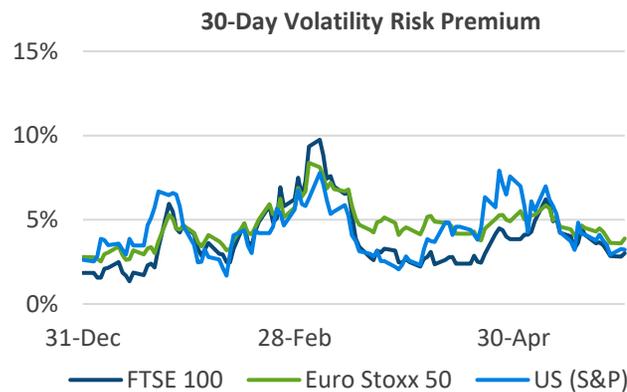
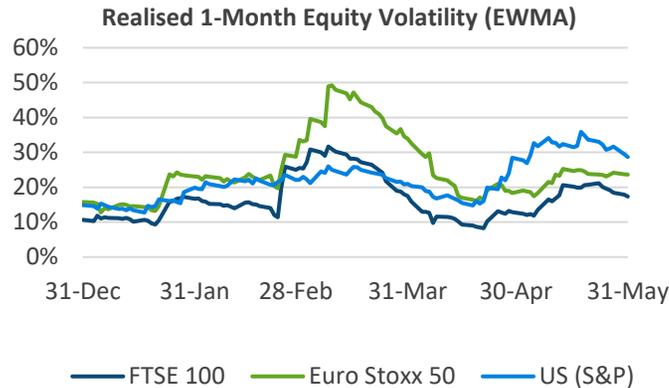


|      | EU-P | EU-W | BE-P | BE-W | DE-P | DE-W | ES-P | ES-W | FR-P | FR-W | IT-P | IT-W | IE-P | IE-W | NL-P  | NL-W | SE-P | SE-W |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|
| Avg. | 1.6% | 1.9% | 2.0% | 2.2% | 1.5% | 2.2% | 2.1% | 2.5% | 1.3% | 2.5% | 1.7% | 2.1% | 1.5% | 2.9% | 1.9%  | 2.7% | 1.5% | 3.0% |
| Cur  | 7.6% | 1.9% | 9.5% | 2.0% | 8.0% | 2.4% | 8.4% | 0.7% | 4.9% | 1.4% | 6.5% | 0.3% | 7.4% | 6.7% | 11.4% | 2.9% | 6.7% | 1.5% |

**Volatility and Hedging Cost Monitor**

- Realised volatility on major equity indices increased in May. The FTSE 100 had a realised volatility of 17.3% at month-end. The measure stood at 23.6% and 28.7% for the Euro Stoxx 50 and the S&P 500, respectively.
- Volatility risk premiums declined by month-end, as implied volatilities fell sharper than realised volatility towards the end of the month. The FTSE 100 had a volatility risk premium of 3.0%. The volatility risk premiums on the Euro Stoxx 50 and the S&P 500 were 3.9% and 3.2%, respectively.

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





## 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).

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.

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

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