Government Actuary's Department

Investment News

Monthly Bulletin from the Insurance & Investment Team

March 2018

Last Month in Brief

The Bank of England's Monetary Policy Committee hinted interest rates may rise sooner than previously anticipated. Interest rates were increased in November for the first time in over 10 years and economists have suggested that the next interest rate rise could be expected as early as May to respond to inflationary pressures. The impending tightening of monetary policy can be attributed to the effect of strong global economic growth on the UK economy.

The UK has seen its strongest two quarters of productivity since 2008. Output per hour has risen consistently over the past 6 months, with increases of 0.8% in the three months leading to December and 0.9% in the three months prior. Both increased productivity and stronger global economic growth have led to an increase in the Bank of England's UK forecast for economic growth for 2018 from 1.6% to 1.8%.

The recent severe weather conditions, popularly referred to as the "Beast from the East", led to severe disruption across the UK. Transport networks were particularly impacted, with many trains and flights being cancelled owing to the 'arctic' conditions. The retail and construction sectors were also impacted. As a result of the severe weather, analysts have stated they expect the UK's GDP for the first quarter to be reduced by around 0.1%.

Chart 1: Equity Indices
Equity markets fell over February

Chart 2: Sterling Credit Spreads
Credit spreads on weaker rated bonds rose over the month

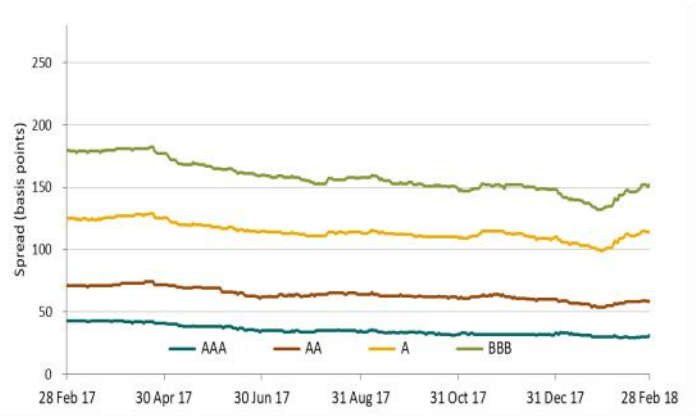


Chart 3: Gilt Yields
Real yields rose over the month

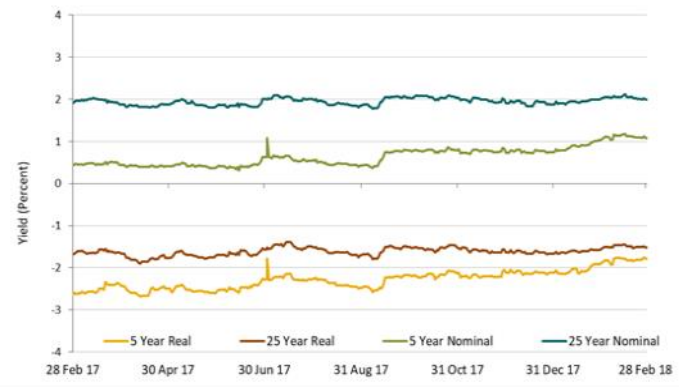
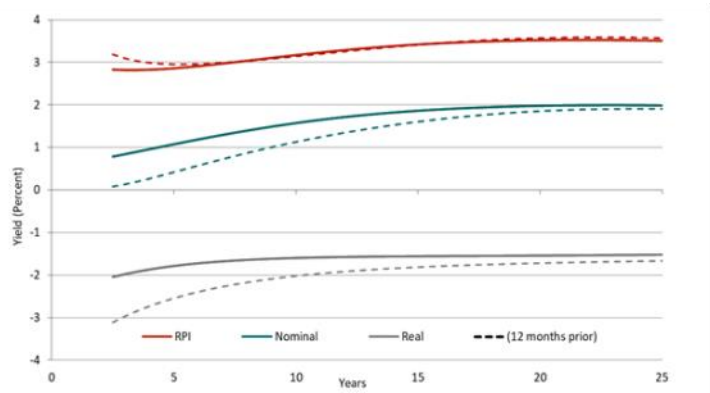


Chart 4: Gilt Spot Curves
The yield curves were stable over the month



Source: Bloomberg, Business Insider, MSCI, Merrill Lynch Bank of America and Bank of England.

	Latest	Previous		Latest	Previous
CPI (annual change)	+2.7%	+3.0%	**Base rate**	0.5%	0.5%
PPF 7800 funding ratio	96.9%	93.9%	**$/£ exchange rate**	1.38	1.42
Halifax house prices (monthly change)*	0.4%	-0.6%	**VIX (volatility) index**	19.85	13.54

** Halifax have recently changed their methodology for calculating the above figures so the figures may not be consistent with previous updates*

For monthly published indices "Latest" and "Previous" refers to the two most recently published statistics, otherwise numbers are quoted as at the month end.

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Volatility

Amid recent stock market unrest, concerns have been raised over whether the US volatility benchmark may have been manipulated by traders. In this article we take a look at the significance and role of volatility in the financial markets.

Recent stock market movements

On Monday, Feb. 5, the Dow Jones Industrial Average dropped 4.6%, the largest decline since 2011. Stock prices fell across the globe amidst concerns central banks may increase interest rates faster than expected this year, in response to inflationary pressures.

The Dow Jones did recover somewhat within a week, with more than half of the fall being reversed. The large fluctuations in the index value reflect the uncertainty in the market as to how the future financial landscape may look.

What is Volatility?

In a financial context, volatility refers to the amount of variation in an asset or portfolio's price. It is commonly used by investors and other interested stakeholders as a measure of risk.

Broadly, there are two types of volatility which are both used as measures of risk and which reflect movements in stock prices:

Historical volatility – Measures the dispersion of observed stock price movements for a given asset over a given time period.

Implied volatility - Reflects market participants' expectations of the future volatility for a stock or portfolio.

Investors use observed historical volatility to help them to form a view on what future volatility in the market will be. However, whilst past performance will help to 'anchor' investors' views it is not necessarily indicative of what the future volatility of the same stock will be.

When deciding whether to invest in different asset classes, investors will assess the relative risk and return of the asset. The more risky an asset class is considered to be the higher return the investor will require to compensate for the additional risk. Volatility is used by investors to measure an asset class' level of risk. As a result an inverse relationship typically exists between price and volatility (see Figure 1 below).

Figure 1: Price - Volatility Relationship
Source: http://www.phillipcapital.com/VIXFuturesP2092016

Calculating Volatility

Investors use a number of measures to calculate volatility, in order to reflect a stock's level of risk. The appropriateness of each measure is dependent on the asset or portfolio being considered and its respective distribution of returns. Set out below are the two most common measures:

Standard deviation – Measures the dispersion of an asset price from its average value.

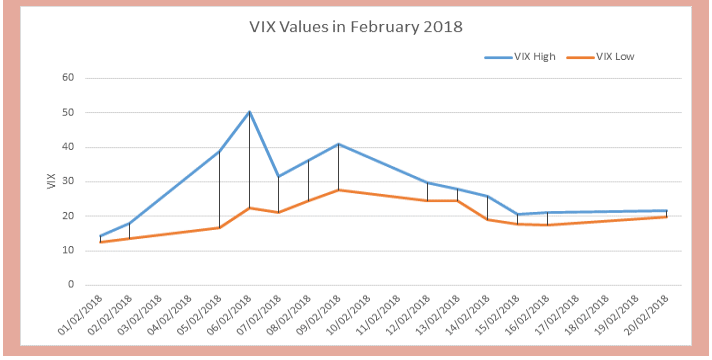
Beta – Measures the volatility of an asset or portfolio against the market as a whole. e.g. a portfolio with a beta > 1 is more volatile than the market and a beta < 1 is less volatile than the market.

The key difference between the two measures is whilst standard deviation simply measures whether a stock is volatile or not, beta measures whether that same stock is volatile relative to a specified index or benchmark. As a result, both measures will be useful to an investor and as such investors will typically consider both measures in selecting their stocks.

Volatility Indices

There are several volatility indices available for stock market participants to use, which measure the market's view on volatility i.e. implied volatility. One of the most frequently used in the US is the CBOE Volatility Index, commonly known as the VIX Index. The VIX uses option prices on the S&P 500 index to determine the implied volatility using Option Price Theory. This relies on the fact that as the expected volatility of a stock or index increases, the price or value of an option becomes more valuable. Therefore, option prices help to tell us information about the market's view on volatility.

Figure 2: VIX Values from 01 February to 20 February 2018
Source: CBOE



As shown in Figure 2 above, the VIX saw a significant rise to over 50 on Feb. 6 this year as investors looked to hedge their positions against the observed fall in stock prices (through increased demand for options). This sudden rise in the VIX reflected the increased uncertainty within the market caused by the concerns of central banks increasing interest rates.

Investors perceive volatility differently depending on their respective risk appetite. Some view it with apprehension and something that needs to be hedged, whilst others see it as an opportunity to profit from. Regardless of the investor's view, volatility will continue to be a vital measure to investors in assessing a stock's level of risk and consequently deciding whether to stick or twist in adding the stock to their portfolio.

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