Markets and operations

This article reviews developments in sterling financial markets, including the Bank's official operations, between the 2011 Q4 *Quarterly Bulletin* and 9 March 2012.(1) The article also summarises market intelligence on selected topical issues relating to market functioning.

Sterling financial markets

Overview

Financial market sentiment improved considerably over the review period amid a range of actions by policymakers in the United Kingdom and abroad. A number of central banks, including the Bank of England and the European Central Bank (ECB), eased monetary policy and announced measures to mitigate risks to financial stability. These measures included co-ordinated actions by central banks to enhance their capacity to provide liquidity support in non-domestic currencies, the announcement of a new contingency sterling liquidity facility by the Bank of England, and the extension of liquidity provision by the ECB through three-year longer-term refinancing operations (LTROs). Agreement was also reached on a second IMF/EU assistance programme for Greece and negotiations on private sector involvement in Greek government debt restructuring were completed.

The improvement in sentiment contributed to a rise in a wide range of asset prices, including corporate bonds and equities. Activity in primary capital markets increased, particularly in corporate debt markets. Bank funding conditions also improved, most notably following the ECB's LTROs.

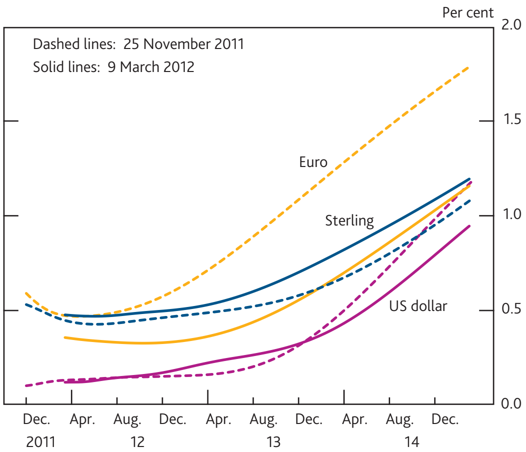
Concerns about the indebtedness and competitiveness of some euro-area countries persisted, however, with sovereign bond yields in those countries remaining elevated. And measures of bank funding costs remained above the levels that prevailed during the first half of 2011.

Monetary policy and short-term interest rates

The Bank of England's Monetary Policy Committee (MPC) maintained Bank Rate at 0.5%. The programme of £75 billion of asset purchases announced in October 2011 had been completed in early February. The MPC voted on 9 February to increase the size of its asset purchase programme, financed by the issuance of central bank reserves, by a further £50 billion, to £325 billion. The MPC expected these purchases to take three months to complete. The Committee judged that the weak near-term growth outlook and associated downward pressure from economic slack meant that, without further monetary stimulus, it was more likely than not that inflation would undershoot the 2% target in the medium term. The asset purchase programme is described in the box on pages 8–9.

A Reuters poll of economists released at the end of the review period showed that expectations for further monetary easing had been pared back. The median expectation for total asset purchases was £325 billion, down from £350 billion in a similar survey conducted at the beginning of the review period. The same Reuters poll continued to indicate that the median expectation was for no increase in Bank Rate over the survey horizon, which ended in the middle of 2013. But forward sterling overnight index swap (OIS) rates ended the period a little higher (**Chart 1**). Contacts attributed changes in monetary policy expectations to economic data releases and to policy-related statements by MPC members.

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



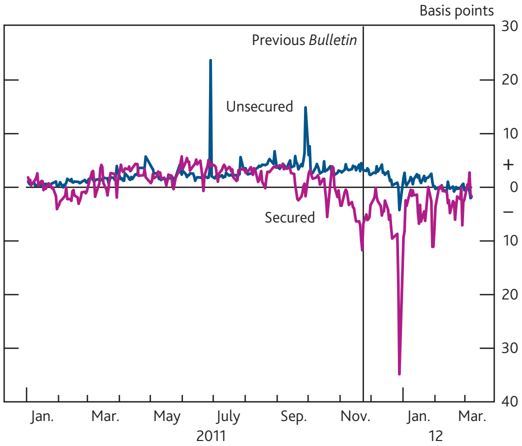
Sources: Bloomberg and Bank calculations.

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

Overnight sterling secured interest rates remained below Bank Rate for most of the review period (**Chart 2**). Contacts continued to attribute this to elevated demand for

(1) The data cut-off for the previous *Bulletin* was 25 November 2011.

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



Sources: Bloomberg and Bank calculations.

high-quality collateral exerting downward pressure on secured interest rates. Contacts had previously noted banks' reluctance to increase the size of their balance sheets as one of the reasons why borrowers had not fully exploited the opportunity to borrow cash secured at below Bank Rate and deposit it on their reserves accounts at Bank Rate. Greater reluctance to expand balance sheets at year-end reportedly amplified these downward pressures on secured interest rates.

Sterling unsecured overnight interest rates fell over the review period, trading at times below Bank Rate. At year-end, this was reportedly exacerbated by the first UK annual Bank Levy on banks' and building societies' liabilities, which contacts suggested had reduced banks' demand for unsecured short-dated wholesale liabilities.[1]

Elsewhere, on 8 December, the Governing Council of the ECB cut its main policy rate by 25 basis points to 1%. Forward euro OIS rates fell across all maturities (**Chart 1**). During the review period, the ECB also extended its liquidity provision to the euro-area banking system by undertaking two three-year LTROs, announced in December.

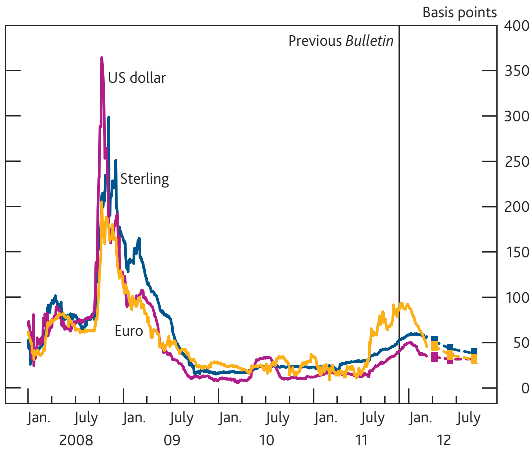
In the United States, the Federal Open Market Committee announced that it anticipated economic conditions to warrant exceptionally low levels for the federal funds rate at least through late 2014, longer than previously stated. Consistent with that, forward US dollar OIS rates fell at longer maturities. The Federal Reserve continued to extend the average maturity of its holdings of securities, and to reinvest principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities.

Bank funding markets

Conditions in European bank funding markets improved during the review period. Contacts attributed this largely to the two LTROs undertaken by the ECB in December 2011 and February 2012. Across the two operations, the ECB allotted a total of around €1 trillion of central bank reserves. The net injection of reserves was around half of that, reflecting the rolling over of existing borrowing into these LTROs.

In short-term funding markets, the spread of unsecured interbank borrowing costs — as measured by the London interbank offered rate (Libor) — over OIS rates of similar maturity fell in euro and US dollars (**Chart 3**). Forward spreads implied by derivatives settling on Libor were consistent with market participants anticipating a further improvement in short-term euro funding costs.

Chart 3 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 9 March. The squares are implied forward spreads using forward Libors derived from forward rate agreements, and forward OIS rates derived from the OIS curve.

Short-term funding conditions in US dollar markets also improved for European banks: the difference between the cost of raising US dollar funding by borrowing in euro and swapping via the foreign exchange market and the cost of direct US dollar borrowing fell by 85 basis points (**Chart 4**). Contacts attributed this both to co-ordinated central bank action to address pressures in global money markets, announced at the start of the review period, and the improvement in sentiment that accompanied the ECB's LTROs.[2] US money market mutual funds were also reported to be extending the average maturity of the funding they provided and increasing their exposures to some European banks.

Conditions in longer-term bank funding markets also improved considerably during the review period, with increased issuance by both euro-area and UK banks. Banks continued to issue in secured funding markets. Issuance also rose in unsecured

(1) Further details on the Bank Levy can be found at www.hmrc.gov.uk/budget2011/tiin6123.pdf.
(2) For more information on the co-ordinated central bank action, see the box on pages 286–88 of the 2011 Q4 *Quarterly Bulletin*.

Asset purchases(1)

During the review period, the Bank completed the purchases of £75 billion of gilts mandated by the Monetary Policy Committee (MPC) in October 2011(2) and commenced the purchases of an additional £50 billion of gilts mandated by the MPC in February 2012.(3) The additional £50 billion of purchases increased the size of the programme from £275 billion to £325 billion. As of 8 March 2012, outstanding asset purchases financed by issuance of central bank reserves totalled £292 billion.

Purchases of high-quality private sector assets financed by the issuance of UK Treasury bills and the Debt Management Office's (DMO's) cash management operations continued, 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 6 October 2011 to increase the scale of the programme of asset purchases from £200 billion to £275 billion, 44 gilt auctions were conducted. Usually, gilts with a residual maturity of 3–10 years were purchased on Mondays, of greater than 25 years on Tuesdays and of 10–25 years on Wednesdays. This cycle was repeated each week until the operation on 1 February, with the exception of the final two weeks of December, when no purchases were made, and the first week in January, when there was no Monday purchase. The size of each operation was £1.7 billion, except for the final two greater than 25 years maturity operations, which were for £1.8 billion each, to enable the Asset Purchase Facility (APF) to reach the target mandated by the MPC.

Following the MPC's decision on 9 February 2012 to increase the scale of the programme of asset purchases from £275 billion to £325 billion, the Bank announced it would continue to purchase conventional gilts with a minimum residual maturity of greater than three years, divided into three maturity sectors, but that the boundaries between those sectors would be adjusted. Usually, gilts with a residual maturity of 3–7 years would be purchased on Mondays, of greater than 15 years on Tuesdays and of 7–15 years on Wednesdays. The new maturity sectors were the same as those used by the DMO. This operational change was intended to help reduce the risk of undesirable frictions in the functioning of the gilt market arising from the concentration of the Bank's holdings of gilts in certain maturity sectors. Prior to commencing the additional £50 billion of purchases in February, the Bank's holding of the 10–25 year sector, as a percentage of the 'free float' of that sector (the total issue size

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

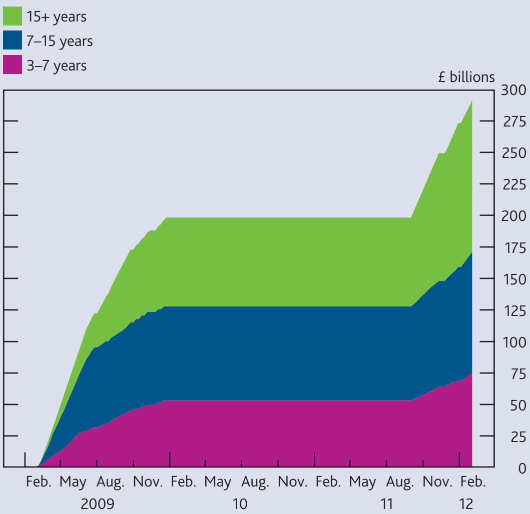
Week ending(a)	Commercial paper	Secured commercial paper	Gilts	Corporate bond		Total(b)
				Purchases	Sales	
24 November 2011(c)(d)	0	20	233,973	862		234,855
1 December 2011	0	0	5,100	4	0	5,104
8 December 2011	0	0	5,100	6	12	5,094
15 December 2011	0	0	5,100	7	1	5,106
22 December 2011	0	0	0	0	15	-15
29 December 2011	0	0	0	0	78	-78
5 January 2012	0	0	3,400	0	0	3,400
12 January 2012	0	0	5,100	0	51	5,049
19 January 2012	0	0	5,100	3	19	5,084
26 January 2012	0	0	5,200	3	19	5,184
2 February 2012	0	0	5,200	0	5	5,195
9 February 2012	0	0	0	3	72	-69
16 February 2012	0	0	4,500	3	32	4,471
23 February 2012	0	0	4,500	3	52	4,451
1 March 2012	0	0	4,500	2	105	4,397
8 March 2012	0	0	4,500	0	43	4,457
Total financed by a deposit from the DMO(d)(e)	–	–	–	96		96
Total financed by central bank reserves(d)(e)	–	–	291,270	304		291,574
Total asset purchases(d)(e)	–	–	291,270	400		291,670

(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 24 November 2011.
(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.

minus UK government holdings), was 46%, compared with 31% in the 3–10 year sector and 27% in the greater than 25 year sector. By changing to the new maturity sectors, the Bank's holdings, as a percentage of the free float, were more evenly spread across sectors.

As of 8 March 2012, the Bank had purchased £18 billion of the further £50 billion mandated by the MPC. This was split equally across the three maturity sectors via twelve gilt purchase auctions, each for £1.5 billion. The total amount of gilts purchased since the start of the asset purchase programme in March 2009 was £291 billion, of which £74.9 billion of purchases had been in the 3–7 year residual maturity range, £96.2 billion in the 7–15 year residual maturity range and £120.2 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.

Cover in the auctions varied. Between 24 November 2011 and 1 February 2012 it averaged 2.5 in the 3–10 year auctions, 2.1 in the 10–25 year auctions and 1.9 in the auctions for gilts with a maturity greater than 25 years. From 13 February to 8 March 2012, cover in the auctions averaged 3.6 in the 3–7 year auctions, 3.4 in the 7–15 year auctions and 2.6 in the auctions for gilts with a maturity greater than 15 years.[5]

In line with previous APF gilt purchases, the Bank continued to exclude gilts in which the Bank holds a large proportion (more than 70%) of the free float.[6]

Gilt lending facility[7]

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 31 December 2011, a daily average of £1,640 million of gilts was lent as part of the gilt lending facility. This was below the average of £2,623 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 useful role as a backstop, particularly during periods of market uncertainty.

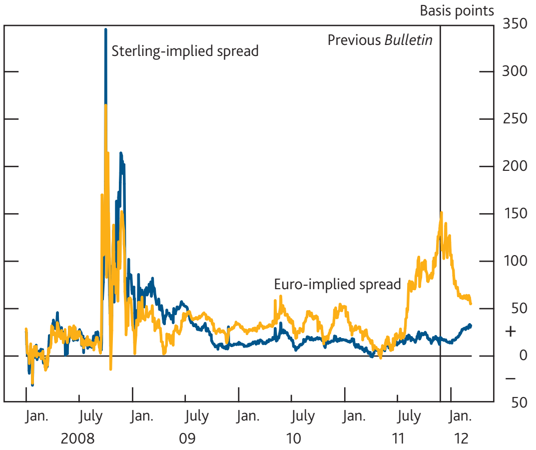
Net sales of corporate bonds increased during the review period. As of 8 March 2012, the Bank's portfolio totalled £400 million, compared to £862 million at the end of the previous review period. The increase in net sales reflected market conditions: the Bank's market contacts reported strong end-investor demand for corporate bonds since the start of the year and a low level of inventories held by dealers resulting in higher 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.[8] The facility remained open during the review period but no purchases were made.

(1) The data cut-off for this box is 8 March 2012, unless otherwise stated. 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) For further information, see the 6 October 2011 Market Notice, available at www.bankofengland.co.uk/markets/Documents/marketnotice111006.pdf.
(3) For further information, see the 9 February 2012 Market Notice, available at www.bankofengland.co.uk/markets/Documents/marketnotice120209.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) The 8% 2021 gilt was excluded from all operations over the period for this reason.
(7) 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.
(8) The SCP facility is described in more detail in the Market Notice available at www.bankofengland.co.uk/markets/Documents/marketnotice090730.pdf.

Chart 4 Spread of foreign exchange implied cost of three-month US dollar funding over US dollar Libor(a)

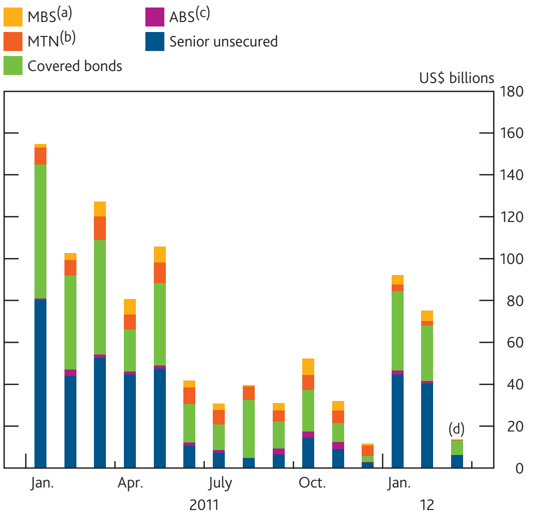


Sources: British Bankers' Association, Reuters and Bank calculations.

(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.

markets, which had reportedly been effectively closed to all but the highest-rated European banks in the previous review period (**Chart 5**).

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



Sources: Dealogic and Bank calculations.

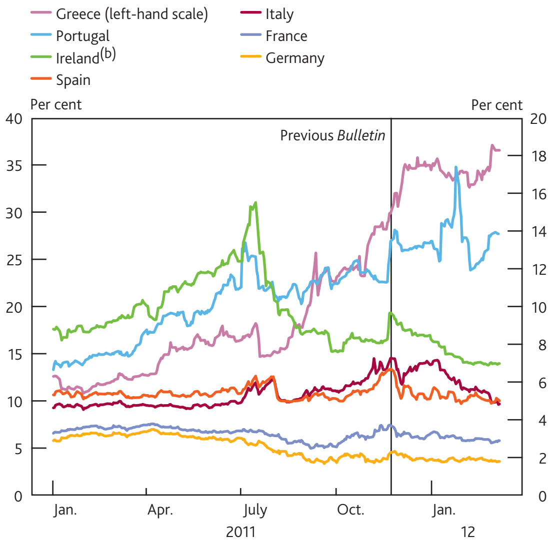
(a) Commercial and residential mortgage-backed securities.
(b) Medium-term notes.
(c) Asset-backed securities.
(d) Data are up to 9 March 2012.

Contacts thought that increased issuance in public markets combined with the ECB's LTROs had relieved much of the funding pressure facing European banks in 2012. But European banks continued to face elevated funding costs: for example, while the cost of issuance for UK senior unsecured funding had fallen since the LTROs, it remained above the levels that prevailed during the first half of 2011. The average maturity of UK senior unsecured issuance was also shorter than in the first half of 2011.

Long-term interest rates

Developments in the euro area remained a key influence on government bond markets. Sovereign bond yields fell for many euro-area countries amid a range of actions taken by policymakers (**Chart 6**). Contacts attributed some of those falls to the ECB's LTROs, which were perceived to have lessened the potential near-term fiscal risks stemming from banking sector vulnerabilities. Spanish and Italian yields fell in particular at the short end, consistent with reports from contacts that some banks in those countries had invested part of the proceeds from the ECB's operations in their domestic sovereign debt. Agreement was reached on a second IMF/EU assistance programme for Greece and negotiations on private sector involvement in Greek government debt restructuring were completed. At the end of the review period, the International Swaps and Derivatives Association announced that a credit event had occurred with respect to Greece, triggering credit default swaps on Greek sovereign debt.

Chart 6 Selected euro-area ten-year government bond yields(a)



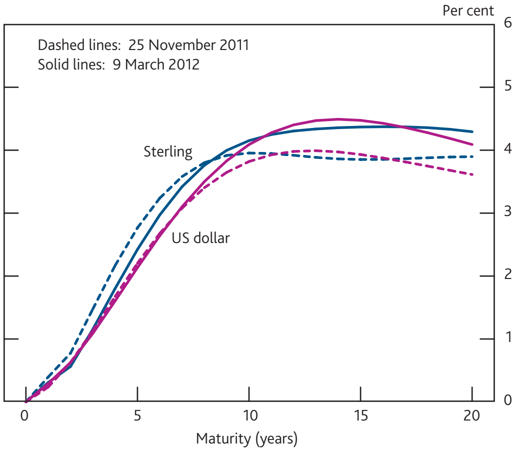
Source: Bloomberg.

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

The actions taken by policymakers were reported to have reduced the perceived risk of contagion from a Greek default to other euro-area periphery countries. Concerns about the indebtedness and competitiveness of some euro-area countries have, however, persisted, with sovereign bond yields in these countries remaining elevated.

In the United Kingdom, the gilt yield curve steepened over the review period, with yields falling at shorter maturities and rising at longer maturities (**Chart 7**). According to contacts, investor demand was reported to have persisted for sovereign bonds that were perceived to be more liquid or carrying less credit risk, including those of the United Kingdom, which had acted to bear down on gilt yields. There was little market reaction to Moody's changing the outlook on the Aaa rating for UK sovereign bonds to negative from stable. Contacts reported that the Asset Purchase Facility gilt purchase announcements in February had also affected gilt yields. These announcements had included an operational change implying a shift in the proportions of gilts purchased at different maturities (for more information, see the box on pages 8–9). Subsequent to the announcements, gilt yields fell at shorter maturities and rose at longer maturities.

Chart 7 International nominal government bond forward yield curves(a)

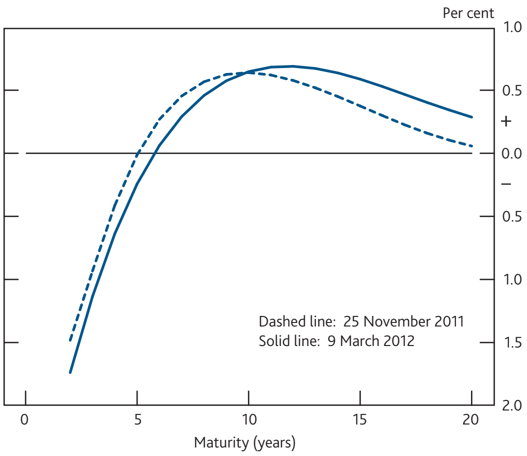


Source: Bank calculations.

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

Changes in nominal gilt yields were largely accounted for by changes in real yields (**Chart 8**). Medium-term measures of breakeven inflation were little changed, albeit that some short-term measures had risen amid sterling oil prices reaching historically high levels.

Chart 8 UK forward real yield curve(a)



Source: Bank calculations.

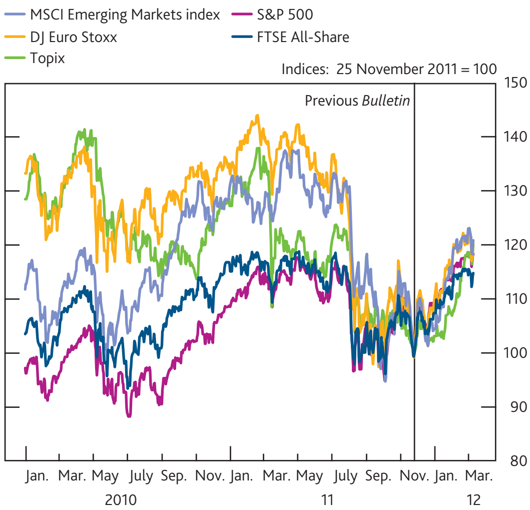
(a) Instantaneous real forward rates derived from the Bank's government liability curves.

Elsewhere, US sovereign bonds were also reported to have benefited from investor demand for assets perceived to be carrying less credit risk. But contacts noted that this was generally outweighed by the market's reaction to stronger economic data (**Chart 7**).

Corporate capital markets

Having fallen in the summer of 2011, international equity prices rose markedly during the review period (**Chart 9**). In the United Kingdom, the FTSE All-Share index ended the review period around 15% higher and was close to its level at the start of 2011. One of the largest contributions to this change came from the financial sector, which had underperformed the broader index during much of 2011.

Chart 9 International equity indices(a)(b)



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 attributed the recovery in international equity markets largely to the improvement in financial market sentiment following the announcement of the ECB's LTROs. In the United States, contacts reported that stronger-than-expected corporate earnings and economic data had contributed to the rise in US equity markets.

The yields on both high-yield and non-financial investment-grade corporate bonds fell relative to sovereign bonds across the major markets. But these spreads remained above their average pre-crisis levels (**Chart 10**). Contacts reported that the secondary market for corporate bonds had continued to be illiquid, with market makers' inventories remaining at low levels. In the United Kingdom, the low level of inventories, combined with higher investor demand for corporate debt, had reportedly contributed to increased sales from the Bank's Corporate Bond Secondary Market Scheme (see the box on pages 8–9).

Conditions in the UK primary corporate bond markets improved over the review period, allowing companies to refinance maturing bonds more easily. New issue premia were

Operations within the Sterling Monetary Framework and other market operations

The level of central bank reserves continued to be determined by (i) the stock of reserves injected via the Asset Purchase Facility (APF), (ii) the level of reserves supplied by long-term repo open market operations (OMOs) 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. The box on pages 8–9 provides more detail on the APF.

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 throughout the period under review. Average use of the lending facility was also £0 million throughout the period.

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. The Bank offers reserves via ILTRs once each calendar month; typically, the Bank will conduct two operations with a three-month maturity and one operation with a six-month maturity in each calendar quarter. 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').

The Bank offered £5 billion via three-month ILTR operations on both 13 December and 10 January, and £2.5 billion via a six-month operation on 14 February (**Table 1**).

The stop-out spread — the difference between clearing spreads for wider and narrow collateral — reached a new low for three-month operations in the December 2011 ILTR, falling to 9 basis points. In the January 2012 operation there were no bids against narrow collateral, hence the clearing spread for wider collateral — 11 basis points — was the stop-out spread. The cover ratio fell from 0.31 in December to 0.14 in January, the lowest cover ratio in any three-month ILTR operation to date (**Chart A**).

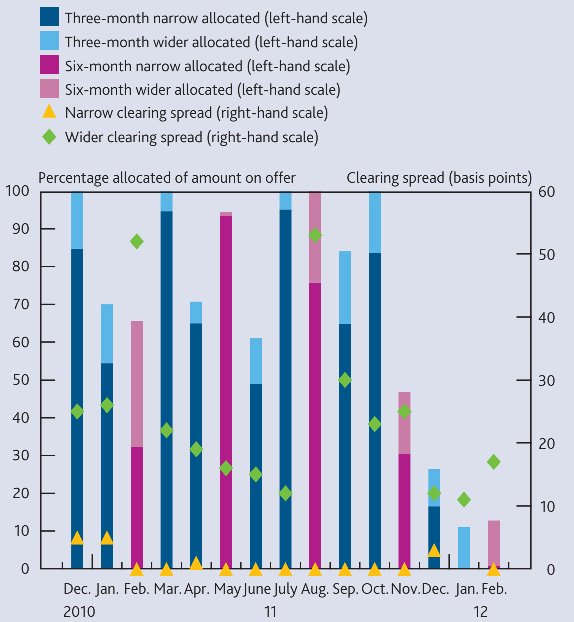
In the six-month operation in February, the stop-out spread was 17 basis points, the lowest stop-out spread for a six-month operation since May 2011. The cover ratio was 0.24, the lowest cover ratio in a six-month operation to date.

Table 1 Indexed long-term repo operations

	Total	Collateral set summary	
		Narrow	Wider
13 December 2011 (three-month maturity)			
On offer (£ millions)	5,000		
Total bids received (£ millions)[a]	1,548	830	718
Amount allocated (£ millions)	1,323	830	493
Cover	0.31	0.17	0.14
Clearing spread above Bank Rate (basis points)		3	12
Stop-out spread (basis points)[b]	9		
10 January 2012 (three-month maturity)			
On offer (£ millions)	5,000		
Total bids received (£ millions)[a]	682	0	682
Amount allocated (£ millions)	553	0	553
Cover	0.14	0.00	0.14
Clearing spread above Bank Rate (basis points)		n.a.	11
Stop-out spread (basis points)[b]	11		
14 February 2012 (six-month maturity)			
On offer (£ millions)	2,500		
Total bids received (£ millions)[a]	595	20	575
Amount allocated (£ millions)	320	20	300
Cover	0.24	0.01	0.23
Clearing spread above Bank Rate (basis points)		0	17
Stop-out spread (basis points)[b]	17		

(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



The low stop-out spreads and cover ratios seen across the period are consistent with lower demand for three and six-month liquidity via the ILTR operations. There are a number of possible reasons for this. First, shorter-term secured market interest rates fell, making private repo markets a cheaper source of liquidity than previously. Second, the APF asset purchase programme and the ECB's three-year longer-term refinancing operations (LTROs) supplied liquidity to the banking system, which may have reduced the need for counterparties to use the ILTR operations to meet their liquidity needs.

Reserves provided via ILTRs during the review period were more than offset by the maturity of the previous ILTR operations. Consequently, the stock of liquidity provided through these operations declined.

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 January 2012, the Bank announced that the average daily amount outstanding in the 30-day DWF between 1 July and 30 September 2011 was £0 million. The Bank also announced that the average daily amount outstanding in the 364-day DWF between 1 July and 30 September 2010 was £0 million.

Extended Collateral Term Repo Facility

As discussed on page 287 of the 2011 Q4 *Bulletin*, the Bank announced the introduction of a new contingency liquidity facility, the Extended Collateral Term Repo (ECTR) Facility on 6 December 2011. The ECTR Facility is designed to mitigate risks to financial stability arising from a market-wide shortage of short-term sterling liquidity.(1) As of 9 March 2012, no operations under the Facility had been announced.

Information transparency for liquidity insurance collateral

On 1 December 2011, the one-year transition period began for the new eligibility requirements for residential mortgage-backed securities (RMBS) and covered bonds backed by residential mortgages delivered as collateral against transactions in the Bank's operations, as set out in the Market Notice of 30 November 2010. During this period, securities that do not meet the eligibility criteria will remain eligible, but subject to increasing haircuts. Any securities that do not meet the criteria by the end of the transition period will be ineligible for use as collateral in any of the Bank's operations.

On 20 December 2011, the Bank announced further details of the eligibility requirements for commercial mortgage-backed securities (CMBS), small-medium enterprise loan-backed securities (SME CLO) and asset-backed commercial paper (ABCP) delivered as collateral against transactions in the Bank's operations. These detailed eligibility requirements will come into effect from 1 January 2013. This will be followed by a one-year implementation period during which haircuts on non-compliant securities will increase.

Other operations

Special Liquidity Scheme

The Special Liquidity Scheme (SLS) was introduced in April 2008 to improve the liquidity position of the banking system by allowing banks and building societies, for a limited period, to swap their high-quality mortgage-backed and other private sector securities for UK Treasury bills for up to three years. The SLS terminated on 30 January 2012. All drawings were repaid before the Scheme terminated. The Scheme is described in more detail on pages 57–66 in this *Bulletin*.

US dollar repo operations

On 11 May 2010, the Bank reintroduced weekly fixed-rate tenders with a seven-day maturity to offer US dollar liquidity, in co-ordination with other central banks, in response to renewed strains in the short-term funding market for US dollars at this time. As of 9 March 2012, there had been no use of the Bank's facility.

On 15 September 2011, the Bank announced, in co-ordination with the ECB, the Swiss National Bank, the Federal Reserve, and the Bank of Japan, that it would be conducting three US dollar tenders, each at a term of approximately three months covering the end of the year. There was no use of the Bank's facility in any of these three tenders.

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 the 84-day US dollar tenders would continue until this time, and that the 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.

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; nevertheless 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 3 October 2011 and 3 January 2012.

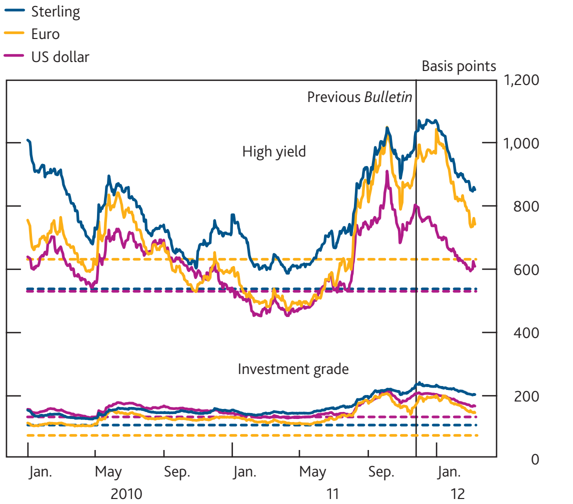
The Bank's foreign currency reserves

As part of the monetary policy framework introduced in 1997, the Bank holds its own foreign exchange reserves. These reserves can be used by the MPC in support of monetary policy. In December 2006, the Bank announced that its foreign exchange reserves would be financed by issuing medium-term securities on an annual basis, with a regular timetable, a high degree of transparency, and a group of banks to market and distribute each issue. The first bond was issued in March 2007, followed by issuance each subsequent year. On 27 February 2012, the Bank issued its latest three-year dollar-denominated bond.(2)

(1) Further details are available at www.bankofengland.co.uk/markets/Pages/money/ectr/index.aspx.
(2) Further details are in the Market Notice available at www.bankofengland.co.uk/markets/Documents/reserves/marketnotice120227.pdf.

said to have fallen from their historically high levels in the second half of 2011, making it easier for less established issuers to come to the market. Reflecting this, gross issuance by UK private non-financial corporations (PNFCs) in January and February was stronger than in previous years (**Chart 11**).

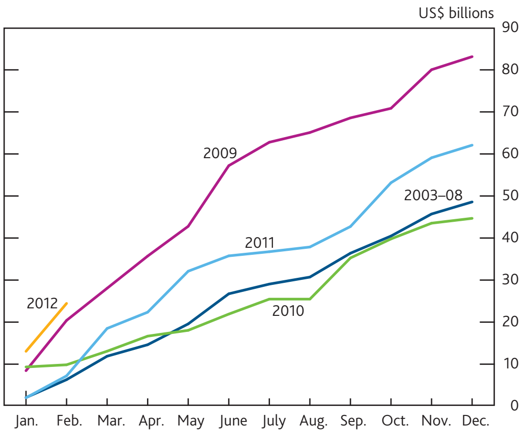
Chart 10 International high-yield and non-financial investment-grade corporate bond spreads(a)(b)



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

(a) Option-adjusted spreads over government bond yields.
(b) Dashed lines: 1997–2007 averages for investment-grade bonds and 1998–2007 averages for high-yield bonds.

Chart 11 Cumulative gross bond issuance by UK PNFCs



Source: Dealogic.

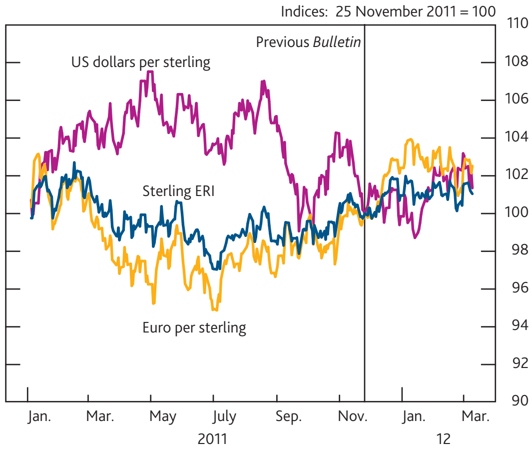
Contacts attributed greater investor demand to the general improvement in market sentiment over the review period.

In net terms, however, capital market issuance had been more muted. PNFCs had, in aggregate, not raised additional bond finance, and share buybacks had outstripped equity issuance. Contacts attributed this to companies' large cash buffers and ongoing reluctance to invest amid an uncertain economic outlook.

Foreign exchange

The sterling exchange rate index (ERI) appreciated by 1% over the review period (**Chart 12**). Sterling appreciated by 2.5% against the euro and 1.3% against the US dollar, but there was an offsetting depreciation against a number of currencies with smaller weights within the index. Changes in relative interest rates could not fully account for these movements.

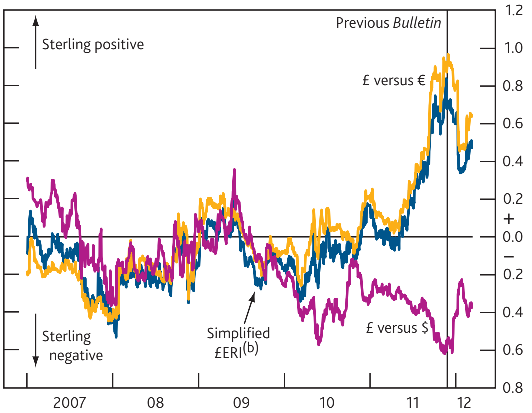
Chart 12 Sterling ERI and bilateral exchange rates



Sources: Bloomberg and Bank calculations.

Information derived from options prices suggested that market participants placed a lower weight on an appreciation of sterling (**Chart 13**). Contacts attributed this largely to a lessening of concerns about a potentially disorderly resolution to some of the challenges facing the euro area. Investors, however, remained willing to pay historically high prices to buy protection against an unexpectedly large depreciation of the euro against sterling.

Chart 13 Three-month option-implied skewness of foreign exchange returns(a)



Sources: Bloomberg, British Bankers' Association, Reuters 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.

Trading volumes in foreign exchange markets were unusually low over the review period. Some trading platforms reported lower average daily trading volumes, which contacts attributed to ongoing investor caution despite the more general improvement in market sentiment.

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. And the Bank conducts occasional market surveys to gather additional quantitative information on certain markets.

Based on intelligence of this kind, this section describes recent developments in the market for unsecured floating-rate notes. It also reports the most recent results from the Sterling Money Market Survey conducted by the Bank on behalf of the Money Market Liaison Group.

The market for unsecured floating-rate notes

Floating-rate notes (FRNs) are debt instruments that pay regular coupons based on a floating rate of interest. Non-bank financials and PNFCs issue FRNs, but the vast majority of FRN issuance is by banks, for which FRNs are an important source of funding. This section describes the structure of the market for unsecured FRNs and examines recent developments, drawing on intelligence gathered from discussions with market contacts.

Features of floating-rate notes

FRNs can be issued for a range of maturities, though issuance tends to be concentrated between two and ten years. The floating interest rate that determines the coupon that will be paid (the coupon rate) is typically based on a benchmark interest rate, such as Libor. Some FRNs include restrictions on the minimum coupon rate (floored FRNs) or the maximum coupon rate (capped FRNs). FRNs that include both of these restrictions are called collared FRNs.

According to contacts, the market for FRNs is dominated by issuance from medium-term note (MTN) programmes. Such programmes enable issuers to issue a number of FRNs based on the same legal documentation. Such standardisation allows easy access to public markets, but retains sufficient flexibility to allow issuers to tailor transactions efficiently to meet the requirements of specific investors.

Market structure

According to contacts, the decision on whether to issue fixed or floating-rate debt is primarily driven by the all-in cost of issuance. However, the ability to better match floating-rate assets with floating-rate liabilities is also said to be a key consideration. Issuance of FRNs in addition to fixed-rate debt can also lead to greater funding diversification and provides issuers with access to a broader range of potential investors.

FRNs generally pay regular coupons based on three-month or six-month Libor. This means that they tend to trade like money market instruments despite their longer maturity. This makes them attractive to both money market investors (including banks and money market funds) and those with demand for longer-maturity instruments (including insurance companies and pension funds). Banks have been significant investors in FRNs. But contacts suggest that higher capital charges resulting from forthcoming regulatory changes are likely to make it less attractive for banks to invest in debt issued by other banks.

FRNs are particularly attractive to investors during times when interest rates are expected to be more likely to rise than to fall. The floating-rate coupon on FRNs is reset at regular intervals, which means that when interest rates rise, FRNs tend to exhibit smaller price falls than fixed-rate instruments with otherwise similar characteristics. Investors may also invest in FRNs in order to gain credit exposure to a particular issuer without assuming the same degree of interest rate risk inherent in investing in an equivalent-maturity fixed-rate instrument.

Recent developments

Deal structures for unsecured FRNs have reportedly become less complex over the past few years. According to contacts, this has been largely at the request of investors who are said to be seeking greater clarity around the instruments in which they are investing.

Contacts report that issuers continue to see investor demand for structured FRNs that more closely match investors' preferences. With interest rates generally perceived to be at historic lows, contacts have highlighted an increase in issuance of notes that are fixed rate, but switch to a floating rate as interest rates increase (known as 'flippers'). This structure offers investors protection against increases in interest rates.

According to contacts, demand for puttable FRNs has also increased over the past year. Puttable FRNs contain a put option that gives the investor the right (but not the obligation) to sell the FRN back to the issuer prior to its original maturity date. Investors therefore have the option to reduce their credit exposure to an issuer should their perception of the issuer's creditworthiness change.

Recent months have also seen the issuance of several FRNs secured against covered bond collateral. The collateralised nature of such a structure offers investors additional credit protection in the event of an issuer default.

Results from the November 2011 Money Market Liaison Group Sterling Money Market Survey

The Bank of England has recently initiated a regular, six-monthly survey of the sterling money market on behalf of the Money Market Liaison Group. The survey is described in more detail in the 2011 Q3 *Quarterly Bulletin*. This box presents a selection of results from the November 2011 survey, the second such survey since its official launch in May 2011.

The sterling money market is where short-term wholesale borrowing and lending takes place. It plays a central role in the Bank's pursuit of its monetary and financial stability objectives. Market participants include banks, other financial institutions and non-financial companies that use the money market to manage their liquidity positions.

The survey supplements the Bank's long-standing gathering of market intelligence and will increase public understanding of the market. Over time, it is expected to help identify emerging structural trends in the market, helping policymakers assess the impact of their actions on the behaviour of market participants.

Coverage and content

The survey sample comprises 33 commercial banks, building societies and investment banks. Selection is based on data on the scale of these 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 having a maturity of no longer than one year. Participants are asked to exclude any retail business, along with any non-sterling and intragroup trades. Participants are also asked to exclude trades with the Bank of England and the UK Debt Management Office.[1]

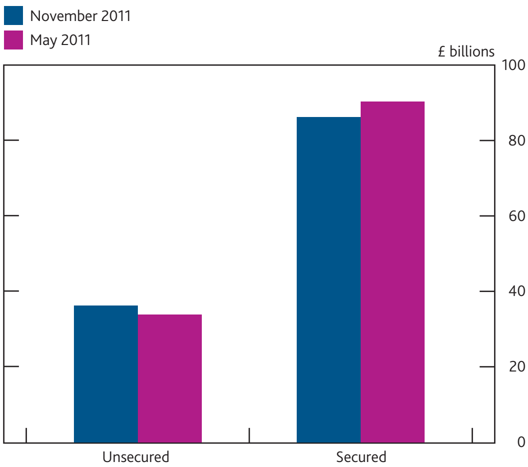
The survey comprises both quantitative and qualitative questions that are designed to ascertain how well market participants perceive markets to be functioning and how market liquidity and efficiency is evolving. The quantitative questions ask survey participants to record the value, volume, type and maturity of sterling money market activity conducted in their own name 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 results of the sterling money market surveys conducted to date highlighted certain features of the sterling money market. First, around 70% of transactions by value were conducted on a secured basis (**Chart 14**).[2]

Chart 14 Reported daily average flows in the sterling money market[a]



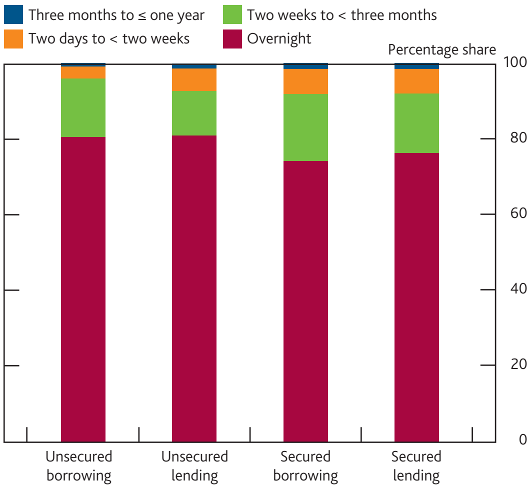
(a) Daily average flows are reported as the value of sterling money market transactions in the survey month divided by the number of working days during that period.

(1) Survey respondents 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 be able to exclude it. For more details on the DMO's money market activity see www.dmo.gov.uk.

(2) 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.

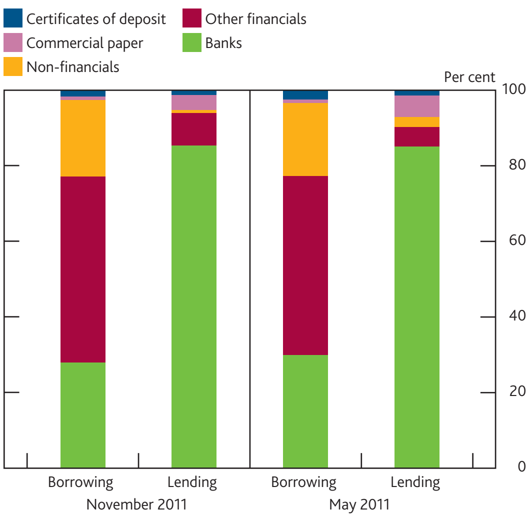
Second, recorded transactions were dominated by overnight deals, with little lending or borrowing occurring at maturities beyond three months (**Chart 15**). However, were the maturity distribution of flows recorded in the November 2011 survey to be replicated each month, around 10% of banks' outstanding money market transactions, by value, would have maturities of three months or longer.

Chart 15 Maturity of transactions, November 2011



Third, banks reported that they were net borrowers from the non-bank sector, particularly in the unsecured segment of the market. Non-bank financial institutions, such as money market funds, were reported to have provided around half of the cash lent unsecured to banks, with non-financial corporates providing around 20% (**Chart 16**).

Chart 16 Unsecured activity split by instrument, destination of lending or source of borrowing[(a)(b)]

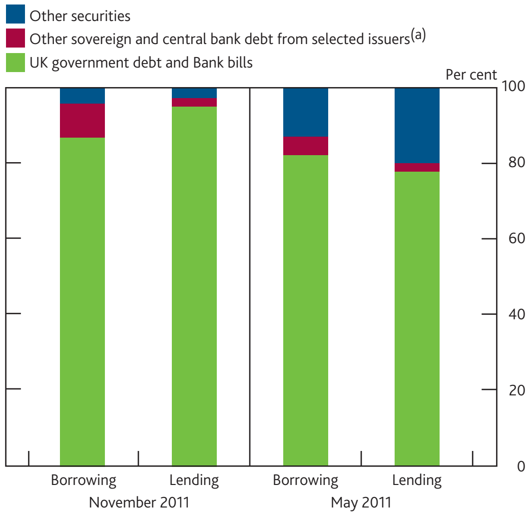


(a) Since survey participants are banks and building societies, sales of corporate commercial paper (CP) would not be captured by the survey. Hence, purchases of sterling CP issued by other financials are omitted from the results to avoid capturing only one portion of the corporate CP market.
(b) Commercial paper and certificates of deposit issuance are not split by type of purchaser because these instruments may be traded, making the identity of the 'lender' difficult to verify.

Fourth, around two thirds of the transactions in the secured market were interbank, with the majority of trades settled via a central counterparty. Little secured business was transacted on a tri-party basis.[(1)]

Fifth, the assets that were used to back the vast majority of secured transactions were gilts or UK Treasury bills (**Chart 17**).

Chart 17 Secured flows split by collateral type



(a) Includes sterling, euro, US dollar and Canadian dollar denominated securities issued by the governments and central banks of Canada, France, Germany, the Netherlands and the United States.

Recent market developments

The results of the May 2011 and November 2011 surveys indicate how the growing strains in financial markets during the second half of 2011 affected sterling money markets. Overall flows recorded in the May and November 2011 surveys were broadly similar, at around £120 billion on a daily average basis. But the share of reported overnight transactions rose by 5 percentage points in the November survey, to around 75% of daily flows, and the average tenor of trades fell slightly.[(2)] Contacts attributed at least part of the fall in tenors to rising risk aversion leading cash providers to lend for shorter periods. They noted, however, that this had been exacerbated by market participants being less willing to enter into longer-term transactions maturing after the end of December due to the impact this would have on the size of their year-end balance sheets (see, for example, pages 6–7).

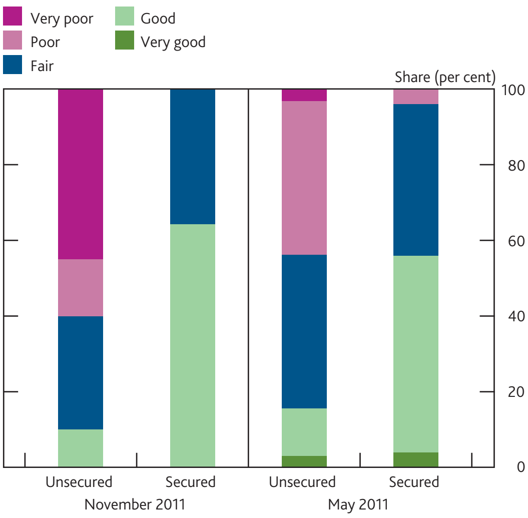
The share of secured transactions backed by gilts or UK Treasury bills rose by 10 percentage points in the November 2011 survey, to 90% (**Chart 17**). Market contacts reported that the increased desire to use gilts had been driven in part by greater uncertainty about the credit quality of other types of collateral. The credit rating downgrade of some

(1) In a tri-party arrangement, a third party acts as agent, holding associated collateral in a custodian capacity.
(2) A shortening of average tenors will tend to push up recorded daily average flows because shorter-dated transactions are more likely to be rolled over within the survey period and, hence, be captured as additional activity.

peripheral euro-area sovereign debt had rendered that debt ineligible for regulatory liquid asset buffer ratios, which, according to contacts, had also boosted investor appetite for using gilts.

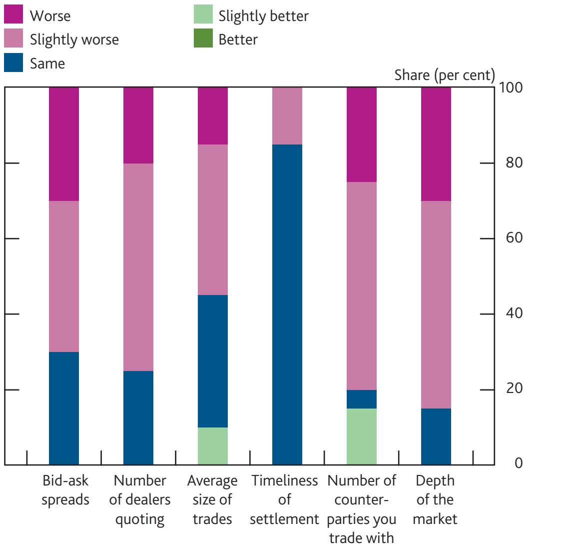
According to the responses to the qualitative questions in the November 2011 survey, there was a broadly held perception among respondents that unsecured market functioning had deteriorated since the previous survey (**Chart 18**). That deterioration was most apparent in a reduction in the depth of the market and a widening in bid-ask spreads (**Chart 19**). Perceptions regarding secured market functioning were more positive and little changed since the previous survey.

Chart 18 Respondents' views on overall market functioning



Market contacts cited a number of possible reasons for the deterioration of unsecured market functioning between May and November 2011. In particular, market participants were reported to be less willing to act as market makers given the perceived increase in banking sector risk and balance sheet constraints. With more cash providers only willing to lend for short periods, survey respondents reported that market functioning at maturities of three months or more was particularly poor.

Chart 19 Indicators of change in unsecured market functioning relative to six months earlier[(a)]



(a) For bid-ask spreads: Better (worse) = Tighter (wider). For number of dealers quoting: Better (worse) = Higher (lower). For average size of trades: Better (worse) = Larger (smaller).

According to market participants, unsecured market functioning had improved somewhat since November 2011. Contacts attributed this in part to the passing of year-end reporting requirements and the perceived impact of the ECB's LTROs on European banking sector credit risk.