Markets and operations

This article reviews developments in sterling financial markets, including the Bank's official operations, between the 2011 Q1 *Quarterly Bulletin* and 20 May 2011.[1] The article also summarises market intelligence on selected topical issues relating to market functioning.

Sterling financial markets

Overview

Financial markets have remained resilient in the face of a number of significant events over the review period. These included continued political tensions in the Middle East and North Africa, ongoing concerns about the sustainability of fiscal positions in some euro-area periphery countries and the Japanese earthquake and tsunami.

In the United Kingdom, weaker-than-expected activity data contributed to expectations for the timing of an increase in Bank Rate being pushed back.

Fiscal developments continued to be a key influence on international sovereign bond markets. In the US Treasury market there was little lasting market reaction to Standard & Poor's announcement of a revision to its outlook for the US sovereign credit rating from stable to negative. But uncertainty persisted about how some euro-area member countries will resolve the fiscal challenges that they face. Government bond yields in Greece, Portugal and Ireland rose sharply relative to those in Germany; movements for other member countries were more muted over the review period.

Commodity prices fell sharply in early May, broadly reversing the increases earlier in the review period, and, in some cases, ending the period lower.

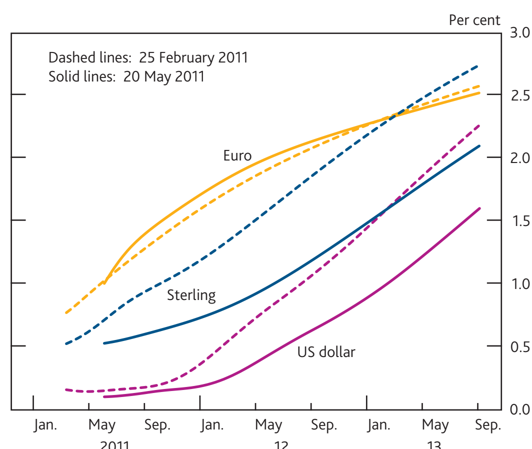
Recent developments in sterling capital markets

Monetary policy and short-term interest rates

The Bank of England's Monetary Policy Committee (MPC) maintained Bank Rate at 0.5% and the stock of purchased assets at £200 billion.

UK CPI inflation remained above target with significant month-to-month variation during the review period. But weaker-than-expected activity data contributed to market participants pushing back their expectations for the timing of an increase in Bank Rate. Consistent with this, forward sterling overnight index swap (OIS) rates fell across the curve (**Chart 1**). According to this measure, market participants expect the MPC to have raised Bank Rate by 25 basis points by February 2012, about seven months later than at the time of the previous *Bulletin*.

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 overnight index swap (OIS) curves.

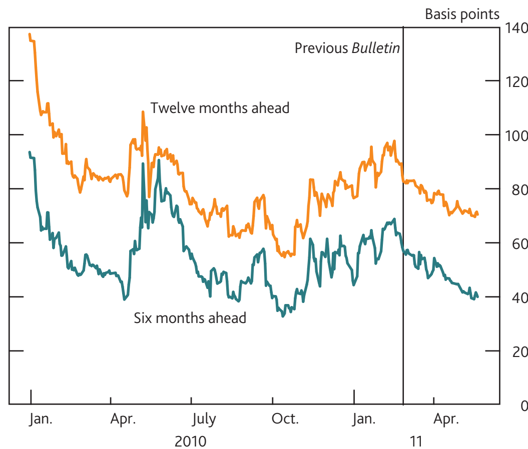
A Reuters poll released after the review period showed that a majority of the economists surveyed believed that the MPC was most likely to raise Bank Rate in 2011 Q4. That was a quarter later than at the time of the 2011 Q1 *Bulletin*.

Option-implied volatility of three-month Libor — a measure of near-term interest rate uncertainty — fell over the review period, reversing the increase in late 2010 (**Chart 2**).

Elsewhere, in the United States, the Federal Open Market Committee (FOMC) confirmed that it would complete its planned $600 billion asset purchase programme by the end of 2011 Q2. US forward OIS rates fell over the review period, which contacts attributed to both weaker-than-expected data

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

Chart 2 Volatility of three-month Libor implied by options on Libor futures



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

and statements by policymakers (**Chart 1**). In line with market expectations, the European Central Bank (ECB) raised its main refinancing rate by 25 basis points in April, to 1.25%. Euro-area OIS rates were little changed over the review period.

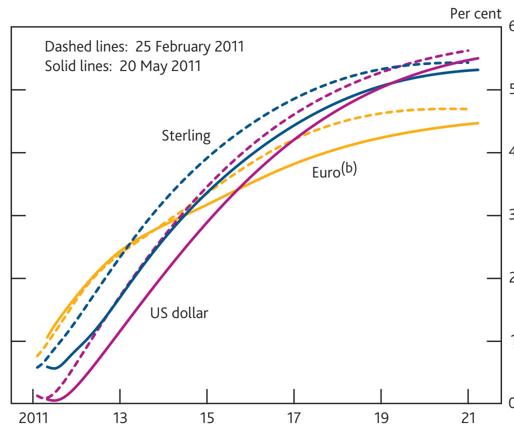
At the short end of the money market curve, UK overnight interest rates traded at or around Bank Rate throughout the review period (a new sterling secured overnight interest rate — the repurchase overnight index average (RONIA) — is described on pages 97–98). In the United States, overnight interest rates fell relative to the interest rate paid on reserves held at the Federal Reserve. Contacts attributed this to a change in policy by the Federal Deposit Insurance Corporation, which included a change in the base on which bank deposit insurance fees are charged from domestic deposits to a measure that includes banks' reserves balances. In the euro area, the euro overnight index average (EONIA) traded closer to the ECB's main refinancing rate than during the previous review period. Contacts attributed this to lower aggregate liquidity held by euro-area banks over and above that necessary to meet reserve requirements.

Long-term interest rates

Nominal forward interest rates derived from government bond yields fell across the yield curve in the United Kingdom and the United States (**Chart 3**). In the euro area, longer-dated forward interest rates also fell, but there was little change at shorter horizons. In the United Kingdom and the United States, contacts attributed the changes at shorter horizons to the revised path for policy expectations.

Five-year interest rates, five years forward, which should be less affected by cyclical developments, fell (**Chart 4**). In the United Kingdom, this largely reflected a decline in implied inflation towards the end of the period, whereas in the United States and the euro area it was attributable mainly to a decline in real interest rates.

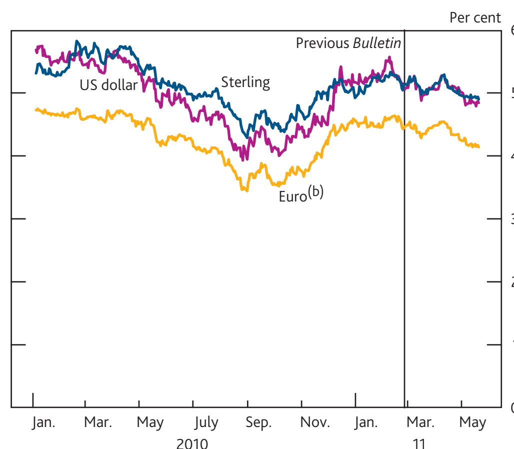
Chart 3 International nominal government bond forward yield curves[(a)]



Source: Bank calculations.

(a) Instantaneous forward rates derived from the Bank's government liability curves.
(b) Derived from government bonds issued by France and Germany.

Chart 4 International five-year nominal government bond yields, five years forward[(a)]



Source: Bank calculations.

(a) Derived from the Bank's government liability curves.
(b) Derived from government bonds issued by France and Germany.

In the US Treasury market there was little lasting reaction to Standard & Poor's announcement of a revision to its outlook for the US sovereign credit rating from stable to negative. Concerns about fiscal developments continued, however, to be a key influence on bond yields of some euro-area periphery economies.

Over the review period, the yield spreads of Greek, Irish and Portuguese bonds over German bonds (bunds) rose sharply (**Chart 5**). On 6 April, the Portuguese Government informed the European Commission of its intention to ask for the activation of financial support mechanisms. This was largely expected by market participants, but there was uncertainty around the extent and form of the support mechanism. And market participants have increasingly focused on whether the existing support package for Greece will prove to be sufficient given the economic backdrop. Market participants have, however, appeared to differentiate

Operations within the sterling monetary framework and other market operations

Over the review period, the level of 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. The box on pages 90–91 provides more detail on the APF. 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 maintenance periods 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 15 March 2011 and 12 April 2011, and £2.5 billion via a six-month operation on 17 May 2011 (**Table 1**). Two out of the three operations were uncovered, with the three-month April operation recording the lowest cover since the launch of ILTRs in June 2010.

The stop-out spread — the difference between clearing spreads for wider and narrow collateral — is an indicator of potential stresses in the market. In the March operation, this spread was similar to the previous three-month operations. But the stop-out spread in the April operation was the lowest in a three-month operation to date, at 18 basis points.

The proportion of the three-month funds allocated to wider collateral in the March and April operations fell compared with those held in December and January, from an average of 19% to 7%.

Table 1 Indexed long-term repo operations

	Total	Collateral set summary	
		Narrow	Wider
15 March 2011 (three-month maturity)			
On offer (£ millions)	5,000		
Total bids received (£ millions)(a)	5,525	5,255	270
Amount allocated (£ millions)	5,000	4,730	270
Cover	1.11	1.05	0.05
Clearing spread above Bank Rate (basis points)		0	22
Stop-out spread (basis points)(b)	22		
12 April 2011 (three-month maturity)			
On offer (£ millions)	5,000		
Total bids received (£ millions)(a)	3,535	3,250	285
Amount allocated (£ millions)	3,535	3,250	285
Cover	0.71	0.65	0.06
Clearing spread above Bank Rate (basis points)		1	19
Stop-out spread (basis points)(b)	18		
17 May 2011 (six-month maturity)			
On offer (£ millions)	2,500		
Total bids received (£ millions)(a)	2,435	2,335	100
Amount allocated (£ millions)	2,360	2,335	25
Cover	0.97	0.93	0.04
Clearing spread above Bank Rate (basis points)		0	16
Stop-out spread (basis points)(b)	16		

(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.

The six-month operation on 17 May had a higher cover ratio than the February ILTR, but remained uncovered, with a cover ratio of 0.97. The May ILTR produced the lowest stop-out spread to date, at 16 basis points. This compares with an average of 50 basis points across previous six-month ILTRs. The proportion of reserves allocated against wider collateral in May was the lowest to date at 1%, down from 51% in February. This in part reflected the significantly smaller number of bids received against wider collateral.

Reserves provided via ILTRs during the review period were more than offset by the maturity of the previous long-term repo and ILTR operations. Consequently, the stock of liquidity provided through longer-term operations declined.

The box on page 93 summarises some of the results from the first twelve months of ILTR operations.

Discount Window Facility

The Discount Window Facility (DWF) is a permanent facility to provide liquidity insurance to the banking system. It allows eligible banks to borrow gilts against a wide range of collateral. On 5 April 2011, the Bank announced that the average daily amount outstanding in the 30-day DWF between 1 October and 31 December 2010 was £0 million. The Bank also announced that the average daily amount outstanding in the

364-day DWF between 1 October and 31 December 2009 was £0 million.

In accordance with the announcement on 30 November 2010, the Bank started accepting loan portfolios as eligible collateral in the DWF from April 2011.[1]

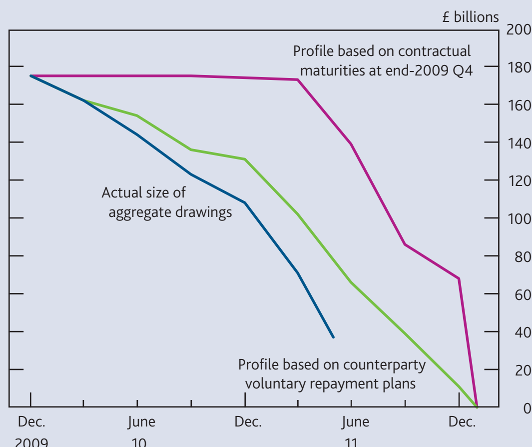
Other operations

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 to swap their high-quality mortgage-backed and other securities for UK Treasury bills for up to three years. The Scheme was designed to finance part of the overhang of illiquid assets on banks' balance sheets by exchanging them temporarily for more easily tradable assets.

When the drawdown period for the SLS closed at the end of January 2009, £185 billion of UK Treasury bills had been lent under the SLS. In order to prevent a refinancing 'cliff', the Bank has held bilateral discussions with all users of the Scheme to ensure that there are plans in place to reduce their use of the Scheme in a smooth fashion. The impact of these repayment plans are shown in aggregate in **Chart A**, along with the repayment profile based on counterparties' contractual repayment obligations at end-2009 Q4, and the profile of actual repayments to date. By end-May 2011, £148 billion had been repaid, compared with £94 billion at end-February 2011.

Chart A Aggregate SLS repayment profiles



US dollar repo operations

In response to renewed strains in the short-term funding market for US dollars, from 11 May 2010 the Bank, in concert with other central banks, reintroduced weekly fixed-rate tenders with a seven-day maturity to offer US dollar liquidity. As of 20 May 2011, there had been no use of the Bank's facility.

Foreign exchange intervention

On 18 March 2011, G7 Finance Ministers and Central Bank Governors announced that, in response to the appreciation of the yen following the earthquake and tsunami in Japan, and at the request of the Japanese authorities, the authorities of Canada, the United Kingdom, the United States, and the European Central Bank would join with Japan in concerted intervention in foreign exchange markets.[2] On 18 March 2011, the Bank, under instruction from HM Treasury, and using the United Kingdom's official foreign exchange reserves, sold yen and purchased sterling in the foreign exchange market to give effect to the G7 Finance Ministers' communiqué.

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), together with 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.

As of 20 May 2011 the portfolio included around £3.4 billion of gilts and £0.5 billion of other debt securities. Over the period from 26 February 2011 to 20 May 2011, gilt purchases were conducted in accordance with the quarterly announcements on 4 January 2011 and 1 April 2011.

(1) Further details are in the Market Notice available at www.bankofengland.co.uk/markets/marketnotice101130dwf.pdf.
(2) Further details are in the HM Treasury press release available at www.hm-treasury.gov.uk/int_g7_intervention.htm.

Asset purchases[1]

The Bank did not undertake any Asset Purchase Facility (APF) gilt purchases over the review period. As a result, the stock of gilts held by the APF in terms of the amount paid to sellers remained at £198.3 billion.[2]

Purchases of high-quality private sector assets financed by the issuance of Treasury bills and the Debt Management Office's (DMO's) cash management operations continued, in line with the arrangements announced on 29 January 2009.[3]

Table 1 summarises operations under the APF over the review period by type of asset.

Corporate bonds

The Bank continued to offer to purchase and sell corporate bonds via the Corporate Bond Secondary Market Scheme. Reflecting the improvement in the corporate bond market since the Scheme was introduced, the Bank announced in late 2010 that it would adapt its reserve pricing to permit relatively more sales of bonds in the future. The Scheme continues to serve a useful role as a backstop, particularly during periods of market uncertainty.

Over the review period, activity in the Bank's auctions continued to be driven by broader market conditions. Sales of corporate bonds rose, while purchases fell, and so as of 19 May 2011 the Bank's portfolio totalled £1,153 million, compared to £1,304 million at the end of the previous review period. Market contacts suggested that this pattern of usage of the Scheme predominantly reflected more positive market sentiment and continued limited new issuance.

Commercial paper

The Bank continued to offer to purchase sterling-denominated investment-grade commercial paper (CP) issued by companies that make a material contribution to UK economic activity. On 15 November 2010, the Bank provided twelve months' notice of its intention to withdraw this scheme, reflecting a sustained improvement in the sterling commercial paper market.

Average spreads on sterling-denominated CP over the review period were broadly stable and remain well below the levels seen in early 2009. Usage of the APF Commercial Paper Facility remained at £0 million over the period.

Secured commercial paper facility

The Bank continued to offer to purchase secured commercial paper (SCP) backed by underlying assets that are short term and provide credit to companies that support economic activity in the United Kingdom.[4] The Bank announced on 15 November 2010 that it had made a programme eligible for this facility. This programme has since issued SCP to the APF.

Table 1 APF transactions by type (£ millions)

Week ending[a]	Commercial paper	Secured commercial paper	Gilts	Corporate bond		Total[b]
				Purchases	Sales	
24 February 2011[c][d]	0	25	198,275	1,304		199,605
3 March 2011	0	0	0	0	0	0
10 March 2011	0	0	0	0	5	-5
17 March 2011	0	30	0	17	0	47
24 March 2011	0	0	0	5	2	3
31 March 2011	0	0	0	0	3	-3
7 April 2011	0	0	0	0	29	-29
14 April 2011	0	0	0	2	20	-18
21 April 2011	0	30	0	0	19	11
28 April 2011	0	0	0	0	15	-15
5 May 2011	0	0	0	0	0	0
12 May 2011	0	30	0	0	51	-21
19 May 2011	0	30	0	0	29	1
Total financed by a deposit from the DMO[d][e]	–	30	–	261		291
Total financed by central bank reserves[d][e]	–	–	198,275	892		199,167
Total asset purchases[d][e]	–	30	198,275	1,153		199,458

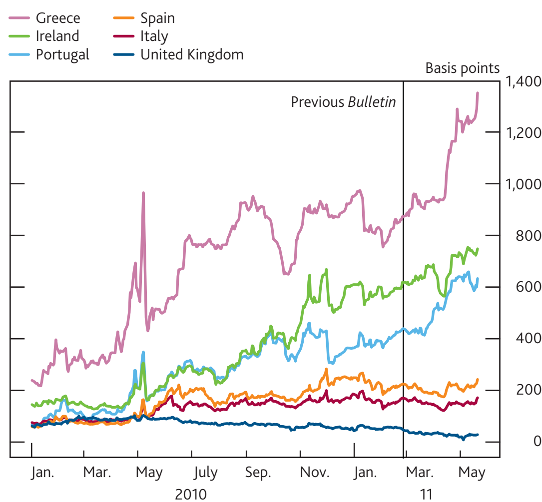
(a) Week-ended amounts are for purchases in terms of the proceeds paid to counterparties, and for sales in terms of the value at which the Bank initially purchased the securities. All amounts are on a trade-day basis, rounded to the nearest million. Data are aggregated for purchases from the Friday to the following Thursday.
(b) Weekly values may not sum to totals due to rounding.
(c) Measured as amount outstanding as at 24 February 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.

Gilt lending facility[5]

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 March 2011, a daily average of £1,476 million of gilts were lent as part of the gilt lending facility. This was an increase from an average of £1,241 million in the previous quarter. The increase in the amount of gilts lent to the DMO resulted from an apparent shortage of particular gilts, which meant that market participants chose to borrow from the DMO rather than obtain the gilts in the market.

(1) The data cut-off for this box is 19 May 2011, unless otherwise stated. For further discussion on asset purchases see the *Asset Purchase Facility Quarterly Report* available at www.bankofengland.co.uk/publications/other/markets/apf/quarterlyreport.htm.
(2) Further details of individual operations are available at www.bankofengland.co.uk/markets/apf/gilts/results.htm.
(3) 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. Since 4 February 2010 all purchases have been financed by the issuance of Treasury bills and the DMO's cash management operations.
(4) The SCP facility is described in more detail in the Market Notice available at www.bankofengland.co.uk/markets/marketnotice090730.pdf.
(5) 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.

Chart 5 Selected European ten-year government bond spreads[a]



Sources: Bloomberg and Bank calculations.

(a) Spreads over ten-year German government bond yields.

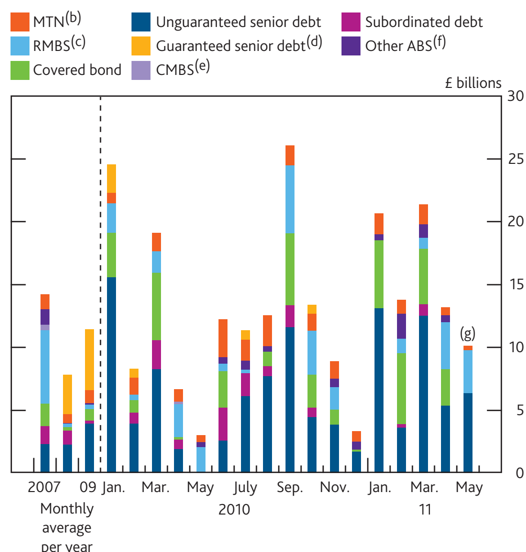
between bonds issued by those countries perceived to be most vulnerable and those issued by Spain and Italy, where movements in government bond spreads have been more muted.

In the United Kingdom, gilt yields fell relative to bunds. Market contacts attributed this to changes in near-term interest rate expectations.

Bank funding markets

Bank funding markets remained resilient. From the start of March to the end of the review period, UK banks issued £45 billion of debt in public markets (**Chart 6**). This compares to a combined issuance of £29 billion over those three months in 2010. Contacts reported, however, that issuance had been tempered somewhat, in part reflecting banks being less willing to issue during the periods of heightened uncertainty associated with both the earthquake and tsunami in Japan, and the ongoing political turmoil in the Middle East and North Africa.

Chart 6 Term issuance by the major UK lenders in public markets[a]



Sources: Bank of England, Dealogic and Bank calculations.

(a) Includes debt issued by Banco Santander, Bank of Ireland, Barclays, Co-operative Financial Services, HSBC, Lloyds Banking Group, National Australia Bank, Nationwide, Northern Rock and RBS. Term issuance refers here to securities with an original contractual maturity or earliest call date of at least 18 months. It includes subordinated lower Tier 2 and Tier 3 capital instruments with debt features.
(b) Medium-term notes.
(c) Residential mortgage-backed securities.
(d) Senior debt issued under HM Treasury's Credit Guarantee Scheme.
(e) Commercial mortgage-backed securities.
(f) Asset-backed securities.
(g) Data are up to 20 May 2011.

Banks continued to use part of the funding raised to reduce their use of the Bank's Special Liquidity Scheme (SLS) (see the box on pages 88–89).

The unsecured market remains a major source of funding for the UK banking sector. The majority of this funding continues to be in the form of short-dated floating-rate instruments, although there were some signs of a lengthening in maturities over the review period. There was also a pickup in euro-denominated issuance since the previous *Bulletin*. Contacts attributed this in part to a desire by banks to diversify issuance away from the US dollar markets on which they had relied earlier in the year. But contacts also noted an increased appetite for euro-denominated debt among investors following the decision by the Irish Government not to impose

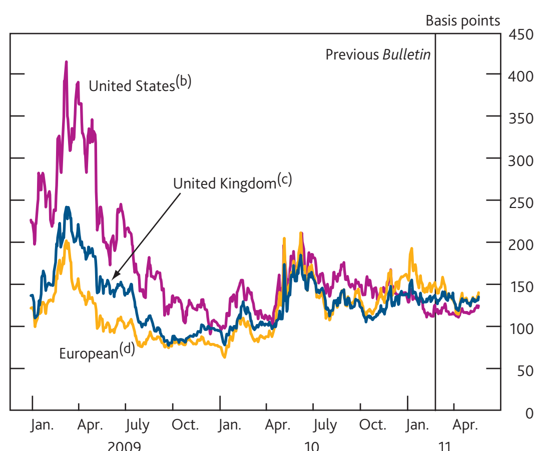
write-downs onto senior debt holders. In the secondary market there appeared to be little immediate reaction following Moody's announcement that it would review its assumptions for the level of government and central bank support it assumes when rating senior debt of UK banks. Subsequent to the review period, Moody's announced rating reviews, outlook changes and rating affirmations for a number of UK financial institutions.

Covered bond issuance continued to be an important source of funding for banks, particularly for those with limited access to unsecured funding. According to contacts, investors were attracted by the spreads on covered bonds, which were, on average, similar to those on unsecured issuance, but offered recourse to the underlying pool of assets in addition to recourse to the issuer. Furthermore, regulatory developments had made covered bonds a more attractive investment for insurance companies. Contacts continued to note, however, that increased covered bond issuance meant that unsecured creditors had recourse to a progressively smaller proportion of a bank's balance sheet in the event of a bank resolution, which may affect the ability of banks to access unsecured funding during times of stress.

Primary market activity in asset-backed securities remained low. Contacts noted, however, that the first UK commercial mortgage-backed security (CMBS) since the financial crisis is being marketed to investors. Developments in the primary market for UK CMBS are reviewed on pages 96–97.

Five-year UK bank credit default swap (CDS) premia, one indicator of long-term funding costs, ended the review period little changed (**Chart 7**). The spread of short-term interbank borrowing rates relative to OIS rates, an indicator of short-term bank funding conditions, rose slightly for sterling but remained close to the levels that have prevailed since late 2009 (**Chart 8**).

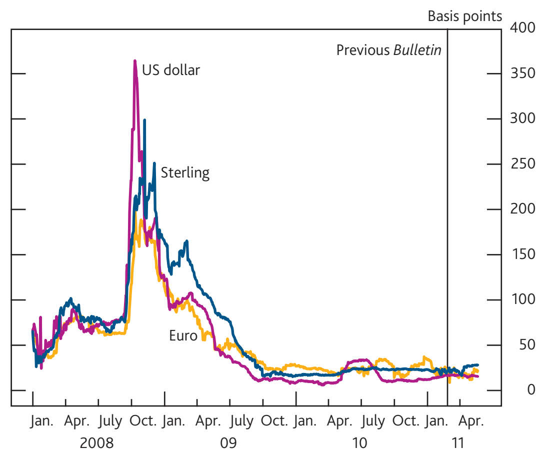
Chart 7 Selected international banks' CDS premia[(a)]



Source: Markit Group Limited.

(a) Unweighted averages of five-year, senior CDS prices.
(b) Average of Bank of America, Citi, Goldman Sachs, JPMorgan Chase & Co. and Morgan Stanley.
(c) Average of Barclays, HSBC, Lloyds Banking Group, RBS and Standard Chartered.
(d) Average of BBVA, BNP Paribas, Crédit Agricole, Credit Suisse, Deutsche Bank, Santander, Société Générale, UBS and UniCredit.

Chart 8 Three-month Libor-OIS spreads[(a)]



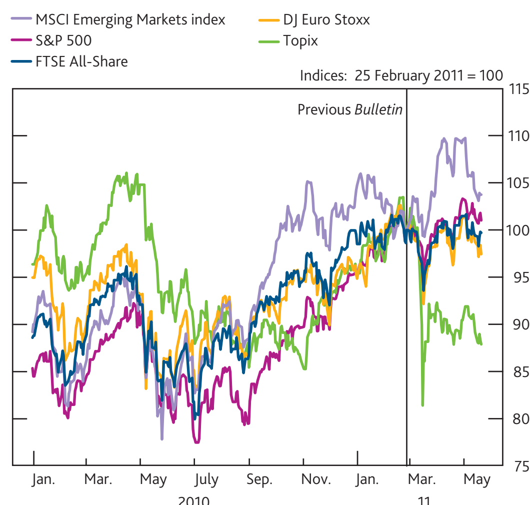
Sources: Bloomberg, British Bankers' Association and Bank calculations.

(a) Three-month Libor-OIS spreads derived from Libor fixings.

Corporate capital markets

Equity prices in the United Kingdom and in the United States ended the review period little changed, but fell by 2.6% in the euro area (**Chart 9**). These changes, however, mask a sharp fall in equity prices in mid-March, following the Japanese earthquake and tsunami and amid heightened political tensions in the Middle East and North Africa. The Japanese equity market fell by almost 18% in the immediate aftermath of the disaster and ended the review period around 12% lower. The falls in equity prices were accompanied by a rise in option-implied equity volatility, a forward-looking measure of uncertainty, although this fell back subsequently (**Chart 10**). Later in the review period, better-than-expected first quarter

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.

The Bank's indexed long-term repo operations

Background

The Bank revised the design of its long-term repo operations in June 2010.(1) At the time the new auction design was introduced, the Bank announced that it would confirm the operational framework after a period of observing the functioning of the new operations.

The primary objective of the indexed long-term repo (ILTR) operations is to provide liquidity insurance without distorting commercial banks' incentives for prudent liquidity management, and while minimising the risks being taken by the Bank. To date, the Bank has offered ILTRs on a monthly basis with two £5 billion auctions with a three-month maturity and one £2.5 billion auction with a six-month maturity offered in each calendar quarter.

The new operations allow participants to bid against two distinct sets of collateral known as 'narrow collateral' and 'wider collateral' with the split of lending between the two sets determined as part of the auction.

This box reviews some of the results from the first twelve operations held between June 2010 and May 2011.

Operational features

The ILTRs operate a uniform price allocation method. This means that every successful bidder on a given collateral set pays the same price (the clearing rate). This should mean that participants face little incentive to alter their bids based on assumptions about other participants' likely behaviour. It is difficult to establish the extent to which the change to a uniform price allocation mechanism has affected participants' bidding strategies. Moreover, this may be more easily observable in stressed circumstances when the value placed on longer-term liquidity is likely to be more variable across participants.

In addition to submitting individual bids against each collateral set, participants may choose to submit 'paired bids', consisting of a single nominal amount and two spreads at which the participant is willing to borrow against the delivery of narrow and wider collateral respectively. This increases the likelihood that participants will succeed in raising a specific quantity of liquidity while avoiding any risk of overallotment. There has been limited use of this new feature to date.

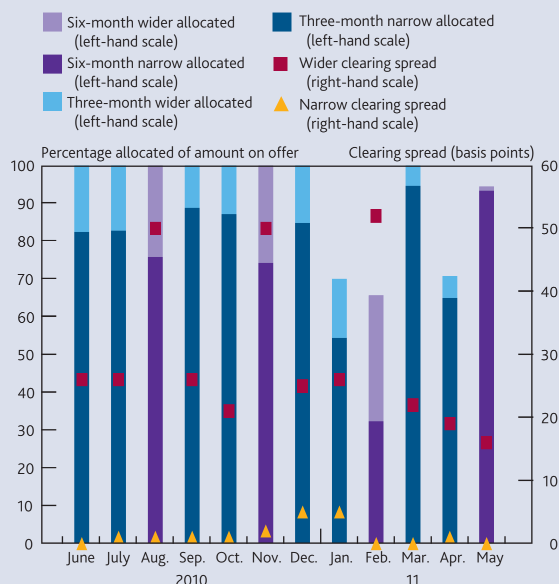
Auction results

On average, there has been greater demand relative to the amount on offer in the auctions with a six-month maturity. Counterparties suggest that this in part reflected the attractiveness of securing longer-term liquidity resulting from the need to comply with new regulatory liquidity requirements and, particularly in the initial operations, the relative scarcity of longer-maturity market funding.

Cover (the ratio of total bids to the amount on offer) has averaged 1.21 and 1.50 across three-month and six-month operations respectively. The average level of cover across operations of the same maturity was higher during the first six months of operations. Contacts suggested that the reduced level of participation in the second six months reflected the increased availability of longer-term liquidity in the market.

With the exception of the May six-month ILTR auction, which produced the lowest clearing spread on wider collateral across auctions to date (**Chart A**) — clearing spreads for wider collateral in six-month auctions have been well above clearing spreads in the three-month auctions. In general, clearing spreads across auctions were close to market price indicators for the same maturity.

Chart A ILTR allocation and clearing spreads



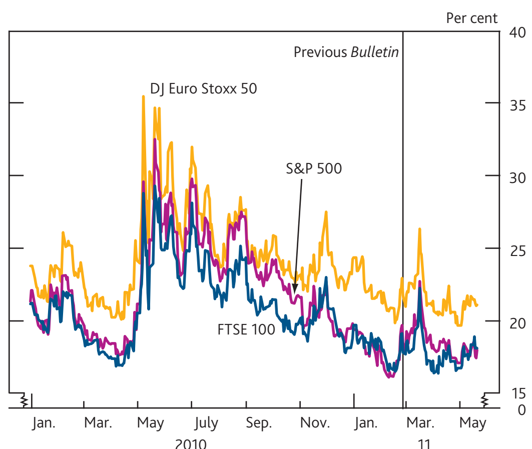
Operational framework

The Bank has previously stated that it could adjust the frequency, size or maturity of ILTRs in light of evidence of system-wide stress, including as revealed by demand in previous auctions. The majority of bids in ILTRs to date have been against narrow collateral, while the pattern of bids received and broader indicators of market conditions have not been indicative of market-wide stress. Reflecting this, the Bank made no changes to these parameters over the period. But the Bank will keep these parameters under review in light of market conditions and revealed demand in future operations.

Based on the operations to date, the Bank is satisfied that the operational framework outlined in the Market Notice of 15 June 2010 meets the policy objectives of the ILTRs.(2)

(1) For further details see 'The Bank's new indexed long-term repo operations', in the 2010 Q2 *Bank of England Quarterly Bulletin*, pages 90–91.
(2) Available at www.bankofengland.co.uk/markets/marketnotice100615.pdf.

Chart 10 Six-month option-implied volatility for international equity indices

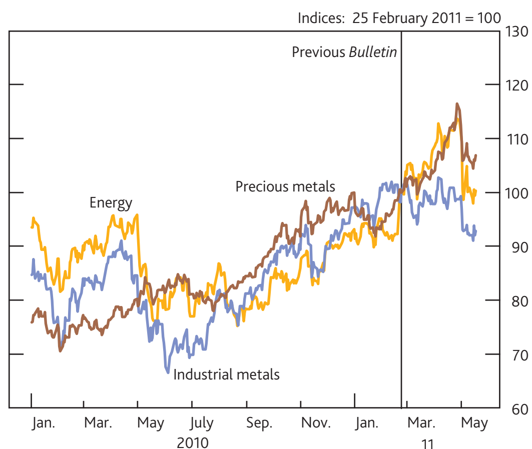


Sources: Bloomberg, Chicago Mercantile Exchange, NYSE Liffe and Bank calculations.

corporate earnings supported a recovery in UK, US and euro-area equity prices.

The changes in equity prices over the review period also masked divergences between different sectors, with the oil and gas sector among the worst performing. The falls in the oil and gas sector coincided with sharp falls in commodity prices in early May (**Chart 11**). For example, the S&P GSCI index for energy commodities fell by more than 10%, reversing earlier gains to end the review period little changed. Industrial metals ended the review period 7% lower and the price of silver fell by almost 30% in the three weeks from its peak at the end of April. Contacts attributed the falls to a number of factors, including weaker-than-expected activity data and associated concerns about the strength of the global recovery.

Chart 11 Selected commodity price indices[(a)]

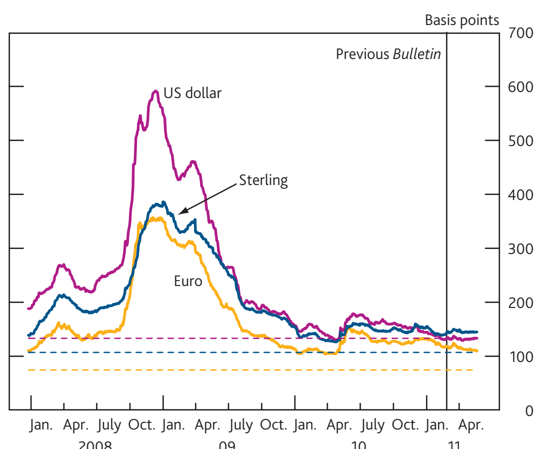


Source: Standard & Poor's.

(a) Series refer to S&P GSCI total return indices.

Spreads on investment-grade corporate bonds denominated in sterling and US dollar were broadly stable during the review period, while euro-denominated bond spreads continued to narrow (**Chart 12**). Contacts largely attributed such resilience in the face of the aforementioned events to the abundance of liquidity, but noted that the strength of corporate balance sheets also played a role. Spreads on sterling and euro-denominated investment-grade bonds remained, however, above their pre-crisis long-term averages.

Chart 12 International investment-grade, non-financial corporate bond spreads[(a)(b)]

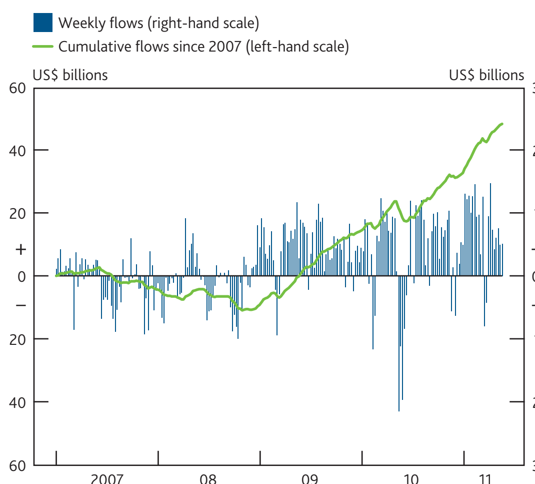


Sources: Bank of America/Merrill Lynch and Bank calculations.

(a) Option-adjusted spreads over government bond yields.
(b) Dashed lines: 1997–2007 averages.

International high-yield bond spreads were also little changed since the previous *Bulletin*. As global issuance of high-yield bonds reached record levels in the year to date, some contacts thought that high-yield bond prices were supported by investors seeking to maintain returns in a low-yield environment, particularly in the United States. This was consistent with continued strong inflows into high-yield bond mutual funds over the review period, although the pace had recently moderated relative to levels earlier in 2011 (**Chart 13**).

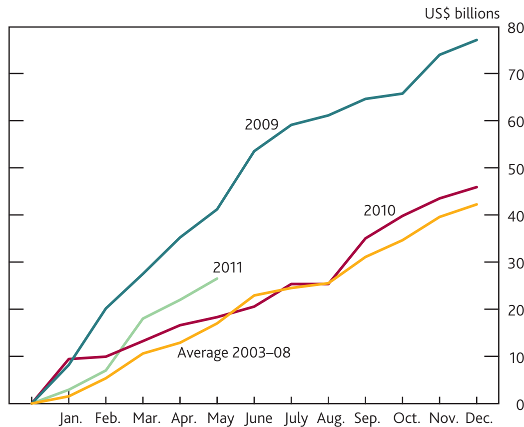
Chart 13 Net inflows into global high-yield bond mutual funds



Source: Emerging Portfolio Fund Research.

UK private non-financial corporations (PNFCs) continued to rely on the corporate bond market as an important source of funding, with cumulative gross issuance in the year to date above its average between 2003 and 2008 (**Chart 14**).

Chart 14 Cumulative gross bond issuance by UK PNFCs(a)



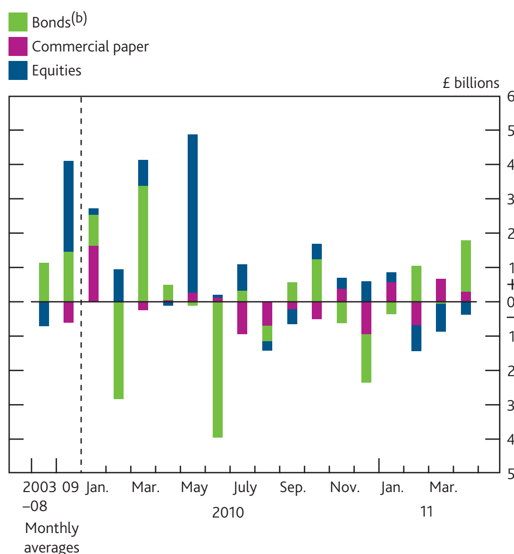
Sources: Dealogic and Bank calculations.

(a) Includes medium-term notes.

In the United States, increasing mergers and acquisitions activity has been reported as supporting bond issuance. There have also been signs of a relaxation in credit standards, especially in the leveraged loan market. These include an increase in the proportion of so-called 'covenant-lite' loans, which provide less protection to lenders, and the issuance of debt to pay special dividends, so-called 'dividend recapitalisations'.

In contrast, contacts reported that the proceeds of bond issuance in Europe continued to be used mostly to refinance maturing debt. Consistent with this, aggregate net bond issuance by UK PNFCs over the past 18 months has been below its monthly average between 2003 and 2008, although it has increased somewhat in recent months (**Chart 15**). Net equity issuance turned negative as gross issuance remained subdued and share buyback activity picked up. Contacts attributed the recent increase in share buybacks to a reduction in uncertainty about future cash requirements, although buyback activity remains well below pre-crisis levels.

Chart 15 Net capital market issuance by UK PNFCs(a)

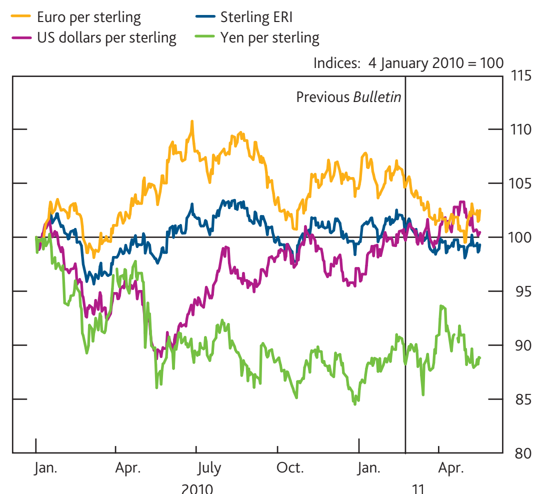


(a) Non seasonally adjusted.
(b) Includes stand alone and programme bonds.

Foreign exchange

The sterling exchange rate index (ERI) remained within the relatively narrow band in which it has traded since the start of 2010 (**Chart 16**). Over the review period, sterling depreciated by 2% against the euro. This was partly offset by a 1% appreciation against the US dollar, leaving the sterling ERI 1% below its level at the start of the period.

Chart 16 Cumulative changes in sterling ERI and bilateral exchange rates since 4 January 2010

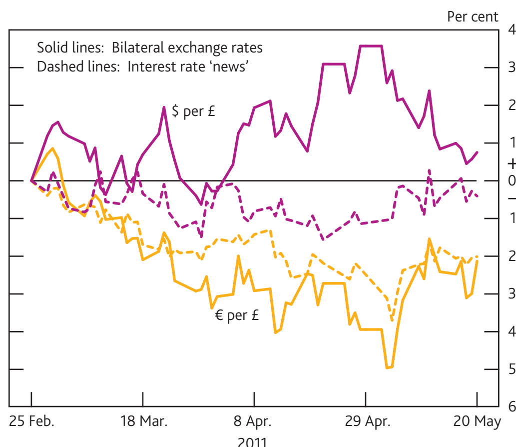


Sources: Bloomberg and Bank calculations.

At the end of the review period, the changes in sterling bilateral exchange rates since the previous *Bulletin* were broadly consistent with changes in relative interest rates (**Chart 17**). Moreover, the euro-sterling exchange rate closely tracked movements in relative interest rates throughout the review period.

Market-based measures of forward-looking uncertainty about the sterling-euro and sterling-US dollar bilateral exchange rates were little changed over the review period (**Chart 18**). But they did rise for the sterling-yen exchange rate, triggered by uncertainty about the economic impacts of the earthquake and tsunami in Japan. The yen appreciated sharply immediately following these events, which contacts attributed to expectations that Japanese insurance companies would repatriate assets to meet claims. But the yen subsequently depreciated following an announcement by G7 Finance Ministers of a co-ordinated intervention in foreign exchange markets (this is described in the box on pages 88–89). Over the review period as a whole, the yen ERI fell by around 1%.

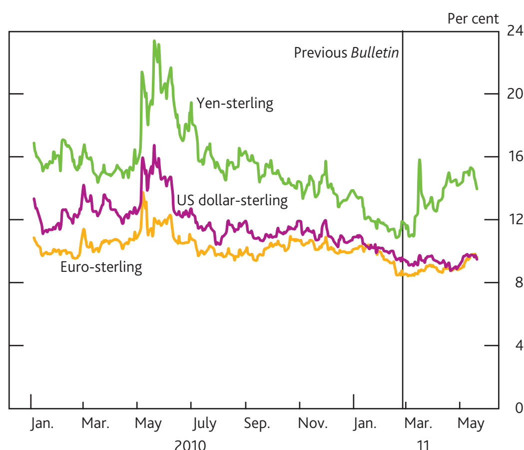
Chart 17 Implied contribution of interest rate 'news' to cumulative changes in sterling bilateral exchange rates since the previous *Bulletin*(a)



Source: Bank calculations.

(a) For more information on the analytics required to isolate the impact of interest rate 'news' on exchange rates, see Brigden, A, Martin, B and Salmon, C (1997), 'Decomposing exchange rate movements according to the uncovered interest rate parity condition', *Bank of England Quarterly Bulletin*, November, pages 377–89.

Chart 18 Three-month option-implied volatility of foreign exchange rates



Sources: Bloomberg and Bank calculations.

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 about how markets function, which provides a 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.

Based on intelligence of this kind, this section first reviews developments in the primary market for UK commercial mortgage-backed securities (CMBS). It then describes a new sterling secured overnight interest rate — the repurchase overnight index average (RONIA).

The UK commercial mortgage-backed securities market

A commercial mortgage-backed security (CMBS) is a debt instrument where the payment of interest depends on the cash flow generated by a single or a pool of commercial mortgage loans. CMBS are typically issued in tranches, with each tranche providing a different level of credit protection.

In common with other securitisation markets, the CMBS market has been severely impacted by the financial crisis: there has been no issuance of a CMBS secured on UK commercial property since August 2007, although contacts reported that one new transaction is being marketed to investors.[1] By contrast, in the United States, contacts reported that there was CMBS issuance of around $12 billion in 2010, and they expect $35 billion–$45 billion of issuance in 2011, albeit these amounts are well below the issuance levels of 2006 and 2007.

Contacts partly attributed the lack of UK CMBS issuance to the high level of yields required by investors, which in recent years has often made new issuance uneconomic. Contacts have also noted some features of the UK CMBS market that have made new issuance more difficult than in the United States. These features are described below.

UK and US CMBS

The US CMBS market originated in the 1990s and is said to be around $600 billion in size. The market grew rapidly in the years before the financial crisis; contacts reported issuance of more than $200 billion in 2007. The financial crisis then led to the effective closure of the market before it reopened last year.

According to contacts, a typical US CMBS contains rarely less than 30 loans and often more than 100 loans. The diversification provided by a large number of loans means that investors are less exposed to the performance of each individual loan, thereby increasing the homogeneity of US CMBS. Furthermore, in the United States, borrowers are often willing to accept long-term loans that are difficult or expensive to repay early. This helps US CMBS to be structured as a long-dated fixed-coupon instrument that is attractive to long-term investors such as insurance companies and pension funds.

(1) In the United Kingdom, some corporates have issued long-dated fixed-rate bonds secured on real estate as part of sale and leaseback transactions. However, market participants tend to regard these transactions as a form of corporate debt, rather than CMBS.

The amount of outstanding CMBS secured on UK commercial property is said to be around £35 billion. Most of this was issued in 2005, 2006 and the early part of 2007. According to contacts, there are a number of key features that distinguish UK CMBS from US CMBS. For example, the smaller size of the UK commercial property market means that a UK CMBS will typically only contain a few loans, resulting in little diversification for investors. Another difference is that UK CMBS are normally shorter-dated floating-rate instruments, as this structure has previously been attractive to both borrowers and investors.

Challenges facing the UK CMBS market

The structure of UK CMBS means that in the past the market has had a different kind of investor base to US CMBS. In fact, before the financial crisis, the largest buyers of UK CMBS were banks and off balance sheet investment vehicles. Since the financial crisis, this investor base has largely disappeared. Contacts cited this as one of the reasons why the UK market has been slow to reopen.

Contacts also highlighted a range of features that have caused problems with pre-crisis UK CMBS issuance. One example cited is the absence of a common legal structure and the associated lack of certainty over how problems — such as situations where the underlying loans have missed interest payments or cannot be refinanced — will be resolved. In addition, in some cases, transaction documentation has been found to contain mistakes. Contacts also noted that the lack of diversification in a typical UK CMBS means that it is especially important for investors to conduct a detailed analysis of the underlying loans. Information on this is, however, often said to be difficult to obtain.

The faster recovery of the US market is reported in part to reflect its more established nature. Contacts also noted that, in the United States, non-bank financial institutions such as insurance companies have been direct lenders in commercial real estate for some time. This is said to open up an investor base that is already familiar with the risks inherent in commercial property debt. Many investors are also attracted by the long-dated fixed-rate format of US CMBS.

The outlook for the UK CMBS market

Contacts reported that for the UK CMBS market to successfully reopen, issuers will need to address the concerns raised by investors and expect new CMBS to be simpler, more transparent and display higher underwriting standards than some pre-crisis transactions. In this vein, the Commercial Real Estate Finance Council (CREFC) — an industry trade association — has set up a committee to consider common standards.

Overall, contacts expected the UK CMBS market to reopen in 2011 with insurance companies, pension funds and asset managers seen as likely to be among investors. But volumes are likely to be much smaller than prior to the financial crisis; most contacts suggested that total issuance of around £1 billion during 2011 would be seen as a positive start.

Repurchase overnight index average (RONIA)

The Wholesale Markets Brokers' Association (WMBA) has started to publish a new sterling secured overnight interest rate index — the repurchase overnight index average (RONIA).[1] Prior to this, data on traded overnight secured interest rates had only been visible to those with access to data from brokers, primarily market participants. RONIA therefore provides transparency on the volumes and the interest rates at which overnight secured transactions take place. The Bank values this transparency because secured overnight interest rates form part of the transmission mechanism of monetary policy.

The RONIA fixing is the weighted average interest rate of all secured (ie repo) sterling overnight cash transactions of a certain type. The only eligible transactions are those conducted via brokers using CREST's delivery-by-value mechanism, a way of borrowing sterling cash against gilt collateral. RONIA represents the secured analogue of the sterling overnight index average (SONIA) fixing, which captures unsecured overnight interest rates and is also published by the WMBA.

Interest rates and trading volumes

Chart 19 shows RONIA fixings alongside the SONIA fixings and Bank Rate. This shows that RONIA and SONIA have tended to move closely together. Differences between the SONIA (unsecured) and RONIA (secured) interest rates might in part reflect collateral effects; for example, a shortage of collateral putting downward pressure on secured interest rates.

Chart 19 SONIA and RONIA fixings, and Bank Rate

Source: Wholesale Markets Brokers' Association.

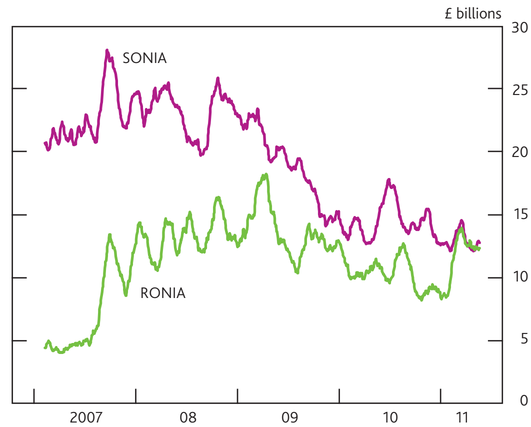
(1) See www.wmba.org.uk. The WMBA has also made available a time series of the data going back to the start of 2007.

As well as the weighted average interest rate, the WMBA also publishes the volume of trades transacted at each interest rate. RONIA volumes have, on average, remained around the levels that prevailed during the financial crisis, whereas unsecured trading volumes have fallen over the past few years (**Chart 20**).

Derivative instruments

As well as providing transparency, a published RONIA fixing also facilitates the possible creation of derivative products linked to secured overnight interest rates. Just as there are overnight index swaps (OIS) referenced to SONIA, contacts have suggested that the publication of the RONIA fixing could lead to OIS referenced to RONIA. As well as possibly providing a better way of hedging the interest rate risk on repo transactions, such RONIA swaps would also offer an alternative way of gauging market expectations of the path of Bank Rate.

Chart 20 SONIA and RONIA volumes (28-day moving average)



Source: Wholesale Markets Brokers' Association.