The Bank of England's Sterling Monetary Framework

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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. 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/Pages/sterlingoperations/redbook.aspx, where it will be updated periodically.

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

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Part 1 The aims and objectives of the Sterling Monetary Framework

I Aims and objectives

1 The Bank of England's mission is to promote the good of the people of the United Kingdom by maintaining monetary and financial stability. The Bank's operations in the sterling money markets — known as the Sterling Monetary Framework (SMF) — serve that mission. The operations are designed to:

- **Implement the Monetary Policy Committee's (MPC's) decisions in order to meet the inflation target.** This is usually achieved by paying interest at Bank Rate on the reserves balances held at the Bank of England by commercial banks, building societies, designated investment firms (henceforth 'broker-dealers') and central counterparties (CCPs) ('SMF participants'). 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 the MPC's monetary policy objectives, by changing the size or composition of its balance sheet.

- **Reduce the cost of disruption to the critical financial services, including liquidity and payment services, supplied by SMF participants to the UK economy.** The Bank does this by standing ready to provide liquidity in the event of unexpected developments by offering to swap high-quality but less liquid collateral for liquid assets (a so-called 'liquidity upgrade').

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 SMF participants 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 financial system. Central bank money is the main liability on the Bank's balance sheet.

3 Parts of the SMF overlap with the responsibilities of the MPC and the Financial Policy Committee (FPC). As a result, the Bank Executive has agreed frameworks for engagement with the MPC and FPC in the design and review of SMF operations relevant to the committees' remits.(1)

II Central bank money

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

4 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, SMF participants 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.

5 Usually Bank Rate is set by the MPC for the period until its next scheduled announcement, and 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.

6 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.

7 The MPC sets policy in terms of the level of Bank Rate. But, if judged necessary, the MPC has the authority to use other instruments as well 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, payment services and liquidity insurance

8 Money plays an essential role in the economy by facilitating payments. Banknotes — which are also central bank money — 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

(1) These are available at www.bankofengland.co.uk/about/Documents/legislation/mpcconcordat.pdf and www.bankofengland.co.uk/about/Documents/legislation/fpcconcordat.pdf.

customers need to be able to convert their deposits into banknotes, 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.

9 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 holdings. 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. That is, banks perform 'maturity transformation'. But this means banks themselves run liquidity risk: even a well-run bank could suffer an unexpected shortage of liquidity.

10 Broker-dealers provide critical services to the real economy by intermediating in capital markets. For example, broker-dealers help match up companies seeking to raise finance by issuing securities with investors who wish to fund them. Like banks, broker-dealers may be subject to liquidity risk individually or as a result of a market-wide stress.

11 Central counterparties (CCPs) mitigate counterparty credit risk in the markets in which they operate by placing themselves between the buyer and seller of an original trade, taking margin from participants against the resultant exposures and mutualising the residual risk through a default fund to which members contribute. In the event of the default of one or more of its counterparties, a CCP may need to liquidate margin or other resources in order to satisfy its obligations. This means that CCPs are subject to liquidity risk.

12 Central bank money is the economy's most liquid asset. This enables the Bank, as the supplier of central bank money, to provide liquidity insurance to SMF participants. The terms of the Bank's liquidity insurance facilities are set to ensure SMF participants have the incentive to manage their liquidity primarily through private markets in normal times.

III The role of financial markets

13 Financial markets play an important role in the Bank's pursuit of its mission. 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.

14 Institutions in part use financial markets to manage their own liquidity risk. By operating in the money markets, in which SMF participants are also active, the Bank can provide the appropriate amount of liquidity to the financial system as a whole, while the market distributes the liquidity to whichever individual institutions are bidding for it.

15 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 that is consistent with the Bank's objective of achieving competitive and fair sterling markets.

IV Implementing monetary policy under reserves averaging

16 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 institutions 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 transactions secured on high-quality collateral.

17 These transactions are settled directly or indirectly by transfers between reserves accounts at the Bank. The sterling money market is therefore also a market for reserves balances.

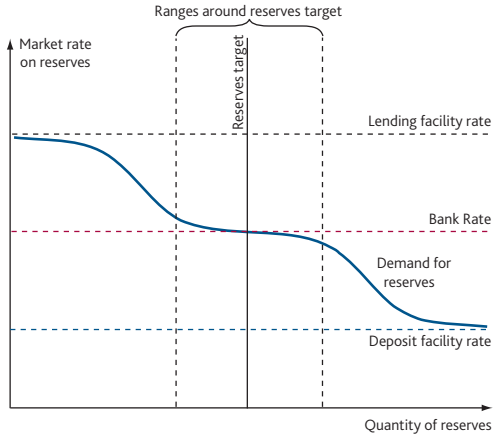
The demand for reserves

18 The SMF is built around the use in normal times of a voluntary reserves averaging system. This has been suspended since March 2009, as explained in Section VIII. When the reserves averaging scheme is active, the MPC sets the reserves remuneration rate (Bank Rate) for the period between its scheduled announcement dates, known as a 'maintenance period'. Each scheme participant sets a target for the average amount of reserves they will hold over the maintenance period, taking into account their own liquidity management needs. They can adjust their targets from maintenance period to maintenance period if those needs change. Within each maintenance period, a reserves account holder 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.

19 Holding an average level of reserves outside the target range attracts a charge. But an SMF participant can ensure it hits its target by making use of the Bank's Operational Standing Facilities (OSFs). These bilateral facilities allow SMF participants 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. SMF participants will typically be unwilling to deal in the market on worse terms than those available at the Bank. So the OSF rates act as a ceiling and a floor, forming an interest rate corridor for the rates at which SMF participants should be willing to deal in the market, as illustrated in **Chart 1**.

Chart 1 SMF participants' demand for reserves



The supply of reserves

20 Under reserves averaging, the Bank undertakes to supply, in aggregate, the reserves that SMF participants need to meet their collective targets. It uses its Open Market Operations to achieve that, settled by movements on and off SMF participants' reserves accounts. The Bank supplies reserves either by lending against collateral or by buying securities outright. It can drain reserves by borrowing against collateral or 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.

21 The Bank can operate at a variety of maturities, including outright purchases of bonds, long-term repos and short-term repos, comprising one-week operations and one-day 'fine-tune' operations.

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

22 When active, 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, SMF participants can seek to lend in the market on that day and such shifts in the supply and demand for funds will tend to bring market rates down. 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.

23 The reserves averaging framework has been the Bank's preferred method of implementing monetary policy in normal times. The Bank nevertheless reviews and as necessary adapts its framework in the event that the MPC chooses to use different instruments to implement monetary policy, either in conjunction with, or instead of, setting Bank Rate. 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. Since the reserves averaging framework is not well suited to the implementation of policy in relation to quantitative as well as interest rate targets, it is currently suspended, as explained in Section VIII, and the framework will be reviewed alongside decisions about the future of the Asset Purchase Facility. There could also be circumstances in which it was judged appropriate to remunerate some or all reserves at a different interest rate to Bank Rate.

V Liquidity insurance

Principles for the Bank's provision of liquidity insurance

24 As explained in Section II, all SMF participants run liquidity risk as part of their provision of critical financial services to the real economy.

25 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 financial 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.

26 The provision of liquidity insurance by a central bank always has the potential to induce potential beneficiaries to take on greater risk (so-called 'moral hazard'). The Bank, including the Prudential Regulation Authority (PRA), has a number of tools to manage this, including through liquidity regulation and *in extremis*, through its powers to resolve banks, building societies, broker-dealers and CCPs. As a result, the SMF no longer has to shoulder as much of the burden of tackling moral hazard. Nevertheless, the Bank's operations are designed to provide liquidity support on terms that encourage SMF participants to manage their liquidity needs safely in the market in normal times rather than turn to the Bank routinely.

Market maker of last resort

27 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. The Bank has, in the past, been willing to act as a market maker of last resort (MMLR) by buying and/or selling capital market assets against central bank money.

28 In normal times the Bank supports market liquidity by providing liquidity insurance to individual institutions, but in exceptional circumstances, the Bank stands ready to act as a market maker of last resort. Any such intervention would aim to improve the liquidity of one or more markets whose illiquidity posed a threat to financial stability or was judged to be important to the transmission mechanism of monetary policy. The importance of a market in financing such activity is likely to relate to its size, substitutability and interconnectedness with other markets.

29 Any intervention would be temporary and catalytic, supporting only those markets that the Bank judged to be viable in the longer-term and designed in a way that would allow the Bank to unwind its position as market conditions normalised.

30 The prices offered would be set depending on circumstances at the time, but would be set to be unattractive relative to those prevailing in normal circumstances. The interventions would be designed to ensure that the Bank did not end up owning a large share of the securities in any given market and that the risks it takes are commensurate with its capital resources. In particular, the Bank would not offer to make markets in any instrument that exposed it to the unsecured credit risk of SMF participants. The Bank would ensure that any impact of MMLR on the supply of reserves in aggregate did not impede the implementation of the MPC's monetary policy objectives.

Mechanisms for the Bank's provision of liquidity insurance

31 The Bank offers some liquidity insurance in the normal course of implementing monetary policy. Reserves averaging and OSFs are both designed to keep market interest rates in line with Bank Rate. But they also allow SMF participants 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 an SMF participant's liquidity buffers and are recognised as such by the applicable 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.

32 The Bank's operational framework also includes instruments designed more specifically to underpin the liquidity of the banking system. As part of their liquidity management, SMF participants hold stocks of liquid assets that can be used to generate cash. Some assets — certain high-quality sovereign securities — retain their liquidity in all but the most extreme circumstances. But the liquidity of other assets is less assured, and firms 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 three liquidity insurance facilities, each of which allows SMF participants to exchange less liquid collateral for more liquid assets, as detailed in Part 2. Each has a different purpose:

- The market-wide **Indexed Long-Term Repo** (ILTR) operations offered routinely each month are aimed at institutions with a predictable need for liquid assets. They allow participants to bid for reserves against the full range of eligible collateral.

- The bilateral on-demand **Discount Window Facility** (DWF) is aimed at institutions experiencing a firm-specific or market-wide shock. It allows participants to borrow highly liquid assets in return for less liquid collateral in potentially large size and for a variable term.

- The market-wide **Contingent Term Repo Facility** (CTRF) allows the Bank to provide liquidity against the full range of eligible collateral at any time, term and price it chooses, in response to actual or prospective market-wide stress of an exceptional nature. Its terms are set by the Bank each time it is deployed, in light of prevailing market conditions.

34 Although the Bank cannot anticipate all circumstances in which it might be appropriate to provide liquidity support, the ILTR, DWF and CTRF give the Bank a flexible combination of tools to provide liquidity to the financial system. For example, the Bank may choose either to offer additional ILTR operations or to activate the CTRF, as necessary, given current or prospective market conditions. The Bank would adapt other parts of the framework to ensure the provision of additional reserves in these operations does not compromise the implementation of monetary policy.

VI Counterparties

35 The Bank provides liquidity insurance to the banking sector because banks have a crucial role to play in the payment system and are themselves subject to liquidity risk. Certain other financial institutions, such as broker-dealers and CCPs, also provide critical financial services to the UK economy which expose them to liquidity risk.

36 Broker-dealers play a central role in the intermediation of capital markets, which may leave them subject to liquidity risk individually or as a result of market-wide stress. Those broker-dealers deemed critical to the stability of the

UK financial system (designated investment firms) are eligible to apply for participation in the SMF.

37 CCPs also provide critical services by mitigating credit risk in a range of financial markets. In the event of counterparty default, CCPs may be subject to liquidity risk. CCPs operating in UK markets, either authorised under EMIR or recognised by ESMA, are eligible to apply for participation in the SMF.

38 UK branches of firms incorporated in other jurisdictions can apply to become participants in the Bank's operations. In addition, many entities eligible to act as counterparties in the SMF belong to groups. All such members of a group may apply for access to the DWF, and to other facilities where there are regulatory or legal barriers to the movement of liquidity or collateral intragroup, including the Banking Reform Act's ring-fencing rules.

39 Participation in the Bank's operations is largely voluntary and it is possible for institutions to participate in some 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). Reserves account holders are also required to have access to OSFs because these can be a key tool in managing reserves account balances.

40 There is a presumption that all banks and building societies that meet the PRA threshold conditions for authorisation may sign up for the SMF and would have full access to borrow in SMF facilities against eligible collateral. Participation in the SMF is subject to the Bank being satisfied that its legal and operational requirements are met, and may be subject to the provision of a guarantee from another group entity. The Bank will also expect SMF participants to provide sufficient information for the Bank to risk manage its operations effectively.

41 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.

42 The Bank provides SMF facilities that are appropriate for each type of counterparty. **Table A** sets out which types of counterparty are eligible for which facilities.

Table A Eligibility for participation in the Bank's facilities

	Short-Term Repo	Reserves accounts	Operational Standing Facilities	Indexed Long-Term Repo	Discount Window Facility	Contingent Term Repo Facility
Banks and building societies	✓	✓	✓	✓	✓	✓
Broker-dealers	✓	✓	✓	✓	✓	✓
CCPs		✓	✓		✓	

VII Collateral

43 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.

44 The Bank's collateral list is broad and extends in principle to any asset that it judges can be effectively and efficiently risk managed, subject to appropriate haircuts. The Bank's capacity to risk manage collateral is constantly evolving with a focus on collateral held by SMF participants in the course of providing financial services to the UK economy. The Bank forms its own independent view of the risk in the collateral taken.

45 Three different sets of collateral are eligible in the Bank's operations, as summarised in **Table B**. In its intraday and short-term monetary policy operations, the Bank only lends against Level A collateral, comprising certain high-quality sovereign securities that are liquid in all but the most extreme circumstances. In its liquidity insurance operations, which provide an effective liquidity insurance mechanism to the financial system, the Bank also lends against Level B collateral, comprising high-quality liquid collateral, including private sector securities that normally trade in liquid markets, and Level C collateral, comprising less liquid securities and portfolios of loans. The price at which the Bank provides liquidity depends on which collateral set is delivered by the counterparty, reflecting the extent of the 'liquidity upgrade'.

Table B Eligible collateral summary[(a)(b)]

	Intraday liquidity	Operational Standing Facilities	Short-Term Repo	Indexed Long-Term Repo	Discount Window Facility	Contingent Term Repo Facility
Level A (eg highly liquid high-quality sovereign debt)	✓	✓	✓	✓	✓	✓
Level B (eg liquid high-quality sovereign, supranational, mortgage and corporate bonds)				✓	✓	✓
Level C (eg less liquid securitisations, own-name securities and portfolios of loans)				✓	✓	✓

(a) Further details are available at www.bankofengland.co.uk/markets/Pages/money/eligiblecollateral.aspx.
(b) CCPs typically hold highly liquid collateral, so are not eligible to borrow against Level C collateral.

46 Counterparties are encouraged to hold a broad range of collateral with the Bank. The Bank will discuss bilaterally with counterparties any preferences it has over the order in which collateral should be used in the Bank's facilities. The Bank may also require counterparties to provide collateral diversified across a number of issuers (known as a collateral 'concentration limit').

47 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 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 or valuation and the sale of the collateral, including in times of stress. The Bank publishes 'base haircuts' that it applies to different classes of securities, 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. Base haircuts are not applied to portfolios of loan collateral; instead haircuts reflect the particular characteristics of individual portfolios.

48 Haircuts are set so as to be broadly stable in the light of changing market conditions, but are updated if the composition of collateral pools change. This provides the Bank with adequate protection of its balance sheet and provides greater certainty to counterparties.

49 The value the Bank assigns to the collateral, after appropriate haircuts, 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 meet the shortfall; provided a counterparty maintains sufficient excess collateral with the Bank this should be an infrequent event. For liquid collateral, the Bank uses observable market prices to value collateral, where such prices are available and considered to be reliable. For loan collateral and for securities for which market prices are unavailable or judged to be unreliable, the Bank estimates a price using its own models.

Part 2 The operations currently used in the Sterling Monetary Framework

50 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 (MPC's) decisions in order to meet the inflation target; and to reduce the cost of disruption to the critical financial services, including liquidity and payment services, supplied by SMF participants to the UK economy. This second part of the Red Book describes the Bank facilities currently in operation to meet those objectives.

VIII Implementing monetary policy

51 The Bank currently uses a number of tools to implement monetary policy, including reserves accounts, Operational Standing Facilities and Quantitative Easing, which are covered in the following sections.

The reserves scheme under Quantitative Easing

52 Reserves accounts are effectively sterling current accounts for SMF participants. 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.

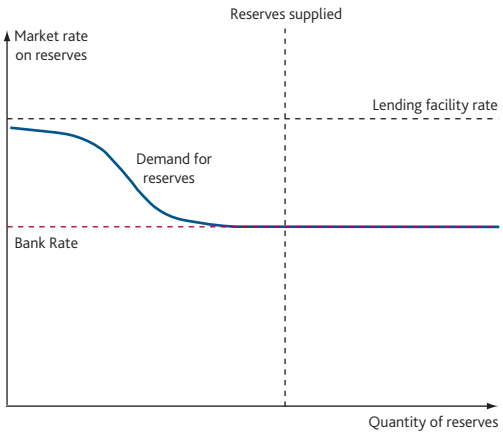
53 Since March 2009, implementation of the Bank's monetary policy has involved both keeping short-term market interest rates in line with Bank Rate, and undertaking asset purchases financed by the creation of central bank reserves in line with MPC decisions (so-called 'Quantitative Easing').

54 Under the reserves averaging regime used in more normal times, the Bank supplies the amount of reserves required for SMF participants 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 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.

55 Instead, the Bank currently operates a 'floor system' whereby all reserves balances are remunerated at Bank Rate. Because reserves account holders will not lend their surplus reserves to other institutions 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 reserves account holders to manage their day to day liquidity needs.

56 Since Short-Term Repos are primarily designed to supply the quantity of reserves consistent with the aggregate target set by SMF participants under the reserves averaging scheme, these operations are not needed and are 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 operations (Indexed Long-Term Repo and Contingent Term Repo Facility), 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 broadly in line with Bank Rate, as illustrated in **Chart 2**.

Chart 2 The current reserves scheme



57 SMF participants can make payments to and from reserves accounts at any time throughout the day until CHAPS closes and can hold any balance on their account.

58 The Bank's provision of intraday liquidity operates in the same way under the floor system as under the reserves averaging system. In addition to drawing on their reserves balances, the settlement banks are able to borrow from the

Bank during the day against certain high-quality sovereign securities that are liquid in all but the most extreme circumstances (Level A collateral). This provision of intraday liquidity helps ensure that settlement banks are able to make payments in advance of expected receipts later in the day. No interest is charged on intraday liquidity provided it is repaid in full before the end of the day. If a settlement bank is not able to repay its intraday liquidity 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 its reserves account is left overdrawn at the end of the day.

Operational Standing Facilities

59 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 SMF participants to manage unexpected (frictional) payment shocks which may arise due to technical problems in their own systems or in the market-wide payments and settlements infrastructure.

60 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. The operational standing lending facility takes the form of an overnight lending transaction against high-quality, highly-liquid (Level A) 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 deliver collateral needed to the Bank as early as possible to facilitate timely settlement in the operational standing lending facility.

61 Institutions 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. SMF participants 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, participants 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.

62 This corridor is usually symmetric with the deposit rate 25 basis points below Bank Rate and the lending rate 25 basis points 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 reserves account holders. The deposit rate was set at zero in March 2009 with the lending rate remaining 25 basis points above Bank Rate.

63 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 the OSFs during each maintenance period is published on the third Wednesday of the following maintenance period.

Quantitative Easing

64 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 financial risks posed to the Bank's balance sheet, is indemnified by HM Treasury.

65 The Bank purchases these assets predominantly from non-banks, but banks and broker-dealers act as intermediaries in the process. The Bank pays for the assets purchased by creating central bank reserves and crediting the accounts of the intermediaries, which will in turn credit the accounts of the non-banks from whom they obtained the assets. The previous holder will either spend the cash 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 any future asset sales, the Bank would debit the accounts of the institutions it sells the assets to, reducing the stimulus to nominal demand.

66 The Bank carries out asset purchase operations in a transparent and non-discretionary manner. The competitive auction element of the gilt operations is open to all participants in the Bank's gilt purchase Open Market Operations (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.

67 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.

68 To improve the liquidity in, and increase the flow of, corporate credit, the Bank also stands ready to purchase and sell high-quality private sector assets through the Asset Purchase Facility, namely secured commercial paper and corporate bonds. These purchases and sales are an example of the Bank acting as market maker of last resort.

IX Liquidity insurance

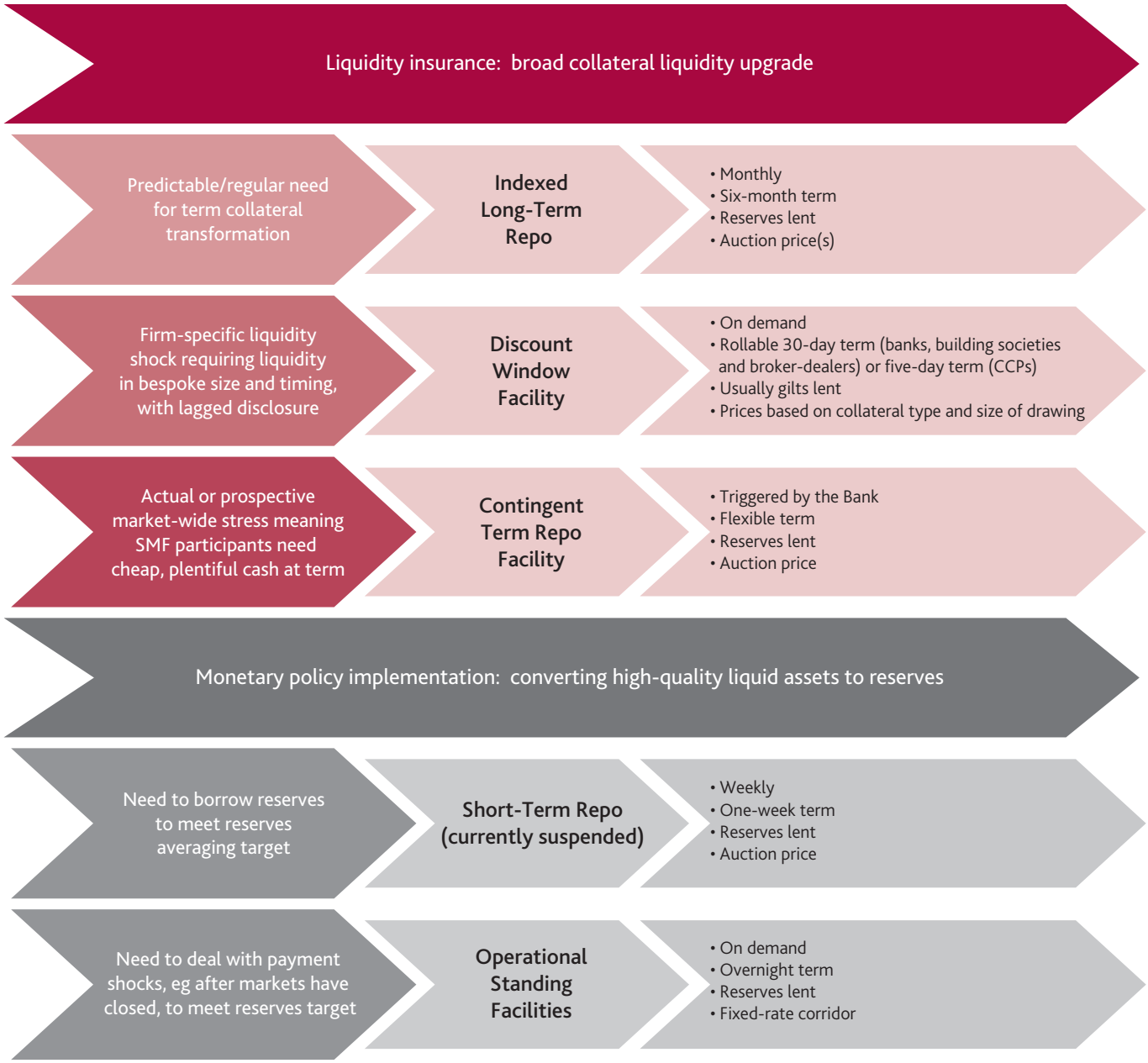
69 The Bank provides three liquidity insurance facilities — the Indexed Long-Term Repo, Discount Window Facility and Contingent Term Repo Facility — which are covered in the following sections. **Figure 1** summarises the full set of lending facilities currently available in the SMF.

Indexed Long-Term Repo

70 The market-wide Indexed Long-Term Repo (ILTR) operations are aimed at banks, building societies and broker-dealers with a predictable need for liquid assets. The Bank will normally offer funds with a six month maturity via an ILTR operation once each calendar month.

71 The Bank indexes the rate charged in ILTR lending to Bank Rate. Indexing enables counterparties to participate without having to take a view on the future path of Bank Rate and allows the Bank to reduce its exposure to market risk.

Figure 1 Summary of SMF lending facilities



72 Participants are able to borrow against three different sets of collateral: Level A collateral comprising certain high-quality highly liquid sovereign securities; Level B collateral comprising high-quality liquid collateral, including other sovereign, supranational, mortgage and corporate bonds; and Level C comprising less liquid securitisations, own-name securities and portfolios of loans. Participants are strongly encouraged to deliver to the Bank in advance any Levels A and B collateral that they intend to use in an ILTR operation. Level C securities must be delivered to the Bank in advance of the operation, and all loan collateral must be pre-positioned.

73 Participants bid by submitting a nominal amount and a spread to Bank Rate expressed in basis points against a specific collateral set. The Bank currently places no restriction on the number of bids submitted, the aggregate value of bids or the total value of bids received from a single participant. Participants may choose to submit multiple bids against one or more of the three collateral sets.

74 The auction's pricing mechanism uses a so-called 'uniform price' format, in which every successful bidder pays the 'clearing spread' for borrowing against a specific collateral set. As all successful bidders pay the relevant clearing spread, participants should have little incentive to alter their bids on the basis of assumptions about other participants' likely behaviour. For each collateral set, bids are ranked in descending order of their bid spread. Bids at the highest spread are accepted first, followed by bids at successively lower spreads until the Bank's supply preferences have been met.

75 The auction is designed to be flexible. Two automatic responses are built into each ILTR operation. First, a greater proportion of funds is lent against a particular collateral set as the clearing spread for that collateral set increases relative to the other collateral sets. Second, a greater total quantity of funds is made available as the pattern of bids observed in the auction suggests a greater demand for liquidity insurance.

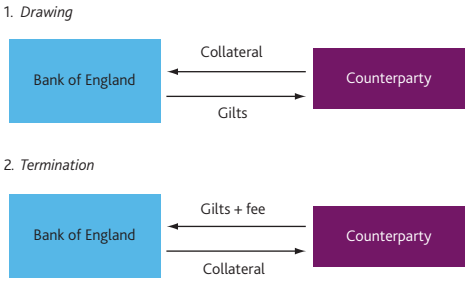
76 The mechanism through which these responses operate depends on the interaction of the demand for funds, shown by the pattern of bids received, and the Bank's preferences for supplying funds across collateral sets and in aggregate. The Bank's preferences for distributing funds between collateral sets comprise offering some funds at low 'entry level' minimum bid rates (to incentivise regular bidding and to allow some funds to be lent routinely against each set) and offering more funds as bid rates rise. The Bank's preferences for supplying a greater quantity of funds comprise a minimum amount offered in each ILTR auction, followed by an increase in the total amount available as the pattern of bids observed in the auction suggests greater demand. The Bank will keep all ILTR parameters under review.

Discount Window Facility

77 The Discount Window Facility (DWF) is a bilateral on-demand facility. It is aimed at institutions experiencing a firm-specific or market-wide shock. It allows SMF participants to borrow highly liquid assets in return for less liquid collateral in potentially large size and for a variable term.

78 The DWF is available to banks, building societies, broker-dealers and CCPs. Banks, building societies and broker-dealers are able to borrow gilts in the DWF against the full range of eligible collateral, comprising Levels A, B and C. CCPs may borrow in the DWF against Levels A and B collateral. Participants can then raise cash by lending the gilts in the market or by using them as collateral in the ILTR for example. So the DWF allows participants to perform a liquidity upgrade of their collateral. **Figure 2** presents a stylised illustration of how the DWF works.

Figure 2 Discount Window Facility



79 The Bank may agree to lend sterling cash rather than gilts. That might prove necessary if, for example, government bond repo markets fail to function properly. The Bank will lend sterling cash to CCPs in the DWF as standard.

80 DWF drawings by banks, building societies and broker-dealers have a maturity of 30 days, while drawings by CCPs have a maturity of five days. All drawings are repayable at any point. For longer temporary liquidity needs, participants can apply to roll DWF drawings in order to achieve an effectively longer term of drawing. For example, the Bank recognises that any management actions implemented by the DWF participant may take longer than the maturity of the initial drawing to have their full effect.

81 The DWF fees charged are set at a premium to the market in routine circumstances but should offer SMF participants affordable liquidity in less normal conditions. The fee reflects the type of collateral used, to avoid providing a subsidy for illiquid collateral relative to the market, and the size of the drawing, to incentivise repayment when borrowings are no longer needed.

82 For banks and building societies, the cost of the first tranche of borrowing in the DWF, up to 5% of the participant's

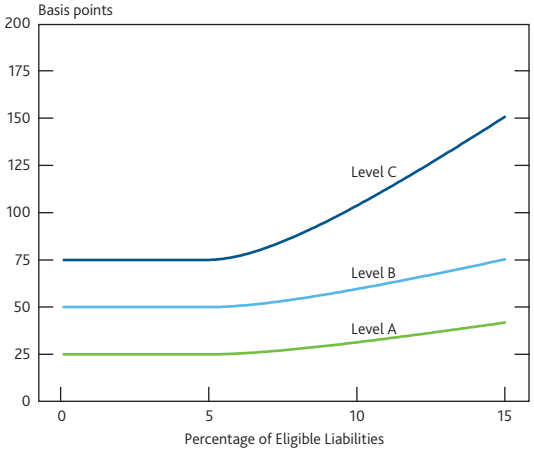
Eligible Liabilities (ELs), against the three collateral sets is shown in **Table C**. The average cost of borrowing between 5% and 15% of ELs rises smoothly with the amount drawn, as shown in **Chart 3**. The Bank will discuss very large drawings, above 15% of ELs, with counterparties on a bilateral basis. 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 interest rate is Bank Rate plus the fee.

Table C Fee for banks and building societies for borrowing gilts up to 5% of Eligible Liabilities in the DWF

Basis points

	Against collateral in…		
	Level A	Level B	Level C
Fee	25	50	75

Chart 3 Average cost of borrowing in the DWF by banks and building societies



Note: The fee for any size of DWF drawing can be found on the Bank's website using the DWF fee calculator at www.bankofengland.co.uk/markets/Documents/dwfspreadsheet.xlsx.

83 For broker-dealers and CCPs, the cost of drawing in the DWF will be agreed with counterparties on a bilateral basis at the time of drawing, to reflect the collateral used and the size of the drawing.

84 The Bank recognises that institutions using the DWF may be concerned about the risk of premature disclosure of usage, which may worsen the financial stability impact of the original liquidity shock. The design of the DWF seeks to minimise the risk of this occurring from the Bank's publications, by ensuring that DWF usage is only ever disclosed averaged across counterparties and over a calendar quarter, and is released with a lag. The average aggregate daily value of gilts (or cash) lent during each calendar quarter will be published on the first Tuesday following the final working day of the calendar quarter five quarters ahead. This ensures that any drawing should have ended before data on it are published.

85 Eligible collateral should be delivered or pre-positioned at least a day before a drawing. Participants are strongly encouraged to keep sufficient eligible collateral at the Bank at all times to ensure they are able to draw in the DWF quickly and smoothly should the need arise. In particular, SMF participants seeking to pre-position loan collateral or own-name securitisations should do so well in advance, as it may take some time to pre-position more complex assets.

86 Participants considering use of the DWF are strongly encouraged to discuss this with the Bank at an early stage. Following delivery of eligible collateral to the Bank, authorised drawing requests should be initiated by telephone to the Bank's sterling dealing desk as early as possible.

Contingent Term Repo Facility

87 The Contingent Term Repo Facility (CTRF) is a contingent liquidity facility that the Bank can activate in response to actual or prospective market-wide stress of an exceptional nature. The CTRF enables the Bank to provide additional sterling liquidity to banks, building societies and broker-dealers against the full range of eligible collateral, comprising Levels A, B and C.

88 Participants bid by submitting a nominal amount and a spread to Bank Rate expressed in basis points. The auction's pricing mechanism uses a so-called 'uniform price' format, in which all successful bidders pay the lowest accepted spread (the 'clearing spread'). The Bank indexes the rate charged to Bank Rate. The Bank would expect collateral used in CTRF operations to have been delivered or pre-positioned prior to an operation.

X Operational contingencies

89 The Bank intends the framework for its published operations to be as transparent and predictable as possible. This section summarises the Bank's specific operational contingency plans in relation to three 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, so the following list is not comprehensive.

CHAPS (payment system) extensions

90 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

91 A sudden closure of the CHAPS payment system and/or the CREST securities settlement system during the day would leave settlement banks with 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.

The CHAPS Settlement Bank Liquidity Scheme

92 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.