

Market Price Monitor

Local Equity Markets

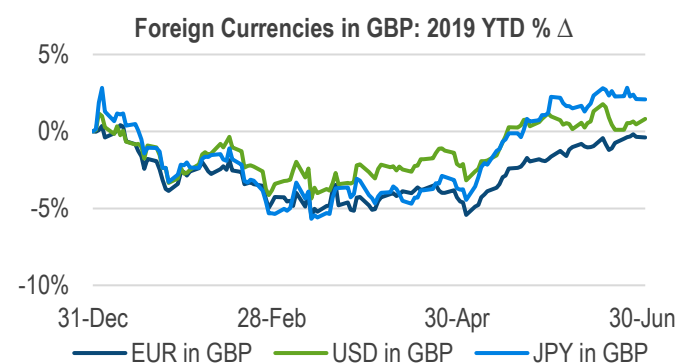
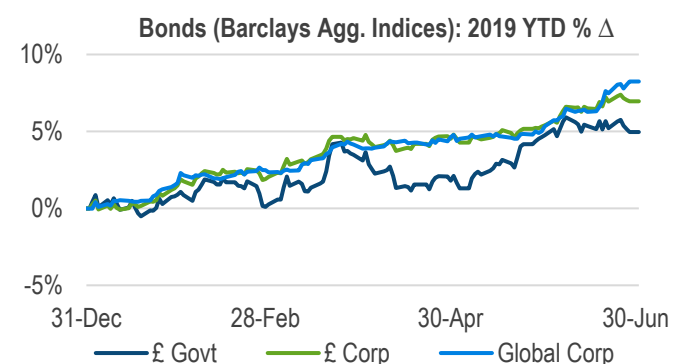
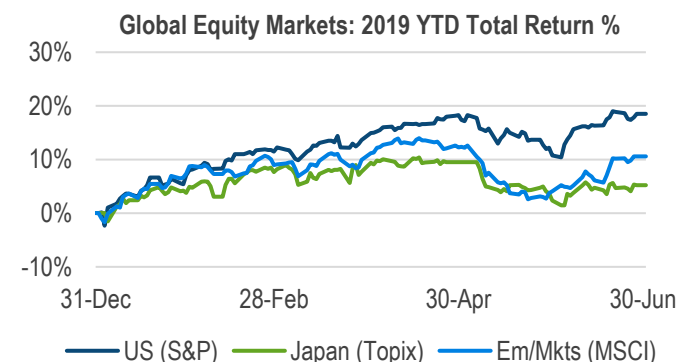
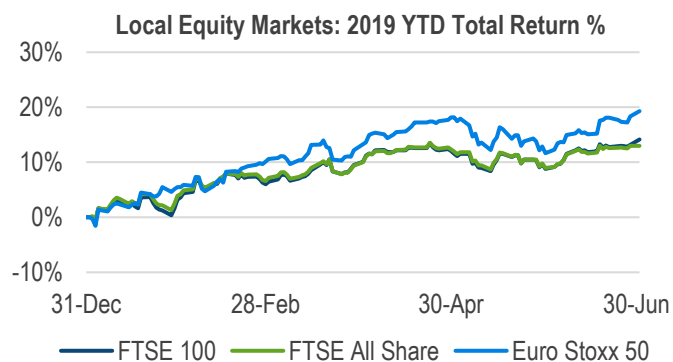
- Equity markets had a strong positive performance in June. The market confidence is boosted by central banks' signals for more accommodative monetary policies, on the back of poorer economic data, subdued inflation and sustained global trade tension.
- The FTSE 100 gained 4% over the month, reaching the highest year-to-date compared to other months.
- The Euro Stoxx 50 had a more impressive run, gaining 6% in June. It is now one of the best performers in the global markets, with a year-to-date return of more than 18%.

Global Equity Markets

- There were material gains in equity markets globally as the S&P 500 gained 7% during the month, having recovered all its losses from the previous month.
- Japanese and Emerging Markets also strengthened, ending the month 2.8% and 6.2% up.

Bond/FX Markets

- UK government bonds remained flat in June, gaining 0.2%, while corporate bonds enjoyed a 1.5% gain.
- The British Pound, lost 1.3% against the Euro, but made a slight gain of 0.5% against the US Dollar, in a month that saw the USD broadly weaker against other major currencies.



	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
Total Returns as of June 30, 2019												
1 Month	4.0%	3.7%	6.0%	7.0%	2.8%	6.2%	0.2%	1.5%	2.8%	1.3%	-0.5%	-0.1%
3 Month	3.3%	3.3%	5.5%	4.3%	-2.4%	0.6%	1.4%	2.3%	3.9%	4.1%	2.7%	5.5%
1 Year	1.6%	0.6%	5.1%	10.4%	-8.2%	1.2%	5.3%	6.6%	7.8%	1.2%	4.0%	6.8%
YTD	13.1%	13.0%	18.3%	18.5%	5.2%	10.6%	5.0%	7.0%	8.2%	-0.4%	0.5%	2.1%

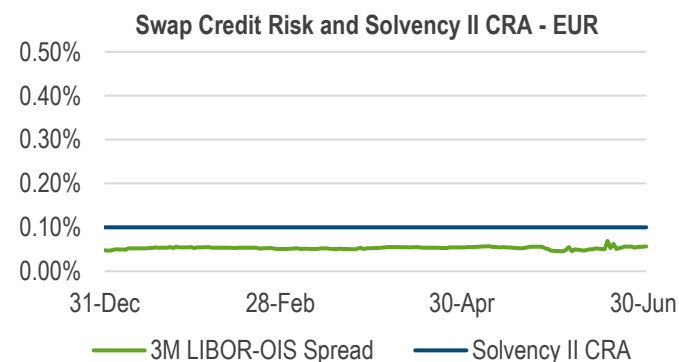
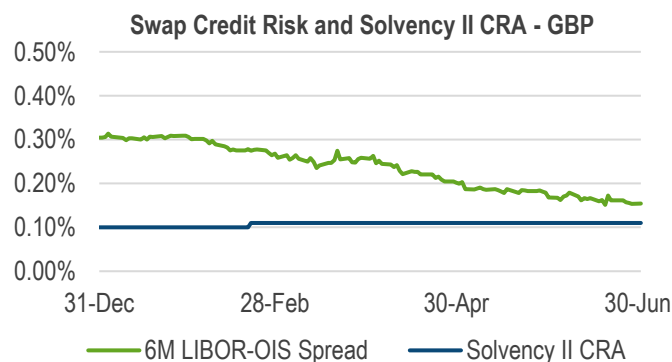
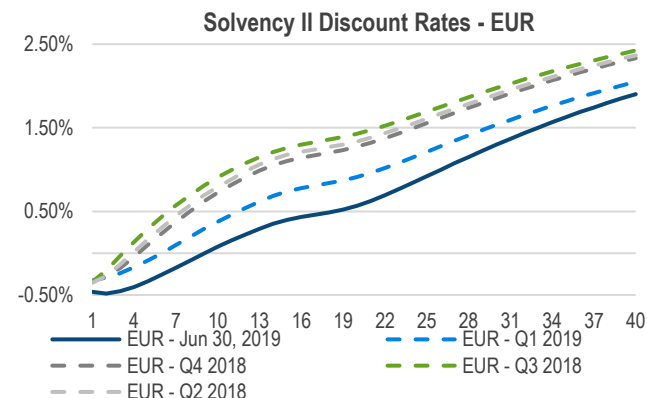
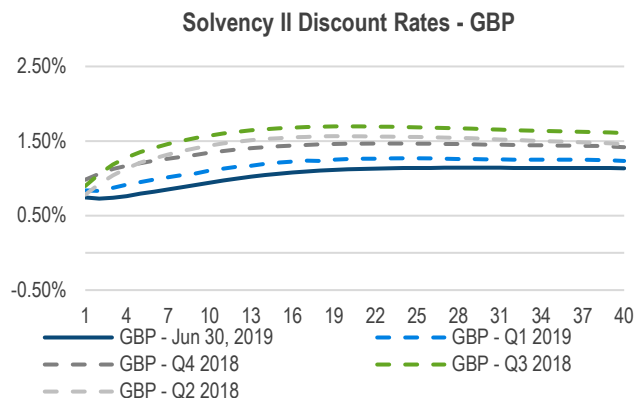
Solvency II Monitor - Rates

Risk Free Rates

- As fixed income prices continued their rise in June on the back of more accommodative monetary policies, risk free rates saw another decrease at all terms.
- The Solvency II GBP risk-free rates declined at all terms, with the biggest decline materialising at the 5 and 10-year terms by 5 basis points.
- The EUR risk-free rates saw bigger declines across the terms, as the 20-year rates experienced a decrease of 19 basis points. 10-year and 30-year rates were both lowered by 16 basis points.
- EUR risk free rates continued their downtrend towards their record low levels of 2016.

Credit Risk Adjustment

- Both GBP and EUR CRAs remained unchanged from May at 11 and 10 basis points, respectively.



Change in GBP Discount and CRA (bps)						
	1Y	Y5	Y10	Y20	Y30	CRA
Since Q1 2019	-9	-16	-16	-14	-11	0
Since Q4 2018	-24	-41	-40	-34	-31	1
Since Q3 2018	-15	-56	-63	-58	-52	1
Since Q2 2018	-4	-42	-50	-44	-39	1

Change in EUR Discount and CRA (bps)						
	1Y	Y5	Y10	Y20	Y30	CRA
Since Q1 2019	-13	-25	-30	-34	-24	0
Since Q4 2018	-13	-43	-65	-71	-56	0
Since Q3 2018	-12	-63	-83	-86	-68	0
Since Q2 2018	-11	-50	-71	-77	-60	0

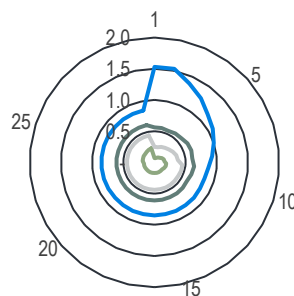
Solvency II Monitor - Spreads

Fundamental Spreads

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

Fundamental Spreads %

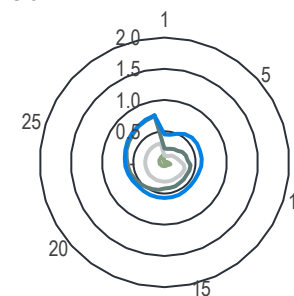
GBP - Financial



— AAA — AA — A — BBB

GBP Financial Fundamental Spread %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.07	0.11	0.19	0.17	0.23
AA	0.25	0.31	0.45	0.44	0.44
A	0.56	0.58	0.62	0.61	0.61
BBB	1.53	1.15	0.84	0.85	0.85
GBP Financial 'Before Floor' %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.00	0.04	0.08	0.16	0.23
AA	0.04	0.06	0.11	0.19	0.27
A	0.06	0.13	0.21	0.34	0.47
BBB	0.16	0.27	0.37	0.53	0.65

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	0.11
AA	0.11	0.16	0.34	0.31	0.31
A	0.22	0.28	0.42	0.52	0.76
BBB	0.45	0.59	0.57	0.57	0.77
GBP 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	0.04	0.15	0.27	0.52	0.76
BBB	0.11	0.22	0.35	0.56	0.77

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 30/06/19) and applying the Credit Risk Adjustment as defined in the Technical Specs.

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.

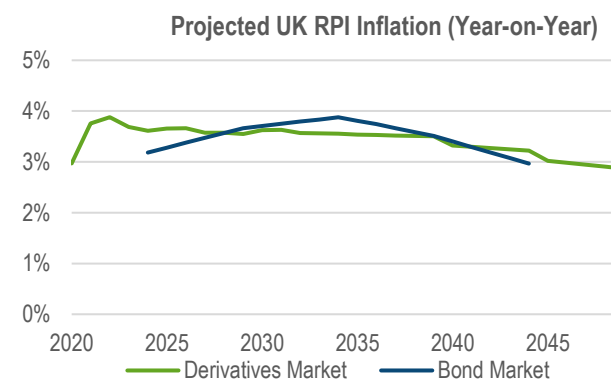
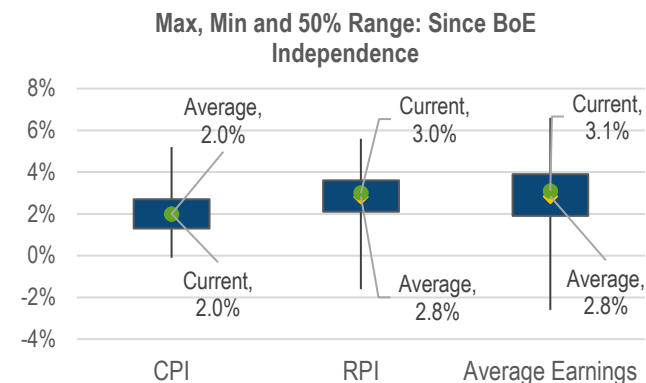
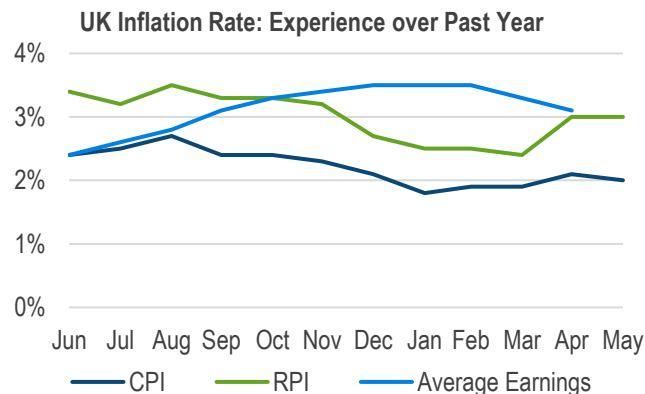
EIOPA fundamental spreads show the credit spread corresponding to the risk of default or downgrading of an asset. This is shown here across financial and non-financial assets, credit quality steps 0-3 and durations of 1-30 years. The data is provided by EIOPA and as of 31/05/19. **Fundamental spread** = 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

- CPI inflation measure was down by 10 basis points at 2% in May, while RPI remained unchanged at 3%.
- According to the ONS: “ Falling fares for transport services, particularly air fares influenced by the timing of Easter in April, and falling car prices produced the largest downward contributions... Partially offsetting upward contributions came from rising prices for a range of games, toys and hobbies, furniture and furnishings, and accommodation services”
- Average Earnings declined in April by 10 basis points from their previous reading of 3.2%.
- Projected UK RPI saw some declines in both the derivatives and bond markets, as short-term and long-term projected RPI was shifted lower.
- There were no updates to GDP figures this month.

House of Lords' Report

- The Economic Affairs Committee's “Measuring Inflation” report is scheduled for debate in the House of Lords on July 1st.
- The UK Statistics Authority have indicated that discussions with government continue on this matter and therefore, are still unable to publish a reply to the report.



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

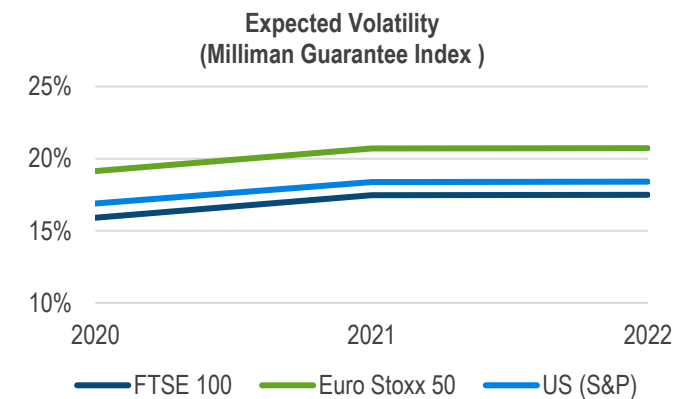
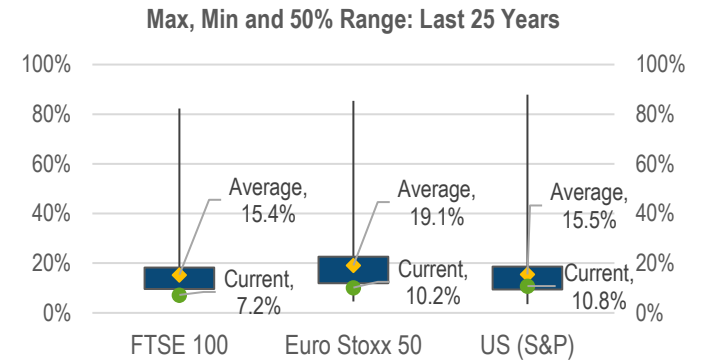
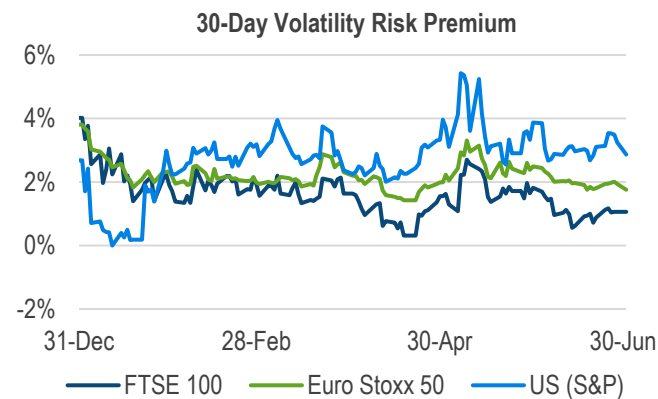
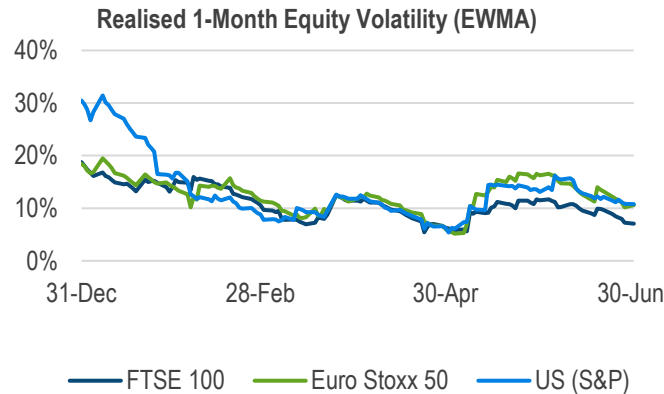
- **Consumer Price Index (CPI)** – measuring the monthly price of a basket of consumer goods and services
- **Retail Price Index (RPI)** – similar to CPI, but the main difference due the addition of mortgage payments, council tax and other housing costs
- **Average Earnings** – measuring the average 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

- Volatility decreased slightly across all developed economies, as equity markets posted impressive gains in June.
- Realised volatility declined in UK equities, as the FTSE 100 realised volatility dipped below 10%, and ended the month at 7.2%.
- Realised volatility remained above 10% for European and US equities, standing at 10.2% and 10.8% at month-end.
- Volatility risk premiums for EU, UK and US equities, remained below the levels seen in the previous month, as FTSE 100 volatility risk premium ended the month at 1.1%.
- S&P 500 and EU stoxx 50 volatility risk premium stood at 3.2% and 1.9% 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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