

Market Price Monitor

Local Equity Markets

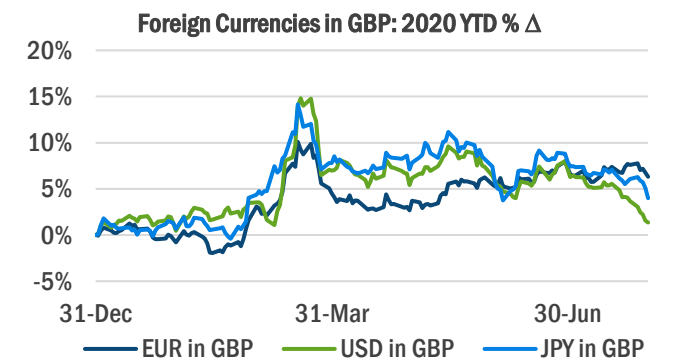
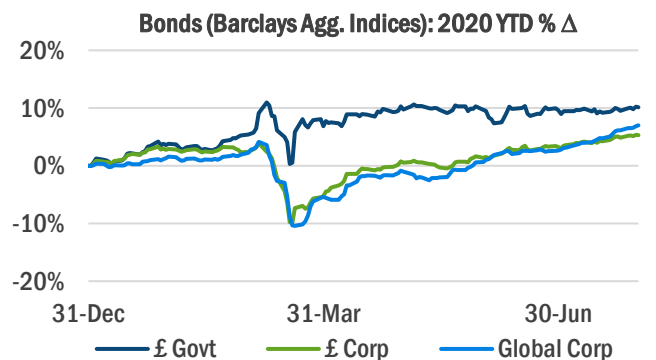
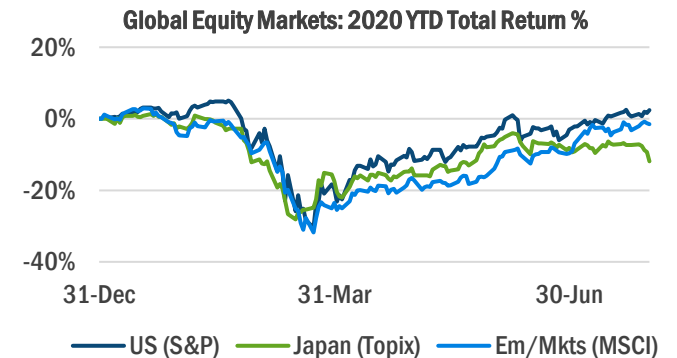
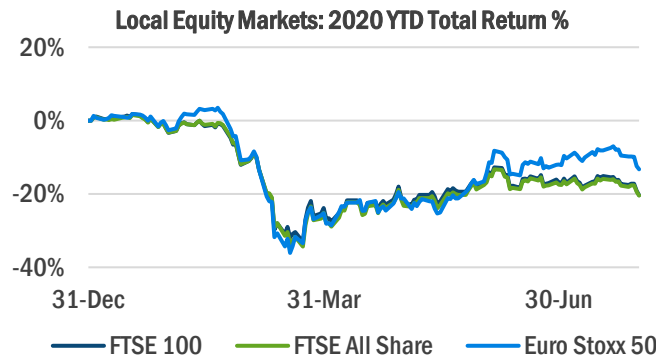
- Equity markets had a mixed performance in July, as the pace of newly reported COVID-19 cases rose in some parts of the globe.
- After a strong Q2, local equity markets made losses for the first time in three months.
- The FTSE 100 index lost 4.2% during the month, meanwhile the Euro Stoxx 50 ended the month down 1.5%.

Global Equity Markets

- Emerging markets outperformed their developed economies counterparts, with the MSCI emerging market index gaining 9% in July.
- The S&P 500 also made gains, returning 5.6%, meanwhile the Japanese Topix index lost 4% during the same period. The former is now up 2.4% year-to-date.

Bond/FX Markets

- Bond markets continued to add to their gains for the year, as both the British and global corporate bond indices ended the month up. The former returning 2% and the latter 4.2%, for the month.
- The British government bond index was up 0.4%.
- The British Pound had a strong performance in July, gaining 5.4% the US Dollar, as the world's reserve currency saw some material losses during the month.
- The Pound gained 3.6% and 0.9%, against the Japanese Yen and the Euro, respectively.



Total Returns as of July 31, 2020												
	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	-4.2%	-3.6%	-1.5%	5.6%	-4.0%	9.0%	0.4%	2.0%	4.2%	-0.9%	-5.4%	-3.6%
3 Month	0.6%	1.2%	10.0%	12.9%	2.3%	18.0%	-0.2%	4.5%	7.9%	3.6%	-3.9%	-2.9%
1 Year	-19.2%	-17.8%	-5.9%	12.0%	-1.9%	6.9%	10.0%	6.7%	10.2%	-1.2%	-6.7%	-4.2%
YTD	-20.4%	-20.5%	-13.3%	2.4%	-11.9%	-1.5%	10.1%	5.3%	7.0%	6.3%	1.4%	4.0%

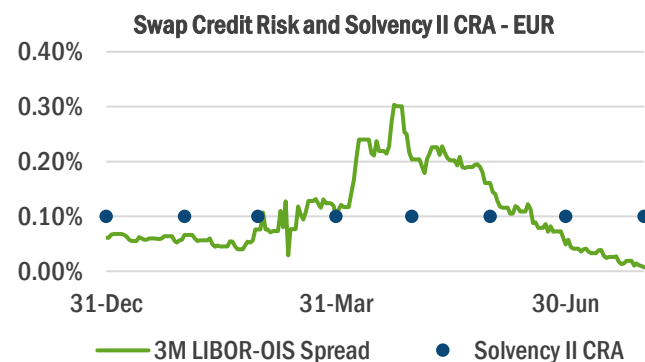
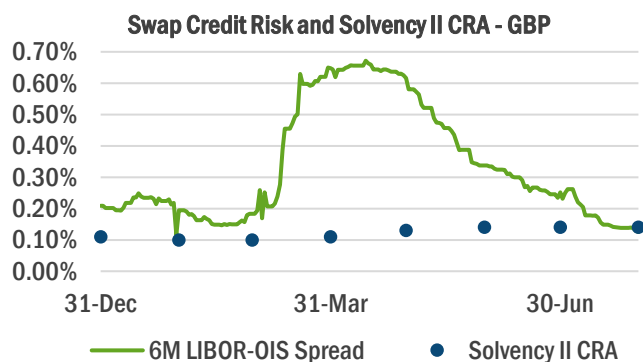
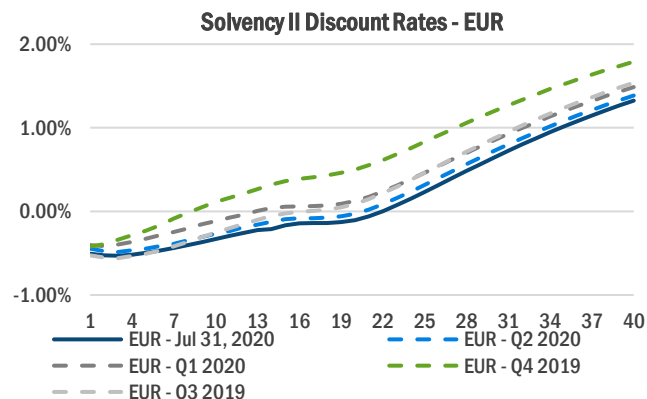
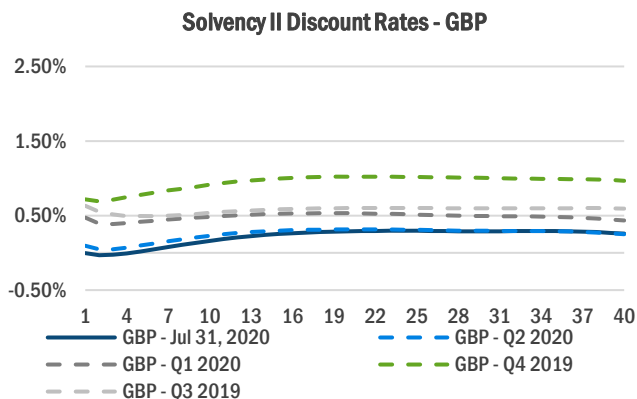
Solvency II Monitor - Rates

Risk Free Rates

- GBP risk-free rates declined at all terms in July, with the short to medium term rates seeing the largest fall.
- The 1-year GBP risk-free rate decreased by 10 basis points, while the 5-year and 10-year rates fell by 8 and 7 basis points, respectively.
- EUR risk-free rates also decreased at all terms in July. The 20-year EUR risk-free rate decreased by 8 basis points, meanwhile the 10-year and 1-year EUR rates saw a decline of 6 basis points.

Credit Risk Adjustment

- Both GBP and EUR CRAs remained unchanged at 14 and 10 basis points, respectively.



Change in GBP Discount and CRA (bps)						
	1Y	Y5	Y10	Y20	Y30	CRA
Since Q2 2020	-10	-8	-7	-3	-1	0
Since Q1 2020	-48	-40	-32	-24	-20	3
Since Q4 2019	-72	-76	-75	-73	-72	3
Since Q3 2019	-64	-48	-37	-31	-31	3

Change in EUR Discount and CRA (bps)						
	1Y	Y5	Y10	Y20	Y30	CRA
Since Q2 2020	-6	-5	-6	-8	-8	0
Since Q1 2020	-10	-17	-22	-23	-21	0
Since Q4 2019	-9	-27	-44	-60	-55	0
Since Q3 2019	2	1	-8	-20	-23	0

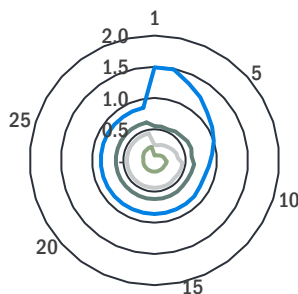
Solvency II Monitor - Spreads

Fundamental Spreads

- There were no material changes since the last report.

Fundamental Spreads %

GBP - Financial

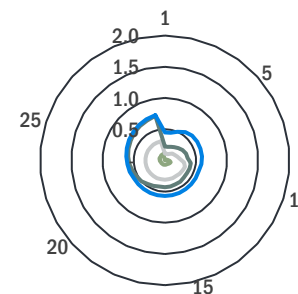


— AAA — AA — A — BBB

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	0.55	0.58	0.62	0.62	0.62
BBB	1.49	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	0.04	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	0.49	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	0.04	0.14	0.26	0.50	0.73
BBB	0.11	0.22	0.34	0.55	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 31/07/20.

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.

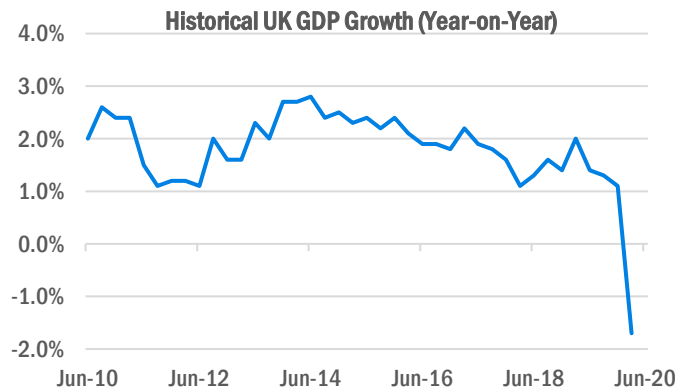
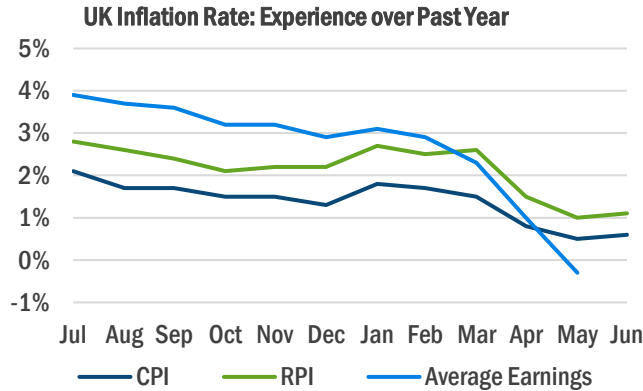
EIOPA fundamental spreads show the credit spread corresponding to the risk of default or downgrading of an asset. This is shown here across financial and non-financial assets, credit quality steps 0-3 and durations of 1-30 years. The data is provided by EIOPA and as of 31/07/20. **Fundamental spread** = 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

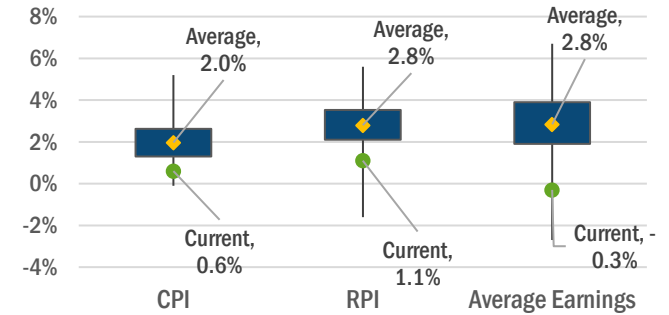
- UK's CPI inflation rose by 10 basis points in June, with the headline figure at 0.6%.
- The RPI inflation measure also increased by 10 basis points to 1.1% in June.
- According to the ONS: *“Rising prices for games and clothing resulted in the largest upward contributions. Falling prices for food resulted in a partially offsetting downward contribution.”*
- UK's average earnings fell by 130 basis points in May, posting a reading of -0.3%. This is the first contraction in wage inflation since June 2014.
- The projected UK RPI curve was higher at shorter terms in comparison to the previous month, but the rest of the curve remained broadly unchanged, with the outlook still pointing to a spike in inflation in the medium-term, followed by a steady decline in the medium-to-longer term.
- There were no updates to the UK GDP figure this month.

House of Lords' Report

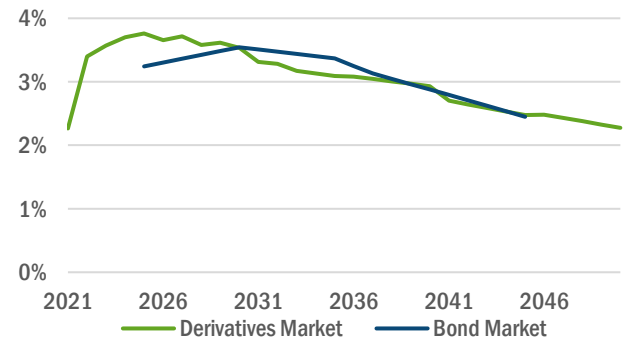
- There were no further updates this month.



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:

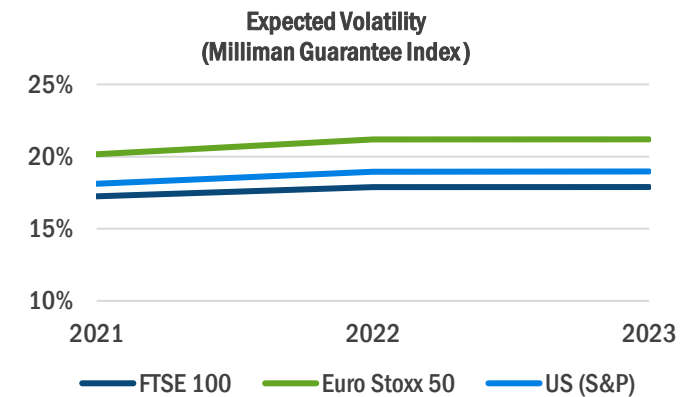
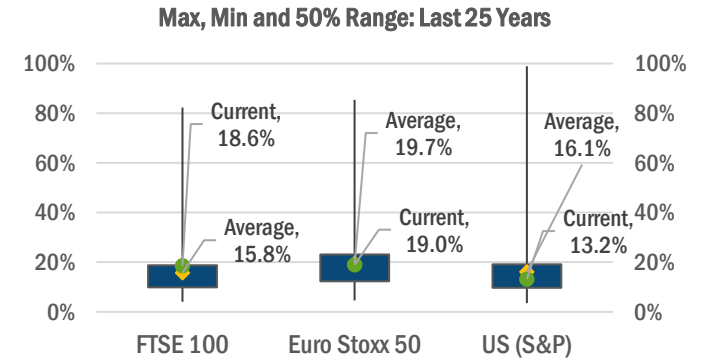
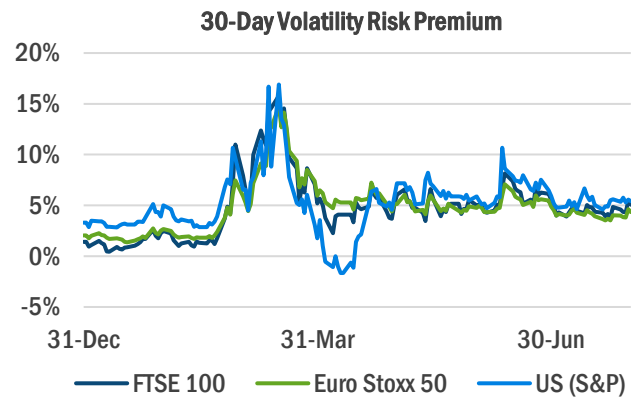
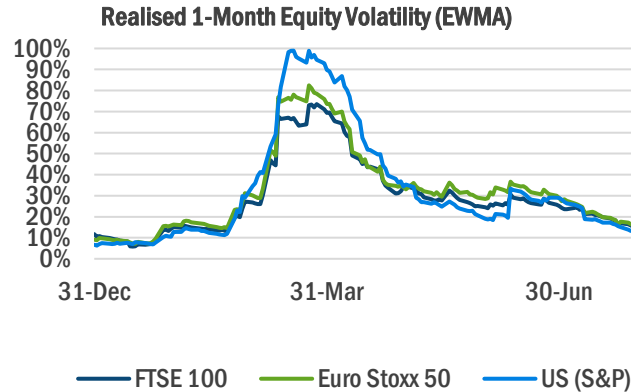
- **Consumer Price Index (CPI)** – measuring the monthly price of a basket of consumer goods and services
- **Retail Price Index (RPI)** – similar to CPI, but the main difference due the addition of mortgage payments, council tax and other housing costs
- **Average Earnings** – measuring the average 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 volatilities declined in July, with the FTSE 100 posting a realised volatility of 18.6% at month-end. The Euro Stoxx 50 and S&P 500 indices realised volatilities stood at 19% and 13.2% at month-end, respectively.
- Volatility risk premiums were broadly unchanged from the previous month, as implied volatilities fell in coherence with realised volatilities. The FTSE 100 index posted a volatility risk premium of 5.1% at month-end, meanwhile the S&P 500 showed a volatility risk premium of 5.4% and the Euro Stoxx 50 had this measure at 4.3% by the end of the month.
- These volatility risk premiums continue to remain elevated in comparison to their pre-COVID-19 levels.



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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