Markets and operations

- The Bank announced changes to the Sterling Monetary Framework designed to increase the availability, term and flexibility of the liquidity insurance it supplies to the UK banking system.
- The Bank also maintained its accommodative monetary policy stance.
- The decision by the Federal Reserve not to slow the pace of its monthly asset purchases following its September meeting led to a fall in short-term interest rates internationally.
- The European Central Bank (ECB) also announced an easing in monetary policy, including a reduction in its main refinancing rate.
- Market expectations of Bank Rate reached 0.75% by around 2015 Q3, slightly later than at the start of the review period.

Overview

The Bank announced a number of changes to its operational frameworks during the review period. In October, changes were made to the Sterling Monetary Framework, through which the Bank implements monetary policy and supports financial stability. These changes are designed to increase the availability, term and flexibility of the liquidity insurance the Bank supplies to the UK banking system. In November, the terms of the Bank's Funding for Lending Scheme were modified to remove incentives to expand household lending, in order to reduce risks from the housing market.

The Bank of England's Monetary Policy Committee maintained Bank Rate at 0.5% and the stock of asset purchases financed by the issuance of central bank reserves at £375 billion. The Committee reached this decision in the context of the monetary policy guidance it announced alongside the publication of the August 2013 *Inflation Report*. Overall, the path of Bank Rate implied by market interest rates fell over the review period.

Market interest rates in advanced economies had increased in expectation that the US Federal Reserve would announce a reduction in the pace of its monthly asset purchases — or 'tapering' — following its September meeting. But, in the event, the Federal Open Market Committee surprised most market participants by deciding not to taper. This caused market rates to fall back somewhat. Later in the review period, the ECB lowered its main policy rate, loosening rather sooner than had been anticipated by many market participants.

Declines in short rates were offset by improvements in the medium-term growth outlook in the United States and United Kingdom, leaving longer-term interest rates broadly unchanged over the review period. In contrast, expectations for economic activity in the euro area remained more subdued. German government bond yields fell by around 10 basis points over the review period, with the gilt-bund spread reaching its widest level since 2010. Reflecting differences in expectations for monetary policy across advanced economies, the sterling exchange rate index increased 4% over the review period.

International equity indices rose, with the US debt ceiling negotiations causing only a temporary decline in share prices. And European stocks were reported to have benefited from strong foreign capital inflows, especially from US investors. Corporate bonds were also broadly unaffected by the short-lived turbulence in the market for US Treasuries, and credit spreads continued to decline, particularly for UK corporates.

In discharging its responsibilities to ensure monetary and financial stability, the Bank gathers information 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 Bank also conducts occasional surveys of market participants in order to gather additional information on certain markets.

The first section of this article reviews developments in financial markets between the 2013 Q3 *Quarterly Bulletin* and 29 November 2013. Boxes offer detail on recently announced changes to the Bank's approach to providing liquidity insurance to the banking system, progress towards a fully functioning market for additional Tier 1 capital, and a first assessment of the international impact of US rules on trading of standardised over-the-counter (OTC) derivatives. The second section goes on to describe the Bank's own operations within the Sterling Monetary Framework.

Financial markets

Monetary policy and interest rates

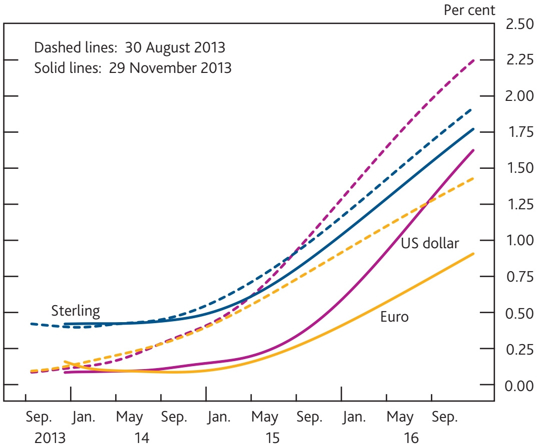
Throughout the review period, the Bank of England's Monetary Policy Committee (MPC) maintained Bank Rate at 0.5% and the stock of asset purchases financed by the issuance of central bank reserves at £375 billion. The MPC also reinvested the cash flows of £1.9 billion associated with the Asset Purchase Facility's (APF's) holdings of the maturing September 2013 gilt. The MPC reached these decisions in the context of the monetary policy guidance announced alongside the publication of the August 2013 *Inflation Report*,[1] according to which the Committee intended to maintain the stance of policy at least until unemployment had reached 7%, provided that this did not entail material risks to price stability or financial stability.

Recent years have seen substantial reforms to the Bank's Sterling Monetary Framework (SMF), through which it implements monetary policy and acts as a backstop provider of liquidity insurance to the UK banking system. In October, the Bank announced a number of changes to the SMF, partly as a result of the recommendations of the 2012 Court Review performed by Bill Winters. Taken together, these changes are designed to increase the availability and flexibility of that insurance, by providing liquidity at longer maturities, against a wider range of collateral, at lower cost and with greater predictability of access (see the box on page 382 for more detail).[2]

By the end of the review period, expectations for Bank Rate — as proxied by forward overnight index swap (OIS) rates — reached 0.75% by around 2015 Q3, slightly later than at the start of the review period. This was similar to the median expectation of economists surveyed in the Reuters poll. A majority of those surveyed also expected unemployment to fall to 7% — the threshold set by the MPC's forward guidance — a quarter before this. This provided some indication that market participants understood the MPC's intention that the 7% unemployment threshold represented a 'way station' at which the Committee would re-evaluate current policy settings, rather than an automatic cue for Bank Rate to rise.

As in the United Kingdom, monetary policy in the United States and euro area remained accommodative, and developed-market forward OIS rates of most maturities fell between the Q3 *Bulletin* and the data cut-off (**Chart 1**).

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 the early part of the period, there developed a strong expectation that the US Federal Open Market Committee (FOMC) would announce tapering of its asset purchases following its September meeting. But, in fact, the FOMC left the pace of its monthly asset purchases unchanged, causing forward OIS rates to fall (**Chart 2**). Contacts suggested that this partly reflected market participants' belief that the FOMC's decision not to taper might signal it would raise the target federal funds rate later than expected. And the October Federal Reserve Primary Dealers Survey indicated that the FOMC was expected to begin to slow the pace of asset purchases at its March 2014 meeting, four months later than in the September survey.

An impasse in negotiations to approve a federal government budget led to a partial shutdown of the US government between 1 and 15 October. At the time, there was a notable rise in yields on Treasury bills maturing in the near term,

(1) Information on the Committee's forward guidance strategy can be found on the Bank's website at www.bankofengland.co.uk/monetarypolicy/Pages/forwardguidance.aspx.
(2) Full details of these changes can be found on the Bank's website at www.bankofengland.co.uk/markets/Documents/money/publications/liquidityinsurance.pdf.

Liquidity insurance — developments in the Sterling Monetary Framework

On 24 October 2013 the Bank announced changes to its approach to providing liquidity insurance to the banking system. These changes were made in light of the recommendations from the review carried out by Bill Winters into how recent reforms to the Sterling Monetary Framework (SMF) were working in practice and whether further changes were warranted.

The changes are designed to increase the availability and flexibility of liquidity insurance, by providing liquidity at longer maturities, against a wider range of collateral, at a lower cost and with greater predictability of access.

Summary of key changes

To reduce stigma and increase the flexibility of the Bank's liquidity insurance:

- The monthly market-wide indexed long-term repo auctions will be expanded from 2014, reducing the price and extending the amount, term and range of eligible collateral.
- The bilateral Discount Window Facility (DWF) has been repriced, introducing a lower, flat-rate 'entry fee', and smoothing the increase in fees for higher usage. The Bank has sought to reduce the financial stability risks posed by premature disclosure of DWF drawings, by extending its own disclosure lag and ensuring firms have the capacity to turn over their liquid assets in markets regularly. The Bank will continue to argue the case for ensuring that new national and international disclosure regimes do not increase that risk through other channels.
- The market-wide Extended Collateral Term Repo Facility is being retained, allowing the Bank to provide whatever liquidity is required in conditions of market-wide stress, against the widest collateral, and at a price it chooses.
- The Bank's list of eligible collateral, which has already been expanded significantly in recent years, will be extended further to include the drawn portions of corporate revolving credit facilities.
- The certainty with which banks can expect to be able to borrow from the Bank has been reinforced through a presumption that all banks and building societies that meet the Prudential Regulation Authority's (PRA's) threshold conditions may sign up for the SMF and have full access to borrow in its facilities.
- The Bank will use the new opportunities made available by the creation of the PRA to ensure that banks better integrate the availability of liquidity insurance into their liquidity planning and use the Bank's facilities at the appropriate time.
- The Bank's rule limiting banking groups to a single reserves account has been relaxed.

To improve the governance of the SMF:

- New decision-making machinery has been set up, led by a Deputy Governor and overseen by Court, to ensure that SMF decisions draw on a wide range of advice, and the views of Deputy Governors are recorded.
- The engagement of the Monetary Policy Committee and Financial Policy Committee in the SMF has been clarified and strengthened, through concordats setting out arrangements for information sharing and consultation.
- Starting in 2014, the Bank will compile and publish an annual review of the SMF, drawing on a wide range of internal and external views.

Over the coming year the Bank will:

- Examine the case for extending SMF access to some non-banks.
- Examine whether it can further clarify the circumstances in which, during periods of market-wide stress, it would be willing to act as market maker of last resort or extend term credit.
- Assist Court in its evaluation of the appropriate capital base for the Bank.

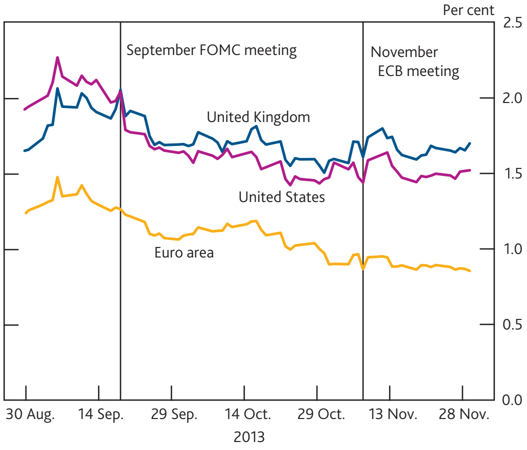
When market expectations begin to point to a near-term rise in Bank Rate, the Bank will:

- Evaluate the case for returning to reserves averaging (versus retaining the current 'floor' system for setting Bank Rate).

Further details on the approach are provided in 'Liquidity insurance at the Bank of England: developments in the Sterling Monetary Framework'(1) and in an updated edition of the Bank's 'Red Book',(2) which provides a comprehensive description of the SMF.

(1) Available at www.bankofengland.co.uk/markets/Documents/money/publications/liquidityinsurance.pdf.
(2) Available at www.bankofengland.co.uk/markets/Documents/money/publications/redbook.pdf.

Chart 2 Instantaneous forward OIS rates, three years ahead(a)

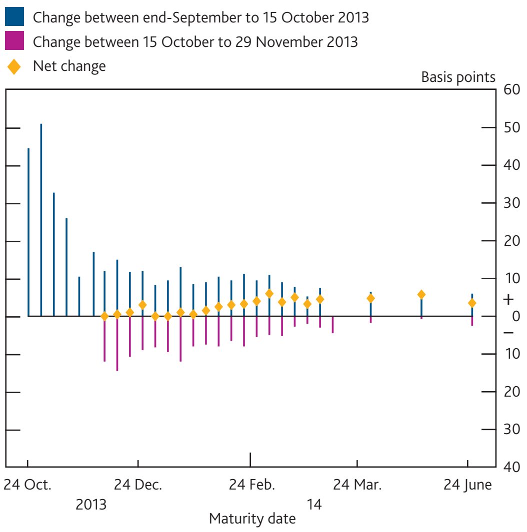


Sources: Bloomberg and Bank calculations.

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

reflecting market participants' uncertainty about whether the US government would be able to meet upcoming coupon payments on its debt (**Chart 3**). On 16 October, Congress approved an extension of the US debt ceiling until 7 February 2014 and reopened the US federal government. This was associated with a sharp decrease in Treasury bill rates, albeit to levels slightly above those prevailing prior to the start of the shutdown. After the data cut-off, legislation to approve the Federal government budget for a further two years was approved by the US House of Representatives and was pending a vote by the Senate.

Chart 3 Changes in yields of US Treasury bills of different maturity dates

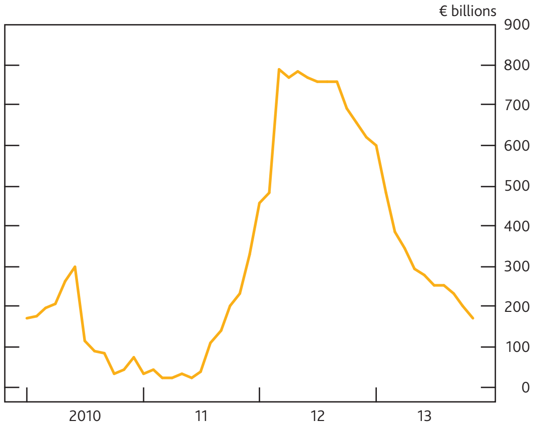


Sources: Bloomberg and Bank calculations.

Repo and other markets continued to function well during the shutdown, although contacts highlighted a material risk of disruption should the US government miss a payment. Channels through which stress in the US Treasury securities market could transmit to other markets and institutions are discussed in the latest *Financial Stability Report*.[1] During the period of the US government shutdown, new rules on the trading of standardised OTC derivatives contracts came into effect. Contacts reported that the coincidence of the rule change with the US shutdown had created additional uncertainty about the likely impact of the new regulation. But concerns about the potential implications of the rules on liquidity had, so far, proved to be unfounded. See the box on page 384 for further details.

In the euro area, ongoing repayments of the European Central Bank's (ECB's) three-year longer-term refinancing operations (LTROs) continued to reduce excess liquidity in the Eurosystem (**Chart 4**). And short-term euro-area market interest rates rose, corresponding to a marginal tightening in monetary conditions.

Chart 4 Excess liquidity in the Eurosystem(a)



Source: Bloomberg.

(a) Excess liquidity is defined as the total amount of reserves held in Eurosystem current accounts and the deposit facility, minus average reserves requirements and use of the marginal lending facility.

On 7 November, the ECB announced a 25 basis point cut in its main refinancing rate to 0.25% and reaffirmed the forward guidance it gave in July. At the same time, the ECB also announced an extension to the full-allotment policy used in its open market operations, from mid-2014 to mid-2015. Euro-area forward rates fell following the decision.

Turning to longer-term market interest rates, US and UK ten-year sovereign bond yields continued to comove closely, and ended the review period largely unchanged (**Chart 5**). In contrast, German government bond yields fell around 10 basis points, with the gilt-bund spread reaching over 100 basis points — its widest level since 2010 (**Chart 5**).

Foreign exchange

The sterling exchange rate index (ERI) appreciated by 4% over the review period, partly due to an improvement in the economic outlook for the United Kingdom (**Chart 6**). Contacts suggested that market participants had become more

(1) See pages 31–33 of the November 2013 *Financial Stability Report*.

Swap Execution Facilities

At their 2009 meeting in Pittsburgh, the G20 leaders agreed that 'all standardised OTC derivatives contracts should be traded on exchanges or electronic trading platforms where appropriate, and cleared through central counterparties'.(1) Considerable progress has already been made internationally in implementing central clearing for OTC derivatives, but few jurisdictions have introduced regulations for trade execution. Regulators in the United States have begun to introduce such measures, however, and some contacts had expressed concerns about the potential impact of the rules on overall market liquidity.

In the United States the G20 commitments for OTC derivatives are effected through Title VII of the Dodd-Frank Act.(2) Title VII establishes a framework for the mandatory trading of OTC derivatives and introduces the concept of a new type of multilateral trading venue called a Swap Execution Facility (SEF). Broadly, a multilateral trading venue is one where market participants are able to interact with multiple third-party interests. The Commodity and Futures Trading Commission (CFTC) finalised its swaps trading rules in May 2013.(3)

According to the CFTC rules, products that are subject to mandatory trading on exchanges or electronic trading platforms must be executed on a CFTC regulated exchange (Designated Contract Market) or a SEF.(4) SEFs are required to offer, at a minimum, order book trading functionality, where market participants submit prices at which they are willing to trade.(5) In addition, the CFTC stipulated that any venue that meets the SEF definition — broadly understood to encompass all multilateral trading venues — would need to register with the CFTC and meet all requirements associated with being defined as a SEF. This is regardless of whether the products they offer are subject to mandatory trading requirements or not. Given the global nature of the products and participants covered by the rules, the CFTC requirements impact trading venues and participants outside of the United States.

Electronic trading platforms were required to register as SEFs with the CFTC by 2 October 2013. Those platforms that missed the deadline would be unable to offer trade execution services to US persons. Market participants had expressed reservations about the ability of multilateral trading platforms to meet the CFTC's SEF requirements in time, or, indeed, the willingness of non-US persons to trade on SEFs. This prompted suggestions that market liquidity could be impaired around the deadline.

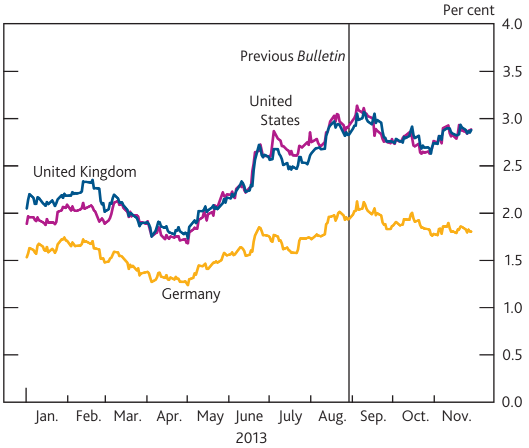
However, the actual impact of the SEF registration deadline was less significant than originally anticipated. Market contacts suggest that this reflected several factors. In part, it was because of the extension by the CFTC of certain requirements until early November 2013, and to end-June 2014 in some instances. But also, a number of multilateral trading venue operators allowed non-US persons, including certain non-US subsidiaries of US banks, to access their other trading platforms, not registered as SEFs. Furthermore, some market participants had switched to using other execution methods — including voice trading and single-dealer platforms — that were still available to them before mandatory trading determinations took effect.

That said, there were certain market segments, such as foreign exchange, and in particular non-deliverable forwards (NDFs), that did show some signs of being affected by the SEF deadline, as few relevant multilateral trading venues were willing or able to register as SEFs. Contacts noted that initial confusion about the rules and the inability of US persons to access non-SEF registered platforms did have a detrimental impact on overall NDF market liquidity.

Thus far, interest rate swaps have been most actively traded on SEFs, with the majority of trading volumes concentrated in US dollar interest rate swaps. On-SEF trading volumes for sterling and euro interest rate swaps remain modest.

(1) www.g20.org/sites/default/files/g20_resources/library/Pittsburgh_Declaration.pdf.
(2) In the European Union, the trading mandate will be implemented as part of the Markets in Financial Instruments (MiFID) review, led by the European Commission.
(3) The Securities Exchange Commission (SEC) and the Commodity and Futures Trading Commission (CFTC) have been tasked with producing the implementing regulations for securities-based swaps and swaps respectively. The SEC's rules are still at the proposal stage.
(4) As well as setting out requirements for trading platforms, the CFTC will indicate which products are subject to the mandatory trading requirements. Under the rules, trades of large size (block trades) will not be included in the mandate.
(5) Also, under the rules, SEFs can offer a request for quote (RFQ) system. But for SEFs, RFQ functionality requires customers to submit requests for quotes to at least two unaffiliated market participants (RFQ2), and to three (RFQ3) from October 2014. Contacts report that RFQ2 and RFQ3 can represent a high hurdle for products which trade only irregularly.

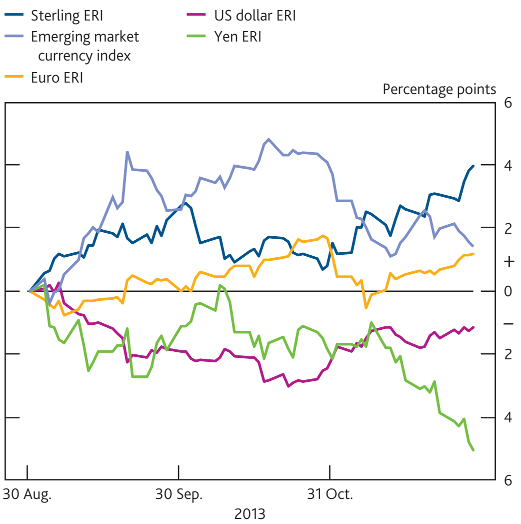
Chart 5 Selected ten-year government bond yields[a]



Sources: Bloomberg and Bank calculations.

(a) Yields to maturity derived from the Bank's government liability curves.

Chart 6 Changes in selected exchange rate indices since 29 August 2013



Sources: Bloomberg, European Central Bank, JPMorgan Chase & Co. and Bank calculations.

balanced in their outlook for sterling, in light of consistently strong economic data, perceiving there to be less of a downside risk to sterling than had previously been the case.

Meanwhile, the US dollar ERI depreciated by 1%. There was a sharp decline in the index following the FOMC's decision in September not to slow the pace of its monthly asset purchases and dollar weakness continued during the federal government shutdown. Contacts noted that the uncertainty caused by the government shutdown led to some temporary 'safe haven' flows out of the dollar, and into sterling and the euro. Despite depreciating on the day of the ECB's decision to lower its refinancing rate, the euro ERI rose over the period. This was partly due to the euro's appreciation against the yen.

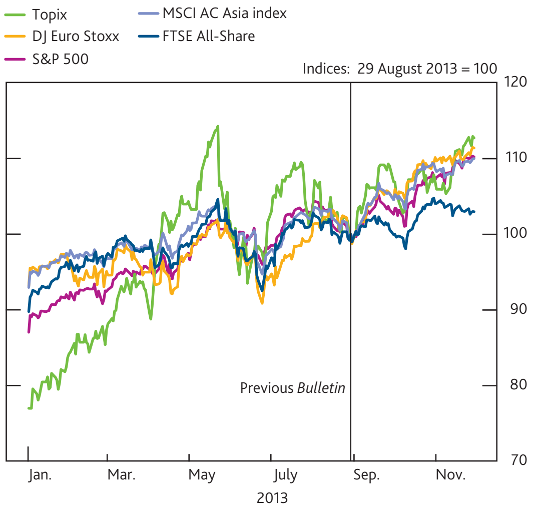
The yen ERI fell by 5% over the review period following speculation about a possible extension to the Bank of Japan's quantitative and qualitative monetary easing (QQE), along with expectations of outflows by large domestic institutional investors.

Emerging market currencies had depreciated markedly during the summer, when markets first began to focus on the risks for emerging economies arising from a change in current US monetary policy settings. Some of that depreciation reversed over the review period, partly due to the postponement of tapering in the United States, improved economic data, and remedial policy measures in some countries. And investors continued to place greater emphasis on differences between countries in terms of underlying economic fundamentals, than had been the case earlier in the year.

Corporate capital markets

International equity indices rose over the review period, with the US debt ceiling negotiations causing only a temporary decline in share prices (**Chart 7**). According to contacts, reduced US political risks, coupled with the unexpected September FOMC decision not to taper, boosted investor demand for risky assets. The decision by the FOMC not to slow the pace of asset purchases in September also alleviated some of the stress in emerging equity markets that had been observed since the spring.

Chart 7 International equity indices[(a)(b)]



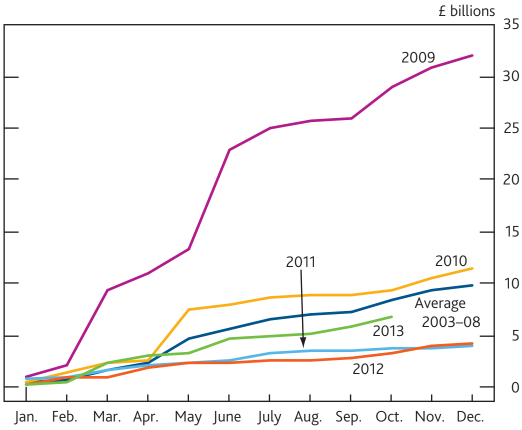
Sources: Bloomberg and Bank calculations.

(a) Indices are quoted in domestic currency terms, except for the MSCI AC Asia index, which is quoted in US dollar terms.
(b) The MSCI AC Asia index is a free-float weighted index that monitors the performance of stocks in Asia.

In Europe, stocks were reported to have benefited from strong foreign capital inflows, especially from the United States, where valuations in the domestic market were already perceived to be elevated. And contacts thought that concerns among US investors about the risks associated with the euro-area sovereign debt crisis had diminished, encouraging a return to the market.

Improving sentiment about growth in the United Kingdom had encouraged a modest pickup in UK equity issuance in the spring. This had continued despite the volatility during the summer. Over the year to date, gross equity issuance was materially higher than during the same period over the past two years (**Chart 8**).

Chart 8 Cumulative gross equity issuance by UK private non-financial corporations



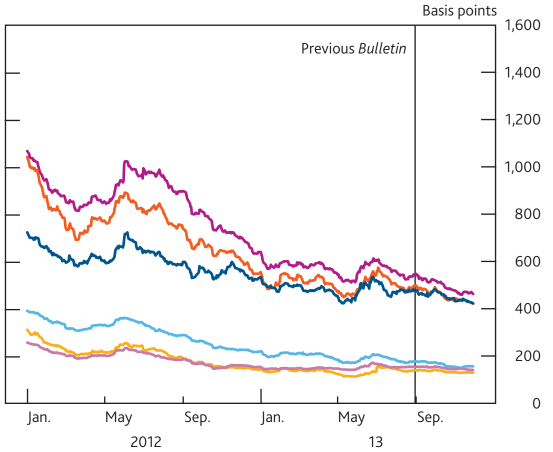
Appetite for equity issuance by privately owned companies had also increased, with a pickup in the overall value of initial public offerings (IPOs) over the course of the year. But contacts reported that investment banks' IPO pipelines remained small compared with pre-crisis. And many contacts were cautious about the prospects for the market, viewing the recent uptick in IPOs as only a temporary reopening of the market, rather than a structural shift toward a more stable environment for corporate flotations.

In corporate bond markets, secondary market bond spreads continued their gradual decline. Spreads were broadly unaffected by the temporary turbulence in the market for US Treasuries (**Chart 9**). High-yield corporate bonds, in particular, were still reported to be benefiting from strong demand.

Sterling spreads on both investment-grade and high-yield bonds fell by more than dollar and euro spreads. Contacts suggested that a relatively bigger improvement in the outlook for UK economic activity, versus prospects for the United States and euro area, was likely to have been a factor. But they also pointed to lower sterling bond supply, compared with euro and dollar-denominated bond issuance. There was a strong pickup in sterling primary issuance in November, as corporates took advantage of low spreads and calm market conditions.

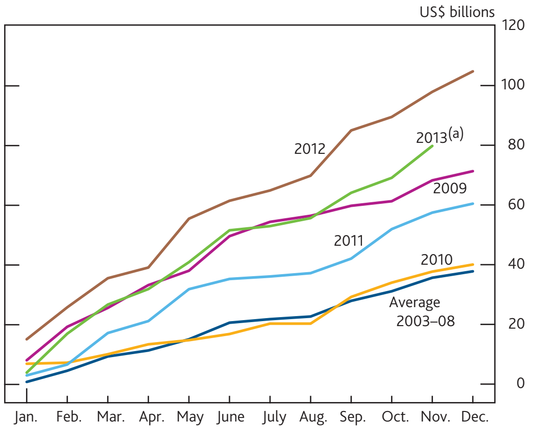
With the exception of the period around the October debt ceiling negotiations, corporate bond issuance remained strong (**Chart 10**). Net issuance by UK corporates was positive for the

Chart 9 International corporate bond option-adjusted spreads



Sources: Bank of America Merrill Lynch and Bank calculations.

Chart 10 Cumulative gross bond issuance by UK private non-financial corporations[(a)]



Sources: Dealogic and Bank calculations.

(a) Data up to 29 November 2013.

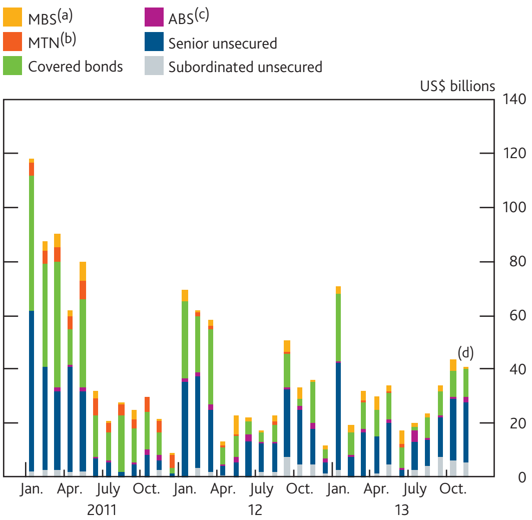
first time since June. Contacts reported that new issues were often heavily oversubscribed and attracted only a negligible yield premium versus outstanding secondary market bonds. And the review period saw the biggest-ever bond issue — a US$49 billion bond offering by the US telecom company Verizon. Even at that large size, the deal was more than twice oversubscribed. Contacts speculated that the sale might have reopened the corporate bond market for the sizable issues associated with large debt-financed mergers and acquisitions.

Issuance of collateralised loan obligations (CLOs) and loans with few covenants, or 'cov-lite', continued apace in the United States, with debt to earnings ratios on new loans drifting higher. The pipeline for European CLOs was also reported to be building up, with contacts citing robust demand for low-rated tranches, which offer the highest returns. But a lack of demand for the higher-rated tranches, the relative scarcity of leveraged loans suitable for securitisation, and risk retention requirements set by the European Banking Authority, are expected to continue to constrain the pace of issuance.

Bank funding markets

European bank issuance of term funding picked up over the review period (**Chart 11**), including from banks based in periphery euro-area countries. Contacts noted that bank debt was in high demand following a dearth of issuance in June. Issuance had begun earlier than usual following the typical seasonal summer lull, as banks sought to raise funds ahead of potential volatility surrounding the September FOMC meeting. Some issuers had paid a relatively large premium to complete deals.

Chart 11 Term issuance by European (excluding UK) lenders in public markets



Sources: Dealogic and Bank calculations.

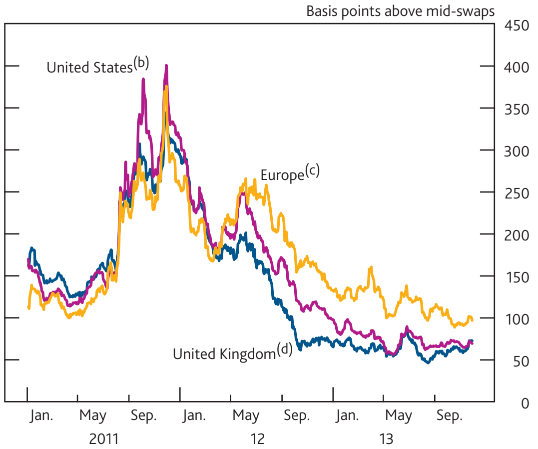
(a) Commercial and residential mortgage-backed securities.
(b) Medium-term notes.
(c) Asset-backed securities.
(d) Data up to 29 November 2013.

In the United Kingdom, contacts continued to emphasise that UK banks' funding needs remain low. But even among UK lenders, primary market bond issuance did rise somewhat during the review period. And there was sizable issuance of euro-denominated senior unsecured debt for the first time since early 2012.

In the secondary market, bond spreads remained virtually flat for both US and UK banks, whereas borrowing costs for euro-area lenders continued on their gradual downward trend (**Chart 12**). A number of Irish, Spanish and Portuguese banks issued senior unsecured debt for the first time in several years, at relatively low spreads.

On the regulatory front, the ECB announced details of the forthcoming 'comprehensive assessment' of banks to come under its supervision, which will conclude in October 2014. The exercise will consist of three elements: a supervisory

Chart 12 Indicative senior unsecured bank bond spreads(a)



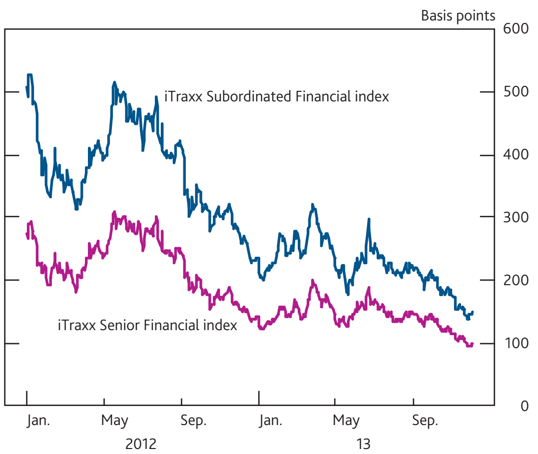
Sources: Bloomberg, Markit Group Limited and Bank calculations.

(a) Constant-maturity unweighted average of secondary market spreads to mid-swaps of banks' five-year senior unsecured bonds, where available. Where a five-year bond is unavailable, a proxy has been constructed based on the nearest maturity of bond available for a given institution and the historical relationship of that bond with the corresponding institutions' five-year bond.
(b) Average of Bank of America, Citi, Goldman Sachs, JPMorgan Chase & Co., Morgan Stanley and Wells Fargo.
(c) Average of Banco Santander, BBVA, BNP Paribas, Crédit Agricole, Credit Suisse, Deutsche Bank, Intesa, ING, Société Générale, UBS and UniCredit.
(d) Average of Barclays, HSBC, Lloyds Banking Group, Nationwide, Royal Bank of Scotland and Santander UK.

review of key risks; an asset quality review (AQR); and a stress test. The main goals of the exercise are to improve transparency concerning the condition of banks and repair of their balance sheets, as well as to build confidence by assuring stakeholders that banks are fundamentally sound. Some contacts suggested that recent debt and equity issuance by European banks (see the box on pages 388–89) reflected a desire to bolster capital positions and lock in funding ahead of the comprehensive assessment.

Following the announcement of the AQR, European bank equity prices fell, with the largest declines experienced by Italian, Spanish and Portuguese banks. However there were

Chart 13 Credit default swap spreads for European financial entities(a)



Source: Bloomberg.

(a) The iTraxx indices comprise equally weighted euro-denominated five-year credit default swaps on investment-grade European entities.

Additional Tier 1 (AT1) capital issuance

The Basel III capital framework increases the quantity and quality of capital that banks are required to hold. It includes a requirement that banks hold Tier 1 (T1) capital of at least 6% of their risk-weighted assets (RWAs). This is intended to ensure that banks can absorb losses on a 'going concern' basis — that is, without being subject to resolution. 4.5 percentage points of the T1 requirement must be common equity Tier 1 (CET1), and banks may meet the remaining 1.5 percentage points with additional Tier 1 (AT1) capital instruments. AT1 instruments are required to have features that guarantee they will be available to absorb losses. These take the form of 'triggers' that guarantee AT1 instruments will be written down or converted to shares if a bank's CET1 capital ratio falls below a certain value. This trigger feature means AT1 instruments are a form of contingent convertible (CoCo) debt.

Two key choices have guided the design of AT1 instruments. The first of these is the level of the triggers. Investors tend to prefer low triggers because this implies a lower probability of conversion or write-down. Basel III and CRD IV (which will implement Basel III in Europe) set the minimum trigger point at 5.125%. In the United Kingdom, the Prudential Regulation Authority has indicated that AT1 instruments should have a trigger that ensures that they convert before the bank fails. Such a trigger level may be above 5.125% for some banks.(1)

The second design choice is the mechanism through which AT1 instruments absorb losses once they have triggered. There is an ongoing dialogue between issuers and investors about whether it is preferable for AT1 instruments to convert into equity or to be written down once the trigger point is breached. Some investors, including some large pension funds and asset managers, prefer conversion into equity, as it enables them to have a continuing stake in a bank and potentially profit from any recovery. But other fixed-income investors express an aversion to equity conversion for two reasons:

- Some fixed-income mandates prohibit holding equity (including instruments that may convert to equity). It has been suggested that mandates could be changed if necessary and would probably adapt over time to include these instruments.

- It is also difficult to assess the losses arising following conversion, because of uncertainty about the prevailing market price at that point. This makes it difficult to value equity-converting AT1.

A further feature of AT1 that has recently attracted attention from market participants is the potential for payment of its coupons to be suspended. Under Basel III/CRD IV, issuers must have full discretion as to whether or not to pay coupons on AT1. There is also an automatic mechanism for restricting banks' distributions to investors (including coupons) should the issuing bank's capital ratio fall below certain regulatory buffers. These include: the capital conservation buffer; the countercyclical buffer, which is a macroprudential policy tool; and systemic risk surcharges. National regulators may also mandate additional capital requirements (denoted Pillar 2A/B) that could affect the likelihood of distribution restrictions applying.

Contacts expect that distribution restrictions are, in practice, more likely to occur than conversion, given that the trigger ratios on current AT1 instruments will probably be below future regulatory buffers. The potential for such restrictions reduces the value of AT1. In particular, Pillar 2 requirements — which form part of the regulatory buffer — might not be publicly disclosed. And, in addition, banks have flexibility to determine how the restrictions are allocated between coupons and other distributions, such as dividends to shareholders and staff remuneration. Contacts say these factors make it difficult for investors to measure this risk and factor it into their pricing.

Despite the perceived drawbacks noted above, in recent months the market for AT1 has begun to mature, with a number of successful issues by banks. Contacts report that banks have been keen to make use of AT1 instruments because they offer a relatively low-cost means for lenders to meet T1 capital and leverage ratio requirements. Contacts also suggest that issuance has been spurred by clarification of the features required for the instruments to be eligible as T1 capital, particularly the minimum level of trigger ratios. Some jurisdictions had also provided detail on the tax treatment of coupon payments.

Table 1 compares the trigger capital ratios of recent AT1 issues along with the means by which they absorb loss. They are divided between those that convert to equity and those that are written down. The recent AT1 instruments issued by

Table 1 Selection of recent AT1 capital issues

Issuer	Size	Trigger	Conversion terms
Société Générale	US$1.75 billion	5.125% CET1	Write-down
Credit Suisse	US$2.25 billion	5.125% CET1	Write-down
Barclays	€1 billion	7% CET1 (fully loaded)	Equity conversion
Barclays	US$2 billion	7% CET1 (fully loaded)	Equity conversion
Banco Popular	€0.5 billion	5.125% CET1/6% T1/4 quarters of losses reduce capital by 1/3	Equity conversion
Société Générale	US$1.25 billion	5.125% CET1	Write-down
Credit Suisse	CHF290 million	5.125% CET1	Write-down
BBVA	US$1.5 billion	5.125% CT1/CET1 (in steady state)	Equity conversion

Barclays attracted a large amount of investor interest and were oversubscribed by a wide margin, suggesting that investor reactions may be adapting as they become more familiar with AT1 and the broader implications of Basel III for bank capital issuance.

There has also been a diversification in the investor base for these instruments. Early issues tended to be taken up primarily by high-yield investors such as hedge funds and Asian investors. Recently, however, institutional investors, such as pension funds and insurers, have started to take a bigger share of new issuance. Contacts attribute this to less restrictive investment mandates alongside a broader search for higher-yielding investments.

(1) See Consultation Paper 5/13, 'Strengthening capital standards: implementing CRD IV', August 2013.

few obvious signs of increased concern in credit default swap (CDS) markets, which remained at multi-year lows across much of Europe. Indeed, some contacts expressed surprise at how little reaction to the announcement there had been in subordinated bond spreads, with the iTraxx indices for subordinated and senior CDS continuing to fall over the review period (**Chart 13**). On the whole, contacts viewed the announcement of the comprehensive assessment as positive, but noted that the effectiveness of the exercise would depend on certain details of the process that have yet to be clarified.

Operations

Operations within the Sterling Monetary Framework and other market operations

This section describes the Bank's operations within the Sterling Monetary Framework over the review period, and other market operations. The level of central bank reserves is determined by: (i) the stock of reserves injected via the Asset Purchase Facility (APF); (ii) the level of reserves supplied by indexed long-term repo (ILTR) operations and the Extended Collateral Term Repo (ECTR) Facility; and (iii) the net impact of other sterling ('autonomous factor') flows across the Bank's balance sheet.

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, average use of the deposit facility was £0 million in each of the August, September and October maintenance periods. Average use of the lending facility was also £0 million.

Indexed long-term repo open market operations

The Bank conducts ILTR operations as part of its provision of liquidity insurance to the banking system. These typically occur once every calendar month. Participants are able to borrow against two different sets of collateral: one set corresponds with securities eligible in the Bank's short-term repo operations ('narrow collateral'); the other set contains a broader class of high-quality debt securities that, in the Bank's judgement, trade in liquid markets ('wider collateral').

During the review period, the Bank offered £5 billion via three-month ILTR operations on both 10 September and 8 October 2013, and £2.5 billion via a six-month operation on 12 November (**Table A**).

Table A Indexed long-term repo operations

	Total	Collateral set summary	
		Narrow	Wider
10 September 2013 (three-month maturity)			
On offer (£ millions)	5,000		
Total bids received (£ millions)(a)	35	5	30
Amount allocated (£ millions)	35	5	30
Cover	0.00	0.00	0.01
Clearing spread above Bank Rate (basis points)		0	5
Stop-out spread (basis points)(b)	5		
8 October 2013 (three-month maturity)			
On offer (£ millions)	5,000		
Total bids received (£ millions)(a)	0	0	0
Amount allocated (£ millions)	0	0	0
Cover	0.00	0.00	0.00
Clearing spread above Bank Rate (basis points)		n.a.	n.a.
Stop-out spread (basis points)(b)	n.a.		
12 November 2013 (six-month maturity)			
On offer (£ millions)	2,500		
Total bids received (£ millions)(a)	0	0	0
Amount allocated (£ millions)	0	0	0
Cover	0.00	0.00	0.00
Clearing spread above Bank Rate (basis points)		n.a.	n.a.
Stop-out spread (basis points)(b)	n.a.		

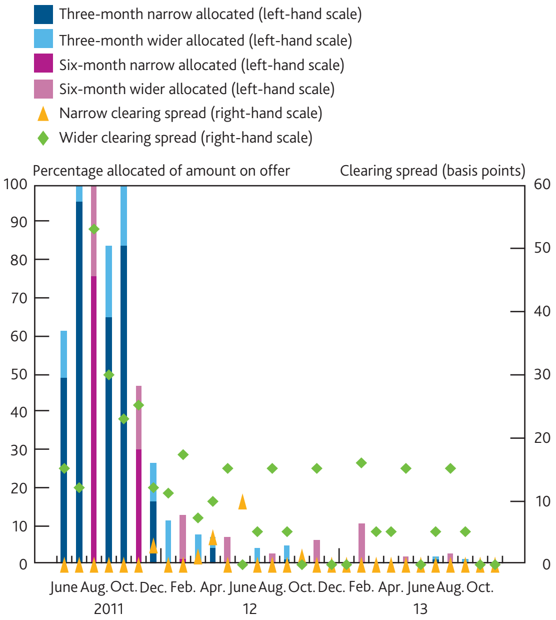
(a) Due to the treatment of paired bids, the sum of bids received by collateral set may not equal total bids received.
(b) Difference between clearing spreads for wider and narrow collateral.

Over the quarter, and in line with recent quarters, short-term secured market interest rates remained below Bank Rate — the minimum bid rate in the ILTR operations — making the ILTR facility a relatively more expensive source of liquidity. Reflecting this, usage of the facility remained limited over the period (**Chart 14**).

Extended Collateral Term Repo Facility

The ECTR Facility is a contingent liquidity facility, designed to mitigate risks to financial stability arising from a market-wide

Chart 14 ILTR reserves allocation and clearing spreads



shortage of short-term sterling liquidity.(1) The Bank reviews demand for use of the Facility on a monthly basis, in consultation with ECTR eligible institutions.(2) In the three months to 30 November 2013, the Bank did not conduct any ECTR auctions.

Discount Window Facility

The Discount Window Facility (DWF) provides liquidity insurance to the banking system by allowing eligible banks to borrow gilts against a wide range of collateral. The average daily amount outstanding in the DWF between 1 April 2013 and 30 June 2013, lent with a maturity of 30 days or less, was £0 million.

Other operations

Funding for Lending Scheme

The Funding for Lending Scheme (FLS) was launched by the Bank and the Government on 13 July 2012. The FLS was designed to incentivise banks and building societies to boost their lending to UK households and non-financial companies, by providing term funding at low rates. The quantity each participant can borrow in the FLS, and the price it pays on its borrowing, is linked to its performance in lending to the UK real economy. The initial drawdown period for the FLS opened on 1 August 2012 and will run until 31 January 2014.

The Bank and HM Treasury announced an extension to the FLS on 24 April 2013, which will allow participants to borrow from the FLS until January 2015. The extended drawdown period will run from 3 February 2014 to 30 January 2015, following the initial drawdown period.(3)

On 28 November 2013 the Bank and HM Treasury announced changes to the terms of the FLS extension to refocus the incentives in the Scheme towards supporting small business lending in 2014.(4)

The Bank publishes quarterly data showing, for each group participating in the FLS, the amount borrowed from the Bank, the net quarterly flows of lending to UK households and firms, and the stock of loans as at 30 June 2012. On 2 December 2013, the Bank published data showing that in the quarter ending 30 September 2013, 21 participants made FLS drawdowns of £5.5 billion. This took the total amount of outstanding drawings under the Scheme to £23.1 billion, with 33 groups now benefiting from funding under the Scheme.(5)

US dollar repo operations

Since 11 May 2010, in co-ordination with other central banks, the Bank has offered seven-day US dollar liquidity in weekly fixed-rate tenders, and since 12 October 2011 the Bank has also offered US dollar tenders with a maturity of 84 days.

On 31 October 2013, the Bank alongside the Bank of Canada, the Bank of Japan, the European Central Bank, the Federal Reserve and the Swiss National Bank announced that swap arrangements were being converted to standing arrangements constituting a network of bilateral swap lines among the six central banks.(6) The arrangements allow for the provision of liquidity in each jurisdiction in any of the five currencies foreign to that jurisdiction, should the two central banks in a particular bilateral swap arrangement judge that market conditions warrant such action in one of their currencies. There was no use of the Bank's US dollar facilities during 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 (CRDs). 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 £4.7 billion of gilts and £0.4 billion of other debt securities.

(1) Further details are available at www.bankofengland.co.uk/markets/Pages/money/ectr/index.aspx.
(2) Further details are available at www.bankofengland.co.uk/markets/Documents/marketnotice121120.pdf.
(3) Further details are available at www.bankofengland.co.uk/markets/Documents/marketnotice130424.pdf.
(4) Further details are available at www.bankofengland.co.uk/markets/Documents/marketnotice131128.pdf.
(5) Further details are available at www.bankofengland.co.uk/markets/Pages/FLS/data.aspx.
(6) Further details are available at www.bankofengland.co.uk/publications/Pages/news/2013/125.aspx.

Asset purchases

As of 29 November 2013, outstanding asset purchases financed by the issuance of central bank reserves under the APF were £375 billion, in terms of the amount paid to sellers. On 7 November, the MPC voted to maintain the stock of asset purchases financed by the issuance of central bank reserves at £375 billion. There were no asset purchases over the period.

Gilts

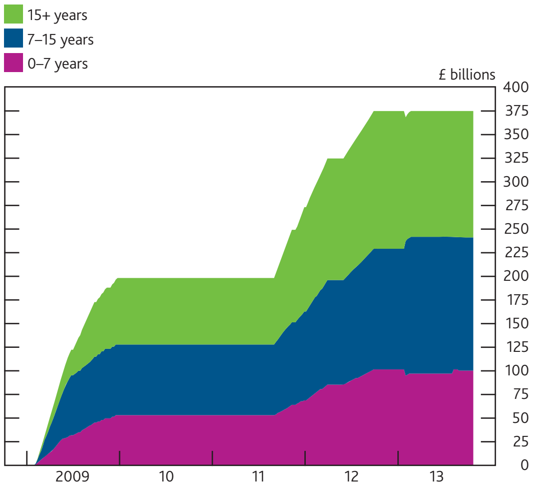
Alongside the publication of the August *Inflation Report* on 7 August, the MPC announced that it would maintain the stock of outstanding asset purchases by reinvesting the cash flows associated with all maturing gilts held in the APF. This reinvestment would continue while the Labour Force Survey unemployment rate remains above a 7% threshold, subject to the three knockout conditions outlined in the forward guidance publication, published together with the August *Inflation Report*.(1) In line with this the Bank reinvested the cash flows of £1.9 billion associated with the redemption of the APF's holdings of the September 2013 gilt. This reinvestment was completed over three reverse auction operations between 30 September and 3 October.

The total stock of gilts outstanding, in terms of the amount paid to sellers, was £375 billion, of which £100.3 billion of purchases were made in the 3–7 residual maturity range, £140.9 billion in the 7–15 residual maturity range and £133.8 billion with a residual maturity of greater than 15 years (**Chart 15**).

Gilt lending facility(2)

The Bank continued to offer to lend some of its gilt holdings via the Debt Management Office (DMO) in return for other UK government collateral. In the three months to 30 September 2013, a daily average of £274 million of gilts was lent as part of the gilt lending facility. Average daily lending in the previous quarter was £462 million.

Chart 15 Cumulative gilt purchases by maturity(a)(b)(c)



(a) Chart includes the March 2013 and September 2013 redemption and the subsequent reinvestments across the maturity sectors.
(b) Proceeds paid to counterparties on a settled basis.
(c) Residual maturity as at the date of purchase.

Corporate bonds

There were no purchases of corporate bonds during the review period and future sale or purchase operations will be dependent on market demand. The Bank will review that in consultation with its counterparties in the Corporate Bond Scheme.(3) The Scheme currently holds no bonds as the last remaining bonds matured in the last review period.

Secured commercial paper facility

The Bank continued to offer to purchase secured commercial paper (SCP) backed by underlying assets that are short term and provide credit to companies or consumers that support economic activity in the United Kingdom.(4) The facility remained open during the review period but no purchases were made.

(1) For more information on the forward guidance threshold and the three knockouts, please see www.bankofengland.co.uk/publications/Documents/inflationreport/2013/ir13augforwardguidance.pdf.
(2) For more details on the gilt lending facility see the box 'Gilt lending facility' in the *Bank of England Quarterly Bulletin*, Vol. 50, No. 4, page 253.
(3) More information can be found in the Market Notice available at www.bankofengland.co.uk/markets/Documents/marketnotice130627.pdf.
(4) The SCP facility is described in more detail in the Market Notice available at www.bankofengland.co.uk/markets/Documents/marketnotice120801.pdf.