

## Britain's New Monetary Control System

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During the past few years, the United Kingdom has undertaken a major reform of its monetary control system. This has resulted from a recognition that, to be effective, controls must be adapted to changes in the environment in which they operate. Although changes in the controls have been introduced gradually, and continue to be made, the bulk of the reform was proposed to the banks and other affected financial institutions in a Bank of England consultative document entitled "Competition and Credit Control"[8]<sup>1</sup> that was published in May 1971 and implemented in September 1971.

The reform to date has consisted of several related parts. First, there was a reorientation of the targets of monetary policy. Bank credit to the private sector, a prime concern in the 1960's, was de-emphasized and greater attention was given to the broad monetary aggregates, which were believed to provide a better indication of the impact of monetary policy on the real economic variables that are the ultimate objectives of monetary policy. Second, direct controls on bank advances were eliminated. Third, the bank cartel arrangements, which had tied many interest rates to the official bank rate, were terminated. These latter moves were designed, in part, to promote freer competition in financial markets in the expectation that this would increase the efficiency of financial intermediation. They also paved the way for greater reliance on what were expected to be more efficient market-related monetary controls, namely, reserve requirements, discounting, and open market operations. The changes were accompanied by a more flexible interest rate policy and a shift in official debt management strategy.

The greater dependence on market-related control devices and the new emphasis on broad monetary aggregates

as operational indicators have brought the British monetary control system closer to the United States control system than at any previous time in the postwar period. Nevertheless, differences remain, notably the role of the discount mechanism, the coverage of reserve requirements, the nature of reserves, and the relation of reserve requirements to debt management objectives.

This article will describe the main influences leading to the British reforms, the monetary objectives and techniques of the new control system, and the principal differences and similarities between the current British and United States systems of monetary control. No attempt is made to deal with central bank problems other than domestic monetary control objectives and techniques. Left aside, for example, are questions about the extent to which domestic monetary policy can be independent of international monetary developments and domestic fiscal policy. The central bank's operations in foreign exchange markets are also excluded from consideration.

### INFLUENCES CONTRIBUTING TO REFORM

The 1950's and 1960's constituted a period of renaissance for monetary policy in Britain as in other developed countries.<sup>2</sup> Prior to 1951, when monetary policy was reinstated as an instrument of government policy, the central bank's discount rate, known as the "bank rate", had remained unchanged at 2 percent for nineteen years, with the exception of a brief episode during August-October 1939. Over these years, fiscal policy and, during the war, price control and rationing had been the main instruments of economic control. In a recent review of monetary policy between 1959 and 1969 [3], the Bank of England noted that monetary policy, even after its reinstatement, initially

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<sup>1</sup> Numbers in brackets refer to bibliography listings at end of article.

<sup>2</sup> Readers interested in the development of British monetary policy during the 1950's and 1960's should consult Goodhart [24], Griffiths [26], Kareken [29], Nobay [36], and Rowan [40].

occupied "a somewhat subsidiary role" in implementing the government's main objectives: full employment and balance-of-payments equilibrium. When policy was expansionary, the thrust came from fiscal policy, with monetary policy "having primarily a permissive role". When balance-of-payments problems imposed a need for domestic restraint, monetary measures were included as supporting elements in general packages of various measures. A sharp increase in the bank rate was included in such packages rather more to demonstrate the government's resolve to deal with its economic problems than for its expected effect on international capital flows, domestic investment, or consumption ([15], page 38).

Aside from crisis episodes, the Bank of England increasingly devoted its traditional market-oriented tools—discounting, open market operations, and reserve requirements—to management of the government debt. The particular way in which these tools were used for debt management purposes often interfered with their effective use for monetary management. In its discounting and open market operations, the Bank sought to "maintain market conditions that will maximize, both now and in the future, the desire of investors both at home and abroad to hold British government debt" ([2], page 142). Sales-maximizing market conditions, especially for the longer-dated securities which the authorities most wished to sell, were judged those in which interest rate fluctuations were moderated by official "leaning against the wind" operations. Official support of this kind permitted banks and others to sell government securities on a falling market at only moderate loss. The official policy of stabilizing short-term interest rate fluctuations was also supported by the London clearing bank interest rate cartel, which tied deposit and loan rates to the official bank rate, and by conventions governing the relationship between the Treasury bill rate and bank rate.<sup>3</sup>

Given its interest rate policy, the Bank of England found itself unable to use discounting and open market operations to squeeze the banks' cash positions (currency and balances with the Bank of England) and thereby impose monetary restraint. As late as 1969, the Bank stated that it had "not attempted to achieve this [restraint of bank lending] by acting to reduce the cash base of the system . . . [since this] must involve conscious manipulation of interest rates primarily to that end. But in the short run

at least the market's reaction to interest changes can be perverse in the sense that the public will sell as rates rise—expecting worse to come—and is generally unpredictable" ([3], page 221).<sup>4</sup>

Debt management objectives also led to an innovation in reserve requirements. In the early 1950's, the liquid asset ratio previously observed by the London and Scottish clearing banks for prudential purposes was formalized by the banks' agreement to maintain the ratio at a stipulated level ([14], page 119)—initially set at 30 percent but reduced in 1963 to 28 percent. Qualifying liquid assets were currency, balances with the Bank of England, Treasury bills, commercial bills (negligible in 1951), and call money placed with the discount houses. The discount houses, peculiarly British institutions, have long played an important part in British money markets.<sup>5</sup> They are financed in large part by call loans from banks. Their assets are mostly short term, but maturities range up to five years. The houses have long been valued by the Bank of England for their services in covering the weekly tender of Treasury bills and dealing in other short-term government securities. The Bank reciprocated by according them exclusive and unconditional discounting privileges. The discount houses are valued by the banks as a convenient means of adjusting liquidity and as an indirect source of central bank credit. The inclusion in the banks' liquid asset ratio of call money placed with the houses assured the latter of a source of relatively cheap finance and, in this somewhat roundabout way, probably reduced the interest cost of the government debt.

In the early 1950's, virtually all of the discount houses' assets were in government securities. The resulting predominance of Treasury bills in the banks' liquid assets, held directly or indirectly through the banks' financing of the discount houses, inspired the "new orthodox" theory that originated in the late 1950's, namely, that the supply of Treasury bills determined the supply of liquid assets and, consequently, that bank credit could be reduced by selling long-term government debt; using the proceeds to retire Treasury bills.<sup>6</sup>

The Bank of England, however, was just as unwilling

<sup>4</sup> There is an interesting discussion of the Bank's views in Goodhart [24].

<sup>5</sup> The discount houses are described in Radcliffe [14], pages 58-64 and Garvy [23], pages 271-73.

<sup>6</sup> Professor Sayer's original statement of this theory is included in [43], especially pages 104ff. For later commentary, see Coppock and Gibson [19] and Kareken [29].

<sup>3</sup> Griffiths [26] contains an account of the historical development of these practices.

to manipulate the supply of Treasury bills for monetary purposes as it was to manipulate the banks' cash. The reason was, of course, similar, namely, that pressing long-dated government bonds on a possibly reluctant market in order to reduce the supply of Treasury bills might be expected to lead to a sharp increase in interest rates. Instead, it developed a variable cash ratio called "special deposits", consisting solely of deposits at the central bank. This ratio was applied the first time in 1960. In the Bank's view, calls for special deposits put pressure on the banks' liquid assets, since the banks were expected to sell liquid assets to obtain the needed deposits at the central bank, but left the Bank free to offset any undesired interest rate effects ([3], page 222). These early experiments with special deposits were not uniformly successful. Generally, the banks made good any reductions in their holdings of Treasury bills by expanding their loans to the discount houses, since these loans also counted as liquid assets; and the discount houses in turn expanded their holdings of commercial bills.<sup>7</sup> The cost to the banks of this liquid asset substitution was minimized by the Bank of England's efforts to smooth interest rate fluctuations.

When it was becoming clear during the 1950's that constraints on interest rate policy foreclosed the effective use of the traditional market-oriented control instruments, the brunt of the burden of monetary restraint began to be shifted to credit ceilings. The ceilings were initially instituted only for the clearing banks, but in the 1960's they were extended to the nonclearing banks—the accepting houses, the British overseas banks, and foreign banks—whose domestic banking business was growing very rapidly and also to the major finance houses (which specialize in consumer credit).

As the need to impose severe credit restraint became more frequent during the 1960's, the authorities became increasingly aware of the ineffectiveness of direct controls when maintained for prolonged periods. During the late 1960's, the credit ceilings came to be exceeded fairly regularly. Moreover, the fast-growing nonclearing banks greatly expanded their foreign currency loans to domestic borrowers, a loan category not covered by credit ceilings. The establishment of new foreign banks in the 1960's, each with a loan limit, further increased bank advances. As a result, between the fourth quarter of 1967 and the first quarter of 1971, the nonclearing banks' advances to the private sector more than doubled despite credit ceilings that set the maximum permissible increase in sterling

advances by any given bank at about 9 percent.<sup>8</sup> Other drawbacks, which became more serious as the ceilings were applied over long periods during the 1960's, included the stifling of initiative and competition between banks, base rate inequities, the diversion of lending activities into uncontrolled channels, and structural distortions of balance sheets.

At about the same time that the drawbacks of credit ceilings were becoming very apparent, the validity of the long-held assumption that a policy of smoothing market fluctuations in long-term government securities maximized the sales of such securities also came to be questioned.<sup>9</sup> By 1971 the Bank had concluded that its increasingly extensive operations to support bond prices had "probably contributed to the attrition of the market's resources" in that it discouraged market-making by private securities dealers. It also concluded that permitting market operators to sell government securities with minimal losses during periods of rising interest rates "had made the speculative management of portfolios altogether too easy" [6].

With the effectiveness of credit ceilings as a monetary control device and the usefulness of interest stabilization as a debt management device both in doubt, the authorities decided on a complete overhaul of monetary control objectives and techniques. The rationale of the change was expounded in a speech by the Governor of the Bank [5] in the spring of 1971. He noted that "financial systems are infinitely adaptable and the channels whereby money and credit end up as spending are many and various", and he pointed to the danger "of believing that if we do succeed in restraining bank lending we have necessarily and to the same extent been operating a restrictive credit policy". In view of these problems the Bank, in selecting monetary objectives, had "increasingly shifted [its] emphasis" away from bank lending in sterling to the private sector "towards the broader monetary aggregates . . . the money supply under one or more of its many definitions, . . . or domestic credit expansion". The change in control techniques involved the abandonment of direct controls over bank credit and interest rates and a return to an indirect market-oriented control system "under which *the allocation of credit is primarily determined by its cost*".

The change in monetary objectives had occurred gradu-

<sup>8</sup> The calculation of the maximum permissible increase is based on the assumption that ceilings set in May 1968 had not been exceeded by April 1970, when credit ceilings were rebased. The ceiling base data refer to midmonth, while the data for bank advances pertain to the end of the month.

<sup>9</sup> See White [45], for example.

<sup>7</sup> This is discussed in Crouch [21], [22], and in Goodhart [24].

ally beginning in 1969, when the authorities were seriously concerned about the slowness of the balance-of-payments reaction to the devaluation of 1967 and to related monetary and fiscal restraint measures. Reflecting increased official interest, the Budget Message of 1969 included a statement of monetary objectives expressed in terms of money supply growth. Further, beginning in 1970, the *Bank of England Quarterly Bulletin* published a number of articles dealing with the role of money and interest rates in financial markets and their relationship to real economic variables.<sup>10</sup> The changes in monetary control techniques followed in 1971 and thereafter. These changes incorporated many of the recommendations that had been made by special committees of inquiry over the preceding twelve years. Specifically, a flexible interest rate policy had been advocated by the Radcliffe Committee Report on the Working of the Monetary System in 1959 [14]. The elimination of the London clearing bank interest rate cartel and of official ceilings on bank advances had been advocated by the Prices and Incomes Board [35] and by the Monopolies Commission [32] in the late 1960's on the grounds that these control devices led to monopoly profits as well as inefficient financial intermediation.

#### THE MONETARY CONTROL SYSTEM SINCE 1971

Since 1971, Britain's monetary control system has been keyed to new and broader monetary indicators, and now places prime reliance on market-oriented control tools. Nevertheless, direct controls have not been entirely abandoned and continue to play an important supplementary role. This section discusses the new monetary indicators, the use of market-oriented control tools, the part played by direct controls, and some problems that have arisen in connection with the new control system.

**INDICATORS.** In Britain, as elsewhere, the choice of monetary indicators is governed by the predictability of the relationship between the indicators and the government's ultimate objectives—especially control over output, prices, and the balance of payments—and the susceptibility of the indicator to a predictable central bank influence, however indirect.

As already noted, the monetary aggregates now occupy a fairly prominent role as indicators of monetary policy. This was recently reaffirmed in a speech by the Deputy

Governor [7] in which he described the monetary aggregates currently receiving attention. These are:  $M_1$ , which includes currency in circulation plus sterling demand deposit liabilities to the United Kingdom private sector (minus an allowance for transit items); and  $M_2$ ,<sup>11</sup> which consists of  $M_1$  plus time deposit liabilities to the United Kingdom private sector in both sterling and foreign currencies plus deposits of the United Kingdom public sector. Deposit liabilities to nonresidents are excluded from both aggregates.

**MARKET-ORIENTED CONTROL TOOLS.** The Bank of England views of the process whereby its use of the available tools is transmitted, via a series of portfolio adjustments, to the desired growth rates in the monetary aggregates was outlined by the Governor of the Bank in a speech delivered shortly after the intended reforms were proposed [5]. He said, "It is not expected that the mechanism of the minimum asset ratio and Special Deposits can be used to achieve some multiple contraction or expansion of bank assets. Rather the intention is to use our control over liquidity, which these instruments will reinforce, to influence the structure of interest rates. The resulting changes in relative rates of return will then induce shifts in the asset portfolios of both the public and the banks."<sup>12</sup>

The basic market-oriented control tools—reserve requirements, discounting, and open market operations—are not new. However, returning to prime reliance on these instruments after years of relying heavily on direct controls has necessarily involved experimentation and adjustment to arrive at a workable control system applicable to contemporary financial institutions and problems.

In establishing *reserve requirements*, the authorities elected to adapt the traditional fixed liquidity ratio and the variable special deposit, extending their application to all banks and to finance houses, rather than to start anew. The decision to adapt the old reserve ratios, despite earlier control problems with the liquidity ratio, may have

<sup>11</sup>  $M_2$  has been rendered obsolete by institutional changes associated with monetary reforms. It had consisted of  $M_1$  plus time deposits at the clearing banks, certain other domestic deposit banks, and the discount houses, but not time deposits at the accepting houses, British overseas banks, and foreign banks. Prior to 1971, time deposits at the first group of institutions were of very short maturity, generally seven days' notice, whereas time deposits at the second group were for longer maturities. Beginning in 1971, the clearing and other deposit banks offered deposit facilities similar to those offered by other banks, destroying the validity of the distinction between  $M_2$  and  $M_1$ .

<sup>12</sup> This statement appears to be in harmony with the models of portfolio adjustments in financial markets developed by, among others, Tobin [41] in the United States and Parkin, Gray, and Barrett [37], [38] in the United Kingdom.

<sup>10</sup> Goodhart and Crockett [25], Crockett [20], Price [39], Townsend [42], and Hamburger [27]. Other pioneering studies, some preceding those made at the Bank, are Barrett and Walters [18], Kavanagh and Walters [30], and Laidler and Parkin [31].

stemmed from continuing concern with debt management problems and the desire to assure the discount houses a continuing source of cheap finance. No doubt this seemed desirable because the discount houses still play a crucial role in making a market for short-term government debt. Moreover, despite the recent development of an interbank loan market, similar to the Federal funds market in the United States, the discount houses continue to play an important role in the adjustment of bank liquidity.

In any event, the banks' new minimum reserve assets, which must total at least 12½ percent of eligible liabilities,<sup>13</sup> are defined to include noninterest-bearing deposits at the central bank (the London clearing banks have agreed to hold 1½ percent of their net deposits in this form), government securities within a year of maturity, a strictly limited quantity of certain other bills,<sup>14</sup> and money at call with the discount houses. Thus far under the new reserve system, the call money component of the banks' reserve assets has ranged from 60 percent to 70 percent of total reserve assets. When the new system was launched in 1971, it was thought necessary to limit the expansion of the call loan segment of bank reserves by requiring the discount houses to maintain a public sector lending ratio, i.e., to invest at least 50 percent of their borrowed funds in public sector debt of five years or less to maturity. Despite the greater leeway as to the maturity of government debt they might hold, compared with the banks' minimum reserve requirements, the houses preferred to concentrate their investments in the shorter maturities, since the new flexibility of interest rates increased the potential for capital losses on longer maturity debt.

Experience with this new dual reserve system soon revealed that it "tended to complicate the Bank's task of securing adequate influence over credit extended by . . . the discount market" [12]. In the first place, short-term government debt in the reserves of the discount houses and the banks was greatly affected by changes in the government's domestic borrowing requirement, which of course was not under control of the central bank. This was especially true of sharp decreases that occurred in the government's requirement either for seasonal reasons or be-

cause of a sudden loss of external reserves. In the second place, when the Bank sought to offset unwanted or unduly large declines in the availability of reserve-eligible assets, it found its traditional open market operations in Treasury bills unsuited to the purpose. Such operations merely exchanged one reserve asset for another without relieving the squeeze on discount house liquidity.

The Bank also found that the public sector lending ratio "produced distortions in short-term money markets" [12]. Because they were much in demand as reserve assets, the yield on Treasury bills tended to move inversely relative to other short-term rates during periods of monetary stringency. For example, when liquidity conditions tightened between December 1972 and March 1973, the yield on Treasury bills actually fell from 8.3 percent to 7.9 percent, while the three-month interbank lending rate (a reliable money market indicator) climbed from 8.4 percent to 10.8 percent.

To overcome these difficulties, the authorities in July 1973 abolished the public sector lending ratio that had been applied to the discount houses, replacing it with two flexible and discretionary limits on discount house lending. One is encompassed in the stipulation that debt of the private sector held by the houses should never exceed twenty times capital and reserves. (The houses' actual holdings of such debt were then only fourteen times capital and reserves). The second limit consists in the requirement that a discount house's total assets bear an "appropriate relation to capital and reserves" [12].

Under the new system, the rate of expansion of the discount houses' assets, and hence the call money element in bank reserves, is likely to be governed mainly by interest rate considerations. For example, when interest rates are being pushed upward, the discount houses may have little enthusiasm for expanding their holdings of assets whose market value they expect to decline. Thus, the expansion of the banks' call loans may be effectively limited by Bank of England open market operations affecting interest rates and discount house liquidity. However, the new flexible guidelines for discount house assets provide backup limits to the expansion of the call money element in reserves, should such limits prove necessary.

The variable special deposits requirement retains the same general form that it has had since first applied in 1960. Unlike minimum reserve assets, special deposits consist entirely of deposits at the central bank and, in effect, permit the authorities to alter this element of the banks' overall reserve requirements. The required ratio can be varied without limit in proportion either to total eligible liabilities or to eligible liabilities to overseas residents. Until recently, special deposits generally bore interest at

<sup>13</sup> Eligible liabilities are, basically, sterling deposits of two years or less from outside the banking sector plus foreign currency deposits that have been switched into sterling (see [10]).

<sup>14</sup> Local authority bills eligible for rediscount at the Bank of England (only a small amount of such eligible bills is outstanding), commercial bills (but newly limited to 2 percent of eligible liabilities), and tax reserve certificates (which will cease to exist after 1974). For a full discussion of reserve requirements, see [10] and Morgan and Harrington [34].

the Treasury bill rate, although occasionally the Bank of England paid less than the bill rate.<sup>15</sup> In December 1973 an additional scheme of supplementary special deposits on marginal increases in banks' interest-bearing eligible liabilities was introduced. This scheme provides for the banks to place noninterest-bearing liabilities with the Bank of England at progressively higher ratios according to the growth of the banks' interest-bearing deposits in excess of a specified percentage (8 percent in the six months ended May 1, 1974), based on a three-month moving average.

From the first post-reform call for special deposits in December 1972 to December 1973, the calls for special deposits aimed to tighten the liquidity position of the banks and to exert an upward pressure on interest rates by forcing banks to sell securities at falling prices in order to obtain the necessary deposits at the Bank of England [5]. While this aim was fulfilled, the cost to the banks of making special deposits was not especially onerous so long as the deposits bore interest at the Treasury bill rate. Thus, the restraining effect of special deposits depended largely on market reactions to rising interest rates. On the other hand, the new noninterest-bearing special deposits are designed to be prohibitively costly to the banks. This can be expected to curb the banks' efforts to seek deposits, thereby limiting their ability to expand credit.

*Discounting* is a lender-of-last-resort facility offered only to the discount houses, essentially in exchange for their agreement to cover the weekly Treasury bill tender. While the Bank of England also accommodates the market's need for cash by short-term advances to the discount houses at market interest rates, as well as by open market transactions with the banks or the discount houses, discounting proper is done at a penalty rate (i.e., higher than the prevailing rates for Treasury bills). The mere fact that the discount houses are forced to borrow at the official penalty rate is taken as a sign of monetary restraint.<sup>16</sup>

Prior to 1971, when the authorities were following a policy of minimizing short-term interest rate fluctuations, a bank rate was officially announced and maintained for considerable periods of time, and a change in this rate implied a change in monetary policy. With the recent shift to a flexible interest rate policy aimed at achieving some desired growth in the monetary aggregates, it became clear a bank rate that retained a penalty relationship to the bill rate would also have to fluctuate freely without

necessarily implying constant changes in monetary objectives. Hence, the bank rate was superseded in October 1972 by an official "minimum lending rate", announced weekly, and pegged  $\frac{1}{2}$  percentage point above the Treasury bill rate<sup>17</sup> and fluctuating with it. In consequence, forcing the discount houses to borrow at the minimum lending rate remains a warning signal, but changes in this official rate do not necessarily indicate changes in monetary policy. The Bank reserves the right, however, to announce a change in the minimum lending rate that is not preceded by a change in the bill rate, when it wishes to call attention to the fact that its policy has changed significantly. This device was used recently in November 1973, when the minimum lending rate was jumped from 11.25 percent to 13 percent to call attention to a significant tightening of monetary policy.

*Open market operations* are confined largely to central government debt, although the Bank also operates in local authority obligations and bankers' acceptances. Needless to say, open market operations in government debt undertaken in pursuit of monetary objectives necessarily affect the management of the public debt; conversely, operations undertaken in pursuit of debt management objectives necessarily have monetary consequences. The reconciliation of the two sets of objectives is an ongoing problem for the Bank of England as for other central banks. To understand the British variant of the problem and the way it is currently being resolved, it may be helpful to review very briefly both the monetary control and debt management aspects of the Bank's operations in government securities.

In pursuit of strictly monetary objectives, the Bank apparently prefers to operate in the short end of the government debt maturity spectrum, selling Treasury bills to reduce liquidity and buying bills to increase liquidity. As already noted, the public sector lending ratio previously required of the discount houses sometimes frustrated these operations inasmuch as the Bank's exchange of Treasury bills for its own deposit liabilities was merely an exchange, with the banks and/or the discount houses, of one reserve asset for another. This problem was acute in June 1972, when a £1 billion loss of external reserves in ten days' time produced a severe liquidity squeeze. The squeeze occurred as the sterling proceeds of the official sale of foreign exchange reserves were applied to the retirement of a corresponding volume of the government's domestic debt, most of it held as reserves by the banks and discount houses. On that occasion, the Bank relieved the

<sup>15</sup> One case is described in the section on direct controls.

<sup>16</sup> For a full description of the traditional discount mechanism, see Garvy [23].

<sup>17</sup> Rounded upward to the nearest  $\frac{1}{4}$  percentage point.

liquidity squeeze by purchasing directly from the banks £360 million of longer term government securities, with the proviso that the banks repurchase them in a few weeks' time.

As manager of the debt of the central government, the Bank of England operates in government debt of all maturities. The Bank offers Treasury bills at a weekly tender and, generally, three "tap" issues—short-, medium- and long-dated—on a continuous basis. The tap offerings are new issues to which the Bank initially subscribes in full and resells gradually to the market. The Bank also continuously "buys in" government debt that is close to maturity, and trades in outstanding issues of all maturities of government debt with the general objectives of lengthening its maturity [2].

In the past few years, the volume of official transactions (i.e., transactions on the London Stock Exchange by the Bank of England, the National Debt Commissioners, and various government departments) in government "stocks" (market obligations other than Treasury bills) has been of the same general order of magnitude as the Bank's intervention in the money market. Official operations in stocks have been fairly evenly distributed between securities that have less than five years to maturity and those that have more than five years to maturity. Until 1971, these substantial operations in government stocks were often for the purpose of stabilizing short-run fluctuations in securities prices. As an unintended by-product, they provided the banks with a ready source of liquidity, often at times inappropriate from the monetary policy point of view. Under the new flexible interest rate policy, most support operations are ruled out, but the Bank continues to pursue vigorous funding operations whenever conditions are favorable. In explaining the new approach, the Governor said that the Bank

no longer felt obliged to provide, as in the past, outright support in the gilt-edged market in stocks having a maturity of over one year. This does not mean that we have discontinued our normal operations of selling longer-dated gilt-edged against purchases of short-dated stocks, as a technically efficient way of refinancing. But . . . we shall not normally be prepared to facilitate movements out of gilt-edged by the banks even if their sales should cause the market temporarily to weaken quite sharply.[5]

The Radcliffe Committee and a number of academic observers had recommended that funding operations of the sort described in the passage quoted above should be used as an instrument of monetary policy. This recommendation was based on the assumption that bank reserves were effectively tied to the volume of Treasury bills outstanding

and that funding, by reducing the supply of Treasury bills, would reduce the banks' reserves and push up long-term interest rates. As noted earlier in this article, the supply of Treasury bills did not determine bank reserves in the 1960's, and in any event such a policy ran counter to the official interest rate policy. However, since October 1971, the authorities have pursued a more flexible interest rate policy. Hence, the stage seemed to be set for a more aggressive use of funding as a means of monetary restraint. In fact, however, the Bank has concentrated its funding operations in periods when interest rates were falling<sup>18</sup> and has not used the funding tool to push interest rates up-

<sup>18</sup> Regression of net official sales of long-term government securities on (1) changes in interest yields on those securities and (2) changes in the domestic borrowing requirement—for the first quarter of 1963 through the second quarter of 1973 and for two subperiods before and after the adoption of a more flexible interest rate policy—yield the following results:

Time period covered by regression	Change in official sales of securities associated with:		Adjusted coefficient of determination	Durbin-Watson statistic	F statistic relevant to Chow test
	£1 billion increase in domestic borrowings*	1 percentage point increase in interest rates*			
	£ millions				
Securities with 5 to 15 years to maturity					
1963-Q1 to 1973-Q2	-11 (0.3)	-191 (3.4)	.22	1.75	} 0.1208†
1963-Q1 to 1970-Q4	5 (0.1)	-168 (2.3)	.10	1.54	
1971-Q1 to 1973-Q2	-78 (0.1)	-212 (1.8)	.20	1.93	
Securities with more than 15 years to maturity and undated securities					
1963-Q1 to 1973-Q2	29 (0.8)	-296 (4.8)	.39	1.28	} 30.442
1963-Q1 to 1970-Q4	30 (1.0)	-190 (4.0)	.35	1.66	
1971-Q1 to 1973-Q2	-111 (2.4)	-484 (6.3)	.81	2.80	

\* t value in parentheses.

† Indicates no significant difference between the computed relationships for the two subperiods.

It will be seen that the inverse relationship between changes in interest rates and official securities sales was strong in all cases. Since 1971 there has been a weak inverse relationship between the total domestic borrowing requirement and official sales of securities with more than fifteen years to maturity. The Chow test indicates no significant change in the computed relationship between the two subperiods for securities in the five to fifteen years to maturity range but a significant change for the longer maturity securities. For the longer term securities, the Durbin-Watson statistic and the Chow test suggest that some new and unspecified factors were influencing official securities sales.

ward. Although some recent commentators still advocate funding to raise interest rates,<sup>19</sup> it is clear that the Bank prefers to apply upward pressure on interest rates by exerting pressure on the discount houses or by calling for special deposits.

**DIRECT CONTROLS.** Since September 1971, the British monetary control system has depended primarily on the indirect market-oriented controls just described. However, the authorities have occasionally moved to temper the impact of these controls on the strongest and weakest borrowers as well as to modify them in other ways thought desirable. In August 1972, the Governor requested that banks "make credit less readily available to property companies and for financial transactions not associated with the maintenance and expansion of industry". This request was repeated in September 1973 with the added request that personal loans (other than for house purchases) also be limited. In early 1973, when inflationary trends and monetary restraint measures combined to push market interest rates well over 10 percent, the government offered the building societies a temporary three-month subsidy on condition that they hold mortgage interest rates under 10 percent. In October 1973, when interest rates were again rising, the authorities moved to protect building societies and mortgage borrowers from the full impact of market forces. An upper limit of 9½ percent was set on the interest rates banks could pay for consumer-type deposits, and the building societies were urged to help first-time house buyers by deferring payments of principal for five years.

Export finance, which had long received favored treatment, continues to do so. Formerly, some long-term export bills had been directly refinanced by the Bank of England, and short-term export bills had been included as liquid assets in calculating the banks' liquid asset ratios. Under the current preferential system for long-term export loans, the clearing banks are expected to make government-guaranteed loans to their customers, hold in their own portfolios a portion of such loans equal to 18 percent of their demand deposits over the preceding twelve months, and refinance the rest with the government's Export Credit Guarantee Department. The interest rate received by the banks on the export paper they retain is calculated according to a formula based on the Treasury bill rate and on their own base lending rate, whereas the rate actually paid by the borrower is determined by the government. As for short-term government-guaranteed export loans, the Bank

has agreed that, in an emergency situation, it would provide refinancing facilities in amounts and on terms to be determined.

As the government's prices and incomes policy entered Stage II in April 1973, the authorities were faced with another new problem. While the anti-inflation program called for direct interference with the market pricing mechanism for wages and for prices of goods and services, reliance was continued on market forces in financial markets for pushing up interest rates, in order to discourage inflation-breeding expansion of the monetary aggregates. Because it was considered undesirable that banks should profit unduly from their unique situation, bank charges, but not interest rates on bank loans and deposits, were placed under margin controls. It was also stipulated that should the banks' net profit margins on interest-earning business exceed certain levels, the government could reduce interest paid, or even establish negative interest rates, on the banks' special deposits with the Bank of England. Following these general rules, the rate of interest paid on special deposits was reduced in October 1973 by eliminating the interest paid on special deposits held against the banks' noninterest-bearing eligible liabilities.

Finally, in December 1973, consumer credit terms, namely, downpayment and payment period, were once more made subject to direct government control, as they had frequently been prior to 1971.

**AN UNRESOLVED PROBLEM.** As was to be expected, the first two years of experience with the new control system have revealed a number of problems. One related to the public sector lending ratio established for the discount houses, which tended to complicate control of discount house operations and distorted short-term rates. This problem has now been resolved in the manner already described.

A second problem, on which progress is now being made, has been that of correctly forecasting the relationship between interest rates and the monetary aggregates serving as indicators. An understanding of these complicated relationships is extremely important, since the Bank's influence on the monetary aggregates is viewed as the indirect result of its ability to influence market interest rates. Late in 1972, Governor O'Brien indicated that the rates of expansion of the monetary aggregates in the first nine months of the new control system (a 24 percent annual rate for  $M_3$  and a 13 percent rate for  $M_1$ ) were greater than had been expected to result from the interest rate policy followed [5a]. The fact that in 1973 the growth of  $M_1$  fell to less than 6 percent while the growth of  $M_3$  remained unacceptably high at around 28 percent, even though interest rates climbed from under 5 percent in the

<sup>19</sup> For example, Morgan [33].

spring of 1972 to over 10 percent in January 1973 and, after easing in the summer, to about 15 percent at the end of 1973, serves to illustrate the complexity of the relationships between interest rates and money.

Factors contributing to the continuing strong growth of  $M_3$  appear to have included inflationary expectations, fed by monetary expansion and price increases in immediately preceding periods, and a structure of interest rates conducive to interest arbitrage. Inflationary expectations, fueled by such developments as a 42 percent increase in the price of basic materials in the year ended November 1973, undoubtedly spurred the demand for bank loans and increased the banks' willingness to offer high interest rates for additional large deposits. Then, because market rates for large deposits moved up more quickly than bank overdraft loan rates, the banks' large customers borrowed considerably in excess of current needs, placing balances in high-yield bank CDs.

The new, very steep noninterest-bearing special deposit requirements, applicable to increases in interest-bearing deposits in excess of a specified amount, should effectively counter both the pressure of growing demand for bank credit and the interest arbitrage problem. This new type of special deposit greatly increases the marginal cost to the banks of accepting additional deposits and expanding loans above certain prescribed limits, and give them a strong incentive to alter the structure of interest rates in order to eliminate interest arbitrage based on relatively cheap bank loans. In fact, encouraged by the authorities, the banks are apparently shifting to a dual loan rate system. Under it, large borrowers are charged interest rates keyed to going money market rates, while smaller borrowers continue to be accommodated at fixed rates.

#### BRITISH AND UNITED STATES MONETARY CONTROL SYSTEMS COMPARED

As a result of the extensive changes in the British monetary control system since 1971, the similarities between the British and United States monetary control systems can perhaps be regarded as now outweighing the differences. Still, there remain important differences between the two.

One long-standing difference is the role of discounting. In Britain, discounting is available only to discount houses and not to banks. On the other hand, the Federal Reserve discounts only for member banks and not for dealers in government securities, whose residual liquidity needs are essentially met by the banks. Further, in Britain, discounting at the minimum lending rate is always penal, in the sense that it is higher than the going market rate for Treasury

bills, and is primarily a means of sharpening the authorities' control over market interest rates. In the United States, on the other hand, discounting serves to meet cyclical and seasonal needs and as a buffer against what might otherwise be the uneven impact of open market operations or other factors on the position of individual banks—a function not performed by Bank of England discounting at the minimum lending rate. Moreover, the Federal Reserve discount rate does not keep as closely aligned with the Treasury bill rate or other market rates as is the case in the United Kingdom, although in recent years System discount rates have followed market rates more closely most of the time.

The most visible remaining differences in the two control systems stem from differences in reserve requirements. In the first place, Bank of England reserve requirements now apply to all banks in Britain and to a few nonbanks as well but, in this country, Federal Reserve requirements apply only to members of the Federal Reserve System. The latter account for about three fourths of all bank deposit liabilities to nonbanks. A system of universal reserve requirements is, of course, more equitable than partial coverage and is especially important for Britain, which has relied very heavily on changes in reserve requirements in its attempts to influence interest rates and the monetary aggregates.<sup>20</sup> It is interesting to note that the extension of reserve requirements to all banks in Britain in 1971 was generally accepted as a constructive move.

There are also differences between the nature of the reserve assets in the two systems. At the present time, however, some of these differences seem more formal than real and are of only minor consequence in determining the operation of the two control systems. In both systems, deposits at the central bank are includable in required reserves, and they constitute the only reserve assets countable as variable special deposits in Britain. Some of these special deposits bear interest, whereas in the United States none of the banks' deposits with the Federal Reserve Banks bear interest. In the United States, currency held by member banks also qualifies as required reserves; member and nonmember banks held currency equal to about 13 percent of the currency held by the public outside banks in June 1973. In Britain, currency does not qualify as a reserve asset but British banks nevertheless

<sup>20</sup> For comments on the inequity of the United States system, see Waage [44]. For a comprehensive comparison of reserve requirements abroad, see Garvy [23a].

held currency equal to 22½ percent of the currency in circulation outside banks in June 1973. This difference reflects, at least in part, the greater use in Britain of currency relative to checks.

In Britain, assets eligible as bank reserves also include government securities within a year of maturity, certain other paper, and call loans to the discount market. These and the ratios applied to discount houses have no counterpart in required reserve of members of the Federal Reserve System. However, large weekly reporting banks in the United States, the only group for which this information is available, keep about 4½ percent of their total assets in government obligations within five years to maturity, not greatly different from the roughly 6½ percent that the London clearing banks keep to meet current and prospective reserve requirements and general liquidity needs. On the other hand, the large United States banks' loans to brokers and dealers, the closest approximation to the British banks' call loans to discount houses, are in the vicinity of 1 percent of their total assets, whereas London clearing banks keep about 5 percent of their assets in call loans. It would appear, then, that the most significant difference between reserve requirements in the two countries are: (1) the payment of interest on some of the banks' reserve deposits at the central bank in Britain but not in the United States; and (2) the privileged position accorded discount houses in Britain, compared with the position of dealers in government securities in the United States, as a result of call loans being included in the British banks' required reserves.

Turning to the similarities between the two monetary control systems, one major similarity is the newly awakened interest in money, variously defined, as an intermediate policy target or as an indicator of the thrust of monetary policy. In both countries this interest crystallized at the turn of the decade: in Britain in the traditional budget message statement of monetary policy in 1969; in the United States in the regular monthly instructions to the manager of the System Open Market Account by the Federal Open Market Committee early in 1970. In practice, the behavior of the broader monetary aggregates,  $M_3$  in Britain and  $M_2$  in the United States, has occasionally proved difficult to interpret since the aggregates have swung widely in response to the imposition and removal of restraints on interest rates paid for time deposits by banks. The basic reason for these gyrations is, of course, that time deposits in banks are closely competitive with a broad range of other short-term financial assets. Hence, small changes in relative interest rates can lead to large shifts in the public's holdings of bank deposits. In this connection, it is interesting to note that the relative importance of the

main types of short-term liquid assets held by domestic nonfinancial investors is fairly similar in the two countries (see table).

A second broad similarity is, of course, a prime reliance on indirect market-oriented controls to achieve these monetary objectives. In both countries, the monetary authority adds to or subtracts from the banking systems' excess reserves by discounting or open market operations or by changing the banks' reserve requirements. These actions induce changes in interest rates and set in motion a series of portfolio adjustments on the part of banks and non-banks which, assuming the monetary authorities are correct in their expectations of the likely consequences, eventually bring about the desired changes in the monetary aggregates. It is worth observing that both monetary authorities have recently made use of reserve requirements against increments in certain types of bank deposit liabilities. This attempt to control directly the banks' marginal lending costs has been carried further in Britain than in the United States, where the marginal reserve requirements applied in June 1973 to increments in large CDs and certain other liabilities are now only 8 percent, compared with a range that goes as high as 50 percent in Britain.

In both countries, the monetary authorities have found it necessary to temper the impact of market-oriented con-

**DISTRIBUTION OF SELECTED LIQUID ASSETS HELD BY  
PRIVATE DOMESTIC NONFINANCIAL INVESTORS, JUNE 1973**

In percent

Asset	United Kingdom	United States
Currency .....	6.9*	5.8
Demand deposits .....	15.1*	17.4
Time deposits in banks .....	24.3*	26.7
Time deposits in private thrift institutions .....	29.9	32.6
Savings bonds and deposits in government savings institutions .....	19.6	5.7
Certificates of deposit issued by banks .....	1.8	5.5
Short-term marketable government securities†	0.4	4.4
Other short-term obligations‡	2.0	1.9
<b>Total selected liquid assets .....</b>	<b>100.0</b>	<b>100.0</b>

\* Estimated on the assumption that the ratio of the holdings of this asset by domestic nonfinancial investors to the holdings by all domestic investors other than banks is the same as the ratio regarding total bank deposits.

† In the United Kingdom, Treasury bills, tax reserve certificates, and tax deposit accounts; in the United States, all government issues due in one year or less, plus a sliding proportion of issues due in thirteen to twenty-four months.

‡ In the United Kingdom, local authority deposits and finance house deposits; in the United States, commercial paper.

Sources: United Kingdom Central Statistical Office, *Financial Statistics* (November 1973), and Board of Governors of the Federal Reserve System.

trols on some strong borrowers, generally speculators, or on weak borrowers in need of support, generally home mortgage borrowers. The Bank of England requests to banks to make credit "less readily available" for financial and large-scale real estate speculation is somewhat similar in intent to Federal Reserve Regulations U, T and G, which set margin requirements on loans extended by banks, brokers and dealers, and others to finance securities transactions. The recent British limitation on the interest rate banks can pay on small deposits and the other measures taken to help home mortgage borrowers are similar to United States limitations on deposit rates for personal deposits in banks and savings institutions and on Federally insured mortgage interest rates.

In still further departures from market-oriented control mechanisms, attempts have been made in both countries to resolve the anomalies inherent in anti-inflationary programs

that combine price and wage controls with rising interest rates by placing some limits on bank operating margins and on bank profits.

Monetary authorities in the United Kingdom, no less than in the United States, recognize the limitations of the contribution that monetary policy can make to the attainment of the overall economic objectives of the country. In a recent speech, answering in the affirmative the question "Does the money supply really matter?", the Deputy Governor of the Bank of England concluded: "In other words, we see monetary policy as only one among a number of influences—budgetary, economic, social, and political (in the widest sense of that word)—which together shape the economy. If you do not like the results, we are ready to accept our share of the blame. But remember that while, like the legendary pianist, we do our best, it is only a part of the keyboard that comes within our reach."

[See bibliography on pages 23 and 24.]

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*MS* = *The Manchester School* (a quarterly published by the Manchester School of Economic and Social Studies)

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