6. Monetary Control

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MONEY STUDY GROUP

Note by the Secretaries

The attached paper "Banks, Non-Bank Intermediaries and Monetary Reform" by Mervyn Lewis is being given at the meeting of the Money Study Group on 16 May.

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BANKS, NON-BANK INTERMEDIARIES AND MONETARY REFORM IN BRITAIN

Each of the past three decades in Britain has begun with major revisions to the system of monetary controls, and the pattern is being sustained in the 1980s. This paper examines the adequacy of the proposed new arrangements[1], and begins by placing them in the context of other post-war reforms and the factors which prompted them.

1 Past reforms

Two themes have recurred in past reforms. One is the mixture of direct controls and market instruments used to control the financial system. Thus, in 1951, a Conservative government, aiming to break away from rationing and direct controls, 'rediscovered' Bank rate. (It also discovered hire purchase controls shortly afterwards, and soon applied controls over bank lending - a precursor of events 20 years later.) The other theme is the base upon which policy operates, as at the beginning of the 1960s, when lending directives were extended to non-clearing banks and finance houses, so that the burden of policy might be spread more evenly. Both themes were in evidence in 1971. Competition and Credit Control signalled a second rediscovery of interest rates. It was combined with an extension of reserve asset ratios and special deposits to the non-clearing banks and finance houses.

Change occurred in 1971 because the distortions which resulted from the pre-existing techniques of monetary policy were by then apparent. Despite the extension of moral suasion to all banks, the clearing banks had been singled out for the application of portfolio controls and interest rate regulations, and they bore the brunt of policy changes. The other banks were by no means immune to the operation of policy, but their response was less and lagged relative to that of the clearing banks.

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1 Monetary Control. A Consultation Paper by HM Treasury and the Bank of England, HMSO, March 1980 (referred to as the 'Green Paper').

Note: The author is Reader in Economics, University of Adelaide. He is presently on leave as Visiting Scholar, Economics Division, Bank of England. While the article has benefited from comments within the Bank, the views expressed are the author's own and should not be interpreted as reflecting those of the Bank of England.

The clearers' secular growth also suffered. Accepting houses and other non-clearing banks expanded their business (domestic and non-resident) at a very fast rate during the 1960s. Insofar as policy relied upon restraining intermediation by the clearing banks, it was operating upon a steadily contracting base.

The incentives to alter both 'competition' and 'credit control' practices in 1971 are clear. Some obvious parallels exist now. With the non-clearing banks inside the monetary net, and the size of the banking sector policy-determined (because of the monetary targets), the institutions which are free of controls, such as the 'corset', are able to force the pace. Here we have the balloon argument of Radcliffe. Table 1 gives details of the liabilities of British financial institutions for various dates from 1960 to 1978 and the compound annual rates of growth over various intervals of time. Since 1975, all but one of the non-banking groups have expanded their liabilities at a faster rate than have the deposit banks. If the authorities were to respond to these developments as they did in 1971, they would remove the most distorting of the controls, extend the other controls to the non-banking institutions, and bring non-banking institutions into the monetary target. This is essentially how the clearing banks argued to the Wilson Committee.

In fact, the authorities have gone a long way towards following this prescription. The corset is to be ended. The reserve asset ratio is to be removed from the armoury of monetary controls and re-cast as one part of a new system of prudential liquidity controls[1]. Licensed deposit-takers (LDTs) as well as banks are subject to these requirements. The cash ratio, governing bankers' balances at the Bank of England, is also to be extended to cover all banks and LDTs above a minimum size. (As London Clearing Banks, on whom the ratio now falls, account for about 57 per cent of eligible liabilities, the opportunity arises to reduce the ratio from the present 1½ per cent while retaining the same 'tax yield'.) £M3 remains the official target, but its statistical basis is altered, and likely widened, by the new Banking Act. Since 1971 the definition of money has rested on a distinction between listed banks, subject to credit control and supervision, and unlisted ('fringe')

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1 'The Measurement of Liquidity', Bank of England, March 1980.

Table 1

Liabilities of Financial Institutions

	Amount (£ million)					Compound Annual Rates of Growth			
	1960	1965	1970	1975	1978	1960-65	1965-70	1970-75	1975-78
Major Deposit Banks	8,618	10,760	12,234	26,223	36,113	4.54	2.60	16.47	11.26
Discount Houses	1,197	1,455	2,352	2,536	4,111	3.98	10.08	1.52	17.47
Accepting Houses - Resident*	(134)	530	1,287	2,356	3,773	31.65	19.42	12.85	17.00
- Non-resident	250	398	1,238	1,865	3,023	9.75	25.48	8.54	17.47
Other Banks - Resident*	(268)	1,012	4,527	16,293	20,116	30.44	34.94	29.19	7.28
- Non-resident	1,096	3,000	15,042	60,858	103,513	22.31	38.05	32.25	19.37
National Savings Banks	1,710	1,822	1,752	2,141	3,002	1.28	- .78	4.09	11.93
Trustee Savings Banks	1,328	2,017	2,481	3,668	5,340	8.72	4.22	8.13	13.34
Finance Houses	678	1,108	1,222	1,199 1,512	2,617	10.32	1.98	- .38	20.07
Building Societies	3,183	5,577	10,940	24,364	39,723	11.87	14.43	17.37	17.70
Investment and Unit Trusts	2,166	3,699	5,949	8,651	11,374	11.29	9.97	7.77	9.55
Insurance Offices	6,344	9,866	15,452	27,891	46,829	9.23	9.39	12.54	18.85
Pension Funds	3,309	5,385	7,765	13,680	28,939	10.23	7.59	11.99	28.37

*Excludes UK banks' holdings of Non-Sterling Currency Deposits.

banks, which are not. Under the Banking Act there is a distinction between recognised banks and LDTs, but it is not to count for the purpose of supervision. These arrangements and the Green Paper indicate a conviction that institutions competing for funds and which the Bank supervises need to be treated equally for credit control. If carried to its logical conclusion, LDTs will be included in £M3.

Notably, the building societies, which have exhibited a considerable capacity to compete for deposits, still remain outside the regulatory framework. They are not subject to calls to Special Deposits, which are, like the corset, a form of tax upon banks' intermediation[1]. They are also exempted from the prudential requirements. Transformation of the Trustee Banks to banking status is not complete. Investments by the insurance houses and pension funds, which have also competed successfully for funds, are also excluded from the monetary framework.

Why are these institutions excluded? Unlike 1971, there is an immediate credit control problem posed by the extent to which £M3 is above target despite increases in interest rates. Any widening of £M3 to include LDTs could add to this problem. Talk of an even broader target, or, as Johnson has advocated, of additional targets embracing the excluded institutions, seems in the circumstances unduly ambitious[2]. The immediate difficulty over-shadows and pre-empts consideration of how the burden of monetary policy is distributed across institutions - an issue which we argue lies at the heart of the credit control problem.

But non-bank intermediaries are, in an important way, already part of the present strategy. To see this, we must place the Green Paper in the context of the system that was supposed to operate under Competition and Credit Control; that is, before lending controls returned and the 'corset' was introduced.

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1 There are, however, important differences in the nature of the taxes. The cash ratio is a constant proportional tax on banks' total liabilities. Special Deposits are a variable proportionate tax on total liabilities. Supplementary Special Deposits (the corset) are a rising tax upon additions to interest-bearing liabilities.

2 Christopher Johnson, 'Banks and Building Societies - when is competition unfair?', The Banker, July 1979.

2 Modus operandi since 1971

The essence of the credit control plank of the 1971 system has been stated succinctly: "importance was now attached to the monetary aggregates; their rate of growth was to be controlled by the market instrument of interest rates"[1]. Unlike some other central banks, the Bank has never regarded the money supply as so special that its control is the sole focus of monetary policy. A money supply target has been chosen on tactical grounds, because interest rates (which feature more in orthodox econometric models as determinants of expenditures) are unreliable in periods of inflation as indicators of the thrust of policy. All of the main aggregates have merits, but £M3 is preferred because of its ready identification with credit counterparts. In this way, the Bank sees itself following both a monetary policy and a credit policy. Indeed, the original Consultative Document in 1971 managed to cite broad money, bank lending and DCE as targets.

It was the means chosen to influence the target that represented the important step. While direct controls remained the basic technique, what the Chief Cashier in 1971 called the "problem /of/ where to draw the line across the field of financial intermediaries", would continue to bedevil policy[2]. The answer was to let the price mechanism allocate credit and aim for the whole balloon. Total liquidity (or 'a generalised influence on credit conditions', now termed 'monetary conditions') became the true intermediate target of policy. Because of its position, about halfway along the liquidity scale, £M3 is supposed to indicate how well the system as a whole is responding to the monetary controls.

If this description of the aims of policy is correct, it follows that an extension of the monetary target to non-bank intermediaries is unnecessary. So long as policy is implemented in non-discriminatory ways, their intermediation should be governed by the market forces. So long as the response of the different kinds of intermediation to interest rates is broadly similar across the spectrum, the operation of policy ought not to distort competition, and £M3 should be an adequate index of the thrust of policy.

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1 'Reflections on the conduct of monetary policy', Bank of England Quarterly Bulletin, March 1978 (Mais lecture).

2 'Competition and Credit Control: extract from a lecture by the Chief Cashier of the Bank of England', Bank of England Quarterly Bulletin, December 1971 (Sykes Memorial lecture).

Policy since 1971 has been far from non-discriminatory, and the distinction between banks and other intermediaries has mattered. If this distinction is not to matter in the future, a return to the original aims of Competition and Credit Control is needed. This is the spirit of the recommendations in the Green Paper; that, as far as possible, the special controls over banks should be removed, not imposed on other institutions. The critical question then becomes how the various classes of institutions respond to the market forces. Unless the 'market instrument of interest rates' can bear the additional burdens which are to be placed upon it, banks must fear a re-introduction of direct controls. Our examination of this question begins by asking how control of the money supply (and thus 'general liquidity' in the financial sector) is sought now, and the source of the problems which have emerged.

Transactions in government securities are the centrepiece of the controls. In 1971, it was envisaged that constraint upon the liquidity of the banking system, exercised by the interaction of Special Deposits with the reserve asset ratio, would supplement these transactions. As the proposed conversion of the reserve assets ratio into a prudential control indicates, the reserve assets system has not worked, although the reason is not just the practice of 'liability management'. Banks have been provided with an incentive to bid for deposits and reserves rather than manage assets because reserve assets have been capable of being generated fairly freely by the banking system. But unlike in Australia (where the system was pioneered) the target of reserve asset constraint was never bank lending, but, instead, interest rates, which could still be influenced by open market operations.

These open market operations are concentrated not in the gilt-edged market, but in the discount market, with the aim of influencing short-term interest rates. This is achieved by adjusting the amount of bills offered for tender so as to force the market into the Bank, thereby making MLR (and changes in it) effective. Cash is squeezed but only to the extent necessary to enforce a particular level of interest rates, and not to influence banks' creation of credit. The purpose of requiring London clearing banks to maintain 1½ per cent of eligible liabilities as bankers' balances at the Bank of England is to provide a fulcrum (if one is needed) for these operations. (Because only the clearing banks use balances with the Bank as working balances, extension of the requirement to other banks and LDTs cannot be held to make the operations any more effective or equitable.)

Thus, the traditional tools of bank rate (MLR) and bill tender continue as the major instruments. What differs from earlier arrangements is that the structure of interest rates has ceased to be the financial target. It is now a step (or operational target) in achieving a money supply target (which in turn is proxying for liquidity). How do interest rates alter the money supply? Following the Governor's example of 1978, we look first to the influence of interest rates upon the demand for money.

Demand side

This approach involves treating the financial sector as an equilibrium system, so that the stock of money is always at a level consistent with the public's demand. With income given, the idea is to effect movements along a (hopefully stable) demand curve for money, using interest rates to bring about changes in desired holdings. Passive adjustment of supply to demand is assumed.

If, as the Governor said, this is the essential 'logic' of monetary policy, the transmission to ultimate goal variables is unclear. Since the initial effect of raising interest rates is to create an excess supply of money, it cannot be via monetary disequilibrium. Should the level of interest rates be the vehicle by which the financial sector impinges upon expenditures, the reason for preferring £M3 to M1 is unclear. While M1 remains sensitive, but not unduly so, to interest rates, the money supply can be a cosmetic indicator of the process. If, instead, bank credit is seen to be the vehicle, the need arises to enforce an overall reduction in banks' balance sheets (which does not occur with M1), but the preference for £M3 over M3 is not clear since currency deposits can finance sterling loans.

We need not dwell on these points for, as is well known, a stable demand function for the chosen aggregate, £M3, has been elusive since 1971. This result is unsurprising. Figure 1 shows that monetary growth and the yield on consols are, if anything, positively, not inversely, related. The clearest example is in the 1972-73 period, when both interest rates and the money supply increased, and the same pattern occurs in most years (1974 is the exception).

Since much of M3 is interest bearing, movements in bank rates cannot be ignored. If the key portfolio choice is between holding long-term

assets like gilts and liquid assets such as bank deposits, the relevant consideration is the differential rate between the two, as Michael Artis and the present writer argued[1]. By allowing for bank interest rates, they were able to account more successfully for the behaviour of M3 after 1971 (but they argued that the differential rate and desired balances should be seen as adjusting to money supply disturbances, rather than the reverse).

In an updating of their calculations, shown in Figure 1, the interest-bearing components of M3 are broken into five components to which relevant proxy interest rates are attached so as to calculate a weighted average rate on time deposits. Beginning with the troublesome 1972-73 period, the difference between this rate and the consol rate has generally moved in a manner consistent with demand theory, narrowing when monetary growth is high and widening when monetary growth is low. However, this relationship is of little comfort to policy-makers, for the difference is not readily amenable to manipulation for control purposes. Worse, it responds perversely to policy, as actions via the discount market raise short rates, including those on bank deposits. In 1973, 1976 and 1978/79, when the authorities sought to restrain monetary growth, the time deposit rate increased relative to long rates.

Relative interest rates thus behave in such a way that restrictive policy has the immediate effect of increasing the demand for money! Further, it would seem that the Bank's concentration at the short end of the market is to blame. Were policy actions focused more at the long end of the market, in gilts, relative rates might behave in the way needed to restrain the demand for money. This is a question of the determinants of the term structure of interest rates. If expectations of future interest rate movements are an important influence, a change of strategy would be unlikely to work. The Bank's methods of operating cannot be held to be the cause of the trouble, but clearly they cannot help.

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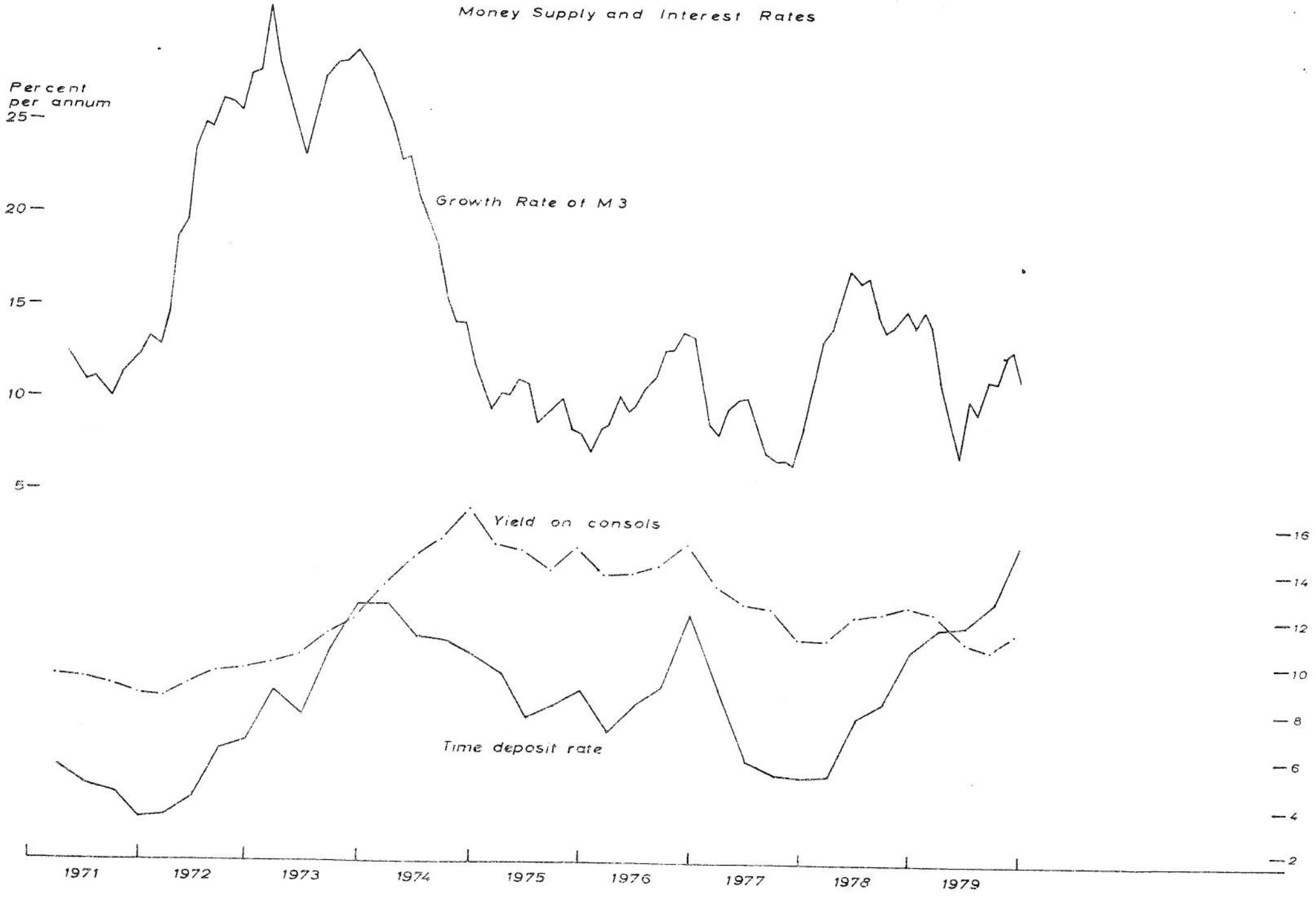
1 M J Artis and M K Lewis, 'The Demand for Money in the United Kingdom: 1963-1973', The Manchester School Vol.44 No.2 June 1976.

Figure 1

Money Supply and Interest Rates



Supply side

As a way of getting round any demand side difficulties, the authorities now work from the supply side, decomposing £M3 into PSBR, sales of public sector debt, reserve flows and bank lending to the private sector. Whether problems of demand are thereby avoided depends upon how we interpret the result. On one view, the balance sheet identities could be regarded as implying a demand for money function, as overall equality between the demand and supply of financial assets means equilibrium also in the money market. Policy is still, by implication, operating upon demand, even though the function cannot actually be observed. This needs to be distinguished from the alternative 'disequilibrium' approach, under which the possibility arises of acting upon the supply of money independently of (or reinforcing) any influence upon demand. In this approach, the (unanticipated) difference between the demand and supply of money drives expenditure[1]. Action upon supply relies upon (long run) stability of the demand for money, but it is no longer necessary to establish this stability on a quarter-to-quarter basis.

The approach presently favoured by the authorities begins with a forecast of each of the 'supply side' components of money at existing interest rates. If the money supply looks like getting out of control, rates may be changed with the aim of altering one or more of the components (which we note may not be independent of one another). Two of the four components will tend to move in line with interest rates, because the PSBR will tend to increase as the debt burden increases, while private capital may flow in across the exchanges. These items are, in any case, governed by policy decisions about public spending and the exchange rate.

Despite significant revisions to operating strategies in the gilt-edged market (described in Bank of England Quarterly Bulletin, June 1979), traditional attitudes persist. Under the so-called 'cashier's theory', demand for public debt is a negative function of the change in interest rates as well as a positive function of the level of rates. Considerable restraint must be exercised in contemplating sales when bond prices are

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1 The approach has been developed by P D Jonson of the Reserve Bank of Australia and finds reflection in the Bank of England's 'small monetary model'. See R T Coghlan 'A small monetary model of the UK economy' Bank of England Discussion Paper No.3.

falling. This theory does not explain why short-term government paper cannot be sold when these extrapolative expectations take hold. Nevertheless, the Bank feels constrained in undertaking open market operations with a direct quantity objective. Instead, it uses its influence over short-term rates, and the overall level of rates, to induce demand for gilts.

Since public sector debt sales under this mode of operating have proven to be very variable and difficult to predict, considerable weight attaches to the influence of interest rates upon bank lending, which, amongst the components, is the immediate province of the Bank. Policy-induced increases in base rates are supposed to place a brake upon banks' lending activities. Figure 2 shows the behaviour of M3 for 1976/77 and £M3 since April 1977 relative to the upper target limit for each. If we interpret movements in the yield on Treasury bills as influenced by policy, there is no evidence that the authorities were tardy in their responses in 1976 and 1979, although the 1978 episode is more difficult to read. Nor does it seem that bank customers have been sheltered from interest rate increases, for the London clearing bank base rate (to which lending rates are tied) has moved in line with Treasury bill yields.

In the middle of Figure 2 is shown quarterly movements in £M3 and bank lending to the private sector. From these we can surmise the net contribution of the other components, including sales of public sector debt. During periods when M3 grew more strongly than the target, these other items appear to have contributed more to the correction than has bank lending. The impression gained here of a slow, and, in some cases, an imperceptible, response of bank lending to interest rates is confirmed in econometric studies[1]. There are marked differences found in the long run response of bank lending to interest rates, but, in all cases, the impact elasticity is very low - less than 0.1. The out-of-sample forecasting ability of the equations is very poor. Finally, the lags are such as to make it doubtful whether bank lending can be controlled over a period of less than six months, if not a year. Longer-term responses remain more debatable; officials maintain that (real?) interest rates eventually influence lending via effects on company spending and activity more generally.

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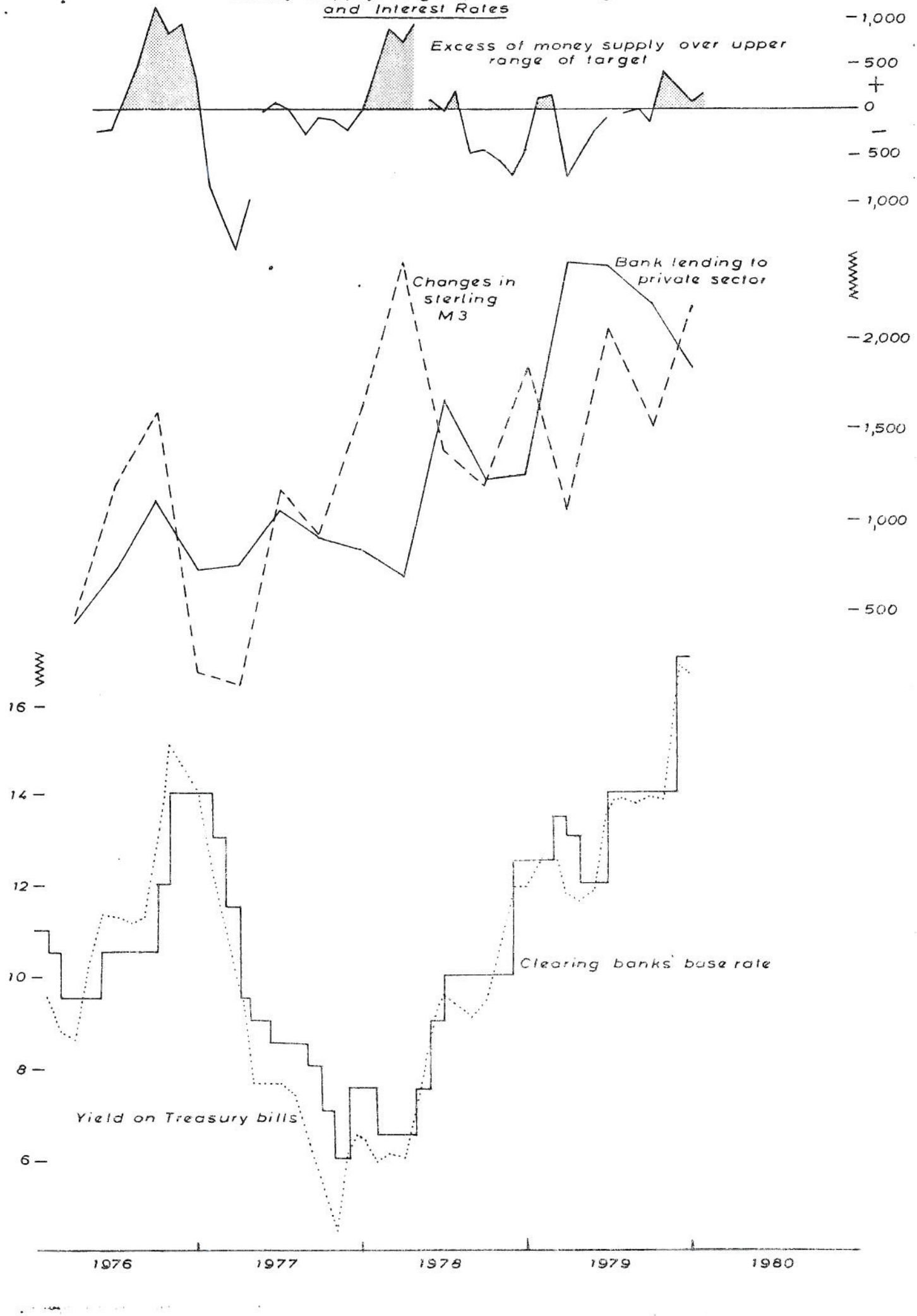
1 A C Hotson, 'The Forecasting and Control of Bank lending', paper presented to Money Study Group Conference, Oxford 1979, surveys the empirical work on bank lending.

Figure 2.

Money Supply Targets, Bank Lending and Interest Rates



On the basis of this 'supply side' characterisation of the money supply process, the control problem is not primarily one of the authorities' behaviour but lies in the component which reflects banks' intermediation and their responses to interest rates. We now compare these responses with those of other institutions.

3 Responses to policy

In the 'demand' mechanism, interest rates operate upon banks' liabilities. In the 'supply' side mechanism, they operate upon banks' assets. More generally, demand and supply interact to condition how institutions react to monetary policy, as in Tobin's 'new view' of financial intermediation[1]. His conception of a financial system in which competition prevails and asset markets equilibrate provides a theoretical basis for the market-oriented control mechanism which the Bank has sought to operate since 1971. In it, there is no essential difference between banks and other classes of intermediaries; indeed, no essential difference exists between financial intermediaries and non-financial firms. All intermediation is constrained by lending opportunities and portfolio preferences; that is, by a rising marginal cost curve of attracting funds and by declining marginal returns from acquiring assets.

Monetary policy can be thought of to operate (like government policy in general) in two ways; by altering relative prices or by imposing some form of taxation. Taxation measures, of course, have the disadvantage of contracting the activities which are taxed relative to those untaxed. They are incompatible with the objective of having controls which do not discriminate between the regulated sector (banks) and the unregulated (non-banks). Hence the preference for changing relative prices. Ideally, alterations to market interest rates change either the marginal cost curve or the marginal revenue curve of intermediaries, leading to a new level of operations. All institutions should respond to these stimuli in a qualitatively similar way.

Some differences would be expected in practice, but hardly of the order which our examination of institutions' responses to interest rates since 1971 revealed. Liabilities of financial intermediaries were grouped into four categories: deposit banks (London and Scottish

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1 James Tobin "Commercial Banks as Creators of 'Money'" in D Carson(ed) Banking and Monetary Studies (Irwin 1963).

clearing banks, Northern Ireland banks and miscellaneous UK deposit banks); other banks (accepting houses, other banks and discount houses); life offices and pension funds; and all other non-banking institutions (building societies, finance houses, investment and unit trusts and savings banks). The deposit bank category was chosen for consistency with data published until 1975 in the Bank's Statistical Abstract, estimated on a quarterly basis to the end of 1979. The deposit component of M3 - that is, UK non-bank resident holdings of sterling and other current deposits, including CDs - is thus divided between deposit banks and other banks.

As a simple test of the interest rate mechanism, the incurrence of liabilities by each of these four groups from 1972 to 1979 was regressed separately against changes in Treasury bill yields and changes in MLR, used as indicators of monetary policy. Because interest rate changes may take some time to build up (and because of recursiveness) lags of several quarters were allowed for. It came as a surprise that the major instrument of monetary policy, supported at times by the corset, could 'explain', at best, only 40 per cent of the movements in liabiliites. But the major objective was not to fully explain deposit flows, but to establish whether there might be different responses to interest rates. This certainly appears to be the case. The liabilities of insurance and pension funds show some inverse response to interest rates, but, as might be expected, it is much less than that of the other non-bank group, whose liabilities appear to respond promptly to interest rate changes. Changes in liabilities of the non-deposit banks also show an inverse relationship with interest rates. It is the incurrence of liabilities by deposit banks which does not. Their liabilities and interest rates are positively, not inversely, correlated. The interest rate variables had to be lagged seven and eight quarters before a negative response is observed for deposit banks, and it seems doubtful whether the latter ever come to predominate.

A fairer test may come from examining responses during periods when the authorities are actively seeking to restrain the growth of 'liquidity' by interest rate increases. Three periods can be identified - 1973, 1976 and 1978. The four liabilities series are graphed along with interest rates (MLR) in Figure 3. In all three

episodes, the same pattern emerges. Increases in interest rates were accompanied by a sharp reduction in the growth of liabilities by first the 'other non-banks', followed by the non-deposit banks. Incurrence of liabilities by the deposit bank group slowed, but the response was less immediate and much less than these other groups. This differential response is contrary to the longer run trends in which the non-bank groups are expanding more rapidly than the deposit banks. It is also in contrast to the first two years of the new system (competition without credit control). Only with greater credit control, and higher interest rates, has this pattern changed.

Considering the four classes of institution, the reasons for the different responses of the two non-bank groups seems clear. Insurance and pension rights are geared to income and future considerations, and are unlikely to be sensitive to interest rates changes which are expected to be short-lived. By contrast, the possible vulnerability of savings institutions to swings in monetary policy features in policy discussion in many countries. It can arise if there is a slow adjustment of their rates to market yields. Building societies change rates on existing as well as new loans, which make changes costly and politically controversial. They are mutual organisations and, as people deposit funds in order to qualify for loans, a demonstration of reluctance when raising loan rates is called for.

Non-deposit banks' business is almost entirely wholesale, which is thought to be interest sensitive, but, in addition, the nature of the banks' balance sheets may reinforce this. Matching of maturities is one principle, but, because margins are so competitive in straight brokerage operations, there is an incentive for banks to take a 'view' about future interest rates and, by mismatching, intermediate between shorts and longs. The appropriate 'model' of their behaviour, like that of the Eurobanks, may be one of the term structure of interest rates under uncertainty[1]. If rates are expected to rise (or rise further), the banks face an interest rate risk and will wish to shorten assets and lengthen liabilities. Failing this, they may prefer to unwind their portfolio, disposing of marketable securities before capital losses are incurred. Their activities might respond quickly to interest rates.

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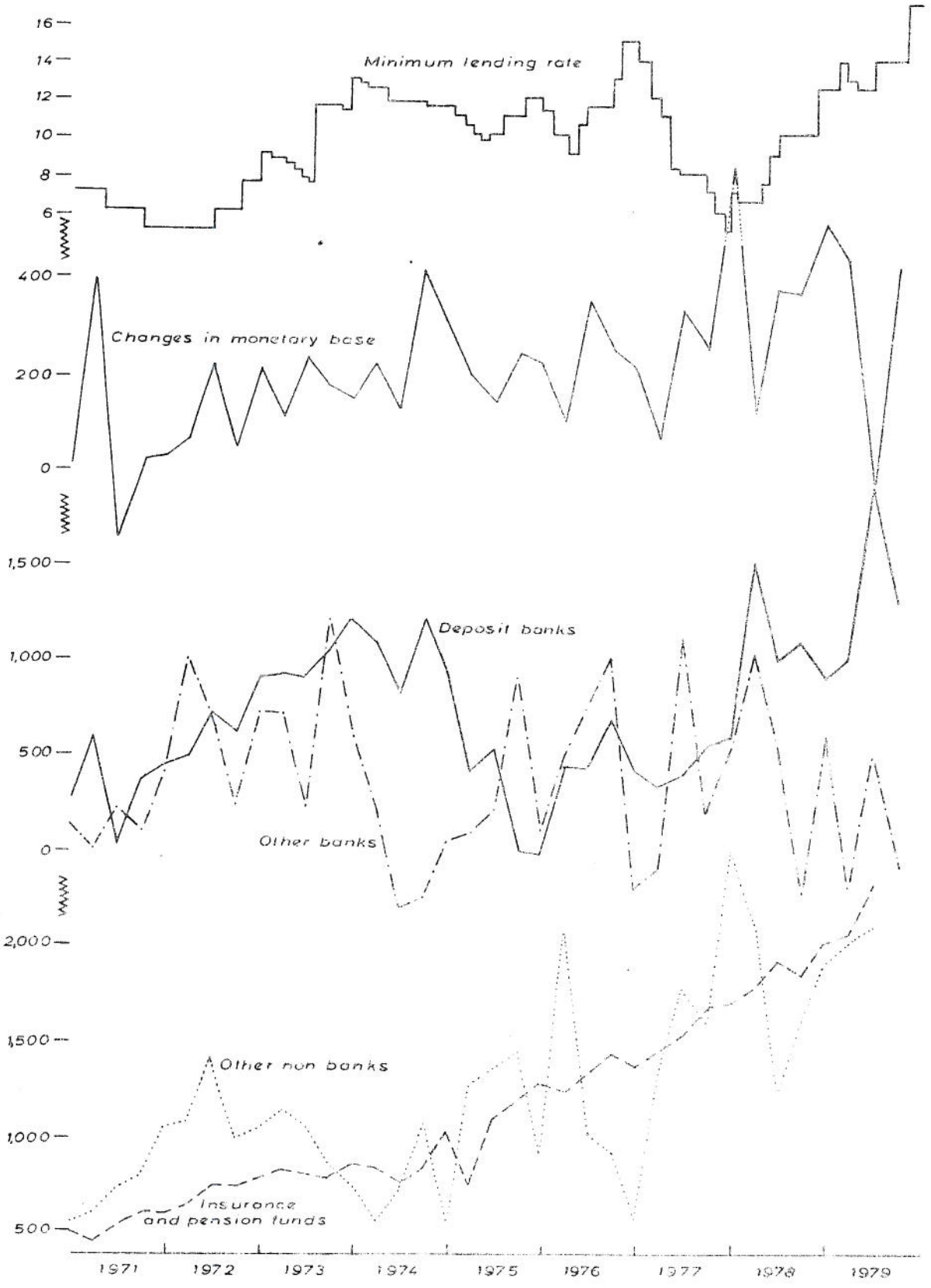
1 J Niehans and J Hewson 'The Eurodollar Market and Monetary Theory', Journal of Money, Credit and Banking, 1976.

Figure 3:

Incurrence of liabilities by major financial groups and monetary policy indicators, 1971-79



If this is an appropriate description of wholesale banks' intermediation, then credit transformation by deposit banks is quite different. They also engage in wholesale banking but their distinctive feature is the provision of liquidity and payment services. The appropriate model is one of liquidity creation, as banks exploit the law of large numbers to determine optimal reserve holdings and endow items on both sides of their balance sheet with liquidity. On the asset side, the liquidity services take the form of overdraft facilities and short-term accommodation, the usage of which is primarily at customers' volition. Not only may banks be the most convenient source of this finance, acting as lenders of last resort to the economy, but with the state of debenture and equity markets, firms may be led to seek bank borrowing as a more or less permanent source of funds. These borrowings may depend more on economic conditions than upon interest rates, which, in any case, may prove to be only temporarily high. Short of deflating the whole economy, there may be no quick reduction in bank advances.

Any failure to control borrowings from deposit banks by interest rates assumes significance because their liabilities are used as 'money'. There is a demand for them for payments as well as to hold, and they will be accepted, even if not demanded, as a temporary abode of purchasing power between transactions. Deposits can come into existence or be extinguished (for example because of changes in advances) without interest rate inducements or disincentives. This distinction between temporary and permanent holdings of money makes banks' intermediation qualitatively different from that of other institutions[1].

These inherent differences between deposit banks and secondary banks are reinforced by cyclical influences. Bank lending is known to be characterised by rationing as base rates adjust sluggishly to changed economic circumstances. Not only may absolute rates fail to perform a market clearing function but, as market rates rise and fall, there may be rapid changes in the demand for funds. On the other side of the balance sheet, the implicit interest rates which the banks pay on current accounts adjust even more slowly to market forces. As earnings on the asset portfolio rise, there is an endowment effect on profits which enables deposit banks to cross-subsidise from the retail side and quote keener margins in wholesale markets.

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1 R T Coghlan, 'A New View of Money', Lloyds Bank Review, July 1978. See also M K Lewis, 'Are Banks Controlled Because They are Different, or Different Because They Are Controlled?', Economic Papers (Economic Society of New South Wales and Victoria), No.63, 1980.

The different influences upon the balance sheets of deposit banks relative to other institutions are well illustrated during 1979, when monetary growth pushed against the upper limit of the target range and intermediation was under the influence of a 7 percentage point increase in MLR. Non-deposit banks' incurrence of liabilities to the UK private sector increased by only 2 per cent over the year. Deposits of the building societies and the savings banks increased by 11 per cent. Those of the deposit banks expanded by 20 per cent! Bank lending to the UK private sector reflected these differences, although not to the same extent (because of on-lending facilities via interbank markets). Loans and advances by deposit banks to the UK private sector increased by 23 per cent, those of other banks by 13 per cent.

What is also striking is the contrast which emerges when the 1970s' experience as a whole is compared with that of the two previous decades. In the 1950s and 1960s, when direct controls were the order, the exercise of restrictive policy appeared to fall directly upon the deposit banks. The impact upon other banks and the non-banks was less and slower to operate. Now, with greater use of interest rates, the 'other non-banks' respond first, followed by non-deposit banks and then, and to a lesser extent, the deposit banks. A system of controls which placed the burden of restrictive monetary policy upon the clearing banks and little upon other institutions may have been replaced by one which does the opposite. In the 1960's policy encouraged clearing banks to become wholesale banks. Is the reverse now the case?[1]

4 Monetary base control?

Nowhere in the Green Paper is there a recognition of these different responses to policy, yet they erode the present basis of policy in two ways. First, they make £M3 an unreliable indicator, whether one is concerned with total liquidity or the money supply. This is because the claims of deposit banks encompass the most liquid components of either. On our calculation, the old M2 definition of money, which

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1 If so, one proposal in the Consultative Paper on liquidity controls will further accelerate this trend. It is suggested that 100 per cent liquidity should be held against inter-bank deposits with a maturity of less than one month. If implemented, this provision will raise the cost of wholesale banking based on interbank borrowings and encourage the non-deposit banks to seek a retail base of deposits for their operations.

many preferred as an indicator, increased by 3 or 4 percentage points more than £M3 in 1979. Second, with such a large component of the money supply apparently unresponsive to interest rates, so that control of £M3 is operating upon a narrow base, the interest rate changes may be larger than they would be under some other form of control. It is this last point that we wish to take up now in the context of the idea of monetary base control (without a mandatory reserve ratio).

As the matter now stands, perseverance with the interest rate weapon is the only option seriously proposed by the authorities. From our results, a more vigorous use of interest rates seems more likely to bear down upon non-deposit banks and non-banks without guaranteeing a quick response of deposit banks. If, in order to reduce bank lending demands, interest rates are pushed to levels which deflate the economy, one must question the directness of the techniques. In these circumstances, an objective of policy (economic activity) is being used as an instrument to alter an intermediate variable (the money supply).

The banks are not to blame for this situation. They can only respond to the stimuli with which they are confronted. If bank customers are not daunted by high interest rates, banks see no alternative but to bid for deposits and reserves to sustain their intermediation. In the 1950s and 1960s they were prevented from doing so by interest rate ceilings. In the 1970s, the process was made more costly by the 'corset'. Both 'solutions' are now unpalatable to the authorities, but the only alternative seems to be interest rates, used more frequently, more quickly and more vigorously.

Proponents of monetary base control argue along different lines. They see that control of the money supply needs to be divorced from any failure of bank credit to respond to policy. As advances expand, banks have the alternative of disposing of other earning assets to the non-bank private sector, leaving total deposits unchanged. This, they argue, can be achieved by placing constraint upon the supply of reserves available to the banks, reducing incentives to liability management. The disincentives come about as interbank rates rise and banks discover that reserve shortages in the system as a whole are relieved more often by sales of assets than by bidding for deposits. In this schema, reserves could be the reserve assets base or cash (base money, high-

powered money) where, without a mandatory requirement, banks are allowed to determine their own cash needs in excess of special deposits. Cash has several advantages. It cannot be manufactured by the private sector. There is less elasticity in its division between bank and non-bank holdings. Its control widens the range of non reserve assets which banks can dispose of.

For this control system to operate, base money must 'matter' for the banks and the financial system. Several studies have shown there to be little connection between movements in the base and movements in the money supply[1]. As we have seen with interest rates, aggregates as broad as M3 can mask contrary behaviour in the contributing institutions. To see whether this is the case, the earlier examination was extended by regressing the four liabilities series with contemporaneous and lagged changes of both interest rates and the monetary base. The monetary base equals currency circulation with the public, currency held by the banks, bankers' balances at the Bank of England, and special deposits at the Bank of England, extended for reserves released from, or called into, special deposits (Brunner and Meltzer's 'extended base' concept), and is seasonally adjusted. The two sets of explanatory variables together account for between 44 and 77 per cent of the movements in liabilities.

The comparison between the two groups which make up M3 could hardly be more marked. Incurrence of liabilities by the secondary banks responds to interest rates either perversely or with a long lag, but their liabilities vary in line with changes in the monetary base. Surprisingly, a one quarter or more lag was found between changes in the monetary base and changes in deposit banks' liabilities, which is at variance with the prevailing notion that base money passively accommodates to concurrent and prior expansion of liabilities. Changes in the monetary base are graphed along with the liabilities series in Figure 3.

These differences may directly reflect the different 'models' of bank behaviour. Intermediation by the non-deposit banks, we have suggested, combines a matching of definite maturities of deposits and loans with transformation between shorts and longs in expectation of interest rate changes. Without a mandatory requirement

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1 T Congdon, 'Should Britain Adopt Monetary Base Control', The Banker, February 1980, and D Savage, 'Some Issues of Monetary Policy, National Institute Economic Review, March 1980.

as proposed in the Green Paper, their demand for high-powered money is virtually zero[1]. By contrast, deposit banks face uncertain demands for cash on both sides of the balance sheet. They must balance the marginal returns from additional investments against the costs of running out of reserves, thus creating a demand for reserves which limits their expansion. Because of scale economies in reserve management, cash holdings can be kept at low levels, but some till money and bankers' balances are maintained to meet payments demands and inter-bank transactions. It is this lever which proponents of monetary base control would seek to utilise to constrain their credit creation. (Similar constraints exist upon non-bank intermediation, but they maintain reserves mainly in the form of bank deposits, giving their liabilities an indirect link to the monetary base.)

Would monetary base control work? Our analysis raises the possibility that one control mechanism may be insufficient. Proponents of monetary base control look to interest rates as the means for bringing about the size of the base needed to restrain £M3. But non-deposit banks can do without high-powered money and, without accompanying interest rate changes, control of base money may do little to control their intermediation and the non-bank intermediaries. On the other hand, the authorities persist in seeing monetary base control merely as a way of triggering interest rate chnages sufficient to restrain the money supply, for which a direct monitoring of £M3 would do just as well, if not better. This view, stated with admirable clarity in the Green Paper, ignores the role of the monetary base as a <u>determinant</u> of credit expansion. It makes no allowance for the character of deposit banks' intermedition, such that cash or the expectation of obtaining cash is a precondition for credit expansion. Without restraint upon cash, interest rates themselves may do little to curtail deposit banks, which is what the evidence here suggests.

Accordingly, a mixture of cash restraint and interest rate changes may be needed for overall control of the financial system. Interest rates and the monetary base are not just price and quantity analogues of each other, as Figure 3 shows. Merely pushing up interest rates without at the same time restraining cash sufficiently is not enough. But any

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1 The nature of wholesale banks' demand for liquidity is recognised in the new provisions for liquidity supervision. The proposal is for liquidity on maturity certain business (other than short-term inter-bank) to be based on the mismatched position for each maturity structure.

system of monetary base control must have the dual objective of imposing a quantity constraint upon deposit banks' intermediation and a price constraint upon other institutions, the latter occurring as actions to restrain high-powered money raise interest rates.

In these circumstances, advocacy of one or the other money supply control mechanism is misleading. Both are relevant. In the same way, both the money supply and interest rates are relevant for transmitting monetary policy to spending. Nevertheless, one is preferred to the other as the financial target. Similarly, either short-term interest rates or the monetary base may be preferred as the guide for money supply control, even if both are determinants.

Ironically, in view of the Bank's opposition to monetary base 'control', the case for it performing this function is directly analogous to that which the Bank uses for having the money supply as the financial target. When relative interest rates determine demands for money and credit, absolute levels of MLR are a poor indicator of policy impact. More positively, high-powered money is the ultimate means of payment of the banking system, and its rate of provision would set an upper limit to banks' creation of credit.

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