



MONTHLY UPDATE

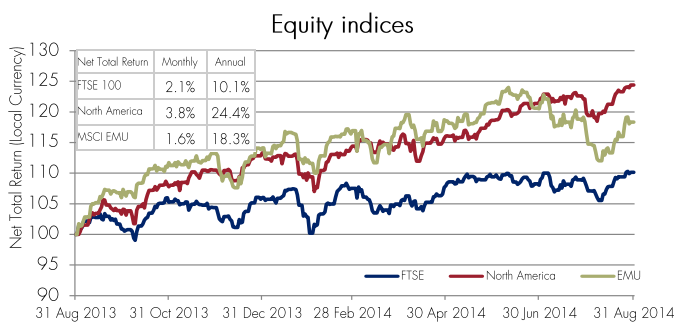
Overview

The Bank of England's Monetary Policy Committee was split (7 to 2) as to whether to raise interest rates, after a 3 year period of unanimity, increasing speculation of a rate hike within the next 12 months. Meanwhile, Eurozone inflation continued to fall, hitting a 5-year low, re-raising questions of whether further ECB action is necessary.

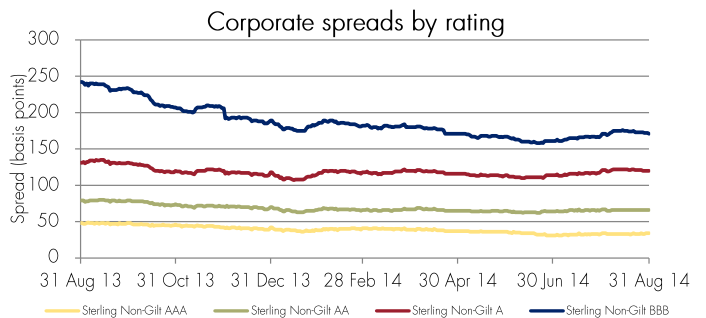
The British Chambers of Commerce raised its UK economic growth prediction by 0.1% to 3.2% this year (this was in agreement with the BoE, which upped its forecast from 3.4% to 3.5%), pointing to a stronger labour market and a strong second half of the year. However, they warned that continued weak exports and a shortage of professional and clerical staff could affect long term growth.

UK house prices continued to rise with a 16th consecutive monthly rise according to Nationwide amidst uncertainty surrounding the long term effects of tightening of mortgage borrowing requirements following an initial slowing last month. However, this contrasted with the Royal Institute of Chartered Surveyors and Rightmove who both reported market cooling this month.

Equity markets rose during the month



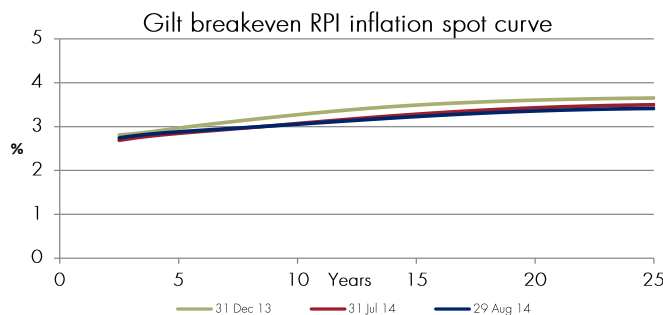
Credit spreads were largely unchanged over the month



LATEST ECONOMIC NUMBERS

Current base rate	0.5%
Quantitative easing level	£375bn
CPI increase July (%/y)	1.6%
Halifax house prices July (%/m)	1.4%
IPD TR property index July (%/m)	1.6%
PPF 7800 funding ratio	90.5%
VIX (volatility) index	12.09
\$/£ exchange rate	1.66
Numbers as at the end of month unless stated	

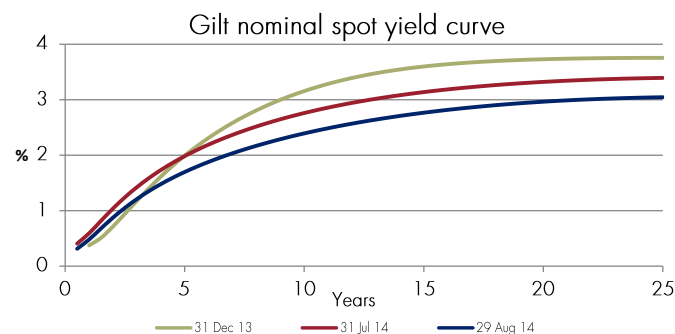
Breakeven inflation reduced slightly at longer durations



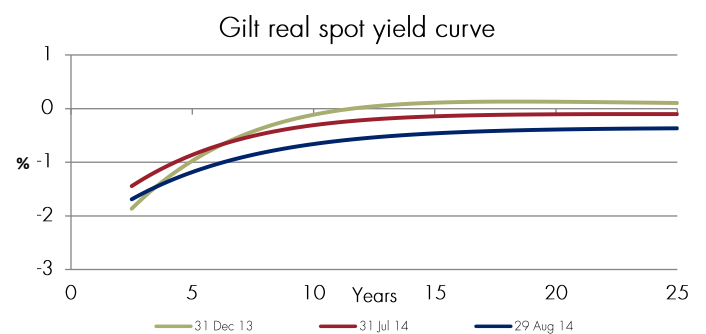
CALENDAR OF EVENTS AND DATA RELEASES

MPC interest rate announcement	4th September
UK Trade	9th September
UK CPI	16th September
Minutes of MPC meeting	17th September
UK GDP (Q3) 3rd Estimate	21st September

Nominal yields fell further at longer durations



Real yields fell with nominal yields this month



All chart data sourced to Bank of England, Merrill Lynch, Financial Times, MSCI & Standard and Poor.



Introduction to Forward Rates

With minutes of the August Monetary Policy Committee meeting showing the first votes for a rise in interest rates since July 2011, there has been increased speculation about when rates might go up. In this note we look at how forward rates relate to market expectations of short term interest rates and what movements in the forward rate curve may mean for pension valuations.

What are forward rates?

Simply, forward rates are the short term interest rates for future periods that are implicitly incorporated within today's yields. Spot rates, meanwhile, are the average of these forward rates and represent the annual rate paid for the full stated period. Although not directly observable, forward rates are derived from the gross redemption yields available on bonds of different maturities (see *Box 1 for a simplified example*). Often a curve of these forward rates is plotted using the rates derived from gilts; however, curves for other types of debt can also be constructed.

What can we see from the yield curve?

The curve created by plotting these forward rates against time is often thought of as the path of expected future interest rates. The rationale for this is that investors will take positions which they believe are profitable under their assumptions about future interest rates until rates adjust to expected levels. However, there are other factors which may also affect the shape of the curve, in particular imbalances in supply and demand. For example, the desire of pension funds and life insurance companies to invest to match the duration of long-term liabilities may cause the price of gilts of those maturities to rise and for their yields to fall. Even in the absence of supply and demand imbalances the yield curve may not accurately reflect expectations; for example, convexity effects and liquidity preference theory refer to potential impacts on the shape of the curve but are beyond the scope of this article¹.

Looking at the current BoE forward curve—*pictured right*— we see that the market expects interest rates to rise in the short term, in around 9 months to 0.75% and continuing to rise before levelling off to a steady, if not slightly falling, long term level around 3% (notably falling short of historical long term levels of closer to 5%). However, it is difficult to accurately suggest exactly when and to what extent rate rises may happen because of the distorting effects, especially on the long end of the curve, discussed above. Equally, market expectations may often prove inaccurate.

Yield curve valuations.

Historically a single discount rate has been adopted for pension scheme valuations (or sometimes two where a different rate is used for pre and post-retirement) which broadly reflects the duration of the liabilities. Recently more schemes are adopting approaches where they explicitly take into account the full shape of the interest rate curve. Here, the benefit for each year is discounted at a different rate commensurate with the corresponding spot rate for that year. This approach can provide more accurate market consistent estimates of liabilities which may be particularly useful for those schemes approaching buy out. (However, the approach may not add much value for those schemes where the investments still contain a significant amount of risk and hence there is considerable uncertainty about future returns.)

Actuarial gains or losses will occur if observed interest rates do not follow those implied by the forward curve used at previous valuations as is illustrated in box 2.

See <http://www.frbatlanta.org/filelegacydocs/wp0103.pdf> for a full explanation of these ideas.

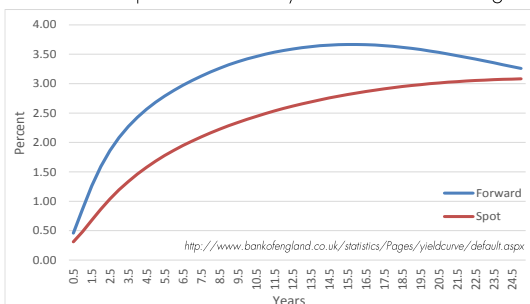
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Box 1 — Forward rate example

The interest rate today to borrow and lend for a 1 year period is 1.5% p.a. and the rate to borrow and lend for 2 years is 2.5% p.a.

If we borrow £98.52 for 2 years at 2.5% and invest it at the 1 year rate of 1.5%. In a year we receive back this sum plus a year's interest at 1.5% (£1.48), which gives us £100 in a year's time. After two years we have to pay back £98.52 plus 2 years of interest at 2.5% (£103.51). In other words, we ensure that our interest cost for the £100 we borrow in a year's time is £3.51. We have locked in an interest rate—the forward rate— of 3.51% now for borrowing in the future, this is the forward rate implied in the spot rates.

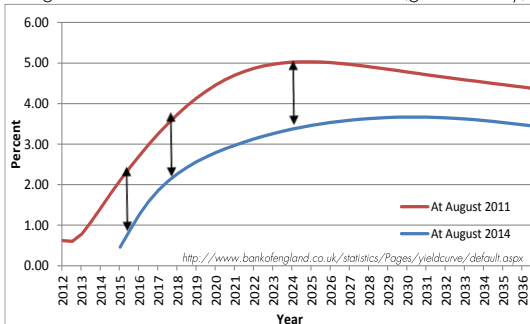
Current BoE spot and forward yield curves at 27th August



Box 2 — Example of impact of changes in curves

The yield curve was used to value a hypothetical pension scheme at August 2011. Since then interest rates have not risen as expected and forward rates are now lower than they were in 2011. Unless hedged against changes in interest rate this will lead to an actuarial loss as lower discount rates will be used to value the liabilities. The impact of movements in the forward curve can clearly be seen when a full yield curve is used to value liabilities but similar impacts will be seen where a single rate is chosen.

August 2011 vs 2014 BoE forward curve (govt. liability)



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