

# The Bank's balance sheet during the crisis

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This article sets out how monetary policy implementation and liquidity provision during the financial crisis have affected the size and composition of the Bank of England's balance sheet. It extends and updates a recent speech by Paul Fisher, Executive Director Markets, and describes the main components of the Bank's balance sheet prior to and during the crisis.

## Introduction

The global economy has recently experienced the biggest financial crisis in history, and the United Kingdom, like many other advanced economies, has experienced its deepest recession for at least a generation. The responses from the monetary, fiscal and regulatory authorities across the world have been substantial and wide ranging. In particular, like central banks in other advanced economies, the Bank of England's operations to offer liquidity insurance to the banking system and to implement monetary policy have evolved rapidly during this period. That has resulted in a considerable

expansion of central banks' balance sheets: as a proportion of GDP, the Bank's balance sheet is about as large as at any point in the past two centuries (**Chart 1**).

The Bank's balance sheet — its assets and liabilities — enables the Bank to fulfil its core purposes, which are to ensure monetary stability and to contribute to financial stability. To understand the extraordinary measures the Bank has taken during the financial crisis, it is important to understand how the Bank uses its balance sheet to implement monetary policy and offer liquidity insurance to the banking system.

The next section describes the Bank's balance sheet prior to the crisis after a revised operational framework was introduced in May 2006. The article then describes how the Bank's balance sheet has evolved in the light of the changes to the Bank's operations during the financial crisis and summarises how the Bank has developed its management of the associated financial risks. The article concludes with an outlook on how the balance sheet is likely to develop when the extraordinary measures taken are eventually unwound.<sup>(2)</sup>

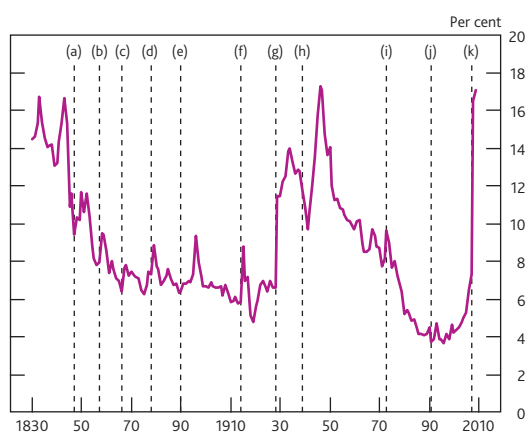
## The Bank's balance sheet prior to the crisis

Like any other balance sheet, the Bank's balance sheet contains assets and liabilities. **Chart 2** and **Chart 3** show the development of the Bank's assets and liabilities since the start of 2006.<sup>(3)</sup>

## The largest assets and liabilities

**Chart 2** shows that the two largest items on the liability side of the Bank's balance sheet are the two components of central bank money — banknotes, and central bank reserves held by commercial banks at the Bank of England. Prior to the crisis,

**Chart 1** Bank of England balance sheet as a percentage of annual nominal GDP



Notes: The balance sheet observations are end-February for 1830–1966, end-year for 1967–2009.

Sources: ONS, [www.measuringworth.org/datasets/ukgdp/result.php#](http://www.measuringworth.org/datasets/ukgdp/result.php#) and Bank calculations. A variant of this chart was originally published in a speech by Andrew Haldane (2009), 'Banking on the state'.

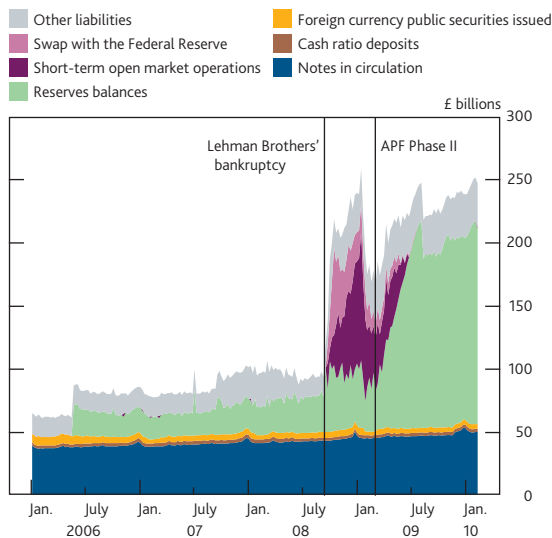
- (a) Great Irish Famine/end of railroad boom (1847).
- (b) Overextension of credit from 1855–66 (1857).
- (c) Failure of Overend Gurney (1866).
- (d) Failure of City of Glasgow Bank (1878).
- (e) Support for Barings (1890).
- (f) First World War (1914).
- (g) Amalgamation of Treasury and Bank note issues (1928).
- (h) Second World War (1939).
- (i) Secondary Banking Crisis (1973).
- (j) Small Banks Crisis (1991).
- (k) Current crisis (2007).

(1) The authors would like to thank Tarkus Frost and Matt Roberts for their help in producing this article.

(2) Fisher (2009) contains a timeline of the Bank's operations during the financial crisis.

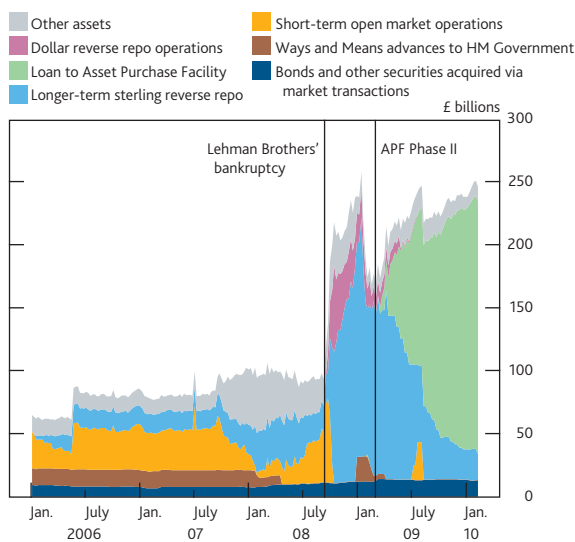
(3) **Chart 2** and **Chart 3** show data up to 10 February 2010.

**Chart 2 Bank of England consolidated balance sheet: liabilities<sup>(a)</sup>**



(a) Excludes loans and associated deposits in course of settlement.

**Chart 3 Bank of England consolidated balance sheet: assets<sup>(a)</sup>**



(a) Excludes loans and associated deposits in course of settlement.

assets acquired in the Bank's open market repo operations were the main balancing items to the Bank's central bank money liabilities (**Chart 3**). These are described further below.

**Notes**

Among the Bank's liabilities are the banknotes used in everyday transactions (shown in blue on **Chart 2**). They are supplied on demand and are bought by commercial banks from the Bank of England at face value by debiting the purchaser's reserves account. Under legislation dating from 1844, banknotes and the assets backing them are held on a separate balance sheet — called Issue Department — while the Bank's other assets and liabilities, and capital held against them, are held on Banking Department. Because the existence of these

two departments does not affect the impact of the Bank's operations on financial markets or the wider economy, this article focuses on the consolidated balance sheet of the two departments.

**Central bank reserves**

The other large liability on the Bank's balance sheet is central bank reserves balances, shown in green in **Chart 2**. Reserves balances are current account balances held by commercial banks at the Bank of England. Together with banknotes, these balances constitute central bank money. Reserves are a high-quality liquid asset for commercial banks to hold. In addition to purchasing banknotes from the Bank, commercial banks use reserves to make payments between each other.

Reserves balances are intrinsic to the Bank's implementation of monetary policy. So to understand how the Bank's balance sheet has changed during the crisis, it is important to understand the Bank's operational framework to implement monetary policy in normal circumstances. Before describing this operational framework, the next subsection describes some of the other items on the Bank's balance sheet.

**Other assets and liabilities**

**Foreign exchange reserves**

The institutional arrangements for exchange rate policy and foreign exchange reserves were set out as part of the new monetary policy framework introduced by the Government in 1997.<sup>(1)</sup> Under this framework, the government is responsible for determining the United Kingdom's foreign exchange rate regime. The government's official foreign exchange reserves are managed by the Bank as the government's agent. They are held in the Exchange Equalisation Account — an account of the government — and do not appear on the Bank's balance sheet.

But the framework also provides for the Bank of England to have its own separate pool of foreign exchange reserves. The Bank may use these foreign exchange reserves at its discretion to intervene in foreign exchange markets as part of its operating framework for meeting the inflation target which the Government sets for the Monetary Policy Committee (MPC). The MPC has not chosen to intervene in foreign exchange markets since the inception of the 1997 monetary policy framework.<sup>(2)</sup>

At approximately \$6 billion, the size of the Bank's foreign exchange reserves is modest — around one tenth the size of the government's gross reserves. The Bank finances the acquisition of its foreign exchange reserves by issuing foreign currency securities in its own name in the international capital

(1) [www.hm-treasury.gov.uk/press\\_40\\_97letter.htm](http://www.hm-treasury.gov.uk/press_40_97letter.htm).  
 (2) Intervention has been discussed on several occasions and those discussions were reported in the relevant minutes of the MPC meeting. See, for example, paragraph 41 in the minutes of the meeting held on 3–4 May 2000, available at [www.bankofengland.co.uk/publications/minutes/mpc/pdf/2000/mpc0005.pdf](http://www.bankofengland.co.uk/publications/minutes/mpc/pdf/2000/mpc0005.pdf).

markets (these liabilities are shown in yellow in **Chart 2**). The proceeds of this issuance are reinvested in high-quality, liquid securities that could be quickly realised should the MPC decide to intervene. These assets are shown as part of the dark blue section in **Chart 3**.

### Ways and Means

'Ways and Means' is the name given to the government's overdraft facility at the Bank (shown in brown in **Chart 3**). Prior to the transfer of the government's day-to-day sterling cash management from the Bank of England to the Debt Management Office (DMO) in 2000, the outstanding daily balance varied significantly, reflecting net cash flows into and out of government accounts that were not offset by government cash management operations. After the transfer of cash management from the Bank to the DMO, borrowing from the Bank was not used to facilitate day-to-day cash management and the balance was stable at around £13.4 billion until the facility was repaid during 2008. The Bank and the Treasury agreed to this repayment in order to improve the Bank's ability to manage its balance sheet. The facility remains available for use and at the end of December 2008 HM Treasury borrowed temporarily from the Bank using the facility to fund the refinancing of loans that the Bank had earlier made to the Financial Services Compensation Scheme and to Bradford & Bingley.

### Other items

Some of the Bank's capital and reserves are held in equity holdings, eg in the Bank for International Settlements and the European Central Bank and, of course, the Bank's physical assets. The remainder (the Bank's 'free' capital), together with non interest bearing cash ratio deposits placed with the Bank by UK-resident commercial banks, is predominantly invested in a portfolio of sterling-denominated securities. These assets are shown as part of the dark blue section in **Chart 3**.

The Bank also provides banking services for a small number of customers, mainly the UK Government and other central banks. These accounts appear as liabilities of the Bank and are backed by assets acquired in open market operations or by matching (secured) deposits in the market. They are part of the other liabilities and other assets shown in **Chart 2** and **Chart 3** respectively.

### The Bank's sterling monetary framework from May 2006

A central bank's power to influence market interest rates derives from the banking system's demand for central bank money — notes and reserves — and the liquidity services it provides by being the ultimate means of settling payments. In normal circumstances, central banks tend to implement the desired monetary policy stance by changing interest rates (the price of central bank money) and supplying the quantity of reserves consistent with achieving this price. In such normal

circumstances, the size and/or composition of the central bank balance sheet plays no independent role. As a result, balance sheet management mainly involves optimising the maturity match between assets and liabilities. The remainder of this section describes how the Bank managed its balance sheet prior to the onset of the crisis following the introduction of a revised operational framework — the sterling monetary framework (SMF) — in May 2006.

The SMF has been described in detail in previous speeches and Bank publications.<sup>(1)</sup> This article focuses on the main elements of the framework. The three main elements are: reserves, operational standing facilities and open market operations. In normal times, over a month as a whole, a commercial bank's reserves holdings are remunerated at Bank Rate so long as, on average, they fall within a range around the reserves target it has chosen. Individually, on any given day, banks have a choice between varying their reserves holdings at the Bank and transacting in the market. Commercial banks may also transact with the Bank of England, in unlimited amounts, in the Bank's operational standing facilities (for both lending and deposits), but they do so at a less favourable interest rate. Provided banks are able to transact in the market to meet their individual reserves targets, reserves averaging and operational standing facilities should keep overnight and other very short-term interest rates broadly in line with Bank Rate. But for the rate-setting objective to be met, the Bank needs to ensure that its (net) supply of reserves is in line with demand. That entails ensuring that sufficient reserves are provided through open market operations to allow banks to meet their collective target.

The introduction of a system of voluntary reserves, with reserves averaged over a maintenance period during which they are remunerated at Bank Rate, resulted in reserves balances of around £24 billion in May 2006. Subsequently, over each monthly maintenance period, aggregate reserves reflected the collective choices of banks and this component of the Bank's balance sheet expanded and contracted accordingly.

The approach by which commercial banks themselves decided how many reserves to hold, rather than having targets set for them by the central bank, was a uniquely distinctive feature of the SMF. The next section shows that the flexibility it provided was helpful to banks in managing their liquidity needs during the early part of the crisis.

### Open market operations

The Bank uses open market operations (OMOs) to provide the reserves which banks need to meet their collective target. Together, they are ordinarily the balancing asset to match the

(1) See for example Bank of England (2008a,b), Clews (2005), Mac Gorain (2005) and Tucker (2004).

Bank's reserves account liabilities. Day-to-day flows across the Bank's balance sheet, including purchases and returns of banknotes, are reflected in so-called 'autonomous factors'. These autonomous factors affect reserves and therefore determine the size of required reserve injections.

Acquiring the assets backing the note issue and reserves could in principle exclusively be done via the Bank's short-term operations — lending central bank money against high-quality sovereign collateral securities in 'repo' transactions for a fixed term (typically one week). These operations are shown in yellow in **Chart 3**.

Effective and efficient implementation of monetary policy does not require the Bank to roll over its entire stock of financing every week in a repo of one-week maturity. While reserves have a relatively short maturity (since banks set their reserves targets each month), much of the banknote issue is expected to be long-lasting. In order to avoid an inefficient churn in its assets, the Bank started from January 2006 to invest part of the notes issue in assets with a longer maturity and offered long-term repo operations at three, six, nine and twelve-month maturities. These operations in which central bank money is lent against the same high-quality sovereign securities as in the Bank's short-term operations are included in the light blue area in **Chart 3**.<sup>(1)</sup> And, in January 2008, the Bank began to conduct purchases of UK government bonds, included in the dark blue area in **Chart 3**, as a device to match the maturity of the note issue with longer maturing assets.<sup>(2)</sup> These purchases were suspended following the MPC decision in March 2009 to purchase assets — including gilts — as part of the implementation of monetary policy.

## The Bank's balance sheet since the start of the current crisis

The objectives of the Bank's operating framework are twofold. The first is to implement monetary policy by maintaining market interest rates in line with Bank Rate at maturities to the next MPC decision date. The second is to reduce the cost of disruptions to the liquidity and payments services supplied by commercial banks, via the provision of liquidity insurance balanced against the costs of creating incentives for banks to take greater risks.

The distinction between the two objectives is important in order to understand the Bank's response to the crisis. For monetary policy implementation, the main distinction to make is the period to March 2009 and the period since then, when policy has taken the form both of setting the MPC's interest rate and achieving its objective for asset purchases. For the Bank's liquidity insurance operations, the evolution was more continuous, although the pace of change accelerated in the period immediately after the intensification of the financial

crisis in September 2008. The final changes are in the process of being implemented as a permanent feature of the Bank's operational framework.

### On balance sheet liquidity insurance operations

The Bank's liquidity insurance operations and facilities have been at the heart of the Bank's response to the financial crisis. In common with other central banks, and sometimes in conjunction with them, the Bank has deployed a number of measures to provide liquidity insurance to, and so contribute to underpin confidence in, the banking system. At the height of the crisis, these resulted in a substantial increase in the size of the Bank's balance sheet.<sup>(3)</sup>

### Extended collateral three-month repo OMOs

In response to the re-emergence of strains in term money markets towards the end of 2007, the Bank of England — along with other central banks — announced, on 12 December 2007, measures designed to address these pressures. Specifically the Bank announced changes to its long-term repo operations. The amount offered at three-month maturity was expanded and the range of high-quality collateral accepted at this maturity was widened from high-quality sovereign securities to include AAA-rated residential mortgage-backed securities (RMBS) and covered bonds.

Initially, these extended-collateral long-term repos (ELTRs) were offered in monthly auctions of £10 billion, with the sizes of subsequent auctions reflecting financial market conditions at the time. In particular, in the wake of the disruption to the global financial system in the autumn of 2008, these operations were offered in greater size and at greater frequency, and the range of eligible collateral was further expanded to include securities backed by commercial mortgage assets and corporate debt. At their peak during January 2009, the stock of outstanding ELTRs reached £180 billion (included in the light blue area in **Chart 3**).

### US dollar repo operations

In response to liquidity pressures in dollar markets the Bank of England joined other central banks in offering to lend US dollars overnight, beginning on 18 September 2008. The Bank established a swap facility with the Federal Reserve to provide the funding for these operations (borrowing US dollars from the Federal Reserve Bank of New York and lending sterling in return), offering \$40 billion initially. By late September, the immediate pressure had eased somewhat, but concerns remained about access to US dollar funding, especially over the quarter/year end. The Bank introduced a

(1) For more details about the injection of reserves via long-term repo OMOs see the box on page 22 of the 'Markets and operations' article in the Spring 2006 *Quarterly Bulletin*.

(2) For more details about the injection of reserves via bond-purchase OMOs see the box on pages 22–23 of the 'Markets and operations' article in the 2008 Q1 *Quarterly Bulletin*.

(3) The Bank can also provide emergency liquidity assistance (ELA). The impact on the Bank's balance sheet would depend on the form in which ELA is undertaken.

one-week operation to lend US dollars alongside its overnight operations. In mid-October, the central banks involved in US dollar operations announced that in order to provide broad access to liquidity, the existing variable-rate auctions of a fixed size would be replaced with fixed-rate operations of unlimited size.<sup>(1)</sup> The Bank began conducting additional operations at one-month and three-month maturities, with counterparties able to borrow any amount against the Bank's wider pool of eligible collateral. At its peak, the stock of US dollars provided through the Bank's operations reached about \$86 billion. These assets are shown in pink in **Chart 3** and the proceeds of the swap with the Fed as a liability, in pink in **Chart 2**.

Pressures in US dollar markets receded by the middle of 2009, and so the Bank and other central banks announced the withdrawal of, first the overnight and then the one-month dollar operation and, in September 2009, of the three-month operation. Given the continued improvement in financial market functioning, the Bank, in co-ordination with other central banks, confirmed at the end of January 2010 the expiration of its temporary liquidity swap lines with the Federal Reserve on 1 February 2010.

### Off balance sheet liquidity insurance facilities

The Bank launched two facilities to provide liquidity insurance to the banking system — the Special Liquidity Scheme (SLS) and the Discount Window Facility (DWF). As collateral swaps, the SLS and the DWF do not appear on the Bank's balance sheet and have no impact on reserves provisioning under the SMF. Nonetheless, these facilities were important elements of the Bank's response to the crisis, and so the next subsection discusses the key features of these facilities.

#### Special Liquidity Scheme

The Bank introduced the SLS in April 2008 to improve the liquidity position of the banking system by allowing banks to swap high-quality, but temporarily illiquid, mortgage-backed and other securities for UK Treasury bills. As the SLS was designed to deal with existing assets on banks' balance sheets following the unexpected closure of some asset-backed securities markets in 2007, only assets already on commercial banks' balance sheets at the end of 2007 were eligible collateral. Banks are required to pay a fee for the bills they borrow against this collateral.

SLS swaps may be renewed for a period of up to three years and are thus for longer terms than other central bank liquidity insurance operations. When the SLS was launched, the drawdown period was six months and so was due to close in October. In mid-September 2008, however, in view of the intensification of the financial system stress, the Bank announced an extension to the drawdown period for the SLS, to provide banks with additional time to plan their access to the Scheme in an orderly fashion. The drawdown window was extended to 30 January 2009. The last swaps under the SLS

will therefore expire at the latest in January 2012, at which point the SLS will terminate.

After the closure of the drawdown period, the Bank announced in February 2009 that Treasury bills with a face value of approximately £185 billion had been lent under the Scheme. Given its scale, the Bank's operations in the SLS are indemnified by the Government.

#### Discount Window Facility

The Bank drew on a number of the features of the SLS in designing a new, permanent bilateral liquidity insurance facility, the DWF, which was launched in October 2008. Under the DWF, banks may borrow gilts against a wide range of collateral, at fees reflecting the type of collateral and the size of drawing. The terms were designed to be consistent with avoiding creating incentives for commercial banks to take greater liquidity risk in future. And they were also designed to protect the Bank itself against risk to its balance sheet.

Transactions under the DWF will normally be for 30 days. However, in recognition of continuing stresses in financial markets, the Bank announced in January 2009 that, for an additional fee of 25 basis points, it would temporarily permit drawing from the DWF with a maximum term of 364 days.

The Bank is considering further widening the collateral eligible for use in the DWF, subject to the basic principle that the Bank must be able to value the underlying assets, and manage the associated risks.

### The implementation of monetary policy Developments between Summer 2007 and March 2009

In the stressed market conditions that prevailed from Summer 2007, and until the MPC introduced asset purchases in March 2009, the flexibility inherent in the SMF, and use by the Bank of the contingency measures built into the framework, were the means of meeting the objective of implementing monetary policy. Commercial banks that were members of the reserves scheme continued to set their reserves targets at the beginning of each monthly maintenance period, and the Bank continued to ensure that the net supply of reserves through its operations matched banks' demand.

The Bank's balance sheet, however, expanded over this period. Initially, this principally reflected increased commercial bank demand for reserves given stresses in bank funding markets. Banks increased their aggregate reserves targets from £16 billion in July 2007 to a peak of £45 billion in December 2008. At times during this period, there appeared to be sudden changes in banks' demand for reserves within a

(1) This was facilitated by a change to US law permitting the US Federal Reserve to pay interest on reserves balances.

maintenance period — that is between their monthly opportunity to reset their targets. The Bank responded by injecting additional reserves beyond those needed for banks to meet their existing targets, via exceptional fine-tuning operations. To ensure that the banking system as a whole could hold the additional reserves without financial penalty the Bank adjusted the range within which reserves were remunerated.

As described above, some of the Bank's operations also injected reserves into the banking system. The approach of setting the net supply of reserves equal to banks' aggregate voluntary targets therefore required the Bank to drain any excess reserves injected in this way. In the autumn of 2008 the provision of reserves via the Bank's ELTRs exceeded the capacity of the Bank's existing tools to drain these reserves at shorter maturities and so bring the net supply of reserves into line with the aggregate target banks had set. As a result, the Bank created a new instrument — the Bank of England bill (a non-monetary liability offered generally weekly and with a maturity of one week) — to drain the additional long-term reserves provided. At their peak, over £100 billion of bills were issued on 8 January 2009.

Overall, for the period until the March 2009 MPC meeting, the Bank's operational framework for implementing monetary policy remained unchanged.

### Developments since March 2009

At its meeting on 5 March 2009, the MPC reduced Bank Rate by 0.5 percentage points to 0.5%. At that level, the MPC judged that Bank Rate was effectively at (or very close to) its lower bound. To provide further monetary easing, the MPC announced that the Bank would undertake a programme of asset purchases financed by the issuance of central bank reserves. The aim of these asset purchases was to boost the rate of growth of nominal demand to ensure inflation meets the 2% inflation target in the medium term.

By the start of February 2010, purchases of £200 billion had been made under the programme. The vast majority of the assets purchased have been gilts. On 4 February 2010 the MPC voted to maintain asset purchases financed by the issuance of central bank reserves at £200 billion.

The working of the Asset Purchase Facility (APF) has been described elsewhere.<sup>(1)</sup> But to understand how the APF impacts the Bank's balance sheet the role of the Bank of England Asset Purchase Facility Fund is important.

### The Bank of England Asset Purchase Facility Fund

In January 2009, under a remit from the Chancellor of the Exchequer, the Bank established a subsidiary company, the Bank of England Asset Purchase Facility Fund, with the initial objective of improving the liquidity of the corporate credit

market by making purchases of high-quality private sector assets. The accounts of the Fund — which is indemnified for losses by the Government — are not consolidated with those of the Bank. But the Fund is financed by loans from the Bank shown in green in **Chart 3**.

In the initial phase, the Bank's loans to the Fund were financed by the issuance of Treasury bills by the DMO. In March 2009 the remit was extended to allow the MPC to use the APF to make purchases of assets — including gilts — for monetary policy purposes. During this period and until the February 2010 MPC meeting, the Bank's loans were financed by the issuance of central bank reserves. That increase in reserves is shown in green to the right of the line labelled APF Phase II in **Chart 2**.

The additional reserves created to finance the asset purchases were considerably in excess of those required to meet the voluntary targets banks set each month. Hence significant elements of the SMF were suspended: commercial banks ceased to set reserves targets and the Bank has, since March 2009, remunerated all reserves balances at Bank Rate.

## Collateral management

The expansion and change in the composition of the Bank's balance sheet shown in **Chart 2** and **Chart 3** went hand in hand with a significant change in the risk characteristics of the balance sheet.

The widening of collateral accepted in long-term repo operations, and the introduction of the SLS and DWF, meant that the collateral associated with the Bank's balance sheet and off balance sheet items moved towards higher-risk assets, notably structured products such as asset-backed securities (ABS) and covered bonds.

As a result, the Bank had to build up its capacity to manage new types of risk. In particular, the Bank has undertaken extensive work to establish risk management processes around the securities accepted as collateral in its operations and facilities. This has included the establishment of a dedicated collateral management team. The team includes staff hired from the private sector with relevant expertise, and the Bank has drawn on external advice when necessary.

Credit ratings from the rating agencies generally form part of the published high-level eligibility criteria for collateral that the Bank accepts in principle in its operations and facilities. But when assessing the eligibility of collateral for its operations and facilities, the Bank also undertakes its own independent analysis. Based on that assessment, the Bank may reject

(1) For more information, see Benford *et al* (2009).

securities offered as collateral even if they have ratings that would otherwise make them eligible for the Bank's operations and facilities. Conversely, in the event of a downgrade below a minimum credit ratings criterion, the Bank may allow collateral to remain eligible, having considered the circumstances behind the rating action and the quality of the collateral.

An important tool that the Bank uses to mitigate the risk associated with the collateral it has accepted in its operations and facilities is the application of collateral 'haircuts'. That is, the Bank takes collateral with a market value in excess of the amount that the Bank will lend in return. These haircuts vary according to the attributes of the assets. The Bank's haircuts are designed to protect against loss in the event that a counterparty that has pledged the collateral to the Bank were to default. The Bank considers in particular the impact of scenarios on structured products that other stress tests may not cover, including so-called 'jump-to-default' scenarios in which a counterparty that has pledged collateral defaults with little prior warning. Collateral haircuts are reviewed on a regular basis, for example, the Bank recently changed the haircuts applied to its sovereign collateral having taken account of changes in market volatility over time.<sup>(1)</sup>

Given the potential for market prices to move each day and the large swings experienced in the past (**Chart 4**), the Bank revalues collateral on a daily basis and will call for more collateral if the market value of the collateral is no longer sufficient to cover the exposure as adjusted by the haircut. To deal with illiquidity in ABS markets the Bank has developed its own methodology for the valuation of securities where no market price is available.

In terms of its on balance sheet assets, as a result of the APF, the Bank now has outright exposure to a range of high-quality corporate issuers. While issuers must meet minimum ratings

requirements the Bank also undertakes its own independent credit risk analysis.

## The transition of the balance sheet to a post-crisis world

Eventually, as the extraordinary liquidity insurance operations and the monetary policy operations are unwound, the size of the Bank's balance sheet will shrink and its composition change.

### Liquidity insurance operations

Of the liquidity insurance operations described above, some will be temporary, while others will be permanent.

For example, the Bank's US dollar operations were intended to be a temporary measure in the context of exceptionally stressed market conditions and have now ended as these stresses have abated. The SLS — which will terminate at the end of January 2012 — is also a temporary measure to enable banks to swap high-quality assets that became illiquid in the period of greatest market stress for UK Treasury bills.

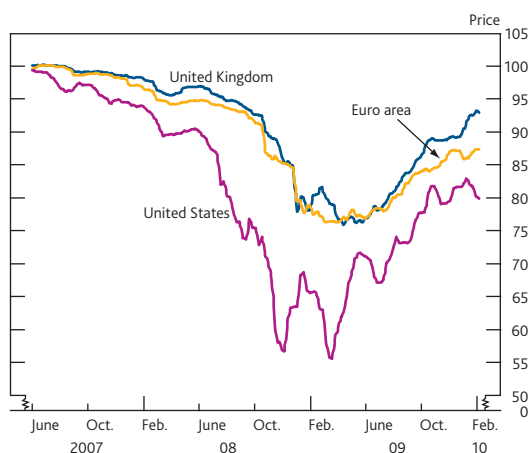
On the other hand, ELTRs and the DWF are intended to be permanent features of the SMF. Indeed, the DWF was perhaps the most significant development in the Bank's operational framework during the crisis. When acting to alleviate financial system stress, central banks have traditionally been prepared to lend to commercial banks against a wider population of good-quality collateral. In launching the DWF, the Bank took the decision that it could be more transparent about the collateral it is prepared to take in this new, permanent public facility.

The use market participants make of ELTRs and the DWF will reflect two factors: the prices the Bank sets and — in the case of the ELTRs — the amount the Bank decides to offer the market.

In the ELTRs the Bank sets a minimum spread for bids against the extended collateral set. This is set at a level such that it is less attractive to participate in the Bank's operations than to finance the collateral in the private repo markets in non-stressed conditions. In the autumn of 2008, the Bank consulted on further changes to the ELTR framework, which would provide better incentives for commercial banks to manage liquidity risk prudently, while providing greater liquidity insurance in periods of financial stress. These are planned to be introduced in 2010.

Similar principles apply to the DWF. Unlike the extended collateral repos, the DWF is available on demand. The amount

**Chart 4** UK, US and euro-area RMBS prices<sup>(a)</sup>



Sources: JPMorgan Chase and Co., UBS Delta and Bank calculations.

(a) Weekly moving average prices weighted by outstanding amounts. Agency RMBS is excluded from the US average.

(1) [www.bankofengland.co.uk/markets/marketnotice090925.pdf](http://www.bankofengland.co.uk/markets/marketnotice090925.pdf)

borrowed is determined by the counterparty, but at prices and on conditions determined in advance by the Bank. The prices are a function of the collateral type offered by the counterparty, and the amount of the counterparty's borrowing; and they increase as banks' borrowing increases, and/or is made against less liquid collateral. Even at low levels of borrowing, however, the pricing structure is designed to be more expensive than is available in private markets in non-stressed circumstances. In this way, the pricing schedule for the Bank's provision of liquidity insurance is carefully balanced against the cost of the existence of insurance creating incentives for banks to take excessive liquidity risk.

### Monetary policy operations

When the time comes for the MPC to tighten monetary policy, it will be able to do so either by raising Bank Rate, selling assets back to the market, or by some combination of the two. If assets are sold, reserves balances will fall accordingly and that will tend to cause the overall size of the balance sheet to contract. The Bank can also drain excess reserves independently (eg by issuing Bank bills).

However, the overall size of the balance sheet may not return to pre-crisis levels. For example, commercial banks may choose to hold persistently higher reserves balances than before the crisis. One motivation for this might be to help meet the more demanding liquidity requirements recently proposed by the Financial Services Authority.

The Bank has also recently expanded the range of banks that are eligible to hold reserves accounts, to include smaller banks in order to help them to manage their liquidity. This potentially adds around 200 commercial banks as Bank counterparties. Although the combined reserves balances of these banks will be small relative to the reserves balances of the Bank's existing counterparties prior to the crisis, this is an important extension to the range of banks that is able to access the Bank's market-wide facilities.

Independent of the operation of monetary policy, the Bank will continue its schemes to support the operation of the financing markets for corporate debt for as long as they are judged to be necessary. Since the MPC's decision on 4 February 2010 to maintain the stock of asset purchases financed by the issuance of central bank reserves at £200 billion, purchases of corporate debt have once again been financed by the issue of Treasury bills and the DMO's cash management operations.

### Conclusion

The significant recent expansion of the Bank's balance sheet has been a necessary response to the extraordinary circumstances in global financial markets and the global economy. It reflects an expansion of both the Bank's liquidity insurance operations, and more recently the addition of asset purchases as an operating objective of the Monetary Policy Committee.

By their nature, the size of the liquidity insurance operations, which have already diminished, will continue to shrink as economic and financial conditions return to more normal times. The Bank has, in its permanent facilities, set pricing schedules that will be unattractive to banks in unstressed market conditions, because banks are expected to fund themselves in private markets, not via the central bank's balance sheet. So banks have a clear incentive not to use the Bank's liquidity insurance operations as conditions normalise.

Similarly, the expansion of the Bank's balance sheet as a consequence of the MPC's asset purchases will in time be reversed as monetary policy is tightened. Over time, the size of that part of the Bank's balance sheet attributable to the SMF will revert to being a function of the size of the banknote issue and commercial banks' demand to hold reserves at the central bank.



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