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

Market Price Monitor

Local Equity Markets

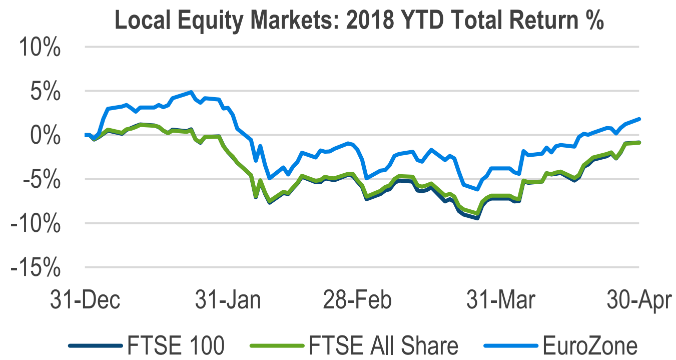
- European equity markets rebounded strongly in April as trade war tensions eased and companies reported good growth on first quarter's earnings.
- European equities gained between 5% and 7% during the month, offsetting the losses from the first quarter. The main UK equity benchmark is now only 1% below its year-end 2017 level, while the main Eurozone benchmark is now up by just under 2%.

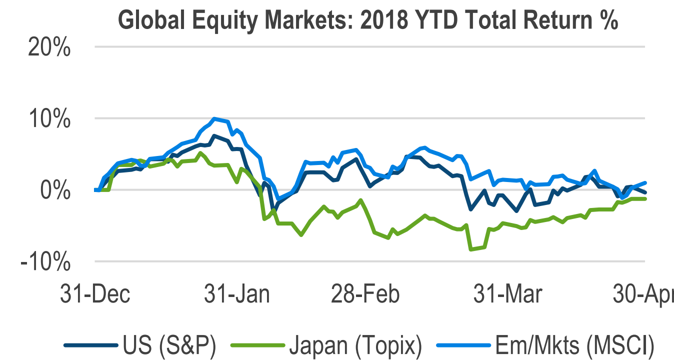
Global Equity Markets

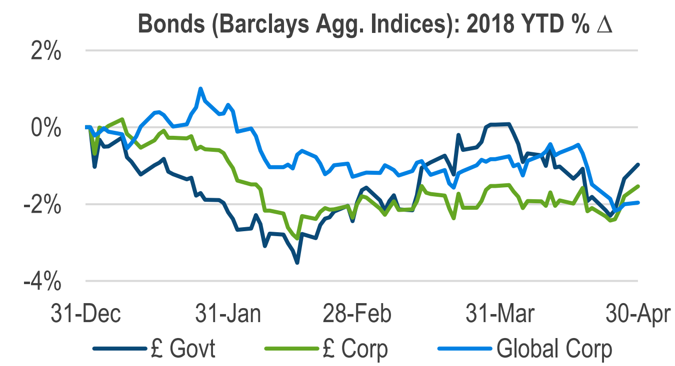
- International equity markets experienced fewer gains in April, with a marginal decline in Emerging Markets.
- US and Japanese equities remain in negative territories for the year, however Emerging Markets equity still remains positive for the year.

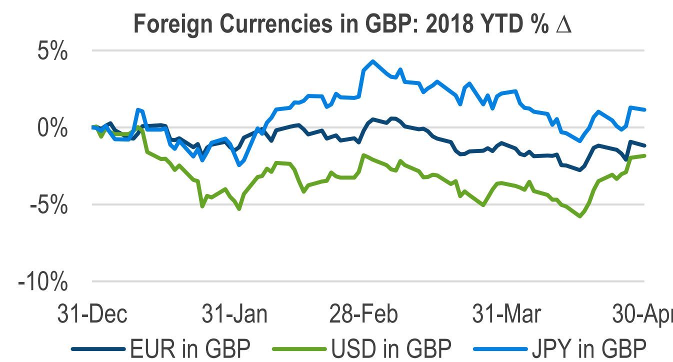
Bond/FX Markets

- Government bond markets declined in April. The main British government bond benchmark lost 1% over the month, becoming slightly negative for the year.
- Sterling corporate bond markets saw a marginal change during the month. Their year-to-date performance remains negative.
- The US Dollar rebounded against the British Pound strongly in April. In contrast, both the Euro and Japanese Yen declined.









Total Returns as of April 30, 2018

	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	6.8%	6.4%	5.8%	0.4%	3.6%	-0.4%	-1.0%	0.0%	-1.1%	-0.2%	1.8%	-1.0%
3 Month	1.1%	1.1%	-1.3%	-5.8%	-2.3%	-6.8%	1.3%	-0.7%	-2.5%	0.3%	3.1%	3.0%
1 Year	8.5%	8.2%	2.0%	13.3%	18.5%	21.7%	-0.8%	0.8%	3.8%	4.3%	-5.9%	-4.1%
YTD	-0.9%	-0.9%	1.8%	-0.4%	-1.3%	1.0%	-1.0%	-1.5%	-2.0%	-1.2%	-1.9%	1.1%

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

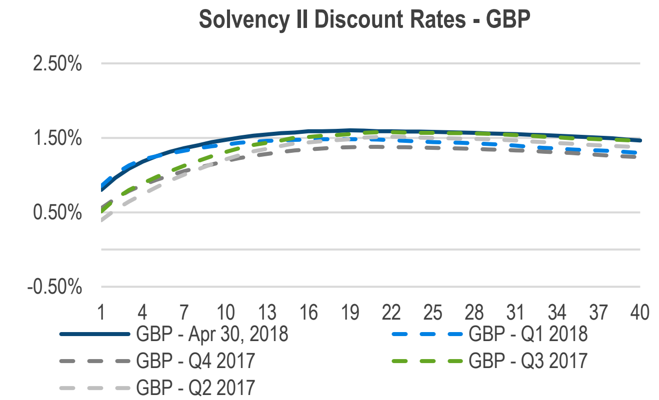
Solvency II Monitor - Rates

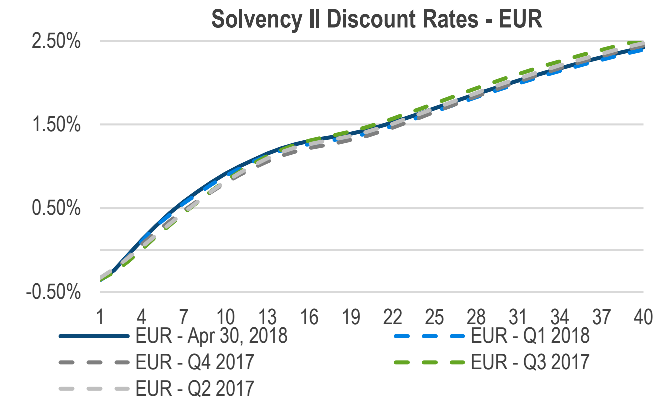
Risk Free Rates

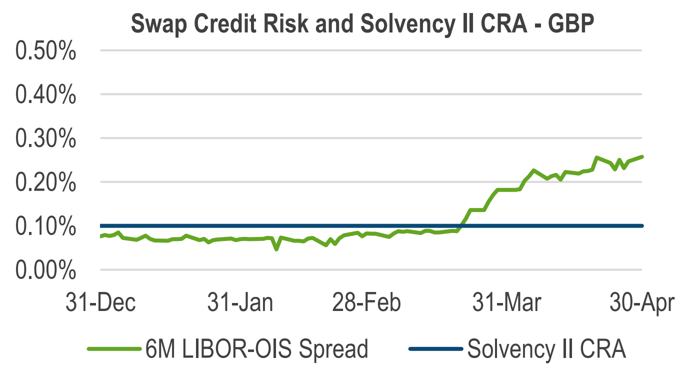
- The GBP Solvency II discount curve steepened in April. The short-end of the curve decreased by 5 basis points in the month, while longer terms increased by 15 basis points. It remains well above its level at 2017 year-end.
- The EUR Solvency II discount curve also saw increases in its medium and long term rates in April, while shorter terms remained unchanged. All terms on the curve are above their year-end levels.

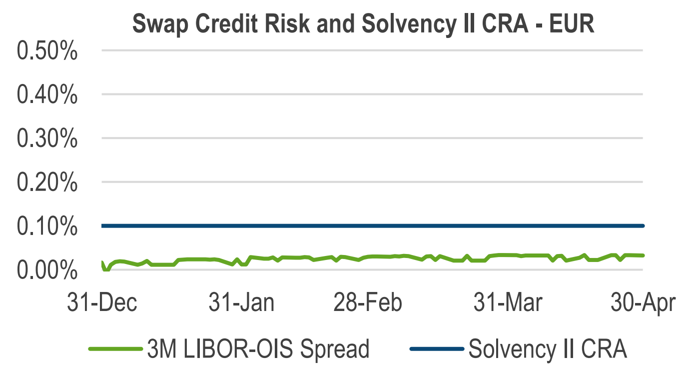
Credit Risk Adjustment

- GBP LIBOR-OIS spread continued to increase in April. It was more than 15 basis points above the CRA 10 basis point at the end of the month. However, this has yet to have an impact on the CRA, as it is based upon a historical average.
- EUR LIBOR-OIS continues to remain below the 10 basis point floor.









Change in GBP Discount and CRA (bps)

	1Y	Y5	Y10	Y20	Y30	CRA
Since Q1 2018	-5	0	6	12	15	0
Since Q4 2017	25	32	28	22	21	0
Since Q3 2017	29	28	16	3	1	-3
Since Q2 2017	41	42	26	9	8	-6

Change in EUR Discount and CRA (bps)

	1Y	Y5	Y10	Y20	Y30	CRA
Since Q1 2018	0	0	3	4	4	0
Since Q4 2017	0	8	11	7	2	0
Since Q3 2017	0	13	8	-4	-8	0
Since Q2 2017	-2	11	9	2	-2	0

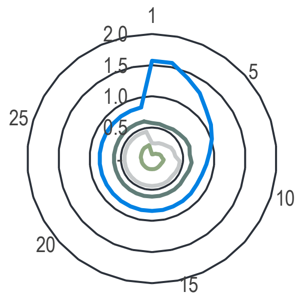
Solvency II Monitor - Spreads

Fundamental Spreads

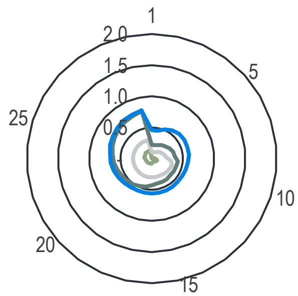
- The fundamental spread data shown is for end of March.
- There were no material changes compared to the end of February.

Fundamental Spreads %

GBP - Financial



GBP - Non-Financial



GBP Financial Fundamental Spread %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.07	0.11	0.18	0.17	0.22
AA	0.25	0.31	0.45	0.44	0.44
A	0.57	0.59	0.62	0.61	0.61
BBB	1.57	1.17	0.84	0.84	0.84

GBP Financial 'Before Floor' %					
	1Y	*Y5*	*Y10*	*Y20*	*Y30*
AAA	*0.00*	*0.04*	*0.08*	*0.15*	*0.22*
AA	*0.04*	*0.07*	*0.11*	*0.19*	*0.27*
A	*0.07*	*0.14*	*0.22*	*0.36*	*0.48*
BBB	*0.17*	*0.28*	*0.39*	*0.57*	*0.69*

GBP Non-Financial Fundamental Spread %					
	1Y	Y5	Y10	Y20	Y30
AAA	0.00	0.02	0.09	0.09	0.14
AA	0.11	0.16	0.34	0.30	0.30
A	0.22	0.29	0.41	0.53	0.78
BBB	0.46	0.59	0.57	0.59	0.79

GBP Non-Financial 'Before Floor' %					
	1Y	*Y5*	*Y10*	*Y20*	*Y30*
AAA	*0.00*	*0.02*	*0.04*	*0.09*	*0.14*
AA	*0.00*	*0.04*	*0.09*	*0.19*	*0.27*
A	*0.04*	*0.15*	*0.28*	*0.53*	*0.78*
BBB	*0.11*	*0.23*	*0.36*	*0.59*	*0.79*

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 30/04/18) 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.

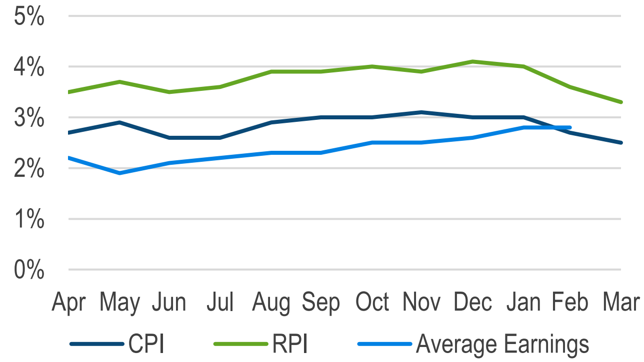
EIOPA fundamental spreads show the credit spread corresponding to the risk of default or downgrading of an asset. This is shown here across financial and non-financial assets, credit quality steps 0-3 and durations of 1-30 years. The data is provided by EIOPA and as of 31/03/18. **Fundamental spread** = 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.

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

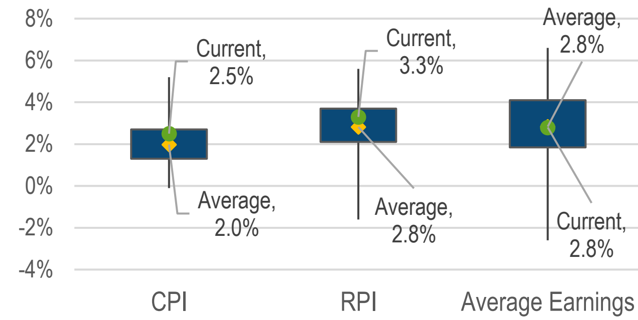
UK Inflation Monitor

- UK price inflation declined further in March. CPI price dropped from 2.7% to 2.5%, RPI price inflation dropped from 3.6 to 3.3%. Both rates are now at their lowest levels for the past 12 months.
- In contrast, the latest data for earnings inflation remained unchanged at 2.8% in February.
- According to the ONS: *The largest downward contribution to the change in the rate between February 2018 and March 2018 came from prices for clothing and footwear rising by less than they did a year ago... Price movements for alcoholic drinks and tobacco also made a downward contribution to the change in the rate.*
- The UK GDP year-on-year growth slowed in the first quarter, down from 1.4% in December to 1.2% in March.
- The market implied view of future inflation shows little change since March. The derivatives market implies an RPI inflation rate of just less than 3% for very short terms, rising to higher levels in future years.

UK Inflation Rate: Experience over Past Year

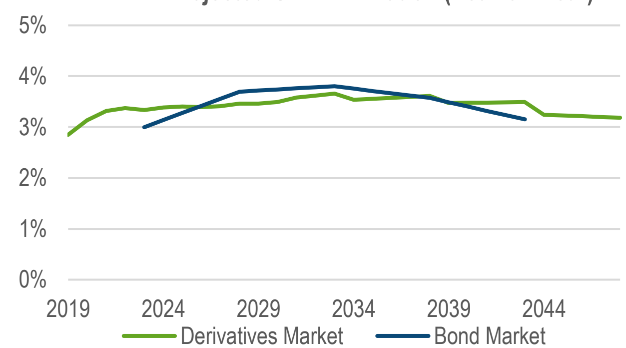


Max, Min and 50% Range: Since BoE Independence



Historical UK GDP Growth (Year-on-Year)

Projected UK RPI Inflation (Year-on-Year)

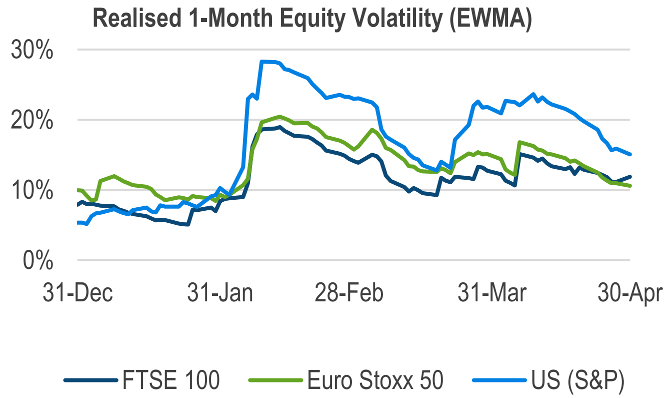


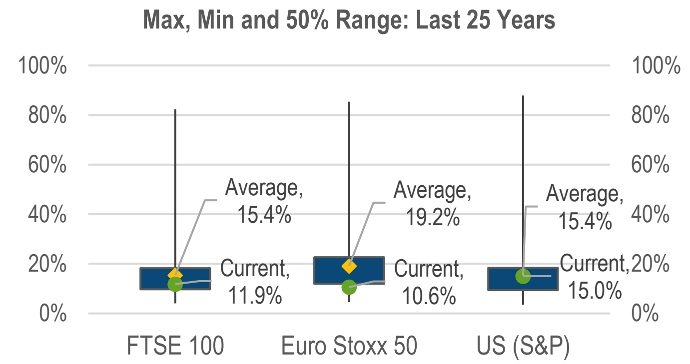
Historical year-on-year inflation rate is assessed by the % change on:
- **Consumer Price Index (CPI)** – measuring the monthly price of a basket of consumer goods and services
- **Retail Price Index (RPI)** – similar to CPI, but the main difference due the addition of mortgage payments, council tax and other housing costs
- **Average Earnings** – measuring the average total weekly employee remuneration over the previous 3 months.

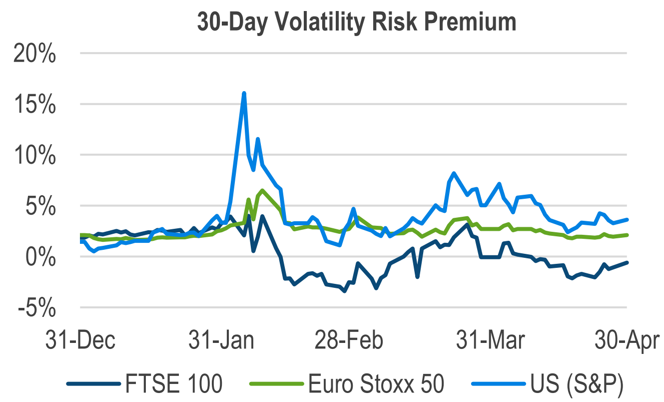
Projection year-on-year inflation rate is the forward rate calculated from market data:
- **Derivatives Market View** – constructed from zero coupon inflation par swap rates against the RPI index at various tenors
- **Bond Market View** – constructed from the difference between the nominal rates implied by the conventional gilts and the real rates implied by the index-linked (RPI) gilts.

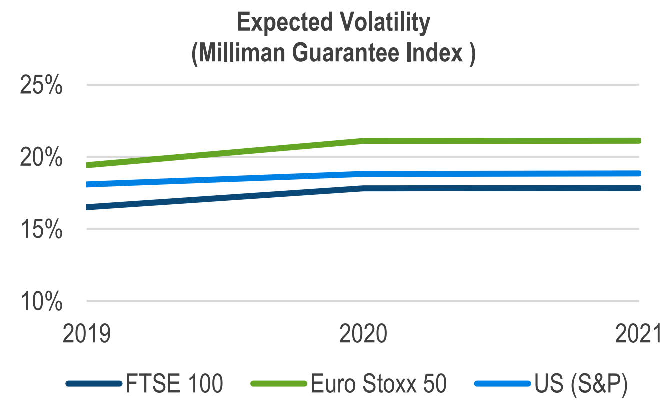
Volatility and Hedging Cost Monitor

- Realised volatilities in all regions declined further from the high levels seen in the first quarter.
- The S&P 500 index saw its realised volatility dropping to 15% at the end of April, below the historic average. It still remains above the level at the start of the year.
- Realised volatilities in the FTSE 100 and Euro Stoxx 50 indices declined to just above 10%, a level not far away from those seen at the start of the year.
- Volatility risk premiums for the S&P declined to below 5%, as implied volatility declined more than projected realised volatility during the month. The FTSE's risk premiums became slightly negative in April, as its implied volatility dropped below its projected realised volatility.









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.