Markets and operations

This article reviews developments in sterling financial markets, including the Bank's official operations, between the 2012 Q2 *Quarterly Bulletin* and 24 August 2012.[1] The article also summarises market intelligence on selected topical issues relating to market functioning.

Sterling financial markets

Overview

Financial market sentiment continued to be dominated by concerns about vulnerabilities associated with the indebtedness and competitiveness of several euro-area economies. Against this backdrop, and in response to weaker prospects for global growth in the first part of the review period, policymakers around the world announced a number of measures aimed at providing additional support to the financial system and stimulus to their respective economies. Following these announcements, market sentiment appeared to improve in the second half of the review period. Some contacts cautioned against placing much weight on this, however, given the seasonal lull in some financial markets during July and August, and the fact that many of the fundamental challenges facing the euro area remained.

In the United Kingdom, the Bank of England's Monetary Policy Committee (MPC) announced a further extension of its asset purchase programme. In addition, the Bank deployed its Extended Collateral Term Repo (ECTR) Facility and launched the Funding for Lending Scheme (FLS). The operation of the FLS, which is designed to boost lending to the real economy, is described in the box on page 195. Elsewhere, the European Central Bank (ECB) cut its key policy interest rates, and signalled further non-standard monetary policy measures. In the United States, the Federal Open Market Committee (FOMC) decided to continue its programme of extending the average maturity of its holdings of securities. And expectations of further monetary stimulus increased following the August FOMC minutes.

Movements in financial asset prices over the period were mixed. Equity and corporate bond prices rose, boosted by the actions policymakers had taken, and by expectations of further support measures. Yields on government bonds ended the period little changed. In the euro area, the yields on government bonds issued by some of the more vulnerable member countries were volatile and remained elevated. Bank debt issuance remained muted for most of the review period but conditions in bank funding markets improved in August.

Monetary policy and short-term interest rates

In the United Kingdom, the MPC maintained Bank Rate at 0.5% throughout the review period. The MPC voted on 5 July to increase the size of its asset purchase programme, financed by the issuance of central bank reserves, by £50 billion to a total of £375 billion. The Committee judged that without this additional monetary stimulus it would have been more likely than not that inflation would undershoot the target in the medium term. The asset purchase programme is described in the box on pages 188–89.

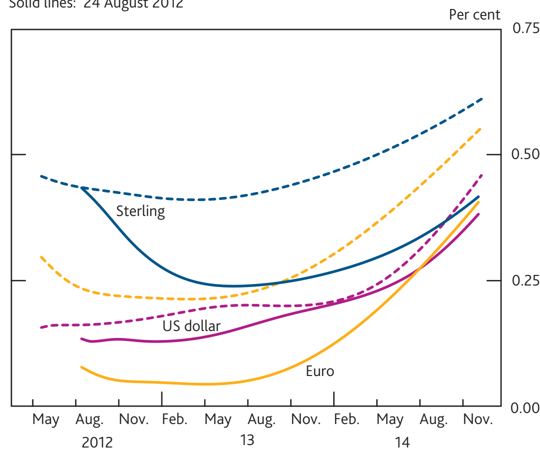
A Reuters poll conducted shortly after the end of the review period indicated that expectations of further monetary easing had increased. A majority of the economists polled expected the MPC to increase asset purchases by a further £50 billion to a total of £425 billion; at the end of the previous review period, a majority of the economists surveyed had not anticipated purchases to be extended beyond £325 billion.

According to contacts, during the review period market participants also placed a greater weight on the possibility that Bank Rate would be cut to below 0.5%. This was attributed primarily to the discussion of the merits of a cut in Bank Rate in the June and July MPC minutes. Expectations of a cut in Bank Rate receded a little following the August *Inflation Report*. Sterling overnight index swap (OIS) rates fell at all maturities over the review period (**Chart 1**).

Overnight sterling money market interest rates remained a little below Bank Rate throughout most of the review period (**Chart 2**). Contacts attributed this to a number of factors. These included a reduction in the net supply of high-quality collateral over the period, as the pace of the Bank's asset purchases outstripped that of gilt issuance by the UK Debt Management Office (DMO), pushing down on secured interest rates. Market intelligence on developments in the sterling money market, as well as market participants' responses to a greater need for collateral is described in more detail on pages 196–201.

(1) The data cut-off for the previous *Bulletin* was 31 May 2012.

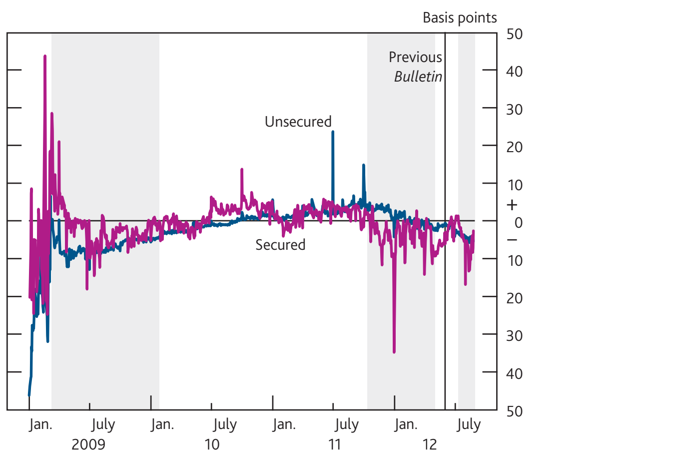
Chart 1 Instantaneous forward interest rates derived from OIS contracts(a)



Sources: Bloomberg and Bank calculations.

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

Chart 2 Spread of Bank Rate to weighted average sterling overnight interest rates(a)



Sources: Bloomberg and Bank calculations.

(a) Shaded areas indicate periods over which the Bank conducted gilt purchases under the Asset Purchase Facility.

Elsewhere, the Governing Council of the ECB decided on 5 July to cut its key policy rates by 25 basis points. This included reducing the interest rate on its deposit facility to 0%. Following this reduction in policy rates, unsecured overnight interest rates fell towards the deposit facility rate. Contacts reported that some top-tier banks had offered negative interest rates on short-term money market deposits and on repo trades secured by the highest-quality collateral. Early signs were that most contacts had not encountered material operational difficulties associated with transacting at near-zero or negative interest rates.

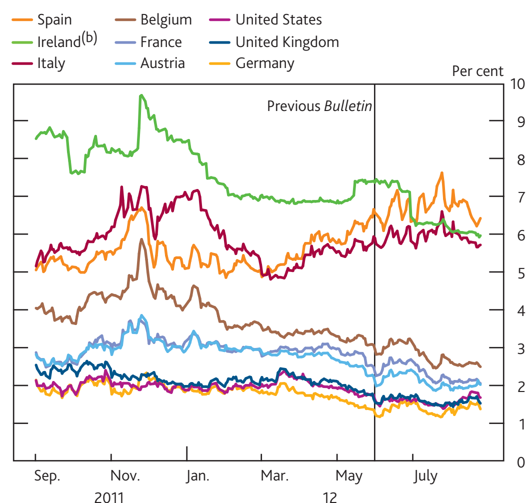
In the United States, the FOMC decided at its June meeting to continue its programme of extending the average maturity of its holdings of securities. The FOMC continued to indicate that economic conditions were likely to warrant exceptionally low levels for the federal funds rate until late 2014. US dollar OIS rates ended the period a little lower; contacts attributed this to speculation that the FOMC may cut the interest rate paid on reserves below 0.25%. Contacts' expectations of additional stimulus also rose following discussion of further asset purchases in the August FOMC minutes.

Long-term interest rates

Investor perceptions of the risks associated with the challenges facing the euro area continued to be a key influence in government bond markets over the review period.

In the euro area, government bond yields generally ended the review period little changed. But during the course of the review period the yields of government bonds issued by some countries exhibited considerable volatility (**Chart 3**). For example, yields on Spanish and Italian government bonds rose in the first half of the review period amid increasing investor concerns about the sustainability of the fiscal outlook in these countries. Following the euro-area summit held on 28–29 June, details were outlined of a loan of up to €100 billion from the European Financial Stability Facility (EFSF)/European Stability Mechanism (ESM) for the recapitalisation of Spanish financial institutions.[1] Contacts reported that market participants interpreted the announcement as reducing the connection between Spanish fiscal concerns and the vulnerabilities in the Spanish banking sector. But the announcement had only a short-lived impact on Spanish government bond yields.

Chart 3 Selected ten-year government bond yields(a)



Source: Bloomberg.

(a) Yields to maturity on ten-year benchmark government bonds.
(b) Yield to maturity on eight-year government bond.

(1) For details of the euro-area summit statement see www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/131359.pdf.

Asset purchases[(1)(2)]

On 5 July, the Monetary Policy Committee (MPC) voted to increase the size of its asset purchase programme, financed by the issuance of central bank reserves, by £50 billion to £375 billion, with asset purchases to be conducted over a four-month period.[(3)] As of 23 August, outstanding asset purchases financed by the issuance of central bank reserves — in terms of the amount paid to sellers — were £346 billion.

Any purchases of high-quality private sector assets continued to be financed by the issuance of Treasury bills and the Debt Management Office's (DMO's) cash management operations, in line with the arrangements announced on 29 January 2009.[(4)]

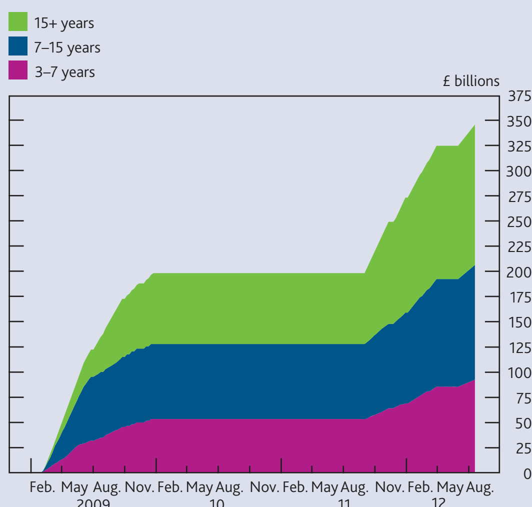
Table 1 summarises asset purchases by type of asset.

Gilts

Following the MPC's decision on 5 July to purchase an additional £50 billion of gilts, the Bank announced that gilt purchases would resume on 9 July, and that the Bank would normally offer to purchase conventional gilts with a residual maturity of 3–7 years on Mondays, of greater than 15 years on Tuesdays and of 7–15 years on Wednesdays. The Bank further announced that the size of the auctions would initially be £1 billion for each maturity sector, although the scale of the programme would be kept under review by the MPC.

As of 23 August 2012, the Bank had purchased £21 billion of the further £50 billion mandated by the MPC. This was split equally across the three maturity sectors via 21 gilt purchase auctions, each for £1 billion. The total amount of gilts purchased since the start of the asset purchase programme in March 2009, in terms of the amount paid to sellers, was £346 billion, of which £92.6 billion of purchases were in the 3–7 year residual maturity range, £113.8 billion in the 7–15 year residual maturity range and £139.4 billion with a residual maturity greater than 15 years (**Chart A**).

Chart A Cumulative gilt purchases[(a)] by maturity[(b)]



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

Table 1 Asset Purchase Facility transactions by type (£ millions)

Week ending[(a)]	Secured commercial paper	Gilts	Corporate bond Purchases	Corporate bond Sales	Total[(b)]
31 May 2012[(c)(d)]	0	324,753	261		325,014
7 June 2012	0	0	4	3	1
14 June 2012	0	0	0	0	0
21 June 2012	0	0	0	18	-18
28 June 2012	0	0	0	4	-4
5 July 2012	0	0	0	0	0
12 July 2012	0	3,000	0	9	2,991
19 July 2012	0	3,000	0	37	2,963
26 July 2012	0	3,000	0	23	2,977
2 August 2012	0	3,000	0	33	2,967
9 August 2012	0	3,000	0	18	2,982
16 August 2012	0	3,000	0	1	2,999
23 August 2012	0	3,000	0	0	3,000
Total financed by a deposit from the DMO[(d)(e)]	–	–	29		29
Total financed by central bank reserves[(d)(e)]	–	345,752	91		345,842
Total asset purchases[(d)(e)]	–	345,752	120		345,871

(a) Week-ended amounts are for purchases in terms of the proceeds paid to counterparties, and for sales in terms of the value at which the Bank initially purchased the securities. All amounts are on a trade-day basis, rounded to the nearest million. Data are aggregated for purchases from the Friday to the following Thursday.
(b) Weekly values may not sum to totals due to rounding.
(c) Measured as amount outstanding as at 31 May 2012.
(d) In terms of proceeds paid to counterparties less redemptions at initial purchase price on a settled basis.
(e) Data may not sum due to assets maturing over the period and/or due to rounding.

Cover in the gilt purchase auctions averaged 3.0 in the 3–7 year maturity sector, 3.0 in the 7–15 year maturity sector and 2.6 in the auctions for gilts with a maturity greater than 15 years. This was broadly in line with cover in the previous APF gilt purchases.[5]

The Bank continued to exclude gilts in which it held a large proportion (more than 70%) of the free float.

Gilt lending facility[6]

The Bank continued to offer to lend some of its gilt holdings via the DMO in return for other UK government collateral. In the three months to 30 June 2012, a daily average of £386 million of gilts was lent as part of the gilt lending facility. This was a little below the average of £527 million in the previous quarter.

Corporate bonds

The Bank continued to offer to purchase and sell corporate bonds via the Corporate Bond Secondary Market Scheme, with purchases financed by the issue of Treasury bills and the DMO's cash management operations. The Scheme continued to serve a backstop role, particularly during periods of market uncertainty.

Net sales of corporate bonds increased during the review period. As of 23 August 2012, the Bank's portfolio totalled £120 million, in terms of amount paid to sellers, compared to £261 million at the end of the previous review period. The increase in net sales reflected market conditions: the Bank's market contacts reported that continued end-investor demand for corporate bonds and a low level of inventories held by dealers had resulted in demand to purchase bonds from the Corporate Bond Scheme.

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.[7] The facility remained open during the review period but no purchases were made.

(1) For further discussion on asset purchases see the *Asset Purchase Facility Quarterly Report* available at www.bankofengland.co.uk/publications/Pages/other/markets/apf/quarterlyreport.aspx.
(2) Unless otherwise stated the cut-off date for data is 23 August 2012.
(3) For further information, see the 5 July Market Notice, available at www.bankofengland.co.uk/markets/Documents/apf/marketnotice120705.pdf.
(4) The APF was initially authorised to purchase private sector assets financed by Treasury bills and the DMO's cash management operations. Its remit was extended to enable the Facility to be used as a monetary policy tool on 3 March 2009. All purchases of assets between 6 March 2009 and 4 February 2010 were financed by central bank reserves. All purchases of private sector assets since 4 February 2010 have been financed by the issuance of Treasury bills and the DMO's cash management operations. All purchases of gilts since 10 October 2011 have been financed by central bank reserves. The Chancellor's letter is available at www.hm-treasury.gov.uk/d/chx_letter_090212.pdf.
(5) Further details of individual operations are available at www.bankofengland.co.uk/markets/Pages/apf/gilts/results.aspx.
(6) 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.
(7) The SCP facility is described in more detail in the Market Notice available at www.bankofengland.co.uk/markets/Documents/marketnotice120801.pdf.

Spanish and Italian yields fell in the second half of the review period. Contacts attributed these falls to comments made by the President of the ECB in a speech on 26 July and the announcement on 2 August that the ECB was considering further non-standard monetary policy measures. Contacts reported that investors largely interpreted these statements as signalling future purchases of short-dated Spanish and Italian government bonds by the ECB.

After the end of the review period — on 6 September — the ECB announced that, subject to certain conditions, it would conduct purchases of euro-area government bonds in secondary markets.[1] These so-called 'Outright Monetary Transactions' (OMTs) would be conducted to address severe market distortions, and would be focused at the shorter end of the yield curve. Italian and Spanish bond yields fell at all maturities immediately following the announcement.

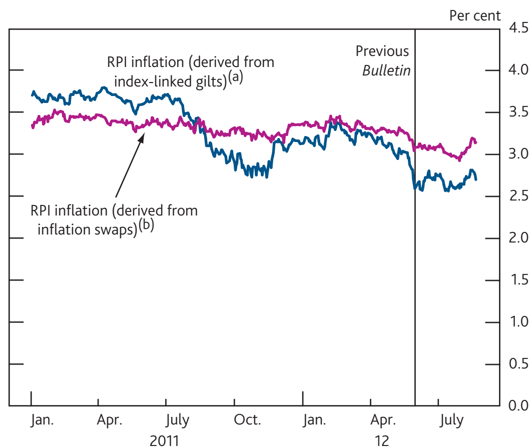
In euro-area countries where government bond yields had been less elevated, the cost of borrowing had been less volatile over the review period. Short-term yields on French, Belgian and Austrian debt fell, while yields on German bonds ended the period little changed. Contacts thought the resulting compression in spreads to bunds reflected, in part, the cut in ECB policy rates, which prompted investors to shift into slightly riskier and longer-term assets in an attempt to secure higher yields.

Towards the end of the review period, yields on government bonds perceived to be the most liquid and/or carrying the least credit risk, including those of Germany, the United States and the United Kingdom, rose, having reached record lows earlier in the review period (**Chart 3**). Contacts attributed this to an increase in risk appetite following the statements by the ECB signalling that further policy measures were being considered. This increase in risk appetite reportedly reduced demand for those assets perceived to be the least risky.

Market-based measures of shorter-term UK inflation expectations rose in the second half of the review period. Contacts thought this reflected, in part, the notable increases in the price of oil and some agricultural commodities over the review period. For example the S&P agricultural index rose by around 30%. Longer-term measures of inflation expectations also rose, but ended the review period little changed (**Chart 4**).

(1) The technical features of the OMTs are described in detail in www.ecb.int/press/pr/date/2012/html/pr120906_1.en.html.

Chart 4 UK implied five-year RPI inflation rate, five years forward



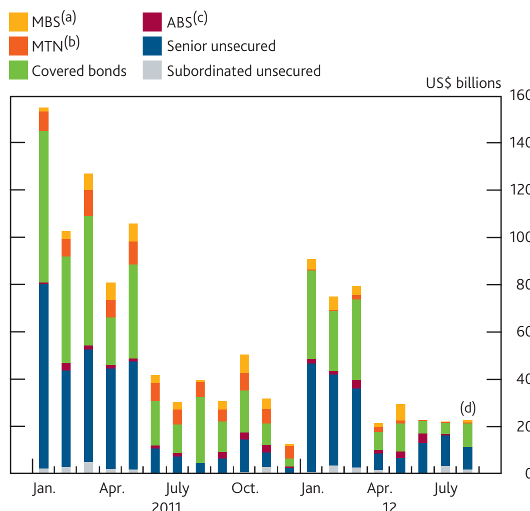
Source: Bank calculations.

(a) Derived from the Bank's government liability curve.
(b) Derived from the Bank's inflation swap curve.

Bank funding markets

European bank debt issuance in public markets remained weak relative to the first part of 2012 (**Chart 5**). Contacts ascribed that weakness to a number of factors. First, participation in the ECB's longer-term refinancing operations (LTROs), coupled with ongoing deleveraging by some banks, meant that banks' funding needs were lower than they would otherwise have been. Second, at the start of the review period, banks had delayed issuance plans due to risks associated with impending events, including the second Greek election, the completion of a review of bank credit ratings by Moody's, and the euro-area summit held on 28–29 June. In the event, these risks did not materialise.

Chart 5 Term issuance by European (including UK) lenders in public markets

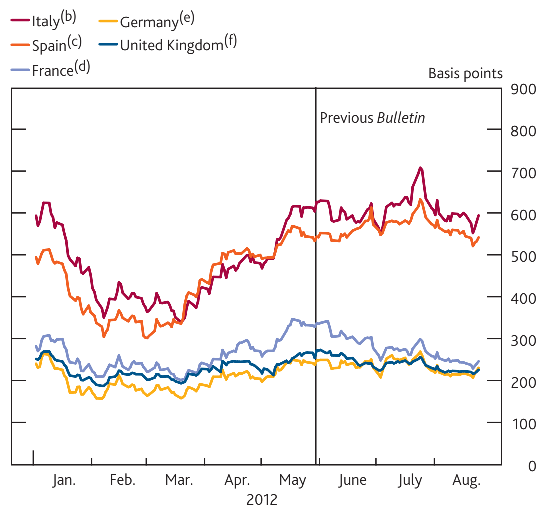


Sources: Dealogic and Bank calculations.

(a) Commercial and residential mortgage-backed securities.
(b) Medium-term notes.
(c) Asset-backed securities.
(d) Data up to 24 August 2012.

Conditions in bank funding markets improved towards the end of the review period — measures of both short-term and longer-term funding costs fell and there was some notable issuance by Spanish and Italian banks. Contacts attributed this to the comments by the ECB that it was considering further non-standard monetary policy measures. But a degree of differentiation in the cost of funding and access to the market faced by different banks remained apparent (**Chart 6**).

Chart 6 Selected European banks' credit default swap (CDS) premia(a)



Sources: Markit Group Limited and Bank calculations.

(a) Unweighted averages of five-year, senior CDS prices.
(b) Average of Banco Popolare, Intesa Sanpaolo, Monte dei Paschi and UniCredit.
(c) Average of Banco Popular Espanol, BBVA and Santander.
(d) Average of BNP Paribas, Crédit Agricole, Natixis and Société Générale.
(e) Average of Commerzbank and Deutsche Bank.
(f) Average of Barclays, HSBC, Lloyds Banking Group, Nationwide, Royal Bank of Scotland and Santander UK.

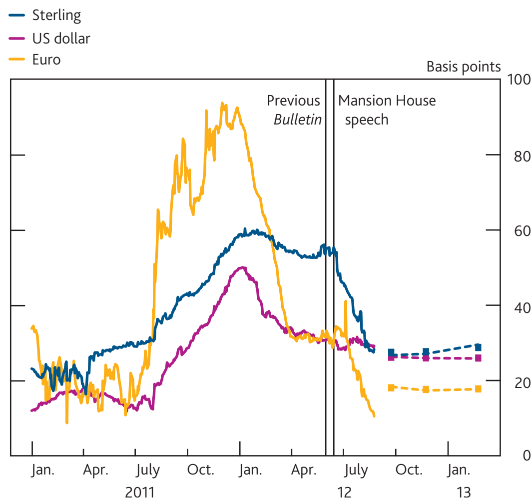
In the United Kingdom, the Bank announced two policy measures, which contacts noted had implications for conditions in bank funding markets.

Against the backdrop of the somewhat impaired market conditions, in his Mansion House speech on 14 June 2012, the Governor of the Bank of England announced that the Bank would activate the ECTR Facility. The ECTR Facility is a contingency liquidity facility designed to respond to actual or prospective market-wide stress of an exceptional nature. Usage of the Facility is described in more detail in the box on pages 192–94.

In his speech, the Governor also announced that the Bank and the Government were working together on a funding for lending scheme. On 13 July, the Bank announced the details of this Scheme, which is designed to incentivise banks and building societies to increase their lending to UK households and non-financial companies by providing longer-term funding at rates below those prevailing in the market at the time. The Scheme's drawdown window opened on 1 August 2012. The operation of the Scheme is described in the box on page 195.

Conditions in UK bank funding markets improved following these announcements. For example, the difference between the three-month London interbank offered rate (Libor) and the three-month OIS rate had fallen by around 30 basis points since the Mansion House speech (**Chart 7**). Conditions in short-term US dollar funding markets for UK banks also improved: the difference between the cost of raising US dollar funding by borrowing in sterling and swapping via the foreign exchange market and the cost of direct US dollar borrowing fell by around 20 basis points (**Chart 8**).

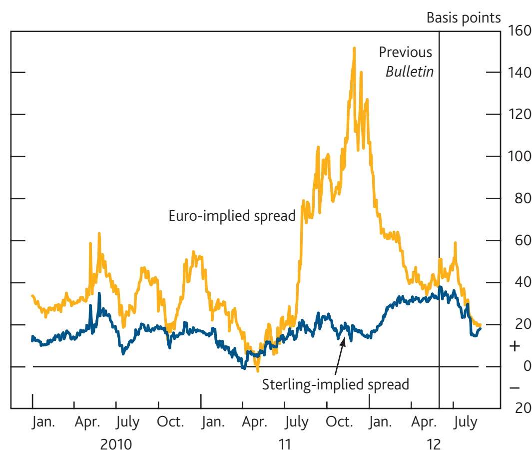
Chart 7 International three-month spot and forward Libor-OIS spreads(a)(b)



Sources: Bloomberg, British Bankers' Association and Bank calculations.

(a) Three-month Libor-OIS spreads derived from Libor fixings and OIS rates.
(b) Forward spreads derived using data as at 24 August. The squares are implied forward spreads using forward Libors and Euribor derived from forward rate agreements, and forward OIS rates derived from the OIS curve.

Chart 8 Spread of foreign exchange implied cost of three-month US dollar funding over US dollar Libor(a)



Sources: British Bankers' Association, Reuters and Bank calculations.

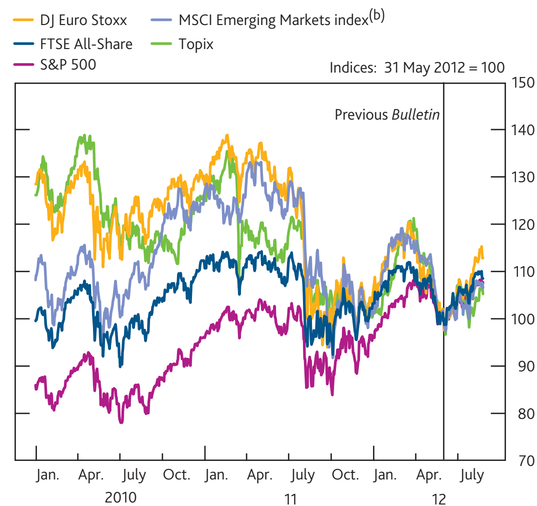
(a) Spread of three-month US dollar Libor implied from foreign exchange forwards over actual three-month US dollar Libor. For more details on the construction of these measures see *Bank of England Quarterly Bulletin*, Vol. 48, No. 2, page 134, Chart 26 and *BIS Quarterly Review*, March 2008, pages 73–86.

Notwithstanding these developments, public term debt issuance by UK banks remained negligible during the review period. Contacts attribute this predominantly to the fact that, following strong public issuance earlier in the year and ongoing issuance in private markets over the review period, UK banks remained ahead of their funding plans for 2012, allowing them to access the market opportunistically for the remainder of the year. Contacts also reported that UK banks were reconsidering their issuance plans following the launch of the FLS.

Corporate capital markets

International equity prices rose over the review period, partly reversing the fall in prices which occurred in the run-up to the previous *Bulletin* (**Chart 9**). The FTSE All-Share and the S&P 500 rose by around 8%, while the DJ Euro Stoxx, which had fallen by more in the previous review period, rose by around 13%.

Chart 9 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.
(b) The MSCI Emerging Markets index is a capitalisation-weighted index that monitors the performance of stocks in emerging markets.

Contacts thought that these increases, in part, reflected a modest improvement in investor risk appetite, associated with a more pervasive expectation of further policy measures by central banks. Some contacts also noted that later in the review period, equity prices had been supported by better-than-expected US economic data, which boosted investors' assessments of the global growth outlook. For example, the Bank of America/Merrill Lynch Fund Manager survey for August reported that the net balance of respondents expecting positive global growth in the coming twelve months had risen to +15%, from -13% in July.

Consistent with some of the factors pushing up on equity prices, corporate bond spreads narrowed during the review period. In the absence of large moves in government bond yields, both investment-grade and non-investment grade corporate bond yields fell (**Chart 10**). Some contacts attributed the reduction in spreads to a combination of stronger demand from investors seeking higher-yielding assets

Operations within the Sterling Monetary Framework and other market operations

The level of central bank reserves was 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 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. This box describes the Bank's operations within the Sterling Monetary Framework over the review period, and other market operations.

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. Reflecting this, average use of the deposit facility was £0 million in each of the May, June and July maintenance periods. Average use of the lending facility was also £0 million.

Indexed long-term repo OMOs

As part of its provision of liquidity insurance to the banking system, the Bank conducts indexed long-term repo (ILTR) operations typically once each 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'), and 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 12 June and 10 July, and £2.5 billion via a six-month operation on 14 August (**Table 1**).

The stop-out spread — the difference between clearing spreads for wider and narrow collateral — is an indicator of potential stress in the sterling short-term money market. In both the July three-month operation and the August six-month operation, there were no bids against narrow collateral, hence the clearing spreads for wider collateral were the stop-out spreads. In the June operation no bids were allocated against wider collateral so the stop-out spread was not defined.

The cover ratios — also a potential indicator of stress in the sterling short-term money market — continued to be at very low levels (**Chart A**).

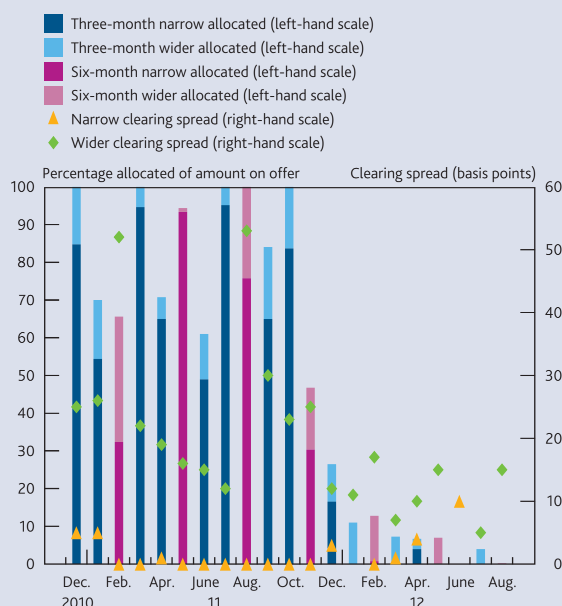
There are a number of possible reasons for the low demand seen from banks for three and six-month liquidity via the ILTR operations. First, short-term secured market interest rates remain below Bank Rate, the minimum bid rate in the ILTR operations, making repo markets a potentially cheaper source of liquidity. Second, APF gilt purchases financed by the creation of central bank reserves continued to boost the liquidity of the banking system, which may have reduced the need for counterparties to use the ILTR operations to meet

Table 1 Indexed long-term repo operations

	Total	Collateral set summary	
		Narrow	Wider
12 June 2012 (three-month maturity)			
On offer (£ millions)	5,000		
Total bids received (£ millions)(a)	145	5	140
Amount allocated (£ millions)	5	5	0
Cover	0.03	0.00	0.03
Clearing spread above Bank Rate (basis points)		10	n.a.
Stop-out spread (basis points)(b)	n.a.		
10 July 2012 (three-month maturity)			
On offer (£ millions)	5,000		
Total bids received (£ millions)(a)	200	0	200
Amount allocated (£ millions)	200	0	200
Cover	0.04	0.00	0.04
Clearing spread above Bank Rate (basis points)		n.a.	5
Stop-out spread (basis points)(b)	5		
14 August 2012 (six-month maturity)			
On offer (£ millions)	2,500		
Total bids received (£ millions)(a)	290	0	290
Amount allocated (£ millions)	60	0	60
Cover	0.12	0	0.12
Clearing spread above Bank Rate (basis points)		n.a.	15
Stop-out spread (basis points)(b)	15		

(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.

Chart A ILTR allocation and clearing spreads



their short-term liquidity needs. Third, the Bank announced two additional facilities. On 15 June, the Bank activated the ECTR Facility, from which eligible institutions can borrow reserves for six months at a minimum rate of 25 basis points above Bank Rate, using a much wider set of collateral than in the ILTR operations. And on 13 July, the Bank and the Government launched the Funding for Lending Scheme (FLS), which allows eligible institutions to borrow Treasury bills from the Bank for up to four years with a minimum fee of 25 basis points. The FLS is described in more detail in the box on page 195.

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 shortage of short-term sterling liquidity.(1) On 15 June, the Bank announced that it intended to conduct an ECTR auction at least once a month until further notice, normally on the third Wednesday of each month.(2) The size of the auctions would be at least £5 billion and the term of borrowing under each auction would be six months, with a minimum bid spread to Bank Rate of 25 basis points. The Bank said it would keep the operation of the Facility under review, including in the light of market conditions.

By 24 August 2012, the Bank had conducted three ECTR auctions, offering £5 billion in each (**Table 2**). All three operations cleared at the minimum bid spread to Bank Rate of 25 basis points. The full £5 billion was allocated in the June operation, £4.2 billion was allocated in the July operation, and £1.5 billion was allocated in the August operation. Contacts attributed this fall in demand to a number of factors. These included the ample quantity of liquidity in the banking system, the passing of event risk (such as a review of UK bank ratings by Moody's), and the desire of some banks to retain their collateral for use in the FLS.

Table 2 ECTR operations

	Total
20 June 2012	
On offer (£ millions)	5,000
Amount allocated (£ millions)	5,000
Clearing spread above Bank Rate (basis points)	25
18 July 2012	
On offer (£ millions)	5,000
Amount allocated (£ millions)	4,175
Clearing spread above Bank Rate (basis points)	25
15 August 2012	
On offer (£ millions)	5,000
Amount allocated (£ millions)	1,500
Clearing spread above Bank Rate (basis points)	25

Reserves provided via ILTRs and ECTRs during the review period more than offset the reduction in reserves from maturing ILTR operations. Consequently, the stock of reserves provided through these operations increased by £9.9 billion.

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. On 3 July 2012, the Bank announced that the average daily amount outstanding in the DWF between 1 January 2012 and 31 March 2012, lent with a maturity of 30 days or less, was £0 million. The Bank also announced that the average daily amount outstanding in the DWF between 1 January 2011 and 31 March 2011, lent with a maturity of more than 30 days, was £0 million.

Other operations

US dollar repo operations

Since 11 May 2010, the Bank has offered weekly fixed-rate tenders with a seven-day maturity to offer US dollar liquidity, in co-ordination with other central banks.

On 30 November 2011, the Bank announced, in co-ordination with the Bank of Canada, the Bank of Japan, the ECB, the Swiss National Bank, and the Federal Reserve, that the authorisation of the existing temporary US dollar swap arrangements had been extended to 1 February 2013, that 84-day US dollar tenders would continue until this time, and that seven-day operations would continue until further notice. It also announced that the central banks had agreed to lower the pricing on the US dollar swap arrangements by 50 basis points to the US dollar overnight index swap rate plus 50 basis points. As a contingency measure, the six central banks agreed to establish a network of temporary bilateral liquidity swap arrangements that will be available until 1 February 2013. As of 24 August 2012, there had been no use of the Bank's facilities.

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 management, liquidity management or changes in investment policy.

The portfolio currently includes around £3.4 billion of gilts and £0.4 billion of other debt securities. Over the review period,

gilt purchases were made in accordance with the quarterly announcements on 2 April and 2 July 2012.

Bank of England and HM Treasury foreign currency operations: move to two-way collateralisation of over-the-counter derivatives transactions

On 21 June, the Bank and HM Treasury announced that they expected to make some technical changes to the terms on which they transact with market counterparties in selected foreign currency operations.(3) Specifically, they planned to move from one-way to two-way collateralisation of trades that are part of these operations.

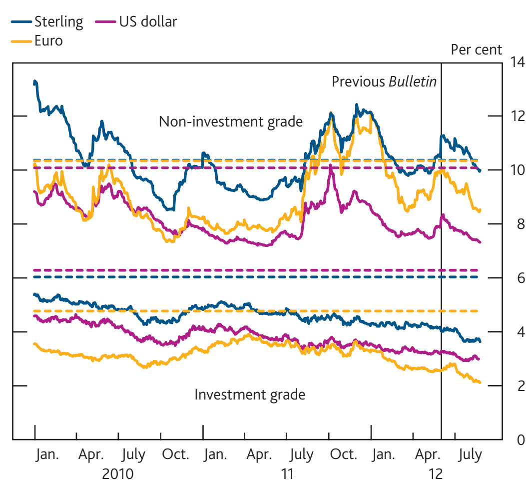
The changes would apply to over-the-counter derivatives transactions undertaken by the Bank to manage the financial impact of fluctuations in foreign exchange and interest rates on both the Bank's own balance sheet and the United Kingdom's foreign exchange reserves. Under current agreements, the Bank takes collateral when market rates move such that a counterparty owes the Bank or HM Treasury money on their derivatives trades. Under the changes, the Bank and HM Treasury intend to also provide collateral in the form of foreign currency securities to counterparties when the Bank or HM Treasury owes the counterparty money, and so allow two-way collateralisation.

The decision to make this change was driven by value-for-money considerations and was taken because the costs of transacting derivatives had been rising over the past few years. The one-way provision of collateral, in the context of the growing size of the United Kingdom's official foreign currency reserves, had contributed to the increase in these costs.

These changes were expected to come into effect during 2013.(4)

(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/marketnotice120615.pdf.
(3) See www.bankofengland.co.uk/publications/Pages/news/2012/063.aspx.
(4) For more details on the collateralisation of trades see the section 'Developments in market structure' in the *Bank of England Quarterly Bulletin*, Vol. 52, No. 2, page 109.

Chart 10 International non-investment grade and non-financial investment-grade corporate bond yields(a)



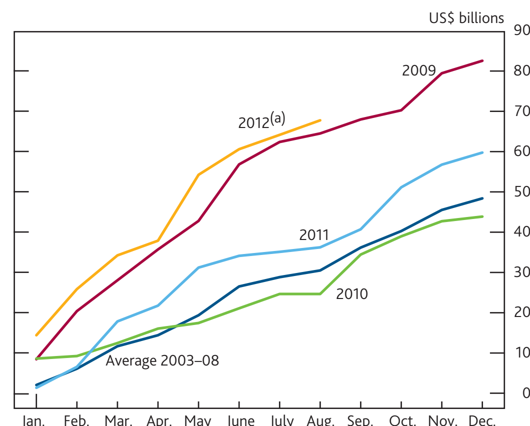
Sources: Bank of America/Merrill Lynch and Bank calculations.

(a) Dashed lines: 1997–2007 averages for investment-grade bonds and 1998–2007 averages for non-investment grade bonds.

given the low interest rate environment, and weak net supply of corporate debt. The Bank's Corporate Bond Secondary Market Scheme was a net seller of corporate bonds, in part reflecting these market conditions. This Scheme is described in more detail in the box on pages 188–89.

In primary markets, bond issuance by UK private non-financial corporations (PNFCs) exhibited a typical seasonal lull, but picked up after the end of the review period. Although cumulative gross issuance in the year to date remains stronger than in recent years (**Chart 11**), contacts noted that net issuance had been weak relative to demand for corporate assets.

Chart 11 Cumulative gross bond issuance by UK PNFCs



Sources: Dealogic and Bank calculations.

(a) Data up to 24 August 2012.

Net equity issuance continued to be negative (**Chart 12**), as gross issuance remained weak and share buyback activity increased. Contacts attributed this in part to the fact that many large corporates had substantial cash surpluses. Some contacts also associated the small number of initial public offerings with increased uncertainty around market liquidity during the summer.

Foreign exchange

The sterling exchange rate index (ERI) appreciated by 1.3% over the review period (**Chart 13**). The move was largely accounted for by a rise against the euro — with the bilateral exchange rate reaching its highest level since October 2008. Contacts thought the move largely reflected continuing risks associated with the challenges facing the euro area, which had

The Funding for Lending Scheme

The Funding for Lending Scheme (FLS) was launched by the Bank and the Government on 13 July. The FLS is designed to incentivise banks and building societies to boost their lending to UK households and non-financial companies, by providing term funding at rates below those prevailing in the market at the time. The quantity each participant can borrow in the Scheme, and the price it pays on its borrowing, will be linked to its lending performance. A box in the August 2012 *Inflation Report* explains why the FLS has been launched and how it will encourage banks to lend more.(1) This box outlines how the FLS will operate in practice.(2)

Operation of the FLS

Institutions eligible to participate in the FLS are banks and building societies that are signed-up to the Bank's Discount Window Facility (DWF). All deposit-taking institutions are eligible to apply to join the DWF.

Under the FLS, participants can borrow UK Treasury bills during an 18-month drawdown window running from 1 August 2012 to 31 January 2014, in exchange for eligible collateral. The term of borrowing is four years from the date of drawdown, but participants may repay their drawings, in part or in full, at any time.

The Treasury bills borrowed from the FLS have an initial maturity of nine months, and so during the life of the Scheme must be returned to the Bank prior to their maturity in exchange for new nine-month Treasury bills. Eligible collateral in the FLS comprises all collateral that is eligible in the DWF, including portfolios of loans. The Bank's standard Sterling Monetary Framework haircuts apply to collateral delivered in the FLS.

Quantity and price of FLS funding

The quantity and price of funding available to FLS participants is based on the quantity of sterling loans made to UK-resident households and private non-financial corporations (PNFCs). FLS participants must provide the Bank with these lending data at least quarterly, on a group basis, covering a reference period from 30 June 2012 to 31 December 2013.

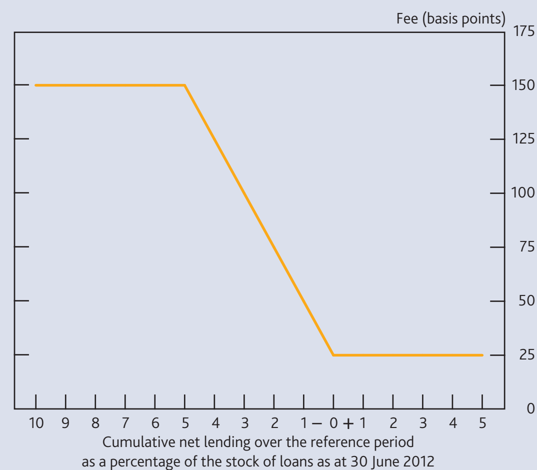
Borrowing allowance

The FLS borrowing allowance for each participating group is 5% of its stock of existing applicable loans as at 30 June 2012, plus 100% of any expansion of its net lending during the reference period.(3)

Fee

The fee on FLS drawings is determined by each group's cumulative net lending over the reference period as a whole. The fee increases linearly from 25 basis points per annum for positive or stable net lending, up to 150 basis points per annum if net lending falls by 5% or more, as shown in **Chart A**.

Chart A Fee on FLS drawings



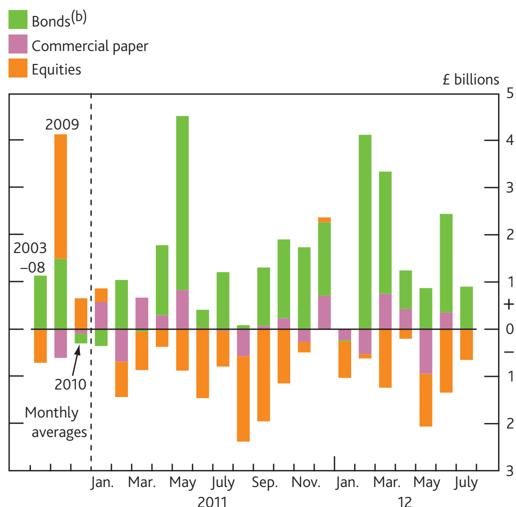
During the drawdown window participants pay a flat fee of 25 basis points per annum. Once the drawdown window has closed and the final fee has been determined, any fee above the 25 basis points already paid is then charged.

Publication of information

The Bank will publish quarterly usage and lending data for each group participating in the FLS. This will include each group's stock of lending to UK households and PNFCs as of 30 June 2012, each group's quarterly net lending flows, and the amount of Treasury bills borrowed from the FLS by each group.

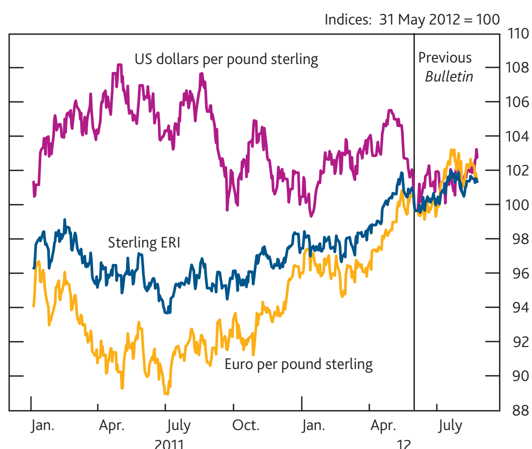
(1) See www.bankofengland.co.uk/publications/Documents/inflationreport/ir12aug.pdf.
(2) For more information see www.bankofengland.co.uk/markets/Pages/FLS/default.aspx.
(3) Net lending is defined as gross lending less repayments, and therefore excludes other effects on balances such as write-offs and reclassifications.

Chart 12 Net capital market issuance by UK PNFCs[a]



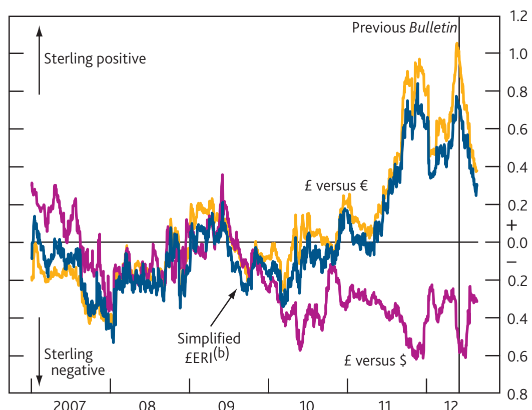
(a) Non seasonally adjusted.
(b) Includes standalone and programme bonds.

Chart 13 Sterling ERI and bilateral exchange rates



Sources: Bloomberg and Bank calculations.

Chart 14 Three-month option-implied skewness of foreign exchange returns[a]



Sources: Bloomberg, British Bankers' Association and Bank calculations.

(a) Returns are defined as the logarithmic difference between the current forward rate and the spot rate at the maturity date of the contract.
(b) The simplified sterling ERI places 70% weight on the euro-sterling bilateral exchange rate and 30% weight on the US dollar-sterling bilateral exchange rate.

led to stronger demand for currencies such as sterling, the Norwegian krone and the Swedish krona, which were viewed by investors as safer.

Market-based measures suggested that the balance of risks to the sterling ERI remained to the upside. But investors were placing less weight on a large appreciation of sterling against the euro (**Chart 14**). Options markets also implied that investors were placing a lower weight on a further depreciation of sterling against the US dollar.

Market intelligence on developments in market structure

In discharging its responsibilities to maintain monetary stability and contribute to financial stability, the Bank gathers information from contacts across a wide spectrum of financial markets. This intelligence helps inform the Bank's assessment of monetary conditions and possible sources of financial instability and is routinely synthesised with research and analysis in the *Inflation Report* and the *Financial Stability Report*. More generally, regular dialogue with market contacts provides valuable insights into how markets function, providing context for policy formulation, including the design and evaluation of the Bank's own market operations. The Bank also conducts occasional market surveys to gather additional quantitative information on certain markets.

This section reports the most recent results from the Sterling Money Market Survey conducted by the Bank on behalf of the Money Market Liaison Group, supplemented with intelligence of the type described above. It also summarises the key insights from a recent round of conversations with market participants regarding trends in the demand for collateral.

Results from the May 2012 Money Market Liaison Group Sterling Money Market Survey

The sterling money market plays a central role in the Bank's pursuit of its monetary and financial stability objectives, with the Bank operating in the market to implement the interest rate decisions of the MPC, and to provide liquidity insurance to the banking system. The money market brings together banks, other financial institutions and non-financial companies looking to borrow or lend short-term money, enabling them to manage their liquidity positions. To better understand this market, in May 2011, the Bank of England launched a regular six-monthly survey of the sterling money market on behalf of the Money Market Liaison Group.[1] The survey supplements

(1) The survey is described in more detail in Westwood, B (2011), 'The Money Market Liaison Group Sterling Money Market Survey', *Bank of England Quarterly Bulletin*, Vol. 51, No. 3, pages 247–52.

the Bank's long-standing gathering of market intelligence and, over time, it is expected to help identify emerging trends in the market, and help policymakers to assess the impact of their actions on the behaviour of market participants. This section presents a selection of results from the May 2012 survey.

Coverage and content

The survey sample comprises over 30 institutions active in the sterling money market, the vast majority of which are commercial banks, building societies and investment banks. Selection is based on data on the scale of institutions' involvement in the sterling money market, combined with market intelligence about which banks are most active in the market.

For the purposes of the survey, sterling money market transactions are defined as wholesale (as opposed to retail) and as having a maturity of no longer than one year. Any non-sterling and intragroup trades are excluded. Participants are also asked to exclude trades with the Bank of England, but (from May 2012 on) to include transactions with the UK Debt Management Office (DMO).[1]

The survey comprises both quantitative and qualitative questions that are designed to ascertain how well market participants perceive markets to be functioning and how market liquidity and efficiency is evolving. The quantitative questions ask survey participants to record the value, volume, type and maturity of sterling money market activity conducted over the month-long survey period, on a daily average basis. The qualitative questions ask respondents to record their perception of market functioning in both the unsecured and secured money markets, as well as how different aspects of market functioning have changed since the previous survey.

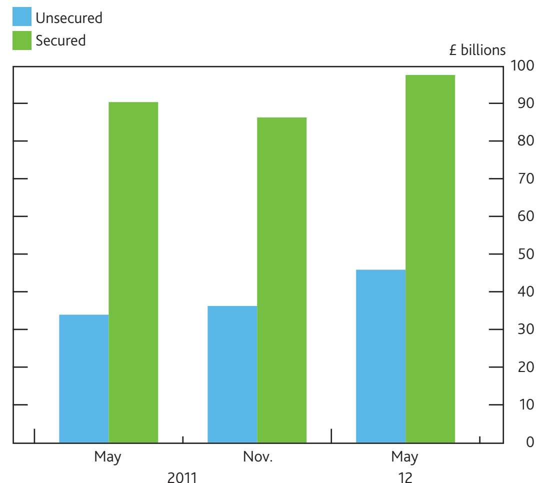
Survey results

Key features of the sterling money market

The sterling money market surveys conducted since May 2011 reveal a number of interesting features of the market. First, activity in the sterling money market is concentrated among relatively few institutions. For example, in May 2012, the top five respondents accounted for around 50% of unsecured borrowing; the equivalent share for the top five respondents in the most recent *Euro Money Market Survey* conducted by the ECB was around 30%.[2]

Second, just over two thirds of transactions by value are conducted on a secured basis (**Chart 15**).[3] Of these secured transactions, around 70% are between banks, with trades tending to be settled either bilaterally or via a central counterparty (CCP). By contrast most transactions in the US secured money market are transacted via tri-party agents.

Chart 15 Reported daily average flows in the sterling money market[(a)]



(a) Daily average flows are reported as the value of sterling money market transactions in the survey month divided by the number of working days during that period.

Third, banks are net borrowers in the money market, particularly in the unsecured part of the market. Non-bank financial institutions, such as money market funds, provided around half of the cash lent unsecured to banks in May 2012, with non-financial corporates providing over 20%.

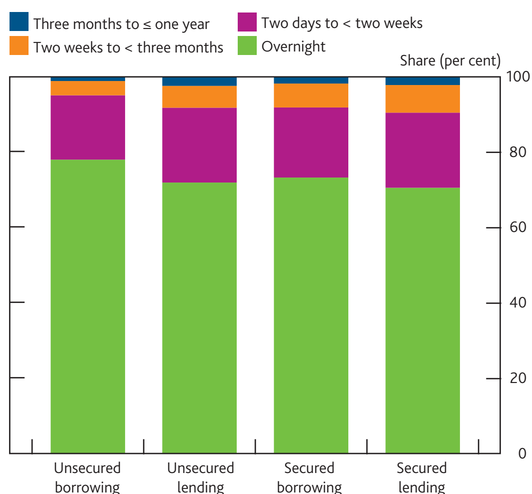
Fourth, recorded money market flows are dominated by overnight transactions; in May 2012, these accounted for around three quarters of daily turnover (**Chart 16**). Lending or borrowing at maturities of three months or beyond has been limited. However, these reported daily average flows imply that longer-dated transactions remain significant within the stock of money market transactions.

Recent market developments

The value of reported sterling money market flows was around 15% higher in May 2012 than in November 2011, with the increase split roughly evenly between the secured and unsecured markets. This may have reflected the improvement in market sentiment since November 2011, which, according to contacts, had adversely affected money market activity at the time of the previous survey.

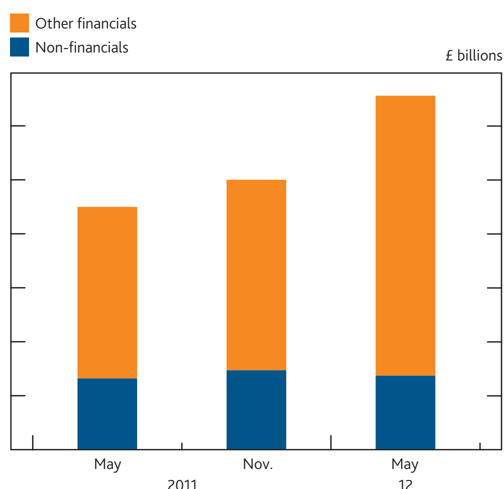
(1) This change was based on feedback from survey participants which suggested that they may not be able to identify the ultimate counterparty when using an automated trading system to transact via a central counterparty in the secured market. So to the extent that DMO activity in the secured market is conducted using an automated trading system and settled via a central counterparty, survey respondents may not have been able to exclude it. For more details on the DMO's money market activity see www.dmo.gov.uk.
(2) For details of the ECB's *Euro Money Market Survey* see: www.ecb.int/stats/money/mmss/html/index.en.html.
(3) These figures are adjusted to take account of estimated double counting. Double counting occurs because respondents are asked to record both borrowing and lending, so where survey participants record transactions between each other, the same transaction will appear as lending in one participant's return and as borrowing in another participant's return.

Chart 16 Maturity of transactions, May 2012



In the unsecured part of the market, the increase in activity was largely accounted for by non-bank financials depositing significantly more cash with banks (**Chart 17**). Contacts attributed this change to asset managers, such as US money market funds, starting to return to European money markets, having reduced their lending during 2011.

Chart 17 Unsecured deposits from non-banks



Consistent with the improvement in money markets since the November 2011 survey, the average term of money market transactions increased a little, with a smaller share of overnight deals, as lenders reportedly became somewhat less risk-averse (**Chart 18**).

In the secured money market, almost all of the increase in reported market volume between the November 2011 and May 2012 surveys was accounted for by banks borrowing more from non-banks, with the value of these transactions increasing by around 30% (**Chart 19**). Contacts reported that bank borrowing from non-banks via bilateral repo is often cheaper than borrowing through a CCP in the interbank market. There were also indications that non-banks increasingly preferred to transact secured and had started to put in place the agreements and systems necessary to allow them to lend via the repo market.

Chart 18 Change in the maturity distribution of activity between May 2012 and November 2011

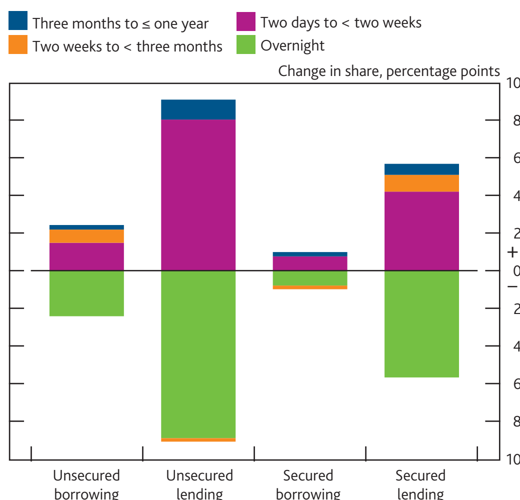
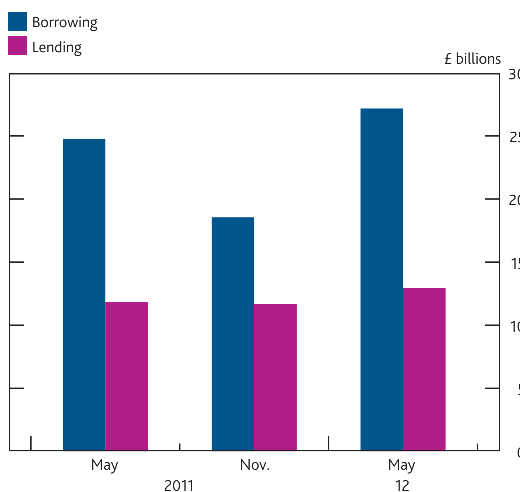


Chart 19 Survey participants' secured money market activity involving non-banks

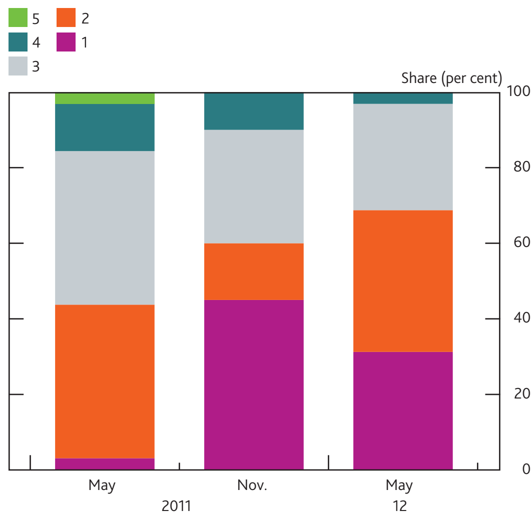


Market functioning

Since 2009, several factors have impacted the functioning of the unsecured sterling money market. For example, changes in liquidity regulation are likely to affect the incentives to trade in the money market. And contacts had suggested that the injection of excess reserves associated with the MPC's asset purchase programme had also reduced the need for some banks to actively manage their liquidity positions in money markets. Notwithstanding the increase in aggregate reported volumes in May 2012, responses to the qualitative survey questions showed that, on balance, participants reported a further slight deterioration in unsecured money market functioning between November 2011 and May 2012

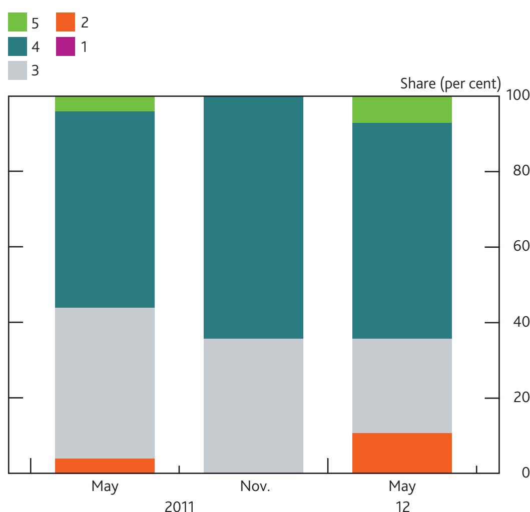
(**Chart 20**). Several survey respondents reported that the market for longer-term cash continued to function particularly poorly.

Chart 20 Respondents' views on unsecured market functioning (1 = very poor, 5 = very good)



In contrast, the May 2012 survey results suggested that the secured market continued to function well (**Chart 21**). This indicates that factors such as the Bank's asset purchases, and increased overseas demand for gilts, which could put pressure on the available supply of high-quality collateral have not adversely affected sterling money market functioning.

Chart 21 Respondents' views on secured market functioning (1 = very poor, 5 = very good)



Market participants' responses to an increased need for collateral

One of the risks of transacting in financial markets is that the other party to a transaction may default on its obligations. Collateral — cash or securities that can be used to protect against losses in an event of default — can help manage such counterparty credit risk.

The use of collateralised transactions by financial firms has increased since the start of the financial crisis in the face of a reappraisal of counterparty credit risk concerns, and international regulatory reform designed to reduce systemic and firm-specific counterparty credit risks in order to make the financial sector as a whole more resilient.(1) While many of these measures had not yet come into effect, contacts reported that they were already affecting behaviour.

This section describes some of the regulatory developments and market participants' responses to an increased need for collateral, drawing on conversations with market contacts.(2)

Recent regulatory developments

In addition to firms' higher risk aversion following the crisis, the demand for collateral will be affected by a number of regulatory developments. These include new liquidity requirements that compel firms to hold buffers of highly liquid assets and regulations requiring more robust risk management of transactions in the over-the-counter (OTC) derivative markets. According to contacts, the latter, in particular, are likely to increase demand for collateral.

Regulatory changes to OTC derivative markets include the requirement for standardised OTC derivative contracts to be cleared through a central counterparty (CCP). The CCP assumes the credit risk of the transaction by interposing itself between counterparties. It requires them each to post collateral — known as 'margin' — to protect against the risk of default. It is proposed that OTC transactions that are not cleared via a CCP will be subject to mandatory bilateral margin requirements.(3)

Margin requirements are intended to protect transacting parties against changes in credit risk exposures resulting from changes in market prices during the life of the transaction. As market prices change, the value of derivative contracts changes, creating so-called mark-to-market gains or losses. This exposes the counterparty with a mark-to-market gain to credit risk. Bilateral margining requires counterparties to post collateral (usually in the form of cash) in response to

(1) For the Pittsburgh and Cannes G20 Summit declarations, see www.g20.org.
(2) For an assessment of the financial stability implications of these developments, see Box 5 in the June 2012 *Financial Stability Report*.
(3) These proposals are available at www.bis.org/publ/bcbs226.pdf.

such price movements (known as 'variation margin'). Regulatory proposals will also require counterparties to provide collateral at the point at which the transaction is entered (usually in the form of high-quality securities) as protection against price movements that may occur after a default but before the remaining counterparty is able to replace or close out the transaction (known as 'initial margin').

The new rules will increase the demand for collateral in OTC derivative transactions in two main ways. First, there will be far greater use of initial margin than is currently the case because it is not commonly used in bilateral transactions. Second, the new regulation will prevent counterparties from reusing collateral provided to them as initial margin in other transactions.

Financial market impact

Contacts reported that financial market participants were managing the increased need for collateral in a number of ways. These include (i) managing collateral more efficiently; (ii) using so-called 'collateral transformation services'; and (iii) loosening collateral criteria.

(i) Collateral management

Contacts noted that their focus on collateral had increased markedly since the financial crisis: what had previously been an administrative function had become an important part of trading decisions and pricing.

In particular, contacts reported that they had been taking a more active approach to collateral management and were now more selective about the collateral they receive and deliver. This new approach also puts a greater emphasis on risk management: banks have improved their understanding of the collateral they hold on a group-wide basis at any one time and the types of collateral that are eligible to be transferred to them under the terms of the legal agreements underpinning their derivative transactions. In addition, rather than continuing to manage collateral by product lines — where, for example, equity, fixed-income and derivative desks have exclusive access to their own pool of collateral — collateral management was being increasingly centralised.

Contacts noted that these changes were having a number of benefits. The most direct benefit was that the active selection of securities and the centralised approach delivered a more cost-effective use of collateral across their organisation. Contacts also noted an improvement in their understanding of the cost associated with collateral received and provided, which highlighted the true cost of various business lines.

Other contacts pointed to an improvement in their understanding of the potential risks they faced due to the current terms of their legal agreements with counterparties. In particular, many banks were now adjusting derivative pricing to reflect the margin terms contained in their 'Credit Support Annexes' — legal documentation which includes the terms under which collateral is posted or transferred between counterparties to mitigate credit risk. Banks explained that they were implementing margin agreements with more counterparties and were attempting to renegotiate older agreements (which often allowed the delivery of a broad set of collateral). Some had put more rigorous processes in place to ensure new agreements were better understood, more tightly controlled and robust to forthcoming regulatory reforms.[1]

As part of a more effective collateral management strategy, use of tri-party agents has become more popular. This means that the counterparties to a trade outsource collateral management to a third party, the tri-party agent (typically a custodian bank or international clearing organisation) that is responsible for the administration of the collateral component of the transaction, including collateral allocation, marking to market and dynamic substitution of collateral. Although dealers have to pay for this service, contacts reported that the costs were outweighed by operational efficiencies. Set against this, some contacts highlighted concentration risk resulting from greater use of the few dominant tri-party agents as a concern.

(ii) Collateral transformation

In contrast to widespread media commentary, contacts voiced few concerns that the increased need for collateral would lead to an overall shortage. But some were concerned about how collateral was distributed. In particular, CCP clearing of OTC derivative trades and posting of bilateral margin would affect certain market participants, such as insurance companies and pension funds, that were not used to providing collateral. The challenge for those entities would be to source and mobilise the eligible securities in a timely manner and at a reasonable cost.

Contacts noted that this might encourage banks to provide 'collateral transformation' services, which involve the exchange of securities not accepted by CCPs or as bilateral margin for cash or eligible securities. Contacts at banks reported that although these collateral upgrade transactions had existed for some time, demand for eligible collateral was boosting interest among their clients. The terms of such transactions, particularly pricing and maturity, varied considerably, however. Some contacts pointed to the risk of maturity and credit mismatches between such funding transactions and the underlying collateralised transactions.[2]

(1) The June 2012 *Quarterly Bulletin* described the development of Standardised Credit Support Annexes used in over-the-counter derivatives transactions, available at www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb1202.pdf.
(2) For more information on collateral upgrade trades and risks associated with some of these transactions, see page 40 of the June 2012 *Financial Stability Report*.

(iii) Loosening of collateral criteria

One effect of the increase in demand for collateral has been a partial reversal of the post-crisis tightening of collateral criteria in some lending markets, both in the United States and Europe. For example, lenders who previously only accepted government bonds as collateral were reportedly starting to accept cash and equities. And in OTC derivative markets, some CCPs and other risk-averse counterparties were also slowly extending the range of assets eligible as collateral (against greater haircuts), with a number of market participants predicting that CCPs would become more flexible in their collateral requirements. A loosening of collateral criteria has the potential to ease pressure on higher-quality assets and was considered a helpful development by contacts, provided that adequate risk controls (including haircuts) were in place. Some contacts, however, expressed concerns that, over time, competition might lead to an excessive loosening in CCPs' collateral eligibility criteria.