

14. Monetary Control Consultations

27 November 1980

MCC(80)50

22 NOV 1980
H.F.C.S.

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PAPER BY BUITER and MILLER: The scope for
monetary control in an "open" economy with
competitive banks and no exchange control.

The attached paper is circulated to the Committee for
information.

Would copy recipients please note the change of Secretary
at the Bank of England.

H J DAVIES

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The scope for monetary control in an "open"
economy with competitive pounds and no exchange control

by Willem Buiter and Marcus Miller
Introduction: the current debate

Milton Friedman has of course been highly critical of the techniques actually used to control the broadly defined money supply in the U.K. and of the competence with which these techniques have been applied. He devoted more than a quarter of his response to the Questionnaire to what he calls Monetary Tactics (see paras 10-20) and he made a definite recommendation that Monetary Base Control be adopted as a means of controlling the money supply. In paras 16 and 17 he wrote :

It would be highly desirable to replace (the present) multiple reserve system by one in which only a single asset - liabilities of the Bank of England in the form of notes or deposits (i.e. base money) satisfies the reserve requirements. This is probably the most important single change in current institutional arrangements that is required to permit more effective control of the money supply. ... Control of the monetary base should be exercised through open market operations primarily in short term debt. ... the Bank should decide in advance each week how much to buy or sell, not the price at which it will buy or sell. It should permit interest rates to be determined entirely by the market."

This passage carries the implication that, by a straightforward technical adjustment, and correspondingly revised operating procedures, the money supply could be more easily controlled; and, by implication, the embarrassments of recent months avoided. Friedman severely criticizes Treasury and Bank officials for looking at the factors affecting the demand for money in their own Green Paper on this topic, and not paying sufficient attention to the details governing the definition and conditions of supply of reserve assets. (An analogy he has suggested on another occasion is that of controlling the output of cars from the domestic car industry; there he suggests that a direct way of doing

this is to control the supply of steel made available to the car industry. For banks, the required input - after appropriate institutional change - would be reserves of base money; and this is what should be controlled.) We examine the prospects for monetary control in the UK and Professor Friedman's proposal in particular.

1. Theoretical Analysis

The demand
for money

Despite Friedman's strictures to the contrary, we start by looking at the nature of the demand for money, and for bank deposits in particular. This is perfectly legitimate because at the end of the day the deposits etc. which constitute the money supply must willingly held (demanded) by those whose assets they are. Thus, to pursue the industrial analogy mentioned above, it would seem essential to look at the conditions governing the demand for British motor cars when considering the merits of a policy of restricting the supply of steel to the U.K. car producers.

- 2 -

If there are close imported substitutes for British cars available on the market, the restriction of steel will no doubt restrict sales of British cars, but not sales of cars in Britain. Will there be a large expansion of foreign substitutes, and if so should the rise in imports be allowed, or should it be stopped and if so, how (given that one cannot restrict the supply of steel to Japanese producers)? These are questions that one would expect a Department of Industry and Trade to consider in such circumstances, and the analogous questions must be faced by the Bank of England.

We take it for granted that the demand for money balances broadly defined will depend on the domestic price level and on the level of domestic real income or output, but we shall for the present assume these are given in the short-run.

Friedman is critical of the notion that one can control the level of money holdings in the U.K. by raising the rate of interest in this way, and he is obviously correct. To see why, however, one need not look at the details of bank's reserves, but rather to consider what competition between banks will imply for the deposit interest rates paid on money when bank rates and lending rates in general rise. Competitive pressure forces banks, who can lend money at a higher rate of interest, to pass the benefit on to depositors in the form of higher deposit rates - banks who do not do this are losing business to those who do. If all banks tend to move deposit rates in line with the general level of lending rates, then of course a rise in interest rates will not significantly increase the "cost" of holding money, and so will not induce much reduction in the public's willingness to hold money on deposit with such competitive banks. Thus the effect of competition between banks produces a response which offsets the downward pressure that high interest rates might at first be expected to exert on the volume of bank liabilities.

The same point is put in a different form by those who argue that, for a large part of banks' liabilities, it is interest differentials (between deposit rates and bond rates) that affect public demand, rather than the general level of interest rates, and that these differentials will be relatively insensitive to the level of interest rates if there is effective bank competition.

Money Base
Control

This discussion of the way interest rates affect the demand for money leads naturally to an examination of how proposals to restrict the money supply must work.

Let us look, first and foremost, at the proposal made by Friedman and several other witnesses, to restrict the total supply of base money (i.e. liabilities of the Bank of England in the form of notes or deposits, which we will refer to as "cash" for short) available to the (private) banking and non-bank sector, and do so with the aid of the industrial analogy Friedman uses, which was to restrict the total supply of steel to the car industry so as to restrict domestic car production.

The Steel Analogy

If such a move were legally and administratively feasible (multinationals would have to be stopped from shipping in the steel components from overseas plants, etc.), there would doubtless be an effect on car production as promised. Even though this plan were to work, however, a moment's reflection reveals that the analogy is not correctly drawn and its implications for the efficiency of Monetary Base Control are misleading. For the analog talks of the control of steel to the car industry but Money Base Control does not restrict the cash available as reserves to the banking sector; it restricts cash available to the private sector as a whole. Thus the correct industrial analogue would be that of trying to control car production by controlling the supply of steel to all British industry.

One only has to consider this, more correctly drawn, analogy to realise that there are many possibilities of slippage. With a global restriction on supply, the price of steel will rise and this will encourage substitution away from steel in all industries. The effect of say a 5% reduction in steel supplies will, as far as the car industry is concerned, simply appear to be a rise in the price of steel, and it will get all it wants at this higher price by bidding steel away from other users. Domestically produced car prices will have to rise to reflect the higher cost of steel input, and the effects on production will come from whatever effect this price increase has on car sales.

Controlling the Base

What does this (corrected) analogy imply for the effects of Monetary Base Control when the government tries to restrict the output of the banking industry by a global restriction on the supply of "cash"? The answer is that there will be a rise in the "cost" of cash and that bankers will (after economising on their own uses of cash) proceed to bid for what cash they may need from the non-bank private sector. The "cost" of non-interest bearing cash is simply measured by the interest rates (explicit or implicit) paid on non-cash assets (e.g. the explicit interest on bills, bonds and deposit accounts or the implicit interest on current accounts); so, as Friedman said in his evidence, interest rates will have to rise. This rise in "cost" of reserves is like the rise in the price of steel, and its function is the same, to allocate the scarce supply among potential users so that those who are not willing to pay the extra cost release supplies to others who will.

But how will this reduce the money supply? The answer has to be "by so raising the costs of banking in Britain that people will switch to other forms of financial intermediation. When the cost of reserve holding goes up, then the costs of banking will go up (because the costs of keeping loanable funds "idle" are higher). But the "cash content" of an English sterling deposit is very small. Thus the Clearing Bankers at present hold less than 5p as a cash reserve against each pound deposited with them. So the costs of reserve holding will have to rise by a great deal in order to have any significant effect on the average cost of banking in Britain. If only 1/20th of a £ deposit goes into cash, then a rise in interest rates by 40 percentage points would be necessary to widen the spread between deposit rates and loan

money is half a point! (If the price of petrol cars were only twenty pence then the price of such would similarly have vary by 10 times any variation in the price of cars thought necessary to reduce car production).

Conclusion Careful analysis of Money Base Control leads to the conclusion that, as it is not a direct control on the volume of banks' reserves, it has to work by rationing cash between banks and non-banks via higher interest rates. But the fluctuation of interest rates which will be necessary to significantly affect the costs of banking in Britain and so (and thus the demand for deposits in Britain), would be very great. This is illustrated in the Figure attached at the end of this Note.

2. Developments in UK banking

Competition & Credit Control 1971 In launching its monetary reforms with the title of Competition and Credit Control in 1971 the Bank of England (under Sir Leslie O'Brien) was implying that it could somehow square this particular circle, that it could achieve control while encouraging competition. The result, however, was a monetary explosion, which was only brought to a halt by the imposition of the "corset" an innovation that took place soon after the present Governor assumed responsibility.

the Corset The corset works by imposing a successively greater mandatory cash reserve requirement on new deposits the further any bank proceeds into the "penalty zone". At its highest the reserve requirement does in fact reach 50% so that there has to be a very wide differential between deposit and loan rates if banks are to break-even on new business. (Allowing for the typical distribution of assets held by a commercial bank it has in fact been calculated that when deposit rates are 16%, the break-even loan rate might need to go as high as 42%, see Greenwell's circular No.19, December 1973).

No one denies that the corset works, it works indeed rather like a very high mandatory cash requirement; but it was removed because it checked the expansion of efficient banks within the banking sector, and because it hindered domestic banks from competing with other non-banks and overseas banks. If the corset is abolished to be replaced by a low cash requirement then one will have restored competition, but will have to face the consequence that interest rate variations will not significantly affect the "cost" of holding domestic deposits and so will not be much help in achieving monetary control.

Goodhart's Law From what has been argued so far it would appear that, given the will to control the money supply, the way would be easy, namely to increase the size of the mandatory non-interest-bearing reserve requirement enough to make resident banks unable to compete against their own non-bank and overseas rivals. But this conclusion is too facile, for financial intermediation is a flexible, fast-moving business ("money is fungible" as the Americans put it) so one must expect profit-seeking financial intermediaries to emerge outside the bank sector strictly defined which will supply good substitutes for the bank activities that are being restricted by the reserve requirements. So prevalent is such behaviour that it has been described by a "law" (called Goodhart's Law, after Charles Goodhart of the Bank of England). This law asserts that when the authorities attempt to control any monetary total (by reserve requirements say) then the activities of the financial system in

creating substitutes will so effect (reduce) the demand for it, that its behaviour will cease accurately to reflect the course of banking business. So those monetary aggregates being controlled have a tendency to become "meaningless" (as the real business of banking moves elsewhere)!

Precisely such objections were raised against the "corset"; that it certainly helped to check the growth of measured $M3$ but only at the cost of rendering $M3$ a bad monetary indicator. This same point is sometimes expressed by saying that devices such as the corset work to control banks but result in "disintermediation". This line of discussion leads to the fundamental question of how money should be appropriately defined in the first place, and leads one to wonder how stable the demand for money, however defined, is likely to be, if it is as easy to create substitutes as Goodhart's law implies.

b) Ending of Exchange Control

One only has to consider the consequences of ending exchange control to see how pressing these questions have become. When exchange control ended it became legal to hold deposits in financial centres other than London (Zurich, Paris etc.) in banks which are not subject to domestic controls. Hence restrictive controls operating on domestic banks must be expected to drive deposits (and so lending business) to these overseas banks. But deposits held there (especially at branches of U.K. banks) are doubtless very good substitutes for $M3$ and there is no proper measurement made of such overseas holdings; so the relevant aggregate of $M3$ plus overseas deposits is unknown, and the $M3$ component will become an increasingly doubtful monetary indicator. In this context Goodhart's law warns one that $M3$ would become a progressively more meaningless if it were to be controlled by devices which hobbled resident banks to the benefit of their non-resident competitors. And certainly now the corset has ended there has occurred a significant amount of "reintermediation", and much of it appears to have come from overseas (which would explain the recent sharp increase in FSL1 and FSL2 described in Professor Rose's report of 24 September). It is moreover, the absence of these funds overseas that may have rendered the $M3$ figures misleading over the preceding year or so.

We thus conclude that the demand for money should in the current UK context be thought of as depending much more on the differentials between lending and deposit rates and (since the ending of exchange control) between (sterling) deposit rates here and those overseas rather than on the level of the

rate. What does the combination of competition in banking and the ending of exchange control imply therefore about attempts to control the monetary aggregates? The answer is that it is relatively easy to control any particular aggregate like $M3$, but it may not be very meaningful to do so if the same financial intermediation takes place via Zurich, or wherever. It is easy because the existence of close substitutes means that regulation which raises the costs of financial intermediation drive such business into other channels or offshore - as the example of the Euro £ market has testified.

3. Problem for present policy

What if one wishes to control the money supply without reducing the ability of British-based banks to compete -if one wants competition along with monetary control? This is presumably the problem facing current policy makers. We have examined Friedman's "solution" and found that it does not have much effect on the costs of banking "on shore". So it appeared to be ineffective as a device for control unless interest rates were to rise sharply. That conclusion was, however, conditional on an assumption which we must reconsider, namely that prices and output are fixed. If the pound is floating and high domestic interest rates raise the external value of the currency, then it is highly likely that both prices and output will vary, so the demand for money will be affected for those reasons.

present
policy
dilemma

Inter- If we were to assume, as do the so-called International Monetarists, that the price level will fall very quickly to offset any upward movement in the exchange rate then of course interest rates will need to rise much to ration the demand for money (or reserve assets since the demand for money will fall automatically in line with the price level.

International
monetarism

This would be a nice outcome; and there were several economists who predicted that tight money would work in this way in Britain under floating exchange rates. But their numbers are dwindling as the sterling exchange rate soars and inflation falls slowly (leaving £ 30% to 40% overvalued).

monetary
contraction
in a world
of floating
rates but
sticky
prices.

One has to consider what the effects of trying to control money will be when prices are not flexible. With internationally mobile capital it is difficult to see how interest rates can be raised high enough to control money unless the market expects £ to fall soon (so the high interest rates will be offset by a forward discount on the currency). But if the pound is overvalued this will tend to both cut prices (to some extent) and also to reduce income (as exports fall off and imports expand). If prices are "sticky", therefore, one can see how efforts to control money will tend to work: via high interest rates, an overvalued exchange rate, with some effect on prices but a major effect on real incomes and output.

The description just offered seems to correspond more closely to what we observe than the International Monetarist account. What it brings out is the way in which the authorities who try to control money without "hurting" the banking industry will tend in a world of floating rates and mobile financial capital to control money by damaging non-banking (largely manufacturing) industry. In order to control money while preserving the international competitiveness of banks, one ends up reducing the competitiveness of manufacturing industry.

4. Conclusion and Policy options

Friedman's proposals and evidence appear to take inadequate cognizance of the effects of interbank competition or of the degree to which the British banking system is now free to move offshore. Monetary base control, if applied with a high non-interest bearing reserve which is capable of restricting the money (rather like the "corset" did) but in present circumstances this would be symbolic. If the reserve requirement is low (or reserves bear interest) then the consequent need for high interest rates to achieve monetary control will also lead to overvaluation and a cutback of manufacturing industry as the "transmission process".

Tactics

In present circumstance, where the overvaluation is already present and output and inflation are falling faster than many had expected, one obvious tactic is to avoid further efforts to cut the money supply (essentially by 'rebased' the money supply figures to allow for the summer's reintermediation). Apart from that, the options appear to be

Strategy

either to continue to pursue the (rebased) monetary targets while

- (1) not effectively limiting the ability of banks to compete; with whatever consequences for the exchange rate may be necessary.
- (2) Restricting British banking significantly (by tough controls: corset, high reserve ratios etc) to reduce ΔM_3 but allowing substitution "off-shore".
- (3) Restricting British banking significantly, but preventing substitution by reimposing some sort of exchange controls.

or alternatively

- (4) The stated monetary targets can be progressively eased as necessary to avoid overvaluation.

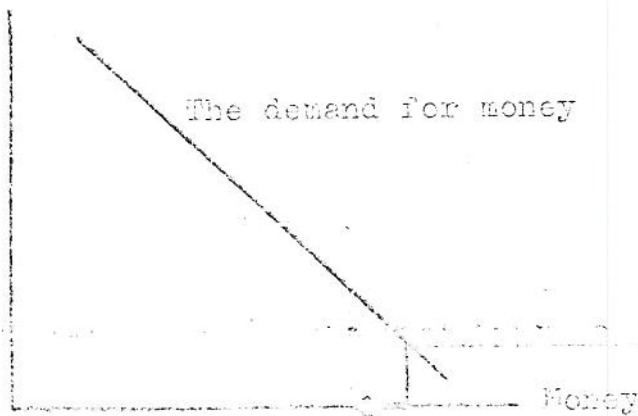
Thus the policy dilemma faced by the authorities involves choosing between (a) competition in banking (b) competitiveness in manufacturing and (c) credibility in controlling the money stock.

(An interesting historical parallel is provided by the return to gold when Montague Norman recommended the restoration of Britain's financial position by a policy of high interest rates and a high exchange rate; Churchill went along with this but wrote, in a letter to O. Neimeyer, "I would rather see Finance less proud and Industry more content.")

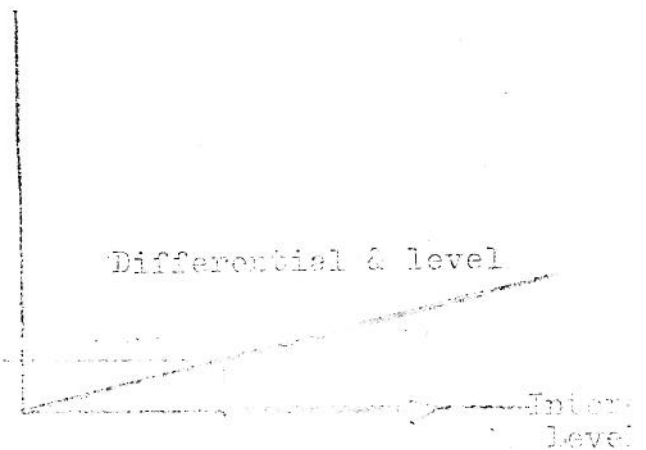
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Figure: Competition, Monetary Control and the Volatility of Interest Rates

Interest Differential



Interest Differential



A small reduction in the money stock ... requires a large rise in the level of interest rates

Explanation

The left hand panel shows how the desire to hold money (in the form of bank deposits) falls as the interest differential (between lending rate and the rate on bank deposits) rises. The right hand panel shows how under competitive banking small movements in the interest differential are associated with large movements in the level of lending rates.

To reduce the money supply (shown by the arrow in the left hand panel) may not require a large rise in the differential but will require a much bigger rise in the level of interest rates, as shown in the right hand panel by the large arrow).