
Implementing monetary policy: reforms to the Bank of England's operations in the money market

By Roger Clews of the Bank's Markets Area.

In its money market operations, the Bank of England implements the interest rate decisions of its Monetary Policy Committee while meeting the liquidity needs of the banking system and thus contributing to its stability. The Bank has decided that it needs to upgrade the way in which it carries out these operations and has announced wide-ranging reforms to bring that about. This article describes the new system.

The Bank will adopt new ways of operating in the sterling money markets in the first half of 2006.⁽¹⁾ In its money market operations, the Bank implements the Monetary Policy Committee's interest rate decisions. But the particular way in which a central bank operates can affect the degree of control that it exercises over market interest rates. The up-coming reforms are intended to give the Bank much greater control. The instruments to be used in the new system will also provide more channels through which liquidity can pass between the banking system and the Bank. This should make for better liquidity management both in normal times and in stressed conditions. And it should foster more stable and fairer money markets. This article describes the new operational framework, focusing in particular on what it means for monetary policy implementation.

Each month the Bank's Monetary Policy Committee (MPC) meets to decide the level of the Bank's official interest rate. The MPC's decisions affect interest rates in money markets, on bank loans and retail deposits, as well as financial asset prices including the exchange rate. These changes in financial markets, together with the associated impact on expectations, in turn affect spending decisions and inflationary pressure in the economy. Monetary policy implementation focuses on the first step in this 'transmission mechanism' of monetary policy.⁽²⁾ The new system is designed to provide a tighter link between the Bank's official rate

and related market interest rates, out to the horizon of the next MPC rate announcement.

Central bank money: demand and supply

Central banks can implement monetary policy because they are the sole issuers of 'central bank money'. The most familiar form of central bank money is banknotes. Only the Bank of England is allowed to issue banknotes in England and Wales.⁽³⁾ But Bank of England notes are simply supplied on demand.⁽⁴⁾ The second form of central bank money consists of balances (current accounts or deposits) held by, in particular, commercial banks at the central bank. These balances are crucial both to the liquidity of the banking system and to the implementation of monetary policy. The central element in the Bank's reform of monetary policy implementation concerns the terms on which banks (and building societies) can manage their accounts at the Bank.

Commercial banks (and, in the United Kingdom, building societies) are themselves issuers of money, in the form of deposits. These can be transferred to make payments, for example using debit cards or cheques, and they can also be converted into central bank money, for example through ATMs. In the United Kingdom, as in most developed economies, such 'commercial bank money' greatly exceeds the central bank note issue. Commercial banks need to manage their own liquidity to ensure that they can make payments on their customers'

(1) Details of the new arrangements were published in April in 'Reform of the Bank of England's Operations in the Sterling Money Markets', see www.bankofengland.co.uk/markets/money/smmreform050404.pdf. For analysis of problems with the current system and reasons for change see Paul Tucker 'Managing the central bank's balance sheet: where monetary policy meets financial stability', *Bank of England Quarterly Bulletin*, Autumn 2004, pages 359–82.

(2) The MPC's view of the transmission mechanism as a whole was set out in a booklet published in 1999 and available at www.bankofengland.co.uk/publications/other/monetary/montrans.pdf.

(3) For Scotland and Northern Ireland see footnote 2 on page 214.

(4) Demand for banknotes may however contain information relevant to monetary policy, eg on household spending.

behalf or can convert deposits into central bank notes as required. In part banks can do this by holding accounts with other banks, on which they can draw when necessary. And they can go into the interbank market to manage their liquidity, borrowing from or placing funds with other banks. But there are limits to banks' willingness to accept credit risk by lending to each other, particularly where credit exposures might be large. Major banks have therefore long since adopted the practice of settling debts between themselves in central bank money. So transactions passing through the payments system are ultimately settled by transfers from the account of one commercial bank at the central bank to that of another commercial bank. And when commercial banks buy notes from the central bank they pay for them by running down these same accounts at the central bank. These are the reasons why commercial banks have a demand for central bank balances.

The terms on which banks and building societies⁽¹⁾ will be able to manage their accounts at the Bank of England are described in some detail below. But there will be three main elements to the new arrangements.

- (a) Within limits, banks will be able to hold balances ('reserves') at the Bank remunerated at the Bank's official interest rate. So long as they stay within those limits, banks will be able both to place funds at the official rate by increasing their reserve balances, and to obtain funds at the official rate by running down their balances. This will influence the interest rates at which banks are willing to place or borrow funds in the wider money market.
- (b) Outside those limits, banks will be able to make use of two standing facilities at the Bank, in which they can borrow (against security) or place funds. On the days when they are most constrained by the limits in the reserves scheme, banks will be able to borrow and place funds in the two standing facilities at rates just 25 basis points ($1/4\%$) above and below the official rate. This too should influence the rates at which they are willing to deal in the money market.
- (c) Finally, the Bank will use its open market operations (OMOs) to ensure that (i) banks are unlikely to have to use the standing facilities at all, but that (ii) there

is an equal (small) chance of using either facility. This too is intended to keep market rates close to the official rate (midway between the rates on the two facilities).

The instruments in the new framework

The three main instruments in the new scheme are now described in greater detail.

Remunerated reserves. Banks will be able to hold balances at the Bank of England (reserves) remunerated at the official rate of interest. There will be no compulsion in this; they will each be able, within limits, to choose their own target level for these reserves. They will not be expected to hold reserves at this target level every day, but only on average during a 'maintenance period' running from one regular MPC decision day to the next. (Maintenance periods will thus normally be of four or five weeks in length.) Even over the maintenance period as a whole, reserve-holders will not be expected to hit their targets exactly. If actual reserves on average over a maintenance period are within $\pm 1\%$ of the target, they will be remunerated at the Bank's official rate. Banks would be expected, if necessary, to make use of the Bank's standing facilities (described in more detail below) to ensure that their reserve balance did fall within the target range of $\pm 1\%$. If they failed to do so they would be penalised. An institution with average reserve balances above 101% of its target would receive interest at the official rate on 101% of the target but no interest on the excess. An institution with average holdings below 99% of its target would receive net interest equal to the official interest rate on 99% of the target less twice the official interest rate on the shortfall below 99%.⁽²⁾ Reserve-holders would also be charged twice the official interest rate on any overdraft on their reserve account on any day.

Banks' ability to vary their reserve holdings from day to day during the maintenance period will help them to manage their liquidity, providing a buffer to absorb unexpected payment inflows or outflows. Individual banks will also be able to choose to run their reserve balances at the Bank up or down if the official rate on these balances compares favourably with rates in the money market. If rates in the money market are high, a bank may choose to run down its reserve balance instead of borrowing in the market. Equally if money

(1) In the rest of this article the term 'banks' will generally be used to cover both banks and building societies.

(2) The penalties can be described in an alternative but entirely equivalent way. Institutions will be paid the official rate on their actual reserve balances, but will be charged (one times) the official interest rate on any excess or shortfall above or below the target range.

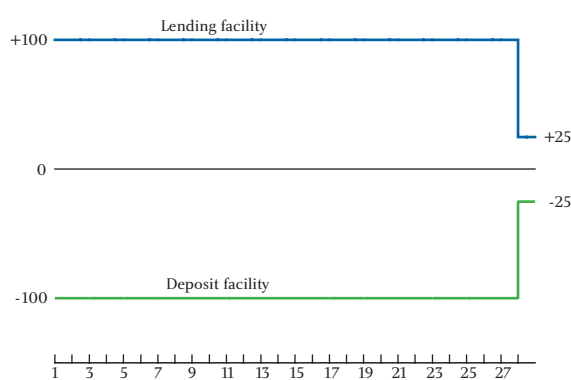
market rates are low, a bank may choose to increase its reserve balance rather than to place funds in the market. The ability of banks to arbitrage in this way between balances at the Bank and positions in the money market should limit deviations between market rates and the official rate, within each maintenance period. Banks' freedom to vary their reserve balances will become more constrained as the end of the maintenance period approaches, since they will need to bring their average balances within the target range. But even on the final day of the period, the range itself may give them significant room for manoeuvre. Consider a bank with a target for its average reserve balances of £100 million. In a four-week (28 day) maintenance period that is equivalent to a target of £2,800 million for its cumulative reserve balances over the period. Suppose that on the last-but-one day of the period its cumulative reserves amount to £2,700 million (£100 million per day). Then reserve holdings on the final day within a range from £72 million to £128 million will ensure that the average for the period as a whole is within the $\pm 1\%$ range.

Reserve balances are expected to be attractive assets for many institutions. They will be a valuable tool for liquidity management and highly-rated by regulatory authorities. And they will not be costly; the Bank will pay the same rate of interest on these balances as on the short-term open market operations that institutions could use to finance the balances. (Open market operations are described further below.) Given these attractions there will be upper limits on the amount that any bank may target (the larger of £1 billion or 2% of eligible liabilities).⁽¹⁾ Within those limits banks will be free to vary their targets from maintenance period to maintenance period. But, after a possible learning period, it is not expected that reserve-holders will want to make large changes in normal circumstances.

Standing facilities. Banks will also be able to make use of overnight standing facilities. They will be able to place money with the Bank overnight, and they will be able to borrow funds by repoing eligible assets to the Bank overnight.⁽²⁾ Particularly on the last day of the maintenance period, these standing facilities will have a role in controlling rates in the market as a whole (as

explained below). On that day, the interest rate paid on the deposit facility will be just 25 basis points below the Bank's official rate; the rate charged for use of the borrowing facility will be 25 basis points above the official rate. On other days of the maintenance period, the facilities' main role will be to provide liquidity backup for individual institutions. On those days the rates will be less advantageous to the banks making use of the facilities, at 100 basis points below or above the official rate.

Chart 1
Rates on standing facilities through a four-week maintenance period, relative to the official repo rate, in basis points



Open market operations. Open market operations (OMOs) are another channel through which central banks lend money and sometimes borrow. But, unlike the use of standing facilities, OMOs are undertaken at the initiative of the central bank. As explained briefly above, the Bank will be using OMOs as its main instrument for ensuring that reserve-holders collectively are able to meet, on average over a maintenance period, the reserve targets they have set themselves. For example, if the average level of notes in circulation were to increase from one reserve maintenance period to the next, then other things being equal, reserve balances would fall, because the notes would have to be paid for. Although individual banks might change their reserve holdings by trading in the money market, their collective holdings would necessarily be lower on average in the second maintenance period. But the Bank would act to ensure that this did not actually happen. In this case the Bank would lend more in its open market operations (OMOs)

(1) Eligible liabilities are a measure of banks' sterling deposit liabilities (net of interbank deposits). They are calculated as the basis on which banks may be obliged to hold non-interest-bearing Cash Ratio Deposits at the Bank (see footnote 1 on page 215). In future they will also be used in the calculation of the maximum targets that institutions will be allowed to set for their holdings of voluntary interest-bearing reserve balances at the Bank.

(2) Repos are, in their economic effect, secured loans. In the standing facility the Bank will buy eligible assets from a bank, while simultaneously agreeing to sell them back the following day. The rate of interest will be expressed in the difference between the prices at which the assets are bought and then sold. Where, as here, the Bank is lending money, the transaction is strictly speaking a reverse repo from its point of view and a repo from the point of view of the borrower.

so that the increase in its note liabilities between maintenance periods was matched by an increase in its money market assets and not by a fall in its reserve balance liabilities. Equally, if banks were to raise or lower their reserve targets between one maintenance period and the next, the Bank would adjust its OMOs to ensure that banks could meet their new targets.

In this way the Bank will enable reserve-holders collectively to meet their reserve targets. But it will be for individual reserve-holders to ensure that they meet their individual targets. They may each seek to do so by taking part in the Bank's OMOs, but they are equally free to finance their reserve holdings in the market, if that is what they prefer. This is why individual reserve-holders will be eligible to take part in the OMOs, but so too will other banks, building societies or securities dealers that are, among other things, active in the money market.

The Bank will undertake one-week OMOs each week, normally on a Thursday (including MPC decision days). It will also undertake an overnight OMO (that is, with a maturity of just one day) on the final day of every maintenance period (normally a Wednesday). It will continue to undertake OMOs in the form of repos of eligible assets⁽¹⁾ and will continue to do so at the MPC's official rate — the Bank of England repo rate. To decide on the required scale of its OMOs, the Bank will make forecasts of factors that would otherwise affect aggregate reserve balances over the remainder of each maintenance period. The most important of these factors will normally be changes in the note circulation, but changes elsewhere in the Bank's balance sheet may also sometimes matter, for example movements in the accounts of other central banks or of the government. When, in the light of these forecasts, the Bank judges that it needs to make more reserves available it will simply lend more on a Thursday than the counterparties have to repay in OMOs maturing on that day. And when the reserve-holders are forecast to be oversupplied with reserves the Bank will simply lend less than the amount the counterparties are repaying. In the overnight 'fine-tuning' OMO on the final day of a maintenance period the Bank will simply lend money if it needs to

provide reserves. But since there will normally be no OMOs maturing on a Wednesday, if the Bank needs to drain reserves in a 'fine-tuning' OMO, it will repo out assets to its counterparties and take cash from them overnight, at the official rate.

The forecasts underpinning each weekly OMO cannot be expected to be completely accurate, but the impact of any discrepancies between outturns and forecasts will be offset in subsequent OMOs within the same reserve maintenance period, including the fine-tuning OMO on the final day of the period. The width of the target range for reserves has been set so that only very rarely should an error in the forecast underlying the final-day OMO take reserves outside the reserve-holders' target ranges.

One factor which might invalidate the forecasts would be any (unexpected) use of the standing facilities, which would add to or subtract from reserve balances. Use of the standing facilities before the final day of the maintenance period will be taken into account in subsequent OMOs, because the Bank's aim will remain that of supplying as exactly as possible the amount of reserves needed for reserve targets to be hit. On the final day of the maintenance period that will hardly be possible. This means that on that final day, if the forecast underlying the fine-tuning OMO is correct, but a bank nevertheless makes use of one of the facilities, reserve-holders in aggregate will be under or over-supplied with liquidity. If the use of the facility is small enough, reserve-holders may still be able to remain within their reserve target ranges. If not, some other reserve-holder will be obliged to make use of the 'opposite' facility. Even with a narrow corridor on the final day, such an outcome would be costly for the institutions concerned. But this provides an incentive for reserve-holders and others to trade with each other in the market on the final day of the period, rather than using the standing facilities.

Weekly OMOs will not allow reserve-holders to hold their target level of reserves on every single day. Each Friday notes in circulation will rise, as now,⁽²⁾ and reserve balances will fall as these extra notes are paid for.

(1) See footnote 2 on page 215. In one-week repos, the Bank will of course agree to sell assets back to its counterparties after seven days.

(2) Normal demand patterns result in a slight increase in the value of Bank of England notes in general circulation at weekends compared with mid-week. Additionally, certain Scottish and Northern Ireland banks are permitted to issue their own banknotes provided that the great bulk of them are covered by equivalent holdings of Bank of England notes. The Acts of 1845 and 1928 that govern the issue of notes in Scotland and Northern Ireland allow these issuing banks some flexibility in managing the timing and amount of Bank of England notes held as cover but lay down that the amount of cover should be calculated as at close of business on Saturdays. This flexibility means that the issuing banks' holdings of Bank of England notes are greatest at the weekend, which accounts for the bulk of the weekly seasonality in the Bank of England note issue.

So reserve balances on Friday, Saturday and Sunday will be relatively low, and balances will be relatively high from Monday to Thursday after the note circulation has fallen back. Such intra-week variations will be possible because of the averaging arrangements to be applied to reserves. Discussions with prospective reserve-holders suggest that targets for reserve balances may total more than £25 billion. If so, reserve balances will be quite large enough to absorb within-week variation in the note issue, which typically amounts to £2 billion–£3 billion. The Bank will publish each day its forecast of aggregate reserves balances at the end of that day, to help individual reserve-holders to plan their operations.

The Bank will pre-announce the size of each of its OMOs. If bids from its counterparties are for more than the amount on offer they will be scaled back. In theory it might happen that counterparties' bids sum to less than the amount on offer. In that case the shortfall would be taken into account in the planning of OMOs in the rest of the maintenance period. However, because the Bank will never lend more in an OMO than it thinks is necessary, but may find itself providing less, the only possible risk to interest rates is that underbidding might make for firmer rates. But then counterparties that had obtained funds in the OMO at the official rate would be at an advantage, since they could lend into the market at higher rates. Since there would be no equivalent risk of soft rates through oversupply, this should encourage counterparties to bid.

Different counterparties for different instruments

The instruments used to implement monetary policy will have different specific functions. There is no need for the Bank to deal with an identical group of counterparties for all instruments and it does not expect to do so.

Some banks will automatically be members of the reserve-holding scheme. These are the settlement banks that already have settlement accounts at the Bank because they are members of the sterling wholesale payment system (CHAPS Sterling) or are payment banks in CREST, the securities settlement system. (That will be equally true of banks that become settlement banks in the future.) The same accounts at the Bank will be used

for settlement purposes and as reserve accounts. This means that settlement banks will be able to make use of their reserves during each day to make payments in CHAPS Sterling or CREST. For these banks, reserve balances will be a source of intraday liquidity to complement or replace intraday repos from the Bank which are their main source of such liquidity in the current arrangements.

In addition, any bank in the United Kingdom above a certain size may opt to hold remunerated reserves, although groups of institutions related through ownership links will be asked to nominate one member to hold reserves on their behalf. The size cut-off will be based on the Cash Ratio Deposit (CRD) scheme, so that any bank that actually holds CRDs will be eligible to hold remunerated reserves, if it so wishes.⁽¹⁾ Around 100 groups of institutions are currently above this threshold. CRDs are non-interest-bearing deposits, invested in assets whose yield pays for the Bank's sterling liquidity function among others.⁽²⁾ The Bank thinks it right that institutions contributing to the financing of this function should be able to benefit directly from the Bank's new channels for providing liquidity. The Bank hopes that institutions other than settlement banks will choose to hold reserves, and a significant number have expressed interest in doing so.

Any bank that holds reserves will also be expected to sign up for standing facilities. Any other bank that actually holds CRDs will also be eligible to sign up for standing facilities. The Bank believes that direct access to the central bank should form part of the contingency planning of a wide range of banks and hopes therefore that many institutions will sign standing facility agreements with it.

The purpose of the Bank's open market operations is to ensure that reserve-holders in aggregate can meet their reserve targets. But individual institutions can adjust their positions by dealing in the money market. So it is not necessary for reserve-holders to be counterparties in the Bank's OMOs, or for OMO counterparties to be reserve-holders. Reserve-holders will be eligible to take part in OMOs but so will any other banks, building societies or indeed securities dealers that are active in the sterling money markets. OMO counterparties will

(1) Banks are in principle required to hold Cash Ratio Deposits (CRDs) with the Bank, related to the size of their Eligible Liabilities (ELs, see footnote 1 on page 213). But for ELs up to £500 million the ratio is set at 0%, so that small institutions actually hold no CRDs. For ELs over £500 million the ratio of CRDs to ELs is 0.15%.

(2) See HM Treasury 'Review of the Cash Ratio Scheme and Consultation on proposed changes', August 2003, at www.hm-treasury.gov.uk/media/FC1/FD/crd_279.pdf.

also need to meet standards of prudence and risk and the legal basis of transactions with them will need to be robust.

Counterparties will of course need the operational capability to make use of whichever instruments they sign up for. They will be expected to settle promptly their transactions with the Bank. There are also two more general requirements. They must act in a way that is consistent with the Bank's objectives of competitive and fair sterling money markets. And they must be willing to contribute to the Bank's market intelligence work — not just with respect to the sterling money markets, but also, from their knowledge of other markets in which they are engaged, in support of the Bank's monetary and financial stability objectives more widely.

The monetary policy timetable

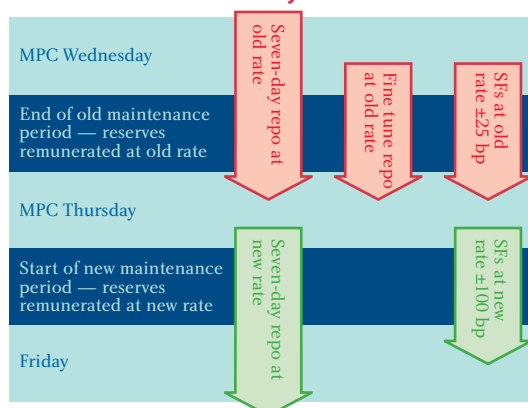
The timetable for MPC meetings is set out well in advance. Interest rate decisions are announced once a month, usually on a Thursday early in the month, at midday.⁽¹⁾ The Bank's new instruments for implementing policy are designed to fit in with this timetable.

The maintenance period for reserve holdings will run from one MPC decision to the next. Reserve holdings at close of business on the day of an MPC decision will be the first to be counted towards that period's average. Reserves held at close of business on the day (normally a Wednesday) immediately before the next decision will be the last to contribute to the average for that maintenance period. Thus remuneration of reserves will change immediately if the MPC decides to change the Bank's official rate.

Similarly, standing facility rates will be based on the official rate established for each 'MPC month' and will change immediately if the official rate changes. Any use of the Bank's overnight standing facilities on the Thursday of an MPC decision would be at 100 basis points above or below the new official rate.⁽²⁾ Use of the facilities on the Wednesday before an MPC decision day would be at 25 basis points above or below the previously established official rate.

Open market operations undertaken in any maintenance period will be at the official rate established for that

Chart 2
Interest rates on monetary policy instruments around MPC decision day



'MPC month'. All outstanding OMOs (whether seven-day repos or overnight fine-tuning repos) will mature on an MPC decision day. New seven-day repos undertaken on that day will of course be at the new rate.

The rates on the new instruments of monetary policy will thus all be set one month at a time. As the next MPC meeting approaches, the maturity of the interest rates that the Bank is seeking to influence will shorten. Immediately after an MPC decision the focus will be on all maturities from overnight to around one month. But as the time to the next MPC meeting shortens, so too will the section of the yield curve in question. On the eve of an MPC decision the focus will be solely on the overnight rate.

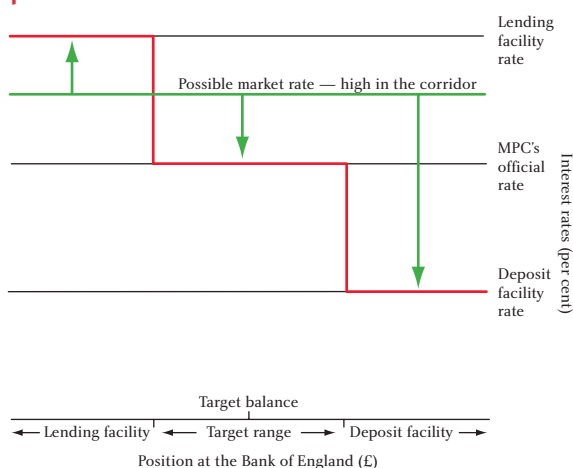
How the instruments will fit together

The new arrangements are designed to permit arbitrage between market interest rates and rates paid or charged by the Bank. Chart 3 shows (in red) the official rates relevant to a reserve-holding bank on the last day of the reserve maintenance period. If, at close of business that day, average reserves are within the target range, they will be remunerated at the MPC's official rate (along the middle 'step' of the red line). If an unexpected inflow to the bank would push reserves above the top of the target range, the bank would expect to put the excess into the Bank's deposit facility (on the right-hand side of the chart). Equally an unexpected outflow might oblige it to use the Bank's lending facility (on the left-hand side). These different possible outcomes will have different implications for the reserve-holding bank, depending on the level of market interest rates.

(1) Rates can also be changed in unscheduled meetings. But this has happened only once, in September 2001.

(2) This would include any use of the facilities in the morning of an MPC decision, when the rate to be charged would not be known.

Chart 3
Interest rates on the last day of the maintenance period



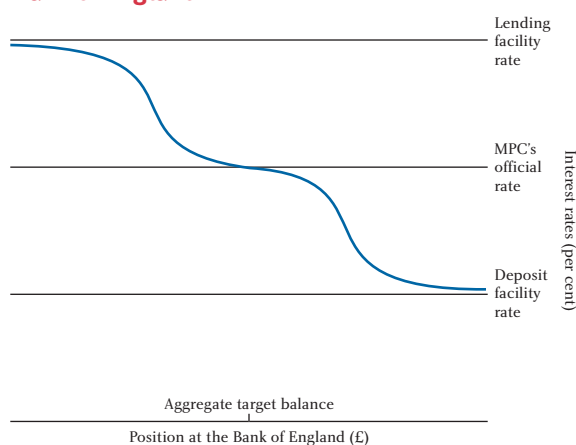
The chart is drawn to illustrate the case that would arise if the relevant market rate (shown by the green line) were above the MPC's official rate. The arrows indicate the relevant interest rate comparisons. First, with market rates above the remuneration rate for reserve balances, the bank might be expected to place more (or borrow less) in the market and to place less in its reserve account, thus holding reserve balances towards the bottom of its target range. But if the bank were uncertain about its liquidity position it might not aim to hit the very bottom of its target range, for fear that an unexpected outflow would force it into the Bank's lending facility, at a rate of interest above the market rate. The more uncertain it was, the less willing it would be to aim for the bottom of the range. On the other hand, if the market rate were very high within the interest rate corridor, the cost of using that facility would be very small (the left-hand green arrow would be very short) and the bank would be more willing to risk using the facility.

If the market rate were low in the corridor the incentives would all be reversed. The cost of using the deposit facility would be relatively low and that of using the lending facility relatively high. So at low market rates the bank would have incentives to borrow in the market and to hold relatively high reserve balances. The low market rate of interest would in effect compensate it for the risk of having to use the deposit facility.

For each individual reserve-holding bank, market rates may thus be expected to influence its choice of reserve balance for which it is aiming. Aggregating across all the reserve-holding banks, the aggregate 'demand curve' for reserve balances might resemble the line in Chart 4.

The precise shape would depend on the size of banks' target ranges and just how uncertain they were about their liquidity position. The actual level of the market interest rate would result from the intersection of this demand curve with the Bank's supply. The chart illustrates that if the Bank in its OMOs can provide just the right amount of liquidity to enable banks to hit their reserve targets, then the market rate should be in line with the official rate. And because there is a relatively flat part of the curve either side of the aggregate target level, influenced by the target ranges, small mistakes in the Bank's supply should not have a significant impact on the market rate.

Chart 4
Possible demand schedule for balances at the Bank of England



Market expectations of the market rate on the last day of the maintenance period are also important. The narrow corridor and the fine-tuning OMO on the last day of every maintenance period, together with the effect of target ranges, are designed to give market participants confidence that the market rate will indeed be close to the official rate on the final day of the maintenance period.

Smoothing rates from day to day within the maintenance period

On days other than the last in a maintenance period, arbitrage is expected to work somewhat differently. Here, reserve-holding banks have a choice between holding reserves today and holding reserves later in the maintenance period. And how they exercise their choice is expected to depend on the relationship between market rates today and market rates expected later in the maintenance period.

If rates today were higher than those expected later in the maintenance period, reserve-holders with a need for finance would tend to let their reserves at the Bank run down, expecting to be able to rebuild them as necessary by borrowing in the market more cheaply later in the maintenance period. Similarly, banks with funds to place would place them in the market on the day in question, rather than build up their reserves then and place funds in the market at lower rates later in the period. If rates were soft on any day that would encourage transactions going in the opposite direction. And banks whose own *ex-ante* positions were reasonably well balanced might also choose to borrow or lend in the market, making use of their reserve accounts at the Bank to, in effect, arbitrage between market rates on different days of the maintenance period. All these transactions would tend to work together to keep market rates in line with those expected later in the period, and ultimately in line with the rate expected on the final day. The averaging provisions for reserve holdings should smooth rates from day to day within each maintenance period. And so long as the market expects that on the final day of the period market rates will be close to the official rate, market rates earlier in the period should also be close to that level.

The possibility of ‘back-loading’

Reserve-holders will not be allowed to overdraw their reserve accounts on any day. But there is no equivalent upper limit to their daily reserve holdings. If a reserve-holder accidentally over-fulfils its reserves target before the end of a maintenance period it cannot rectify its position by holding negative reserves in the rest of the period. Nor will it then want to hold positive reserves since they will bear no interest.

However, a reserve-holder that approaches the end of the maintenance period with below-target reserves is able to increase its average, towards its target, by holding high levels of reserves late in the period. If costly over-fulfilment were a serious risk, reserve-holders might choose to hold a relatively large proportion of their reserves later in the period (‘back-loading’). There is some evidence of this effect in the United States, where reserves are low relative to the uncertainty surrounding individual banks’ payment flows, so that accidental over-fulfilment may indeed be an issue. But there is little or no evidence in the euro area, where reserve holdings are higher.

Given the likely level of reserves in the new UK system, the Bank does not expect ‘back-loading’ to be at all significant here. If it were to be a factor it might become apparent in underbidding in OMOs early in the maintenance period. But that would have no necessary implications for the course of interest rates, if the pattern of reserve supply through the maintenance period were merely being brought into line with the pattern of demand.

Different market rates

Secured wholesale money market rates will be most directly affected by official rates because they will be most directly comparable to rates on accounts at the Bank. Borrowing from the Bank of England in its standing lending facility will be by way of repo, that is to say, secured. And deposits with the Bank of England in its standing deposit facility will be of the highest credit quality. Unsecured rates in the wholesale money markets can be expected to diverge, as now, from secured rates, depending on the view, taken in the market, of any credit risk incurred in lending unsecured to a private sector institution. Nothing in the new arrangements is intended to constrain the market in its pricing of credit or other risk. Indeed, secured market rates might also, as now, diverge a little from the official rate, for example because the terms of which collateral was provided in the private market differed from the precise terms of the Bank of England’s secured lending.

Comparisons with other systems

Many of the elements in the Bank’s new money market operations are already to be found in other countries, but the particular combination planned for this country is new. The general pattern of operations will resemble that in the euro area — with standing facilities, weekly one-week OMOs and a roughly monthly maintenance period for reserve averaging. The main differences are that in the United Kingdom reserves will be voluntary and contractual rather than required by regulation, there will be a range around the target levels of reserves, the interest rate corridor in the United Kingdom will narrow to ± 25 basis points on the final day of the maintenance period, and the Bank of England will commit to always undertaking a fine-tuning open market operation on the last day of the period.

In the United States, banks may contract with a Federal Reserve Bank to hold ‘clearing balances’ in addition to required reserves. These are a form of

voluntary reserves, but unlike those planned for the United Kingdom, they do not carry explicit interest. As in the new UK system, US banks contract to hold clearing balances within a range (the 'clearing balance band').

The narrow, ± 25 basis point, corridor on the final day of the UK system will closely resemble the corridors to be found in the 'channel' systems of Canada, Australia and New Zealand. But there the narrow corridors apply on every day, and because there is no reserve averaging the central banks have to manage liquidity in their systems day by day.

The new system will show many differences from the one used in this country up to now. Importantly, banks and building societies will be able to deal with the Bank at the official interest rate, not just by taking part in set-piece open market operations but by making use of remunerated balances at the Bank, at their own initiative, and at times of their own choosing. Moreover, many more banks and societies will have access to standing facilities at the Bank, in unlimited amounts, at interest rates that will narrow to a spread of just 25 basis points to the official rate on days when they are most likely to be needed. Because reserve balances at the Bank will bear interest at the official rate, demand for them is expected to be several hundred times greater than for the non-interest-bearing settlement balances of the current system, which the Bank aims to supply in the amount of only £45 million. For this reason, and because reserve targets will apply to the average of an 'MPC month' and not every day, reserve-holders will have much greater flexibility in their liquidity management. Because settlement banks currently hold very small balances on their accounts at the Bank, they need to be active every day to ensure that these accounts remain in credit. They do so predominantly by trading in the market, but to cope with late swings in their positions they also need to use special off-market arrangements at the end of each day. In the new arrangements, because reserve balances be so much larger, avoiding overdrafts should be very much easier. And reserve averaging will mean that reserve-holding institutions will need to square off their position completely at the central bank only twelve times a year. The Bank will be able to undertake open market operations just five or six times a month, instead of a number of times per day.

Volatility in very short-term sterling interest rates has already fallen, as the Bank has made clear that it intends

to have much closer control over these rates and as it has laid out the reforms to bring this about. To consolidate this welcome development ahead of full reform, the Bank introduced some interim changes to its operations on 14 March this year. These were described on page 22 of the Spring 2005 edition of this *Bulletin* and their initial effect is considered on page 139 of this issue.

Other potential effects of reform

The reforms currently in train are designed primarily to improve the implementation of the Monetary Policy Committee's interest rate decisions. They should also have other beneficial effects. Locking in lower volatility in very short-term interest rates should make the financing of other assets less risky and further improve the liquidity of derivative and other markets related to the short-term money markets.

As already noted, reserve balances will have a role in the payments system, as a source of liquidity that can be used by settlement banks to keep payments flowing throughout the day. The remuneration of balances at the Bank of England overnight may also make the role of settlement bank more attractive. The Bank would welcome any resulting increase in the number of settlement banks. That would help to reduce intraday credit exposures that currently exist between settlement banks and their largest correspondent bank customers and that are a potential weakness in the United Kingdom's financial architecture.

Standing facilities and reserve balances will be available to a wide range of banks. As a result, the Bank of England expects to have established financial relationships with a much larger number of banks than is currently the case. With liquidity able to flow in many more channels between the Bank and other institutions, there should be less scope for any player to exercise market power in the money market, which will help to make for fair and predictable trading conditions. Moreover, the increased number of links between the Bank and market participants should make it easier to deal with stressed conditions, whether related to general problems with the financial infrastructure, or indeed to liquidity strains affecting particular institutions. And a closer operational relationship with a wider range of institutions will help the Bank, for example in its market surveillance work.

Reserve averaging will mean that more transactions will occur over the balance sheet of the Bank of England, but experience in other averaging systems suggests that this will still leave plenty of scope for trading even in very short-term money markets. Trading will however be expected to be for liquidity management purposes. Since the aim is to keep market risk-free rates between MPC meetings in line with the official rate, markets have little or no role in price discovery in this very short part of the secured yield curve.

The reforms currently underway will mean large changes for the Bank, for the money markets and for the institutions with which the Bank does or will do business. But plans are well advanced and all but the most detailed aspects of the design of the new system are now settled. The Bank currently expects to have the

new system up and running between March and June of 2006.

In these reforms the Bank is equipping itself with a more complete set of tools for the implementation of monetary policy. Most of the tools are in use in systems abroad, although the particular combination to be adopted in this country will be new. Experience of the use of these tools elsewhere suggests that they will make for improvements not only in monetary policy implementation but also in the functioning of money markets and the robustness of the financial system. The Bank will continue to work closely with market participants in the remaining period before the reforms come fully into effect. It will also monitor carefully the performance of the new system, once it is in operation.