Markets and operations

- UK short-term interest rates declined over the review period as a whole, with much of that move occurring following the publication of the November *Inflation Report*.
- Long-term interest rates in the United Kingdom declined a little, with rather larger falls observed in the euro area. The component for inflation compensation rose somewhat in the United States and euro area, reflecting some abatement of concerns about the prospects for global growth.
- The sterling ERI ended the period up by 1.8%, reflecting an appreciation versus the euro, which more than offset a fall against the dollar.
- Worries surrounding global growth weighed on developed-economy equities initially, but improving sentiment later in the review period more than offset the earlier losses.

Overview

The past quarter has been characterised broadly by two distinct episodes. The early part of the review period was essentially a continuation of the volatile conditions observed during much of the summer. And existing worries about slowing global growth were somewhat heightened by the decision of the Federal Open Market Committee (FOMC) in the United States not to tighten policy at its September meeting. Short-term interest rates in both the United States and United Kingdom fell following the September meeting.

But, during the latter part of the review period, sentiment improved materially, and US and UK short-term interest rates rose. In large part, the improvement in confidence was due to a reduction in the emphasis on international developments at the October meeting of the FOMC, as well as strong US labour market data. Commentary from the European Central Bank (ECB) — to highlight that the Governing Council was considering options for further monetary policy easing ahead of its December meeting — gave an additional boost to sentiment. Shortly after the data cut-off the ECB announced several measures to loosen policy.

In terms of specific UK monetary policy expectations, there was a decline in short-term interest rates following the release of the *Inflation Report*. Overall, UK short-term interest rates were down slightly over the review period as a whole. Longer-term government bond yields were fairly stable, but there was an increase in the component of yields that compensates for long-term inflation expectations.

Meanwhile, there were some large declines in swap spreads — the difference between interest rate swap and government bond yields of equivalent maturity — and in the cross-currency basis swap market. In both cases, these were partly the result of short-term, temporary factors. But contacts reported that structural changes, particularly as a result of an increase in the capital intensity of secured lending and borrowing activity among banks, had also played a role, and some of those factors might be expected to persist.

Currency moves were broadly consistent with the direction of changes in relative interest rates in the United Kingdom, United States and euro area. Thus, there was broad appreciation of the US dollar, while the euro fell. Given the relatively large weight of the euro in the sterling exchange rate index, the rise in sterling versus the euro more than offset the decline versus the dollar, leading to an appreciation of sterling overall. There was a modest pickup in sterling-dollar implied volatility, having been quite steady for much of the year. It was unclear whether the change reflected a shift in expectations about the relative paths of monetary policy in the two countries, or some UK-specific risk factor.

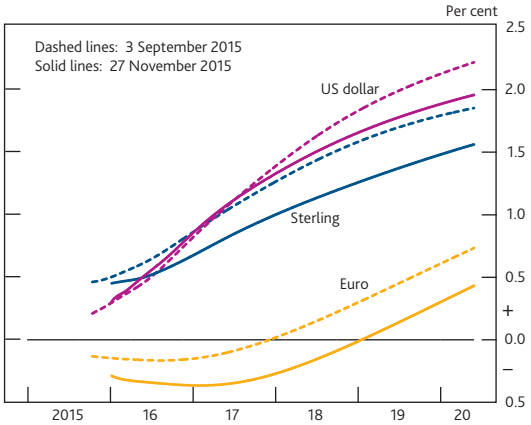
Early in the review period, most developed equity markets declined slightly, driven by worries around possible spillovers from a slowdown in emerging markets. But improving risk sentiment subsequently resulted in a reversal of those earlier declines, with equities broadly higher overall.

In discharging its responsibilities to ensure monetary and financial stability, the Bank gathers market intelligence from contacts across a range of financial markets. Regular dialogue with market contacts provides valuable insights into how markets function, and provides context for the formulation of policy, including the design and evaluation of the Bank's own market operations. The first section of this article reviews developments in financial markets between the 2015 Q3 *Quarterly Bulletin* and 27 November 2015. The second section goes on to describe the Bank's own operations within the Sterling Monetary Framework.

Monetary policy and interest rates

Short-term UK market interest rates fell during the quarter (**Chart 1**), with one-year, one-year forward overnight index swap (OIS) rates declining by around 12 basis points overall. As a result, the expected timing of the first increase in Bank Rate, as implied by market interest rates, was pushed out to the first quarter of 2017, and the expected pace of subsequent Bank Rate rises slowed. But the quarter could be split into two distinct episodes. The early part of the review period was driven largely by worries about global growth, with expectations for policy tightening in the United Kingdom and United States being pushed out as a result. Later on, as those concerns abated, the focus of market participants shifted back to the possibility of an increase in US policy rates in 2015, as well as the likelihood of further loosening by the European Central Bank (ECB).

Chart 1 Instantaneous forward interest rates derived from OIS contracts[a]

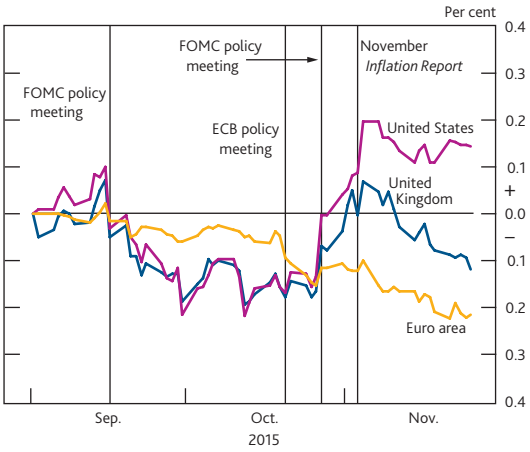


Sources: Bloomberg and Bank calculations.

(a) Instantaneous forward rates derived from the Bank's OIS curves.

In September, UK short-term interest rates declined, alongside those in the United States, after the Federal Open Market Committee (FOMC) opted to leave the target range for the federal funds rate unchanged (**Chart 2**). Contacts suggested that markets had placed a material weight on the chances of an increase, prompting a fall in US interest rates when this failed to materialise. Contacts also pointed to the accompanying FOMC communication, which noted that 'global risks' had been a factor in their decision. It was widely held by market participants that the United Kingdom, as a smaller and more open economy than the United States, must also be vulnerable to such risks. That helped to account for the corresponding shift down in UK short-term interest rates that also occurred following the FOMC decision.

Chart 2 Cumulative change in one-year OIS rates, one year forward since 3 September[a]



Sources: Bloomberg and Bank calculations.

(a) Forward rates derived from the Bank's OIS curves.

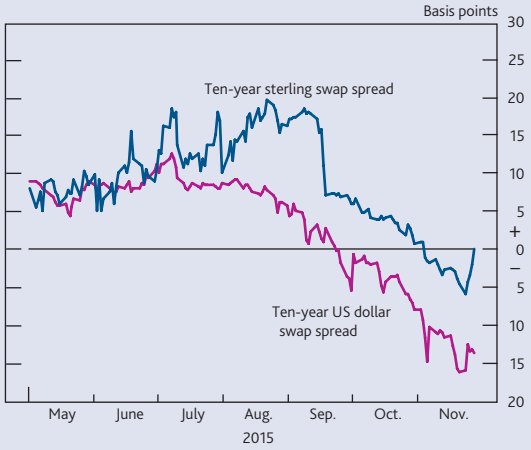
References to 'global risks' were subsequently removed from the FOMC's October statement, helping to push up both US and UK short-term interest rates (**Chart 2**). Subsequent strong labour market data and commentary from various FOMC members led to a growing expectation among market contacts that the FOMC would vote to increase the target range for the federal funds rate at its 16 December policy meeting. Overall, the US one-year, one-year forward rate rose by 14 basis points during the review period. By the end of the review period, the US yield curve was pricing in around 75% of a rate rise by the time of the December meeting.

From around the start of November, UK short-term interest rates began to drift lower (**Chart 2**). The start of this decline coincided roughly with the publication of the November *Inflation Report*. US short-term interest rates, meanwhile, remained fairly stable. It was possible that the deviation of the two reflected the growing weight placed upon the likelihood of tightening by the FOMC in the near future, in contrast to the United Kingdom, where there remained relatively greater uncertainty about the precise timing of lift-off. It was also noted by some contacts that there may have been downward pressure on UK short-term interest rates due to widely anticipated easing by the ECB. Such a move might be expected to result in a material rise in the sterling exchange rate index. In turn, contacts thought that this implied that returning inflation to target would require comparatively less tightening via Bank Rate than previously anticipated.

Developments in swap spreads

A 'swap spread' is the difference between interest rates derived from government securities and the fixed rate on equivalent-maturity interest rate swaps. It tends to be the case that the yields on interest rate swaps are higher than those of the equivalent government bond maturity, such that the spread is positive. In large part, that is because it is relatively less risky to lend to governments than to banks. But US and, to a lesser degree, UK swap spreads declined materially during the review period (**Chart A**). In fact, the fall was sufficiently large as to cause US swap spreads at long maturities to fall to record lows.

Chart A Ten-year UK and US swap spreads[a]



Source: Bloomberg.

(a) The marked jumps in the sterling swap spread are due to the roll of the underlying ten-year benchmark gilt. When rolling to a longer maturity — and so, higher-yielding — bond, the swap spread falls, as the swap rate has a constant maturity.

Contacts thought that the deviation of swap spreads from more 'normal' levels had been driven initially by temporary factors. The start of the recent falls broadly coincided with a period during the summer when emerging market central banks were thought to have been selling large amounts of US government bonds. This put upward pressure on US government bond yields, relative to interest rate swaps. Given the close comovement of government bond yields across developed economies, there was a similar decline in UK swap spreads as well.

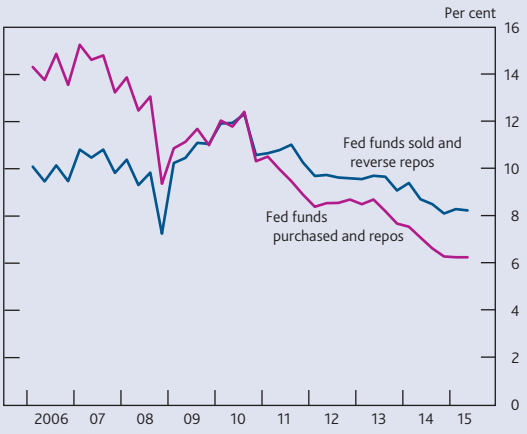
Another potential short-term driver of falling swap spreads sometimes cited by contacts, was the relatively robust pace of bond issuance by US corporates. There were two channels via which this effect might be felt. First, corporate bond issuers often transform the fixed interest rate on their liabilities to a floating rate, via swap agreements. The increased demand for receiving the fixed leg of the swap causes the swap rate to fall, reducing the swap spread. Second, there is likely to have been some crowding out of demand for government debt, as investors absorbed the increased supply of corporate bonds.

Alongside these short-term factors, some contacts thought that part of the fall in swap spreads could be explained by a material change in the approach of banks toward pricing of 'repo' activity for clients. A repo is a form of secured financing, in which the borrower agrees to repurchase the collateral used to secure the loan at a later date. And government bond yields can be thought of as the expected average short-term government repo rate over the life of the bond.

In a repo agreement, a bank may take either side of the transaction, according to a client's requirements. In the past, banks ran large repo books, but netted off the secured loans and borrowings against each other, holding capital only against the net of the two sides of the balance sheet. But the capital intensity of that business has risen as a result of new rules on bank leverage, leading to a rise in the cost of such activity — versus other capital-intensive services — and a decline in the proportion of dealer balance sheets devoted to repo (**Chart B**).

Until recently, banks had refrained from passing on those higher costs to clients. But contacts report that there has been a marked change in pricing behaviour over the past few months, with banks passing on rather more of the increase in costs. This, in turn, has pushed up on the cost associated with holding government bonds as a form of collateral, causing a rise in yields. And while the short-term factors thought responsible for the initial fall in swap spreads might reasonably be expected to diminish — as those temporary supply factors abate — systematic repricing of repo is more likely to persist.

Chart B Share of bank balance sheet allocated to repo and reverse repo[a]



Sources: Federal Reserve Bank of New York and Bank calculations.

(a) Board of Governors of the Federal Reserve System: 'Federal funds (fed funds) are reserves held in a bank's Federal Reserve Bank account. If a bank holds more fed funds than is required to cover its Regulation D reserve requirement, those excess reserves may be lent to another financial institution with an account at a Federal Reserve Bank. To the borrowing institution, these funds are fed funds purchased. To the lending institution, they are fed funds sold.'

A secondary consequence of the increase in the price cost of repo financing is that it has increased the cost of borrowing for leveraged investors that seek to exploit small arbitrage opportunities and deviations from perceived fair value. This, in turn, requires prices to deviate further from fair value before it becomes profitable for such investors to enter the market to exploit mispricing. Again, this effect might result in a permanent deviation in the swap spread from what would previously have been considered 'normal'.

There is also likely to have been additional volatility in swap spreads as a result of the usual balance sheet 'window dressing' by banks ahead of key reporting periods, at which time there is an even greater premium on balance sheet space.

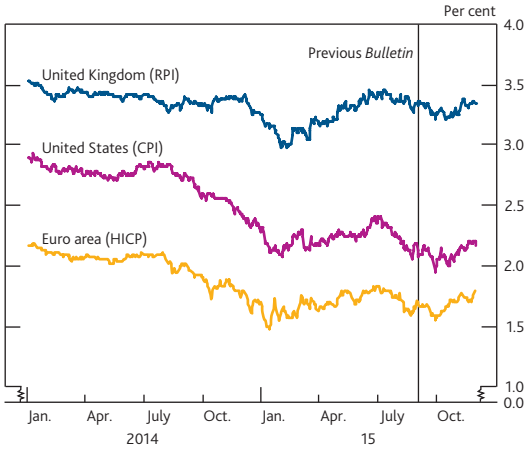
The Monetary Policy Committee (MPC) also used the *Report* to clarify that it would defer sales of assets held in the Asset Purchase Facility (APF) until Bank Rate had reached a level from which it could be cut materially and that that level was currently judged to be around 2%. Some market contacts suggested that this news represented a relative loosening in policy, as it implied that the stock of assets would be held constant for longer than had previously been anticipated. But other contacts noted that this, in turn, implied that relatively more tightening would have to be achieved through Bank Rate to hit the inflation target, compared with what was priced in to the yield curve. Most simply viewed the news as a clarification of existing statements made by the MPC. Long-term UK government bond yields fell marginally on the day.

In contrast to the expected monetary policy tightening of the FOMC, the ECB loosened policy in early December. Expectations for such a move had been building steadily, with the ECB stating at its October meeting that it was considering options for further monetary policy easing — reflecting persistent concerns around growth and low inflation. This expectation led to a large decline in euro-area interest rates, as markets placed increasing weight on the probability of both a reduction in the ECB's main policy rate and an expansion of its asset purchase programme. In the event, after the data cut-off, the ECB loosened policy, through a combination of a cut in the deposit rate, and an extension of the asset purchase programme.

Over the review period, longer-term interest rates were largely unchanged. But this masked some notable moves in long-term inflation compensation in the United Kingdom, United States and euro area, with five-year inflation swap rates, five years forward increasing towards the end of the review period (**Chart 3**). Contacts cited a range of factors for this. In particular, they pointed to the October FOMC statement as a potential explanation, as this had helped to lessen concerns regarding the impact on inflation from slowing activity in the rest of the world. There had also been a tickup in US and euro-area core inflation.

Alongside these developments, the review period was marked by sizable movements in spreads between long-term interest rates derived from government-issued securities and the fixed rate on equivalent-maturity interest rate swaps — or 'swap spreads'. These have fallen substantially in the United States,

Chart 3 Selected five-year inflation swap rates, five years forward[(a)]



Sources: Bloomberg and Bank calculations.

(a) Swap rates derived from the Bank's inflation swap curves.

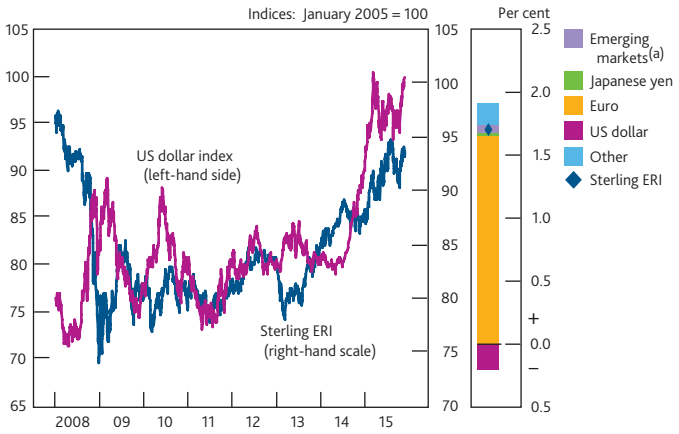
and to a lesser extent, the United Kingdom since the summer. Contacts attributed this to a combination of temporary and structural factors. The box on pages 372–73 sets out the issue in greater detail.

Foreign exchange

Exchange rates were influenced heavily by monetary policy expectations in the United States and the euro area during the quarter. Reflecting the approach of lift-off in the United States, the US dollar exchange rate index rose 1.7% over the review period, back up to around its post-crisis highs. Meanwhile, the euro ERI declined by 3.7%. Broadly reflecting moves in relative interest rate differentials, sterling declined a little against the US dollar (-1.4%), but appreciated significantly against the euro (+3.3%). On balance, the sterling exchange rate rose by 1.7% (**Chart 4**).

Interestingly, towards the end of the review period there was a rise in sterling-dollar implied volatility (**Chart 5**). This had been fairly steady in recent months, unlike implied volatility for many of the other majors versus the dollar, which have been rising. In the past, contacts have often attributed that relative stability of sterling-dollar implied volatility to the view held by some that the monetary policy cycles of the United Kingdom and United States are closely correlated. Some contacts suggested that the recent rise in sterling-dollar implied volatility might point to a weakening of that perception.

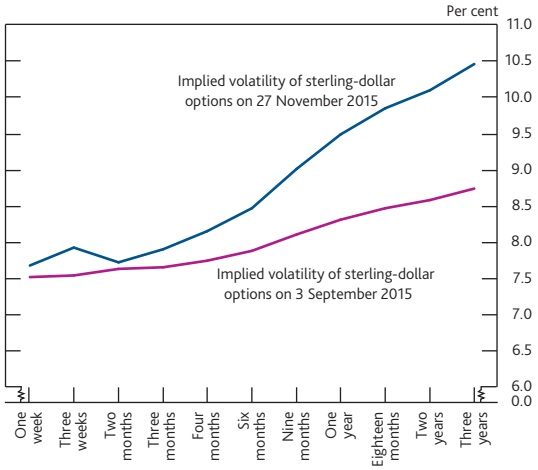
Chart 4 Sterling and US dollar exchange rate indices (ERIs) and contributions to the change in the sterling ERI since the start of the review period



Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

(a) The emerging market currencies in the narrow sterling ERI are: Chinese renminbi, Czech koruna, Indian rupee, Polish zloty, Russian rouble, South African rand and Turkish lira.

Chart 5 Term structure of sterling-dollar implied volatility



Source: Bloomberg.

But it is worth noting that the rise in sterling-dollar implied volatility is not particularly evident at short maturities. If there had been a material shift in views about the respective positions in the business cycles of the United States and United Kingdom, one might reasonably expect to see this manifest itself in expectations for volatility in the short term. The fact that the rise becomes most evident from around the one-year point on the volatility curve might, then, be indicative of more medium-term risks to the currency.

There has also been a modest pickup in the price of put options — which provide protection against depreciation of the currency — versus call options. That has caused a slight fall in the sterling-dollar risk reversal (the difference between implied volatilities on call and put options that are an equivalent distance from the prevailing spot price). For further discussion of implied volatility and risk reversals see the box on page 375.

Elsewhere, perhaps the most widely anticipated event was the decision by the International Monetary Fund to include Chinese yuan in the Special Drawing Rights currency basket. This followed a steady programme of reform by the Chinese authorities over recent years to liberalise the currency. The decision was largely expected by contacts and prompted relatively little market reaction. Contacts thought that the People's Bank of China had continued to intervene in the foreign currency market to support the value of the yuan in recent months.

Last, the review period has seen some unusual moves in cross-currency basis swaps — instruments which allow investors to swap principal and interest payments denominated in different currencies. Generally, investors are willing to pay a small premium to hold dollars versus other currencies. But that premium has increased to levels not usually observed outside of periods of market stress, with some major bouts of volatility in recent months. Some of the drivers were thought to be similar to those operating in swap spreads mentioned above, with both temporary and structural factors at work. For further discussion, see the box on page 377.

Corporate capital markets

Following references in the September FOMC statement about risks arising from a potential slowing in global growth, there was a broad-based decline in developed-economy equity markets. But those losses were more than offset by subsequent increases over the remainder of the quarter (**Chart 6**). The FTSE All-Share ended the review period up by 2.5%, while the S&P 500 and Euro Stoxx increased by 7.1% and 6.9% respectively. After a turbulent few months during the summer, Chinese equities also rose strongly, with the Shanghai Composite index up around 11.5% over the review period (**Chart 7**). At the time of the data cut-off the index stood at 3436, down one third compared with the earlier peak.

Spreads on developed-economy investment-grade corporate bonds were broadly unchanged over the quarter as a whole, abstracting from the period of volatility during the first half of the review period (**Chart 8**). US corporate bond issuance continued apace, however, in both dollars and euros (**Chart 9**), rising to record levels for the year to date. It was thought that much of the issuance was motivated by US mergers and acquisitions activity, as well as a desire to lock in low borrowing costs ahead of prospective policy tightening by the FOMC. Spreads on US high-yield corporate bonds also widened significantly, which contacts attributed to the high concentration of companies operating in the energy sector in the high-yield basket. Renewed weakness in the price of oil was expected to reduce the earnings of those companies, leading to an increase in the probability of default.

Risk reversals

A risk reversal is the implied volatility on a call option minus the implied volatility on an equivalent put option. One can think of the risk reversal as a steer on expected volatility, conditional on an appreciation versus a depreciation. Because options can have different strike prices, the risk reversal is given in terms of a put and a call option with the same delta, where delta is a measure of the sensitivity of the value of the option to changes in the underlying spot exchange rate. For example, the value of a '25-delta' call option will rise (or fall) by a quarter of the change in the underlying exchange rate.

Contacts report that, generally speaking, views about 'event' risks are often more evident in option markets than in spot, as options provide a means of protecting against the possibility of unlikely, but impactful, outcomes. The referendum on Scottish independence in September 2014 provides a good example of such a source of event risk. The fall in the sterling-dollar risk reversal in the run-up to the vote (**Chart A**), indicated that the market as a whole was more willing to pay for protection against a large depreciation of sterling, than an equivalent appreciation. A similar pattern was observed around the time of the UK general election, when contacts reported that market participants were concerned about the downside implications for sterling in the event of uncertain electoral outcomes. At that time, the perceived downside risk to sterling was reflected in prices rather than more gradually than it was prior to the Scotland poll.

Chart A Sterling-dollar 25-delta[(a)] risk reversals

(a) The delta of an option refers to the sensitivity of the value of the option to changes in the price of the underlying asset. For a 25-delta option the value of the instrument will change by a quarter of any change in the price of the underlying spot exchange rate.

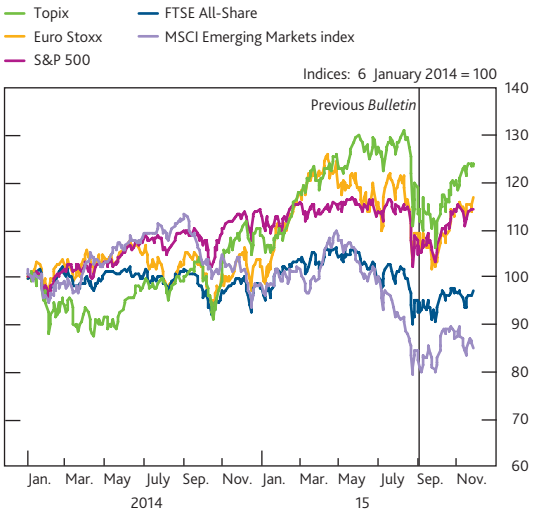
It is important to note, however, that there is a distinction to be made between the balance of risks around the future direction of moves in a currency — which one might think of the risk reversal as capturing — and the central expectation for the currency, which may differ in sign to the risk reversal. And, indeed, it is instructive to note that the broad path of sterling over the periods mentioned above, has been upward — despite these sporadic event risks which were thought at the time to have significant downside implications for the currency, had they materialised.

That said, some market participants certainly do use options to express views about the most probable path of exchange rates. Contacts suggest that the extent to which one can infer beliefs about the likely direction of future moves in a currency will depend, at least in part, on positioning in the foreign exchange market as a whole.

Thus, when conviction in a particular position is low (and implied volatility is likely to be low), investors may choose to use options to express directional views. If a trend then becomes established (and volatility rises), one might then see increasing amounts of positioning in spot instruments. Eventually, if the trend becomes stretched — or the trade becomes 'crowded' — hedging via options might begin to rise. Thus, depending on the extent of positioning in the market overall, one might sometimes expect to observe the spot exchange rate move in the same direction as indicated by the risk reversal, while at other times the opposite might apply.

For some currencies, however, there may be structural reasons to expect risk reversals to move in the opposite direction to expectations for the spot exchange rate — particularly in the case of currency pairs used for 'carry trades'. Carry trade investors sell the funding currency to buy the carry currency, putting downward pressure on the value of the funding currency. At the same time, the resulting currency risk will often be hedged using call options on the funding currency, causing the risk reversal to rise. As a result, carry funding currencies often exhibit positive risk reversals.

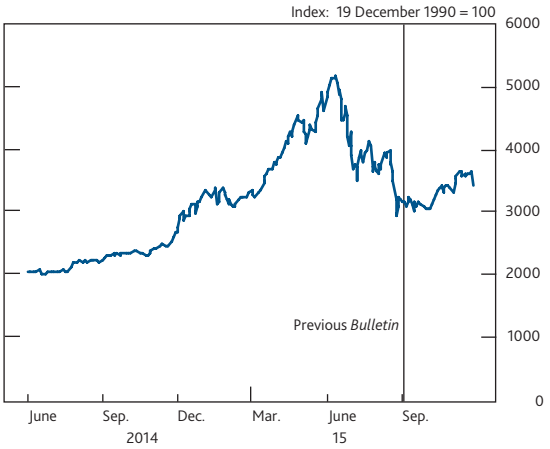
Chart 6 International equity indices[a]



Sources: Bloomberg and Bank calculations.

(a) Indices are quoted in domestic currency terms, except for the MSCI Emerging Markets index, which is quoted in US dollar terms. The MSCI Emerging Markets index is a free-float weighted index that monitors the performance of stocks in global emerging markets.

Chart 7 Shanghai Stock Exchange Composite Index[a]



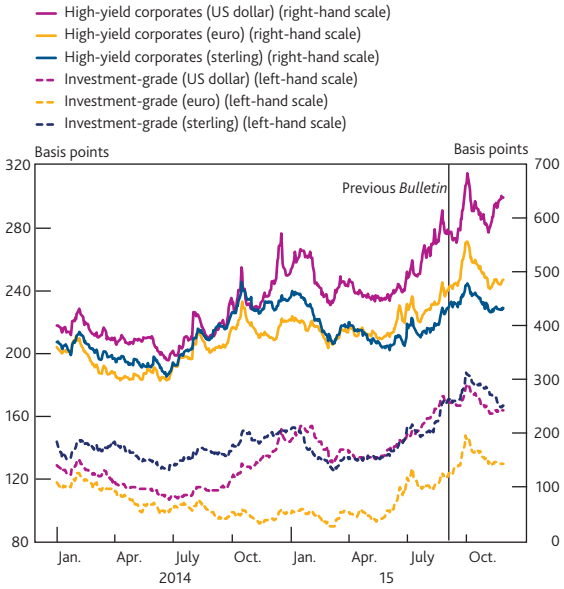
Source: Bloomberg.

(a) The index is quoted in domestic currency terms.

Bank funding markets

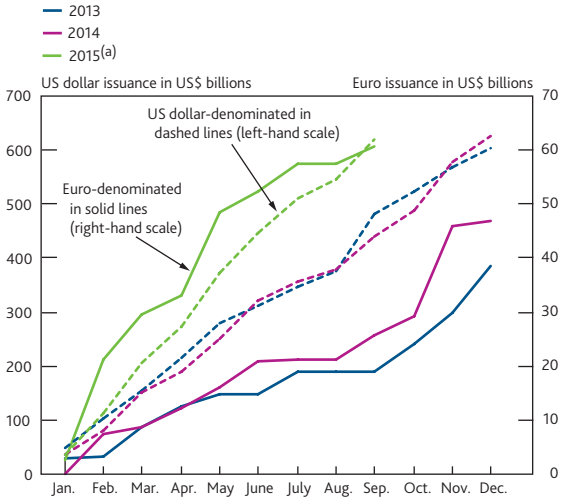
UK banks' senior unsecured bank bond spreads were broadly unchanged over the quarter, and bank bond issuance was fairly subdued. In November, the Financial Stability Board published the final total loss-absorbing capacity (TLAC) standard to which all globally systemically important banks are subject — including some UK institutions. UK banks continued to issue holding-company senior debt, which can be bailed-in under the new rules. The bonds carried a premium of around 30 basis points to 80 basis points over equivalent debt issued at operating-company level. Some contacts suggested that this premium would fall over time, perhaps settling at around 15 basis points to 20 basis points, citing the experience of US banks which already have large amounts of holding-company debt outstanding.

Chart 8 International corporate bond option-adjusted spreads



Source: BofA Merrill Lynch Global Research.

Chart 9 Cumulative gross bond issuance by US private non-financial corporations



Sources: Dealogic and Bank calculations.

(a) Data to 27 November 2015.

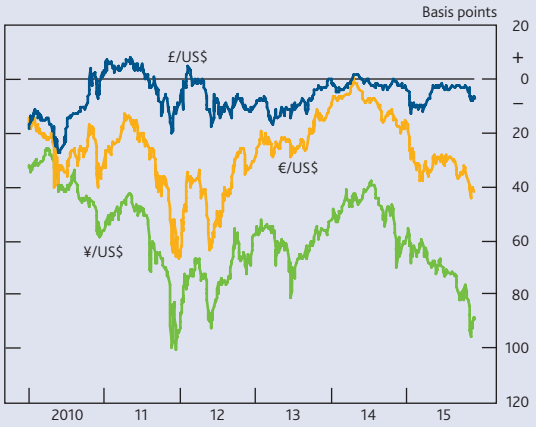
The results of the 2015 annual stress test released on 1 December 2015 indicated that the banking system would have the capacity to maintain its core functions in the stress-test scenario. The results also showed that UK bank capital was adequate to cope with stressed projections for misconduct costs and fines, over and above those paid or provisioned for by end-2014. Equity prices of UK banks rose following the news, while there was limited reaction in bond spreads.

Cross-currency basis swaps

A cross-currency basis swap allows investors to swap principal and interest payments denominated in two different currencies. As a convention, each swap is usually quoted against the US dollar. Therefore one counterparty to a trade will be lending US dollars (and borrowing a non-dollar currency), while the other will be borrowing dollars (lending non-dollar currency). Historically, investors have been prepared to pay a small premium to hold dollars versus other currencies. As a result, the difference between the lending leg of the agreement and the borrowing leg — the 'basis' — is typically negative.

The most notable moves in cross-currency basis markets have been in the dollar-yen basis which has become much more negative — reflecting greater demand for US dollars against the yen — and reached levels last observed during the euro-area sovereign debt crisis in 2011 (**Chart A**). Contacts suggest that the recent falls in the basis reflect a combination of short-term, temporary, drivers and long-term structural factors.

Chart A Five-year cross-currency basis swaps



Source: Bloomberg.

In large part, contacts pointed to growing expectations that the Federal Reserve would move to tighten US monetary policy in 2015. And, indeed, there was a marked widening of the basis following strong non-farm payrolls data in November, which contacts thought increased the likelihood of US lift-off in December. As a result, there was an upsurge in demand for long-term US dollar funding ahead of the next FOMC meeting.

In addition, the attractiveness of the euro as a funding currency has led to a large amount of bond issuance in euros by non euro-area issuers, which then swap the proceeds back into domestic currency, adding to downward pressure on the euro basis.

Among the other cyclical factors, as in the case of swap spreads, contacts noted that there had been a sharp increase in demand for US dollars for the purposes of intervention in the foreign exchange market by emerging market central banks — raising US dollars to buy back domestic currency. There was also the usual seasonal increase in financial institutions' demand for dollar funding over year-end, thought to be a particularly important driver of the dollar-yen basis.

But — again, as in the case of swap spreads — contacts placed a significant weight on structural developments in financial markets to explain the widening of the basis. In particular, contacts pointed an increase in the cost of repo which meant that arbitrageurs — often financed via repos — now require pricing anomalies to be that much greater before entering the market. Contacts also thought that there has been a material decline in the amount of capital available to deploy for the purposes of arbitraging the basis, especially in light of disappointing year-to-date returns for many leveraged investors typically involved in such activity.

Operations

Operations within the Sterling Monetary Framework and other market operations

This section provides an update of the Bank's operations within the Sterling Monetary Framework (SMF) over the review period, as well as its other market operations. Collectively, these operations help implement the Bank's monetary policy stance and provide liquidity insurance to institutions when deemed necessary.

The aggregate level of central bank reserves is closely monitored by the Bank, as it affects monetary conditions in the UK economy. The level of central bank reserves is affected by (i) the stock of assets purchased via the Asset Purchase Facility (APF); (ii) the level of reserves supplied by operations under the SMF; and (iii) the net impact of other sterling flows across the Bank's balance sheet. Over the review period, aggregate reserves remained around £315 billion, but had fluctuated due to the redemption and subsequent reinvestment of a gilt held in the APF (discussed below).

Operational Standing Facilities

Since 5 March 2009, the rate paid on the Operational Standing Deposit Facility has been zero, while all reserves account balances have been remunerated at Bank Rate. As a consequence, there is little incentive for reserves account holders to use the deposit facility. Reflecting this, the average use of the deposit facility was £0 million in the three months to 4 November 2015.(1)

The rate charged on the Operational Standing Lending Facility remained at 25 basis points above Bank Rate. However, given the large aggregate supply of reserves, there was no demand from market participants to use the lending facility. The average use of the lending facility was also £0 million over the quarter to 4 November 2015.

Indexed Long-Term Repo operations

The Bank conducts regular Indexed Long-Term Repo (ILTR) operations as part of its provision of liquidity insurance to banks, building societies and broker-dealers. During the review period, the Bank offered a minimum of £5 billion via six-month repos in each of its ILTR operations on 8 September, 6 October and 10 November 2015 (**Table A**).

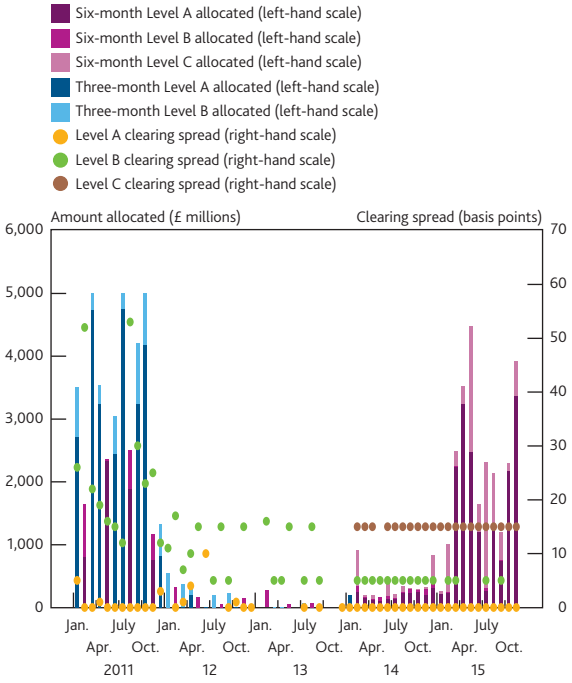
Participation in, and usage of, ILTR operations has continued to remain higher than during the same period last year. Nonetheless, the total amount allocated in each operation remained below the minimum £5 billion on offer (**Chart 10**). This continued to reflect usage of the ILTR by some participants as a source of term repo liquidity. Over the review period, a total of £10.5 billion of ILTRs matured and £7.4 billion of new ILTRs were allocated, resulting in a net reduction of central bank reserves of around £3.1 billion.

Table A Indexed Long-Term Repo operations(a)

	Total	Collateral set summary		
		Level A	Level B	Level C
8 September 2015 (six-month maturity)				
Minimum on offer (£ millions)	5,000			
Total bids received (£ millions)	1,195	745	10	440
Amount allocated (£ millions)	1,195	745	10	440
Clearing spread (basis points)		0	5	15
6 October 2015 (six-month maturity)				
Minimum on offer (£ millions)	5,000			
Total bids received (£ millions)	2,290	2,170	0	120
Amount allocated (£ millions)	2,290	2,170	0	120
Clearing spread (basis points)		0	n.a.	15
10 November 2015 (six-month maturity)				
Minimum on offer (£ millions)	5,000			
Total bids received (£ millions)	3,920	3,365	0	555
Amount allocated (£ millions)	3,920	3,365	0	555
Clearing spread (basis points)		0	n.a.	15

(a) The minimum amount on offer is the size of the operation that the Bank is willing to allocate, in aggregate, across all collateral sets at the minimum clearing spreads.

Chart 10 ILTR reserves allocation and clearing spreads(a)



(a) Where there has not been any allocation to a collateral set, no clearing spread is marked.

Contingent Term Repo Facility

The Contingent Term Repo Facility (CTRF) is a contingent liquidity facility that the Bank can activate in response to actual or prospective market-wide stress of an exceptional nature. The Bank reserves the right to activate the facility as it deems appropriate. In light of market conditions throughout the review period, the Bank judged that CTRF auctions were not required.

(1) Operational Standing Facility usage data are released with a lag.

Discount Window Facility

The Discount Window Facility (DWF) is a bilateral on-demand facility provided to institutions experiencing a firm-specific or market-wide liquidity shock. It allows participants to borrow highly liquid assets in return for less liquid collateral in potentially large size and for a variable term. The Bank publishes quarterly data of DWF usage with a lag. The average daily amount outstanding in the DWF in the three months to 30 June 2014 was £0 million.

Other operations

Funding for Lending Scheme

The Funding for Lending Scheme (FLS) was launched by the Bank and HM Treasury on 13 July 2012. The initial drawdown period for the FLS ran from 1 August 2012 until 31 January 2014. The drawdown period for the FLS extension opened on 3 February 2014 and will run until 31 January 2018, as announced on 30 November 2015.(1)

The quantity current participants can borrow in the FLS is linked to their lending to the UK real economy from 2013 Q2 to 2015 Q4, with the incentives currently skewed towards supporting lending to small and medium-sized businesses. From 1 February 2016, participants will initially retain full access to draw against their borrowing allowance, but the allowance will reduce by 25% after six months and by the same amount every six months thereafter, phasing the scheme out gradually by 31 January 2018.

US dollar repo operations

On 23 April 2014, in co-ordination with other central banks and in view of the improvement in US dollar funding conditions, the Bank ceased the monthly 84-day US dollar liquidity-providing operations. The seven-day US dollar operations will continue until further notice. The network of bilateral central bank liquidity swap arrangements provides a framework for the reintroduction of further US liquidity operations if warranted by market conditions. There was no use of the Bank's US dollar facilities throughout the review period.

Bank of England balance sheet: capital portfolio

The Bank holds an investment portfolio that is approximately the same size as its capital and reserves (net of equity holdings, for example in the Bank for International Settlements, and the Bank's physical assets) and aggregate cash ratio deposits. The portfolio consists of sterling-denominated securities. Securities purchased by the Bank for this portfolio are normally held to maturity, though sales may be made from time to time, reflecting, for example, risk or liquidity management needs or changes in investment policy. The portfolio currently includes around £5.6 billion of gilts and £0.2 billion of other debt securities.

Asset purchases

In the publication of the *Inflation Report* on 5 November 2015, the Monetary Policy Committee announced that it expects to maintain the stock of purchased assets at £375 billion, including reinvesting the cash flows associated with all maturing gilts held in the APF, at least until Bank Rate has reached a level from which it can be cut materially.

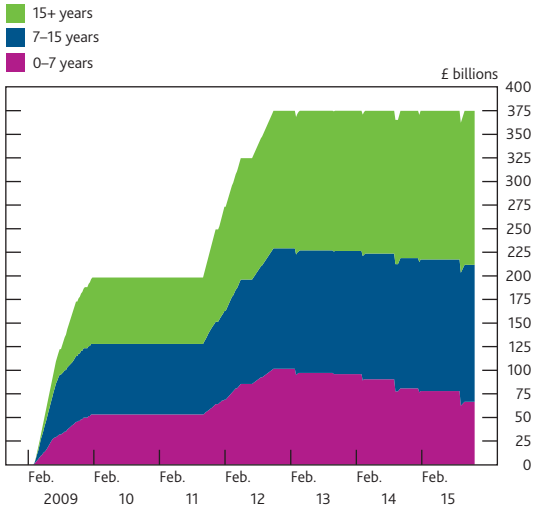
The 4.75% September 2015 gilt held by the APF matured during the review period. A total of £16.9 billion of cash flows associated with the purchase of the maturing gilt was successfully reinvested in gilts across the curve throughout September.

The total stock of gilts outstanding in the APF, measured as proceeds paid to sellers, remains at £375 billion. The stock of gilts comprised of £66.6 billion of purchases in the 3–7 years residual maturity range, £145.1 billion in the 7–15 years residual maturity range and £163.2 billion with a residual maturity of greater than 15 years (**Chart 11**).

Gilt lending facility

The Bank continued to offer to lend gilts held in the APF via the Debt Management Office in return for other UK government collateral. In the three months to 30 September 2015, the daily average value of gilts lent, as part of the gilt lending facility, was £152 million. The average daily lending in the previous quarter was higher at £330 million.

Chart 11 Cumulative gilt purchases by maturity(a)(b)



(a) Proceeds paid to counterparties on a settled basis.
(b) Residual maturity as at the date of purchase.

(1) For more details, see www.bankofengland.co.uk/publications/Pages/news/2015/096.aspx.

Corporate bonds

There were no purchases of corporate bonds during the review period. Future purchase or sale operations through the scheme will be dependent on market demand, which the Bank will keep under review in consultation with its counterparties. Reflecting the recent lack of activity, the scheme currently holds no bonds.

Secured commercial paper facility

The Bank continued to offer to purchase secured commercial paper backed by underlying assets that are short term and provide credit to companies or consumers that support economic activity in the United Kingdom. No purchases were made during the review period.