

Market Price Monitor

Local Equity Markets

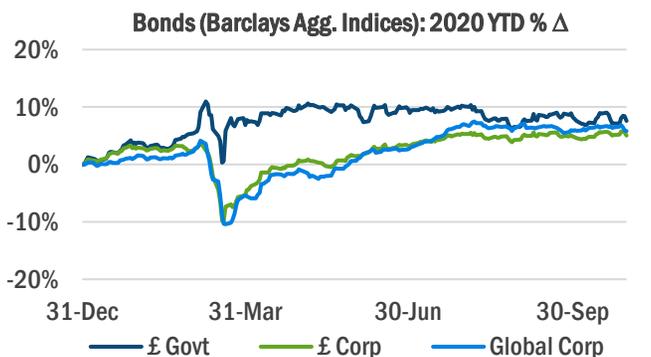
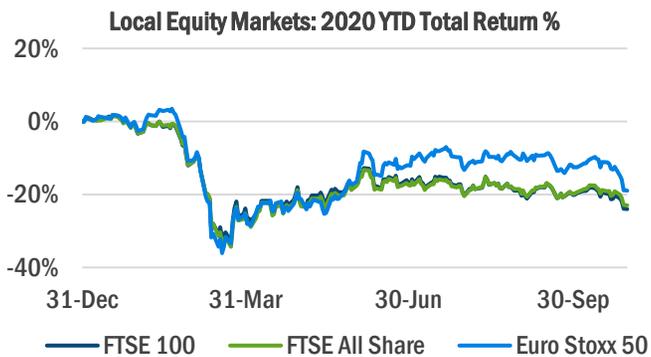
- Most major equity indices experienced material losses in October, as the rising number of COVID-19 cases forced some European governments to take action and introduce new lockdown measures and restrictions.
- The FTSE 100 index lost 4.7% during the month, down 24% year-to-date.
- The Euro Stoxx 50 ended the month down 7.3%.

Global Equity Markets

- Emerging markets outperformed their developed markets counterparts, with the MSCI emerging market index gaining 2.1% at month-end.
- In contrast, the US S&P 500 and the Japanese Topix indices lost 2.7% and 2.8%, respectively. Despite this month's losses, the S&P 500 remains up 2.8% year-to-date.

Bond/FX Markets

- The British government bond index lost 0.6% in October.
- Both the British and global corporate bond indices, ended the month relatively flat.
- The British Pound had a mixed performance in October, losing 0.5% against the Japanese Yen, while gaining 0.9% and 0.3% against the Euro and the US Dollar, respectively.



	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	-4.7%	-3.8%	-7.3%	-2.7%	-2.8%	2.1%	-0.6%	0.2%	-0.1%	-0.9%	-0.3%	0.5%
3 Month	-4.6%	-3.2%	-6.5%	0.4%	6.5%	2.7%	-2.3%	-0.3%	-1.1%	-0.1%	1.0%	2.2%
1 Year	-20.5%	-18.6%	-15.7%	9.7%	-2.9%	8.6%	5.1%	5.0%	6.4%	4.4%	-0.1%	3.1%
YTD	-24.0%	-23.0%	-19.0%	2.8%	-6.2%	1.1%	7.6%	5.0%	5.8%	6.3%	2.4%	6.3%

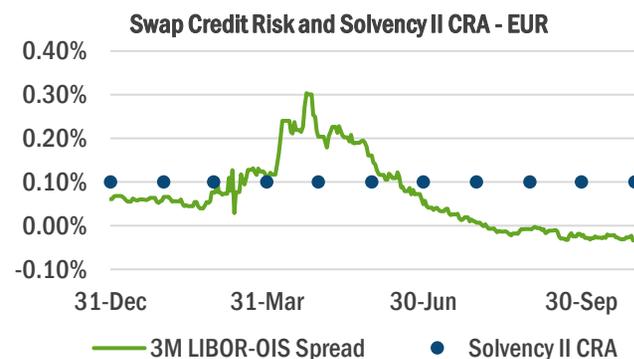
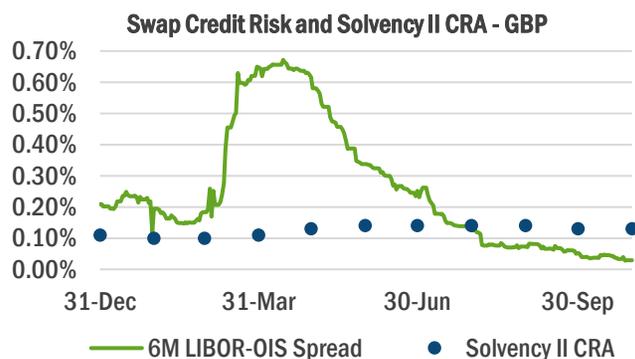
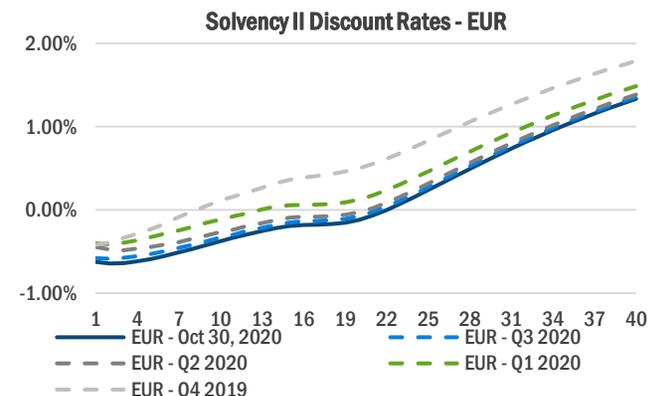
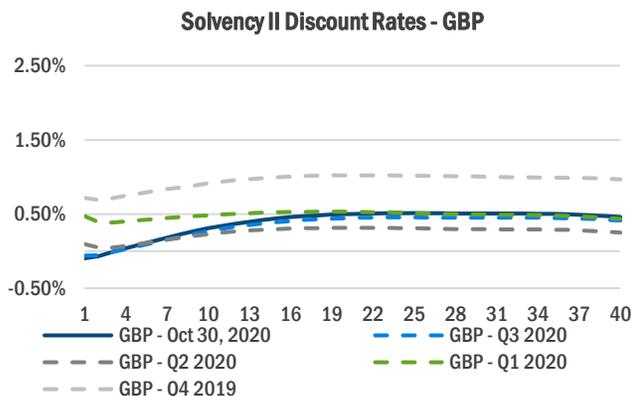
Solvency II Monitor - Rates

Risk Free Rates

- GBP risk-free rates increased at all terms in October, with the exception of the 1-year rate, which fell by 4 basis points.
- The GBP 30-year and 20-year Solvency II rates increased by 6 and 5 basis points, respectively.
- In contrast, EUR risk-free rates continued their decline at all terms for the second straight month.
- Short to medium-term EUR rates saw the largest decrease, with the 5-year rate falling by 6 basis points, while the 1-year and 10-year rates decreased by 5 basis points.

Credit Risk Adjustment

- Both the GBP and EUR CRAs remained unchanged at 13 and 10 basis points, respectively.



Change in GBP Discount and CRA (bps)						
	1Y	Y5	Y10	Y20	Y30	CRA
Since Q3 2020	-4	2	4	5	6	0
Since Q2 2020	-19	-1	8	19	21	-1
Since Q1 2020	-57	-33	-17	-3	1	2
Since Q4 2019	-81	-69	-61	-52	-50	2

Change in EUR Discount and CRA (bps)						
	1Y	Y5	Y10	Y20	Y30	CRA
Since Q3 2020	-5	-6	-5	-4	-3	0
Since Q2 2020	-18	-14	-11	-9	-7	0
Since Q1 2020	-22	-26	-26	-24	-20	0
Since Q4 2019	-20	-36	-49	-62	-54	0

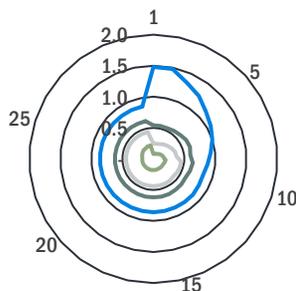
Solvency II Monitor - Spreads

Fundamental Spreads

- There were no material changes since the last report.

Fundamental Spreads %

GBP - Financial

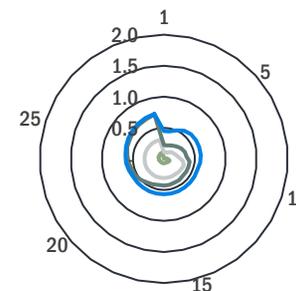


— AAA — AA — A — BBB

GBP Financial Fundamental Spread %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.08	0.12	0.19	0.18	0.22
AA	0.25	0.31	0.45	0.44	0.44
A	0.54	0.58	0.62	0.62	0.62
BBB	1.48	1.14	0.84	0.86	0.86

GBP Financial 'Before Floor' %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.00	0.04	0.08	0.16	0.22
AA	0.03	0.06	0.11	0.19	0.26
A	0.06	0.13	0.20	0.33	0.45
BBB	0.15	0.25	0.35	0.50	0.61

GBP - Non-Financial



— AAA — AA — A — BBB

GBP Non-Financial Fundamental Spread %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.00	0.01	0.10	0.07	0.10
AA	0.11	0.16	0.34	0.31	0.31
A	0.22	0.29	0.42	0.50	0.73
BBB	0.45	0.59	0.57	0.57	0.74

GBP Non-Financial 'Before Floor' %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.00	0.01	0.04	0.07	0.10
AA	0.00	0.04	0.08	0.16	0.24
A	0.03	0.14	0.26	0.50	0.73
BBB	0.11	0.22	0.34	0.56	0.74

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 31/10/20.

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.

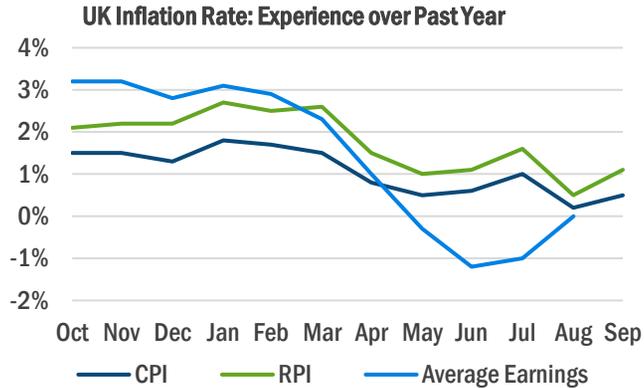
EIOPA fundamental spreads show the credit spread corresponding to the risk of default or downgrading of an asset. This is shown here across financial and non-financial assets, credit quality steps 0-3 and durations of 1-30 years. The data is provided by EIOPA and as of 31/10/20. **Fundamental spread** = 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.

UK Inflation Monitor

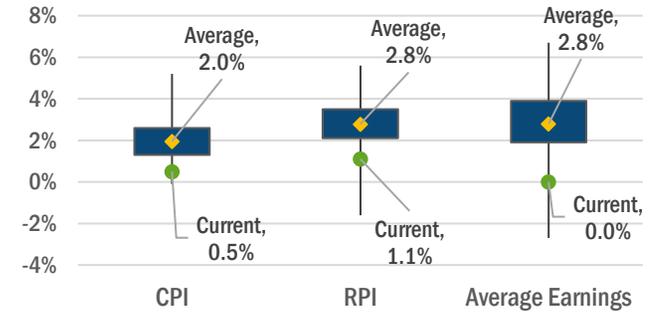
- UK's CPI inflation measure rose by 30 basis points to 0.5% in September.
- The RPI inflation measure increased by 60 basis points in September, posting a reading of 1.1%.
- According to the ONS: "Transport costs, and restaurant and café prices, following the end of the Eat Out to Help Out scheme, made the largest upward contributions. This was partially offset by smaller downward contributions from furniture, household equipment and maintenance; games, toys and hobbies; and food and non-alcoholic beverages."
- UK's average earnings increased by 100 basis points in August, with the headline figure coming in flat.
- The projected RPI curve increased at shorter-terms in comparison to the previous month, while the rest of the curve remained broadly unchanged.

House of Lords' Report

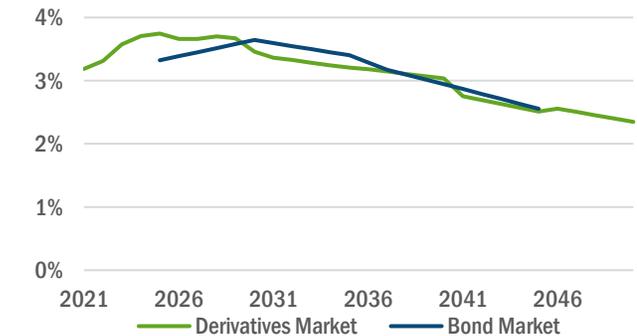
- No update since the previous report.



Max, Min and 50% Range: Since BoE Independence



Projected UK RPI Inflation (Year-on-Year)



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

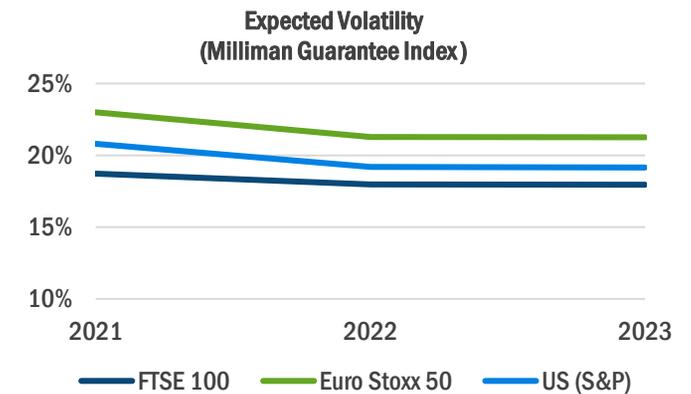
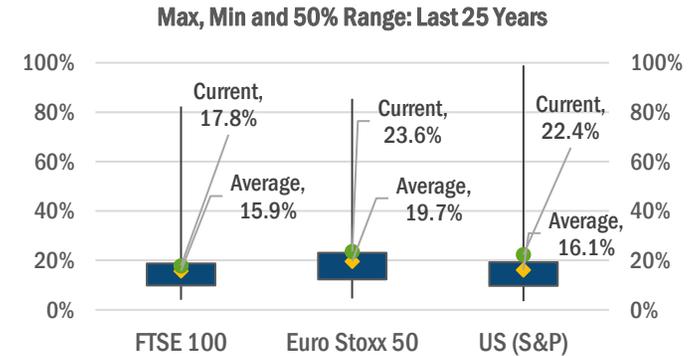
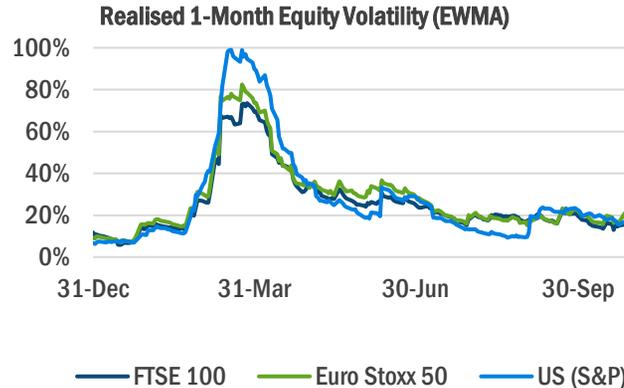
- **Consumer Price Index (CPI)** – measuring the monthly price of a basket of consumer goods and services
- **Retail Price Index (RPI)** – similar to CPI, but the main difference due the addition of mortgage payments, council tax and other housing costs
- **Average Earnings** – measuring the average 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 volatility of most major indices increased in October, as the outlook remains uncertain with the fast approaching US elections and concerns over the rising number of COVID-19 cases.
- However, the FTSE 100 index experienced a decline in realised volatility to 17.8% by month-end. The Euro Stoxx 50 and the S&P 500 had realised volatilities of 23.6% and 22.4% by month-end.
- Implied volatilities increased significantly during the month, indicating a higher demand for protection, and causing volatility risk premiums to spike. The FTSE 100 had a risk premium of 7.5% at month-end. Meanwhile, the Euro Stoxx 50 and the S&P 500 recorded volatility risk premiums of 6% and 10.2%, respectively.



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 (on data from the Oxford-Man Institute). 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).

Expected realised volatility is an intermediate result from the [Milliman Guarantee Index™ \(MGI\)](#), which provides volatility parameters for variable annuity guarantee (VA) valuation and risk management. The levels shown are on an expected basis, and do not reflect any risk adjustment.

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