The Framework for the Bank of England's Operations in the Sterling Money Markets

Updated December 2010

BANK OF ENGLAND

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This document (the 'Red Book') describes the Bank of England's framework for its operations in the sterling money markets. The first part sets out the rationale behind the framework and how it fits together. The second part explains the elements in operation currently.

The most up-to-date version of the Red Book can be found on the Bank's website at www.bankofengland.co.uk/markets/sterlingoperations/redbook.htm, where it will be updated periodically.

Full and definitive details of the framework are contained in the Bank's Documentation, which sets out the legal terms and conditions for the operations and the Bank's full operating procedures. The Documentation can be found at www.bankofengland.co.uk/markets/money/documentation.htm.

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Part 1 The Sterling Monetary Framework

I Aims and objectives

1 The Bank of England's core purposes are to ensure monetary stability and to contribute to financial stability. The Bank's operations in the sterling money markets serve both. The operations are designed to:

- **Implement the Monetary Policy Committee's decisions in order to meet the inflation target.**
  The Bank usually does this by paying interest at Bank Rate on the reserves balances held by commercial banks and building societies. In exceptional circumstances, the Bank may choose to vary the structure of its remuneration on reserves and to supply whatever reserves it deems necessary to meet its monetary policy objectives, by changing the size or composition of its balance sheet.

- **Reduce the cost of disruption to the liquidity and payment services supplied by banks to the UK economy.**
  The Bank does this by balancing the provision of liquidity insurance against the costs of creating incentives for commercial banks and building societies to take greater risks, and subject to the need to avoid taking risks onto its own balance sheet.

2 The Bank is able to undertake these tasks because it is the sole supplier of 'central bank money' in the United Kingdom. Central bank money takes two forms — the banknotes used in everyday transactions and the balances ('reserves') that are held by commercial banks and building societies ('banks') at the Bank. Central bank money is at the heart of the monetary policy transmission mechanism and of the payment and liquidity services provided by the banking system, and is the main liability on the Bank's balance sheet.

II Central bank money

The role of central bank money in the implementation of monetary policy

3 The Bank remunerates reserves balances, and in so doing establishes a benchmark short-term risk-free rate. That remuneration rate is typically Bank Rate. From day to day, banks can choose to change their holdings of reserves, and the level of Bank Rate will influence the rates they are willing to charge or pay on short-term loans or borrowings in the market.

4 Bank Rate usually is set for just one month at a time, but expectations about the future path of Bank Rate affect longer term market rates. Changes in Bank Rate (or in expectations about future Bank Rate) therefore influence money market rates, rates paid more widely on bank deposits and loans, and financial asset prices, including the exchange rate. These impacts on financial markets and associated changes in expectations in turn affect spending decisions and inflationary pressures in the economy.

5 Market transactions are subject to risk (for example, credit and liquidity risk) and market interest rates include an allowance for such risk, over and above the risk-free rate. In implementing monetary policy, the Bank normally seeks to affect only the risk-free element of market rates and seeks to avoid distorting the credit and other spreads established in the market.

6 The Monetary Policy Committee ('MPC') normally sets policy simply in terms of the level of Bank Rate. But, if judged necessary, the MPC has the authority to use other instruments in pursuit of the inflation target. The Bank's ability to create central bank money gives it great flexibility to implement a broad range of policies, including those related to quantitative targets, on behalf of the MPC.

Central bank money and banks' payment and liquidity services

7 Money plays an essential role in the economy by facilitating payments. Banknotes are used in this way. But the bulk of the broader money stock consists of deposits held by firms and individuals in accounts with banks. Commercial bank customers need to be able to convert their deposits into banknotes (central bank money), for example by using ATMs. And most payments are made by transfers between the accounts of different customers (for example by using debit cards, direct debits or standing orders). Nevertheless, whenever payments are made between the accounts of customers at different banks, they are ultimately settled by transferring central bank money (reserves) between the reserves accounts that 'settlement banks' hold at the Bank of England. Hence, the use of 'commercial bank money' relies on the use of central bank money.

8 Commercial banks provide wider liquidity services to the economy. Individuals and firms value liquidity in an asset (for example, a deposit at a bank) — it gives them the flexibility to

meet unexpected demands on their cash flow. Liquidity in a liability is not so desirable — debts that fall due at short notice can be disruptive if, for example, they are financing long-term projects, such as a property purchase. By accepting short-term deposits and making loans at longer maturities, banks allow households and firms to hold assets that are more liquid than their liabilities, and enable longer term projects to be financed by a changing population of short-term depositors. But this means banks themselves run liquidity risk, putting the management of that risk at the heart of their business.

9 Central bank money is the economy's most liquid asset, and this enables the Bank, as the supplier of central bank money, to provide liquidity insurance to the banks. But it aims to do so on terms that do not undermine the banks' responsibility to manage their own liquidity prudently.

III The role of financial markets

10 Financial markets play an important role in the Bank's pursuit of its two core purposes. These markets transfer funds between lenders and borrowers and, by affecting the terms on which these transfers take place, monetary policy has an impact throughout the economy. In implementing monetary policy, the Bank operates in only a limited number of markets. But the interconnected nature of markets means that the Bank's influence extends far more widely.

11 Commercial banks in part use financial markets to manage their own liquidity risk. By operating in the money markets, in which banks are also active, the Bank can provide the appropriate amount of liquidity to the banking system as a whole, while making use of the market to distribute the liquidity to whichever individual banks are bidding for it.

12 For these purposes, and more generally, it is important that the markets operate efficiently, and the Bank takes an active interest in their effectiveness. Markets are more likely to be efficient and effective if they are competitive, and it is a condition of access to the Bank's operations that participants act in a way which is consistent with the Bank's objective of achieving competitive and fair sterling markets.

IV Implementing monetary policy

13 Ordinarily, the stance of monetary policy is expressed solely as a level for Bank Rate. The Bank manages its balance sheet with the objective of maintaining overnight market interest rates (the rates at which banks transact with each other) in line with Bank Rate, so there is a flat risk-free money market yield curve to the next MPC decision date, and there is very little day to day or intraday volatility in market interest rates at maturities out to that horizon. Since the Bank is normally seeking to influence risk-free rates, it pays particular attention to the rates on interbank transactions secured on high-quality collateral.

14 Interbank transactions are settled directly or indirectly by transfers between banks' reserves accounts at the Bank. The sterling interbank market is therefore also a market for sterling reserves balances and the Bank normally uses a reserves averaging regime to implement monetary policy.

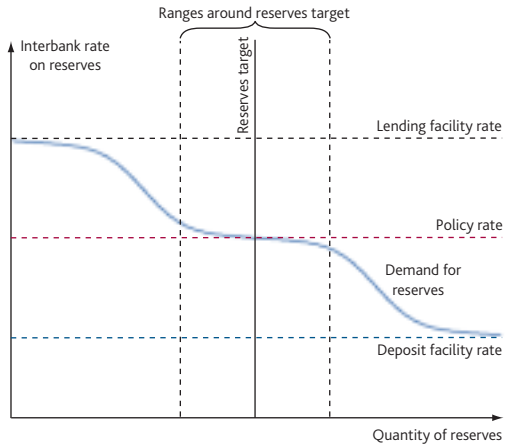
The demand for reserves

15 In the Bank's standard reserves averaging scheme, for each reserves maintenance period (running from the date of one MPC policy decision to the next) the MPC sets the reserves remuneration rate (Bank Rate) and each scheme participant sets a target for the average amount of reserves they will hold, taking into account their own liquidity management needs. They can adjust their targets from maintenance period to maintenance period if those needs change. And within each maintenance period, a bank can vary its reserves holdings from day to day. Those holdings are remunerated at Bank Rate so long as they are, on average over the maintenance period, within a small range around the target.

16 Average reserves outside the target range attract a charge. But a bank can avoid that charge by making use of the Bank's Operational Standing Facilities ('OSFs'). These bilateral facilities allow banks to borrow overnight from the Bank (against high-quality collateral) at a rate above Bank Rate or to deposit reserves overnight with the Bank at a rate below Bank Rate. Commercial banks will typically be unwilling to deal in the market on worse terms than those available at the Bank. So these facility rates act as a ceiling and a floor in rate setting, forming an interest rate corridor around the rates at which banks should be willing to deal in the market.

17 A stylised illustration of how these different elements interact to influence banks' demand for reserves is shown in **Chart 1**. If reserves were in short supply, banks would be willing to bid higher rates in the money markets to gain additional reserves, but generally not above the rates at which they can borrow from the Bank in its operational standing lending facility. As a bank's stock of reserves increases, the additional benefit from each extra pound of reserves diminishes. Once a bank has a stock of reserves sufficient for liquidity management purposes, the rate it would be willing to pay for an additional pound of reserves would be no higher than the rate at which it would be remunerated — Bank Rate. And equally it would not lend in the interbank market at a lower rate than it could earn at the Bank. If there were an excess of reserves relative to aggregate demand, banks would be willing to lend in the money markets at low rates to avoid overshooting their reserves target ranges and incurring a charge, but generally not below the rate at which they can deposit at the Bank in its operational standing deposit facility. The flat part of the demand curve around the reserves target reflects the tolerance allowed for small deviations in average reserves balances from their target (the range of balances at which banks continue to be remunerated at Bank Rate).

Chart 1 Commercial banks' demand for reserves



The supply of reserves

18 The Bank undertakes to supply, in aggregate, the reserves that banks need to meet their collective targets. It uses its Open Market Operations ('OMOs') to achieve that, settled by movements on and off banks' reserves accounts. But the supply of reserves is affected not only by OMOs but also by other transactions undertaken by the Bank. For example, when the demand for banknotes increases, banks pay for the additional notes with reserves from their accounts at the Bank. The net amount of reserves which the Bank aims to supply in its OMOs therefore reflects not only the banks' demand for reserves, expressed in their reserves targets, but also the forecast impact of these other factors on the supply.

19 The Bank supplies reserves either by lending against collateral or by buying securities outright. It can drain reserves by borrowing against collateral and can also do so by issuing short-term Bank of England bills. When lending reserves solely for monetary policy purposes the Bank only accepts high-quality, resiliently-liquid, government securities as collateral (referred to as 'narrow collateral').

20 The Bank operates at a variety of maturities. The underlying growth in the banknote issue, which is unlikely to be reversed quickly, can be matched by outright purchases of bonds. Other longer term OMOs can affect the quantity of reserves supplied but are conducted primarily to provide liquidity insurance, with short-term operations being used to steer the quantity of reserves supplied within a maintenance period. One week operations are undertaken weekly, and a one day 'fine-tune' operation is undertaken on the final day of the maintenance period if required. The Bank may also carry out exceptional fine-tune OMOs within a maintenance period, in response to significant shocks to the overall demand for reserves if that is judged necessary to meet its rate setting objective.

How the Bank's market operations work together to influence market rates

21 The Bank's system of reserves averaging helps to smooth market rates from day to day. If, for example, market rates one day are high, by varying their reserves holdings banks can seek to lend (or avoid borrowing) in the market on that day and such shifts in the supply and demand for funds will tend to bring market rates down. Even on the final day of a maintenance period a bank can vary its reserves holding but still be remunerated at Bank Rate, so long as its average for the period remains within the target range. The possibility of arbitrage between market rates and reserves remunerated at Bank Rate is the main mechanism through which market rates are kept in line with Bank Rate.

22 The Bank's fine-tune OMOs on the final day of the maintenance period are designed to enable banks to hold reserves exactly in line with their targets, in the centre of their target ranges. This minimises the probability that the OSFs will need to be used, and should ensure that market rates on the final day of the maintenance period are in line with Bank Rate. If market rates are expected to be in line with Bank Rate at the end of the maintenance period, this should in turn help to anchor market rates close to Bank Rate earlier in the maintenance period.

23 The timetable for short-term OMOs is aligned with that for MPC decisions. The reserves maintenance period runs from one monetary policy decision date to the next. Remuneration of reserves therefore resets on the day of the decision. Short-term OMOs all mature on or before the final day of a maintenance period and the rates paid and charged in the OSFs change at the same time as Bank Rate. Participation in the operations should therefore be unaffected by any expectations of a change in Bank Rate.

24 In response to market conditions, the Bank may adjust the various parameters of its instruments for implementing monetary policy (reserves, OSFs, and OMOs) in order to continue to meet its policy objectives. Such changes impact the demand for and supply of reserves. For example, widening reserves target ranges, allowing participants to adjust their reserves targets intra-maintenance period, or narrowing the width of the interest rate corridor would change the shape of the demand curve for reserves. Changing the scale and/or maturity of the OMOs, including intra-maintenance period, would impact the supply of reserves. Such changes may be made individually or in combination.

25 The reserves averaging framework is the Bank's preferred method of implementing monetary policy defined solely in relation to the level of Bank Rate. The Bank would review and as necessary adapt that framework in the event that the MPC chose to use different instruments, either in conjunction with or instead of setting Bank Rate, to implement monetary policy.

The reserves averaging framework, for example, is not well suited to the implementation of policy in relation to quantitative as well as interest rate targets. And there could be circumstances in which it was judged appropriate to remunerate some or all reserves at a different interest rate to Bank Rate. In general, the Bank intends the framework for its operations to be as transparent as possible and will seek to explain the rationale for any adaptation to its operating framework.

V Liquidity insurance

Principles for the Bank's provision of liquidity insurance

26 An inherent feature of a bank's business is 'maturity transformation'. Customer deposits may be available for instant withdrawal and bank lending may be committed for years. So banks run liquidity risks. Even a well-run bank could suffer an unexpected shortage of liquidity.

27 The Bank, as the supplier of central bank money, is able to be a 'back-stop' provider of liquidity, and can therefore provide liquidity insurance to individual, credit-worthy institutions and to the banking system as a whole. As well as contributing to financial stability, such support can potentially reduce the incidence of large and unpredictable shifts in the demand for central bank money, and so help forestall complications in the implementation of monetary policy. The monetary policy and financial stability purposes of the Bank's market operations are therefore intimately linked.

28 Normally, liquidity insurance is provided only to the banking sector because, as noted above, banks have a crucial role in the payment system and are themselves especially subject to liquidity risk. The banks generally provide liquidity insurance in turn to their customers on a commercial basis, including through committed lines of credit.

29 The Bank's liquidity insurance must be provided in a way that takes account of the potential for 'moral hazard' — the incentive for individual banks to undertake riskier activities because of the presence of a central bank back-stop. The Bank's operations are designed to provide liquidity support on appropriate terms to encourage banks to manage their liquidity needs safely in the market rather than turn to the Bank routinely.

30 Capital markets can also provide the economy with liquidity by enabling projects to be financed through instruments that can be bought and sold in secondary markets. In principle, the Bank can provide liquidity to capital markets as well as banks (by standing ready to buy and/or sell capital market assets against central bank money). But only in exceptional circumstances would the Bank be willing to act as 'market maker of last resort'. Such support would only be temporary. The Bank would not, over the longer term, wish to preserve markets that would not survive without its support.

Mechanisms for the Bank's provision of liquidity insurance

31 The Bank offers some liquidity insurance in the course of implementing monetary policy. Reserves averaging and OSFs are both designed to keep market interest rates in line with Bank Rate. But they both allow banks to absorb some liquidity shocks by varying their position at the Bank from day to day at little or no cost. Indeed, reserves can form an important part of a bank's liquidity buffer and are considered liquid assets for the purpose of regulatory liquidity requirements. The Bank also provides intraday liquidity to the settlement banks to further facilitate the orderly operation of these elements of the financial infrastructure. The Bank's operational framework does though include instruments designed more specifically to underpin the liquidity of the banking system.

32 As part of their liquidity management, banks hold stocks of liquid assets that can be used to generate cash. Some assets (primarily those issued by credit-worthy governments) retain their liquidity in all but the most extreme circumstances. But the liquidity of other assets is less assured, and banks can suffer liquidity problems if they hold assets whose market liquidity dries up. The Bank can provide liquidity insurance by offering to accept those less liquid assets as collateral, for a fee, in exchange for more liquid assets, including reserves.

33 The Bank provides liquidity insurance to the banking system through indexed long-term repo operations. In these operations, the Bank is willing to lend funds against both the narrow collateral set accepted in operations for monetary policy purposes and a second, wider collateral set, that consists of high-quality securities, including private sector securities. The liquidity of these securities is less certain in stressed market conditions than the liquidity of narrow collateral. Commercial banks bid to borrow against each collateral set, specifying how much they would be prepared to pay. The Bank's policy is to increase the share of each operation allocated to lending against wider collateral as the spread between bids against the two collateral sets widens. Because additional funds are lent against wider collateral when counterparties are prepared to pay a higher rate on that borrowing, there is a degree of protection against moral hazard.

34 The Bank plans routinely to offer a moderate amount of liquidity through these operations at maturities of three and six months. This gives individual banks the opportunity to bid for limited amounts of longer term funds on a regular basis, according to their needs, and ensures the machinery for providing longer term finance remains in working order. The Bank will, at its discretion, alter the scale, maturity and/or frequency of these operations in response to changes in

market conditions. The rates that banks bid in successive operations constitute one measure of market conditions.

35 The Bank adapts other parts of the framework to ensure the provision of additional reserves in longer term operations does not compromise the Bank's ability to implement monetary policy. In particular, if financial conditions justify greater amounts of longer term lending, the Bank will take that into account when managing the rest of its balance sheet and may adjust the size of its short-term operations accordingly.

36 The Bank also offers liquidity insurance to individual banks on a bilateral basis via the Discount Window Facility ('DWF'). Access to the DWF is intended to deal with short-term liquidity problems. The Bank typically lends gilts (British Government Securities) in the DWF in exchange for eligible but less liquid collateral so that there is no impact on the Bank's net supply of reserves, which would require offsetting actions in the Bank's monetary operations to ensure overall the level of reserves is unaffected. But in exceptional circumstances, loans of cash may also be made. The assets the Bank will accept vary in their liquidity and, in consequence, their reliability as a means of cash generation. The terms of the DWF are designed to counter moral hazard by charging higher interest rates both for larger borrowings and for borrowings against less reliably liquid collateral.

37 Although the Bank cannot anticipate all circumstances in which it might be appropriate to provide liquidity support, the DWF and longer term operations give the Bank a flexible combination of tools to provide liquidity to the banking system.

VI Counterparties

38 Four principles underlie the criteria for acting as a counterparty in the Bank's sterling money market operations:

- **Participation in the Bank's operations is largely voluntary.**
  The Bank does not require institutions to participate in its operations. And it is possible for the banks to participate in some of the operations without participating in all. The exception is that settlement banks in the main wholesale payment and securities settlement systems ('CHAPS' and 'CREST') are required to hold reserves accounts because transactions in these systems are settled in central bank money (by transfers between reserves accounts at the Bank). Moreover, those banks which become reserves account holders, so long as they have the operational capacity, are also required to become OSF participants. This is because the OSFs provide a crucial tool in managing reserves account balances in the event of any unexpected ('frictional') disruptions to the payment system.

- **The Bank's facilities are widely available to the banking sector.**
  All deposit taking institutions that are required under the Bank of England Act to report their 'Eligible Liabilities' can apply to become participants in any element of the Bank's operations. An eligible entity may be granted access through a branch located in the United Kingdom or, subject to the Bank's agreement, in a European Economic Area country or other jurisdiction. But because the Bank does not wish to encourage complexity in legal entity structures, the Bank places a restriction on the number of group entities that can access each facility.

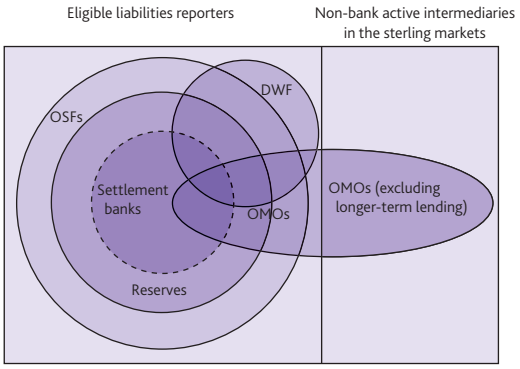
- **Liquidity insurance operations are available to the banking sector only.**
  The Bank provides liquidity insurance to the banking sector because banks have a crucial role to play in the payment system and are themselves especially subject to liquidity risk. Non-bank active intermediaries in sterling markets are only eligible to participate in operations which are designed primarily to ensure the correct supply of reserves to the banking system as a whole in pursuit of the Bank's monetary policy objectives — trading by such institutions adds to the markets' liquidity and supports the markets' role in distributing reserves around the banking system. In exceptional circumstances, the range of counterparties to which the Bank provides liquidity support may be expanded.

- **None of the facilities are there to support institutions which fail the Bank's solvency and viability assessment.**
  The Bank has a set of solvency and viability credit criteria, which all participants must meet. Meeting those criteria may be contingent on the provision of a guarantee from another group entity.

39 All participation is conducted on the basis of formal legal agreements between the Bank and its counterparties. And the Bank requires all participants to act in a way that is consistent with the Bank's objective of achieving competitive and fair sterling markets, and to contribute to the Bank's market intelligence work.

40 The implication of the above principles for potential counterparty participation in the Bank's facilities is illustrated in **Chart 2**.

Chart 2 Participation in the Bank's facilities



VII Collateral

41 When the Bank lends in its operations, it does so against collateral of sufficient quality and quantity to protect itself from counterparty credit risk. If the counterparty fails to repay when due, the Bank can sell or retain the collateral to make good any loss it may face. To reduce the risks that it would face in selling any collateral, the Bank may require counterparties to provide collateral diversified across a number of issuers (known as a collateral 'concentration limit').

42 The Bank publishes high-level collateral eligibility criteria for its operations, which set a baseline for the quality of collateral accepted. Ratings assigned by the rating agencies only play a role by publicly indicating the broad standards of credit quality expected in the securities accepted. The Bank forms its own independent view of the risk in the collateral taken and only accepts collateral that it can value and risk manage effectively.

43 Different sets of collateral are eligible in the Bank's different operations. In its short-term operations, the Bank lends against a narrow collateral set, comprising certain high-quality securities which are liquid in all but the most extreme circumstances. In its longer term operations, and to provide an effective liquidity insurance mechanism to the banking sector as a whole, the Bank is prepared to lend against a wider set of collateral, including private sector securities that normally trade in liquid markets. And in the DWF, consistent with the facility being a liquidity back-stop, the Bank is prepared to lend against still wider classes of collateral. In being prepared to lend against a broad range of collateral, the Bank aims to ensure that its liquidity insurance framework is consistent through time, by giving the market clarity on the terms on which the Bank will lend, both in normal times and times of stress. These arrangements are summarised in the below **Table A**.

Table A Eligible collateral summary

	Intraday liquidity	Operational Standing Facilities	Short-term OMOs	Indexed long-term OMOs	Discount Window Facility
Level A 'narrow collateral' (eg high-quality sovereign debt)	✓	✓	✓	✓	✓
Level B 'wider collateral' (eg liquid and high quality mortgage and corporate bonds)	×	×	×	✓	✓
Level C (eg illiquid transferable securitised loans and mortgages)	×	×	×	×	✓
Level D (eg own-name securitisations and covered bonds, and loans)	×	×	×	×	✓

44 The value the Bank assigns to the collateral determines how much the Bank will lend against it. Because the value of the collateral may change during the life of a transaction, the Bank revalues its collateral daily to ensure it remains sufficient to cover the amount that has been lent. If the value of a counterparty's collateral falls below the value of the funds or securities lent, the counterparty is required to provide additional collateral to support the transaction. The Bank uses observable market prices to value collateral, where such prices are available and considered to be reliable. Where no market prices are available, or where those that are available are judged to be unreliable, the Bank estimates a price using its own models.

45 When valuing collateral, the Bank applies a 'haircut' so that it lends an amount less than the market value of the collateral it takes. The Bank's haircuts are designed to protect the Bank against possible further falls in the value of collateral in the period between the default of a counterparty and the sale of the collateral, including in times of stress. The Bank publishes 'base haircuts' that it applies to different asset types, reflecting their different risk characteristics, and may then also apply 'haircut add-ons' to address risks that are not accounted for by the base haircut, including those that may be specific to a particular counterparty or piece of collateral.

46 The Bank keeps its collateral policy under continuous review to ensure it remains sufficiently protected. It may therefore change eligibility and apply additional haircuts at any time, including on collateral supporting existing transactions.

Part 2 The Bank's current operations in the sterling money markets

VIII Facilities in operation currently

47 The Bank's operations in the sterling money markets have two objectives, stemming from its monetary policy and financial stability responsibilities — to implement the Monetary Policy Committee's decisions in order to meet the inflation target; and to reduce the cost of disruption to the liquidity and payment services supplied by banks to the UK economy. This second part of the Red Book describes the Bank facilities in operation currently to meet those objectives.

The reserves scheme

48 Reserves accounts are effectively sterling current accounts for banks. Reserves balances can be varied freely to meet day to day liquidity needs, for example to accommodate unexpected end of day payment flows. The rate paid by the Bank on reserves account balances is also the means by which the Bank keeps market interest rates in line with Bank Rate.

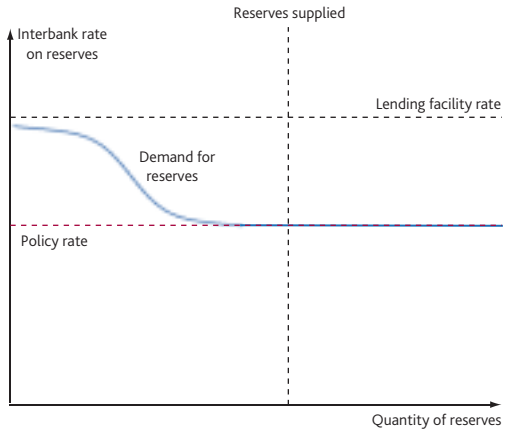
49 Since March 2009, implementation of the Bank's monetary policy has involved both keeping short-term market interest rates in line with Bank Rate, and undertaking asset purchases financed by the creation of central bank reserves in line with Monetary Policy Committee ('MPC') decisions (so called 'Quantitative Easing').

50 Under the Bank's usual reserves averaging regime, the Bank supplies the amount of reserves required for banks to meet their aggregate reserve targets. An excess supply of reserves, relative to that demand, would tend to push down on market interest rates. As a result of large scale asset purchases, the supply of reserves largely varies in response to the MPC's policy decisions, rather than the changes in the demand for reserves. This potential imbalance in the demand and supply of reserves could have resulted in loss of control over market interest rates had banks been required to continue to set and meet targets. The Bank therefore suspended reserves averaging in March 2009, and banks are not currently required to set targets for their reserves balances.

51 Instead, the Bank currently operates a 'floor system' whereby all reserves balances are remunerated at Bank Rate. Because banks will not lend their surplus reserves to other banks at rates lower than can be obtained by depositing them with the Bank, this has the effect of flattening the demand curve for reserves after the point where there are sufficient reserves in the system for banks to manage their day to day liquidity needs.

52 Since short-term Open Market Operations ('OMOs') are primarily designed to supply the quantity of reserves consistent with the aggregate target set by the banks for that maintenance period under the reserves averaging scheme, these operations are not needed and also currently suspended. The supply of reserves is therefore currently determined by the level of reserves injected via asset purchases, the reserves supplied in long-term OMOs, and the net impact of other sterling flows across the Bank's balance sheet (for example, the exchange of reserves for banknotes). As long as the Bank continues to supply reserves in excess of the quantity required for day to day liquidity needs, market interest rates should stay in line with Bank Rate, as illustrated in **Chart 3**.

Chart 3 The current reserves scheme



53 Commercial banks can make payments to and from reserves accounts at any time throughout the day until the CHAPS close and can hold any balance on their account.

54 In addition to drawing on their reserves balances, the settlement banks are able to borrow from the Bank against narrow collateral during the day. This provision of intraday liquidity helps ensure that settlements banks are able to make payments in advance of expected receipts later in the day. No interest is charged on intraday repos provided they are repaid in full before the end of the day. If a settlement bank is not able to repay its intraday repos by the end of the day, it can use the operational standing lending facility to borrow overnight from the Bank. A much higher rate is charged if their reserves

account is left overdrawn at the end of the day. The Bank's provision of intraday liquidity operates in the same way under the floor system as under the reserves averaging system.

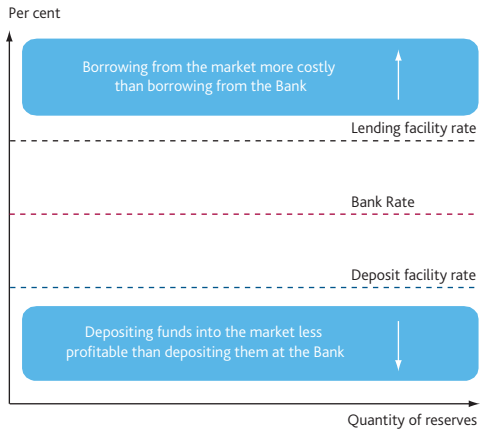
Operational Standing Facilities

55 The Operational Standing Facilities ('OSFs') have two roles. The first is to provide an arbitrage mechanism in normal market conditions to prevent money market rates moving far away from Bank Rate. So they are a vital part of implementing the Bank's monetary policy. The second role is to provide a means for participating banks to manage unexpected (frictional) payment shocks which may arise due to technical problems in banks' own systems or in the market-wide payments and settlements infrastructure.

56 The OSFs allow participating institutions to deposit reserves with or borrow reserves directly from the Bank on a bilateral basis throughout each business day. The OSFs remain available to reserves account holders for a short window after the CHAPS cut off time for interbank payments. The operational standing lending facility takes the form of an overnight repo transaction against high-quality, highly-liquid collateral. The operational standing deposit facility takes the form of an unsecured deposit with the Bank. On those terms, the OSFs are available in unlimited size. Institutions are encouraged to 'pre-position' collateral with the Bank (transfer collateral into the Bank's custody) to facilitate timely settlement in the operational standing lending facility.

57 Commercial banks borrowing from the lending facility are required to pay a premium over Bank Rate, while those placing reserves in the deposit facility are remunerated at a rate below Bank Rate. Commercial banks will typically be unwilling to deal in the market on worse terms than those available at the Bank — for example, if market rates are above the lending facility rate, banks will tend to borrow from the Bank in preference to the market. So the OSF rates establish a corridor around Bank Rate and help limit volatility in overnight market interest rates while incentivising banks to manage their liquidity prudently. **Chart 4** presents a stylised illustration of how the corridor mechanism works.

Chart 4 Operational Standing Facilities



58 This corridor is usually symmetric with the deposit rate 25bps below Bank Rate and the lending rate 25bp above Bank Rate. The Bank is currently remunerating all reserves at Bank Rate so there is no need for the deposit facility to be used by the reserves account holders. But some OSF participants do not have reserves accounts, meaning the deposit facility still provides a floor on market rates. The deposit rate was set at zero in March 2009 with the lending rate remaining 25bp above Bank Rate. Formally, the rates are reset at the start of each maintenance period.

59 The Bank publishes information on the use of the OSFs averaged across counterparties and over a maintenance period, released with a lag. The average daily amount outstanding in each of the facilities during each maintenance period is published on the third Wednesday of the following maintenance period. While there should be no stigma associated with use of the OSFs, which deal purely with frictional payment shocks, this publications policy further reduces the risk of disruption caused by the disclosure of OSF usage.

Quantitative Easing

60 The objective of Quantitative Easing is to boost the money supply through large-scale asset purchases and, in doing so, to bring about a level of nominal demand consistent with meeting the inflation target in the medium term. Under this policy approach, the MPC uses the quantity of reserves (as well as the rate earned on them at the Bank) directly as a tool of monetary policy. The MPC sets a target for the stock of asset purchases financed by the creation of reserves. This target is achieved by purchasing or, in the event that the target is reduced, selling assets through the Bank's 'Asset Purchase Facility', which, because of the risks posed to the Bank's balance sheet, is indemnified by HM Treasury.

61 The Bank purchases these assets predominantly from non-banks, but banks act as intermediaries in the process. The Bank pays for the assets purchased by creating central bank

reserves and crediting the accounts of the banks that act as intermediaries. Those banks will in turn credit the accounts of the non-banks from whom they obtained the assets. They will either spend the money on goods and services, which directly adds to overall spending, or purchase other assets, which will tend to boost the prices, and hence lower the yields, of those assets more broadly. In the event of asset sales, in response to a reduction in the target, the Bank would debit the accounts of the institutions it sells the assets to, reducing the stimulus to nominal demand.

62 The Bank carries out asset purchase operations in a transparent and non-discretionary manner, transacting in high-quality assets, most commonly gilts. The competitive auction element of the gilt operations is open to all participants in the Bank's gilt purchase OMOs (which are currently suspended) and to firms that are Gilt-Edged Market Makers ('GEMMs'). The Bank also accepts non-competitive offers from other authorised financial institutions. The Bank places no restriction on the number of offers submitted and no restriction on the proportion in each auction that can be allocated to specific counterparties or gilts. Eligibility of individual gilts in specific operations is determined with reference to the maturity of the assets.

63 The competitive elements of gilt auctions use a discriminatory price format, in which every successful participant receives the price they offered to sell at. Each price is converted into a yield, and is then compared to the market yield of that gilt at the end of the auction. The offers are ranked by the spread between the two yields, and are accepted according to the attractiveness of the spread for the Bank, until the amount the Bank wishes to buy has been filled. Any non-competitive offers are allocated at the weighted average price at which the relevant stock was allocated in the competitive auction.

64 To improve the liquidity in, and increase the flow of, corporate credit, the Bank also purchases and sells high-quality private sector assets through the HM Treasury-indemnified Asset Purchase Facility, namely commercial paper, secured commercial paper and corporate bonds. These purchases and sales are an example of the Bank acting as market maker of last resort. Although small in scale in comparison to gilt purchases, when financed by the issuance of central bank reserves, these purchases count towards the total amount of asset purchases authorised by the MPC.

Indexed long-term repo operations

65 The primary objective of the indexed long-term repo operations is to provide liquidity insurance to the banking system without distorting banks' incentives for prudent liquidity management, while minimising the risk being taken onto the Bank's own balance sheet.

66 The Bank typically expects to offer funds via an indexed long-term repo operation once each calendar month, with each operation offering a pre-announced quantity at a single maturity. Ordinarily, the Bank conducts two operations with a three month maturity and one operation with a six month maturity in each calendar quarter. The Bank could adjust the frequency, size and/or maturity of indexed long-term repo operations in light of evidence of system wide stress, including as revealed by demand in previous operations.

67 The Bank indexes the rate charged in indexed long-term repo lending to Bank Rate. Indexing allows the Bank to reduce its exposure to market risk while enabling counterparties to participate without having to take a view on the future path of Bank Rate.

68 Participants are able to borrow against two different sets of collateral. One set consists of securities eligible in the Bank's short-term operations ('narrow collateral') and the second set contains a wider range of high-quality debt securities that, in the Bank's judgement, trade in viable liquid markets ('wider collateral'). The Bank does not accept 'own-name' collateral (where a borrowing bank itself originated, or has some other close financial link to, the assets comprising the collateral) in its indexed long-term repo operations. The auction design permits the allocation of a greater proportion of funds against wider collateral as market stress increases, although the Bank expects to lend some funds routinely against both collateral sets.

69 Participants bid by submitting a nominal amount and a spread to Bank Rate expressed in basis points. Bids of negative spreads are not permitted. The Bank places no restriction on the number of bids submitted but places restrictions on the total value of bids received from a single participant. Participants may choose to submit multiple bids against either collateral set.

70 Alternatively, or in addition to single bids, participants looking to raise a given quantity of funds and with both types of collateral available may submit 'paired bids'. A paired bid consists of a single nominal amount and two spreads at which the counterparty is willing to borrow against the delivery of narrow and wider collateral respectively. This provides participants with two opportunities to raise a specific quantity of funds whilst avoiding any risk of over allotment that might otherwise occur if two single bids for the same nominal amount were submitted. If both parts of a paired bid are above their respective clearing spreads, and therefore eligible to be accepted, the participant will be allotted against the bid which offers them better value (the bid with the highest spread relative to the clearing spread for that collateral type).

71 The auction's pricing mechanism uses a so called 'uniform price' format, in which every successful bidder pays the lowest

accepted spread (the 'clearing spread') for borrowing against a specific collateral set. As all successful bidders pay the clearing spread, participants should face little incentive to alter their bids on the basis of assumptions about other participants' likely behaviour.

72 The proportion of the total amount on offer to be allocated to each collateral set is based on the pattern of bids received and the Bank's preferences for supplying funds against each collateral set. For each collateral set, bids are ranked in descending order of the spread bid. Bids at the highest spread are accepted first, followed by bids at successively lower spreads until the chosen proportion of the auction is allocated or bids received against that collateral set are exhausted.

Discount Window Facility

73 The Discount Window Facility ('DWF') offers liquidity insurance for idiosyncratic as well as system-wide shocks. It is a bilateral facility designed to be able to address short-term liquidity shocks without distorting banks' incentives for prudent liquidity management, and whilst minimising the risk being taken onto the Bank's balance sheet. It is available throughout each business day.

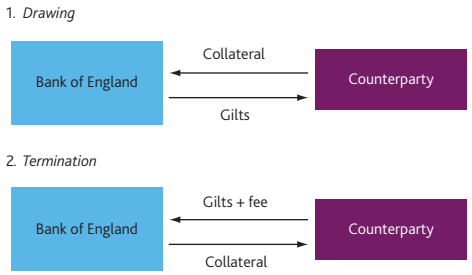
74 The DWF allows participants to borrow, for a fee, gilts against a wider range of potentially less liquid eligible collateral. Participants can then obtain liquidity by lending the gilts in the market. So the DWF allows participants to perform a liquidity upgrade of their collateral.

75 Gilts borrowed in the DWF may be used as collateral in the Bank's OMOs. Participants are not, however, permitted to borrow gilts from the DWF simply to use them in the operational standing lending facility in order to obtain cash against DWF eligible collateral. That would be contrary to the purpose of the OSFs, which is to give banks a means to manage short-term unexpected (frictional) problems in the payment systems and overnight money markets.

76 At its discretion, the Bank may agree to lend sterling cash rather than gilts. That might prove necessary in rare circumstances, such as where government bond repo markets failed to function properly.

77 DWF drawings are intended to be for a maximum of 30 days, although they can be rolled over at the Bank's discretion. For an additional fee, the Bank also permits drawings with a maximum term of 364 days currently. Drawings can be terminated at any point. **Chart 5** presents a stylised illustration of how the DWF works.

Chart 5 Discount Window Facility



78 The DWF is not a facility to obtain particular gilts, for example those trading at a premium in the repo market. That would go against the purpose of the DWF and could interfere with HM Government's debt management policy and operations, which are the responsibility of HM Treasury and the UK Debt Management Office.

79 The population of eligible collateral is broad and will be developed over time. There are four levels ranging from the most liquid 'narrow set' (Level A), the 'wider set' of high-quality collateral that normally trades in liquid markets (Level B), high-quality but illiquid collateral (Level C), through to the least liquid, own-name securities or pools of loans (Level D) where a borrowing bank itself originated, or has some other close financial link to, the assets comprising the collateral.

80 The fee charged to participants reflects the type of collateral used and the size of the drawing relative to the size of the participant's group. Given the purposes of the DWF, the fees are set to be unattractive in 'normal' market conditions so that participants use the facility as a back up rather than a regular source of liquidity.

Table B Fee table for DWF drawings of gilts

Fee in basis points	Collateral type			
	Level A	Level B	Level C	Level D
Percentage of sterling Eligible Liabilities				
0%–10%	50	75	125	200
10%–20%	75	125	200	300
20%–30%	100	175	275	400
>30%	At the discretion of the Bank			

81 An additional 25bp fee will be applied to any part of a participant's drawings with an initial maturity of more than 30 days. For drawings of gilts, the fee is applied to the total market value of gilts outstanding under the DWF on each day. For any drawings of sterling cash permitted by the Bank, the fee is indexed Bank Rate plus the fees set out in **Table B** above. The fee may vary at the Bank's discretion.

82 To reduce the risk of disruption caused by any possible stigma associated with voluntary, bilateral use of central bank

facilities, the Bank publishes information on the use of the DWF averaged across counterparties and over a three-month period, released with a lag. This ensures that any drawing will have ended before data on it is published. The average aggregate daily value of gilts (or cash) lent with an initial maturity of 30 days or less under the DWF during each calendar quarter will be published on the first Tuesday following the final business day of the following calendar quarter. The average aggregate daily value of gilts (or cash) lent with an initial maturity of more than 30 days during each calendar quarter will be published on the first Tuesday following the final working day of the calendar quarter five quarters ahead.

83 All drawings under the DWF are subject to approval by the Bank. Given the purposes of the DWF and its above normal market pricing, the Bank expects institutions to use it as a back-stop rather than a regular source of liquidity. The Bank has the right to ask about the circumstances that have given rise to any application. Depending on those circumstances, the Bank may ask the applicant to provide further information at the point of drawdown, and subsequently during their use of the DWF.

84 Participants are strongly encouraged to 'pre-position' eligible collateral in the DWF to ensure they are able to draw quickly and smoothly should the need arise. Pre-positioning means transferring DWF eligible collateral into the Bank's custody, whilst retaining legal ownership. Eligible collateral should be pre-positioned with the Bank at least a day before a drawing to facilitate same day settlement. In exceptional circumstances, the Bank may permit drawing against collateral delivered on the day of drawing.

85 Following pre-positioning of eligible securities with the Bank, authorised drawing requests should be initiated by telephone to the Bank's Sterling Markets Division. Authorised requests made before 2pm will settle on the day of the drawing request. The Bank will seek to accommodate requests made after that time on a best endeavours basis. Participants should seek to contact the Bank as soon as possible on the day of an application to draw, if not earlier, to discuss their application for use.

IX Operational contingencies

86 The Bank intends the framework for its operations to be as transparent as possible. And it seeks to avoid discretion on its part in its regular operations, including in response to unexpected events. This section summarises the Bank's specific operational contingency plans in relation to four scenarios. Clearly, situations could arise requiring further adaptation, for example in the event of major operational or financial disruption to the sterling money markets or their supporting infrastructure, and the following list is not comprehensive. Any further amendments to operating procedures would be guided by the principles that underlie the Bank's standard operations. And the Bank would seek to explain fully any actions it takes in such scenarios.

Changes to the MPC timetable

87 Reserves account maintenance periods are aligned with MPC decision dates. If the MPC timetable changes and that is known before the start of a maintenance period, the dates of the maintenance period will be adjusted accordingly and the timing and maturity of the Bank's short-term OMOs will also adjust. Any such changes will be announced as soon as possible.

88 If the change to the MPC timetable becomes known only after a maintenance period has begun, the implementation timetable will be left unchanged. In such circumstances, reserves balances would be remunerated at the Bank Rate prevailing at the end of the day on which they were held. If applicable, the charge for excesses or shortfalls of reserves would be at the Bank Rate prevailing on the final day of the maintenance period.

89 In the event of an unscheduled MPC meeting, or in the unlikely event that the announcement of a decision following a scheduled meeting were delayed for some reason, the Bank will, where possible, seek to delay any regular short-term OMO on that day until after the announcement of the MPC's decision. If that did not prove possible, any short-term OMO undertaken before the announcement of the decision would be subject to the Bank Rate prevailing at the time the transactions were conducted. In those circumstances, the Bank may decide to shorten the maturity of the operation to overnight and conduct another operation on the following day after the MPC has announced its decision. If an emergency MPC meeting were announced to take place on a day scheduled for a longer term operation, the operation would be cancelled.

90 The rates charged for using the OSFs change on the day of MPC decisions. In the event of an unscheduled MPC meeting, any use before the announcement of the decision will be subject to the rates prevailing at the time at which the transactions were conducted. The rate applied to any use after the announcement of the decision will be based on the level of Bank Rate subsequently in effect.

CHAPS (payment system) extensions

91 If the end of day close of the CHAPS payment system is delayed on a particular day as a result of a CHAPS extension (for example, following system difficulties) then, consistent with the objective of the extension to ensure that the day's business can be completed, the Bank will extend the window for making payments to and from reserves accounts and the availability of the OSFs until after the actual CHAPS close.

Closure of CHAPS or CREST

92 A sudden closure of the CHAPS payment system and/or the CREST securities settlement system during the day would leave settlement banks with varying unintended balances on their reserves accounts. And some settlement banks might be unable to unwind their intraday lending with the Bank. In such circumstances, the Bank could intermediate these flows over its OSFs, in effect rolling overnight the intraday liquidity provided against eligible collateral and treating that as use of the operational standing lending facility. It would also be able to narrow the interest rate corridor on its OSFs in such circumstances, allowing banks that had a surplus of reserves to treat some of their balance as use of the operational standing deposit facility rather than as holdings of reserves.

The CHAPS Settlement Bank Liquidity Scheme(1)

93 The CHAPS Settlement Bank Liquidity Scheme provides an agreed mechanism by which a CHAPS settlement bank experiencing system problems that leave it able to receive but not make payments can make unsecured bilateral loans to other members of the system, free of interest, shortly before the close of the payment system. The Settlement Bank Liquidity Scheme complements the Bank's OSFs by permitting liquidity to be redistributed between banks on an unsecured basis during the day, thereby facilitating completion of that day's payment business.

(1) Previously referred to as the CHAPS Stricken Bank Liquidity Scheme; updated 17 December 2010.