

# MONETARY CONTROL IN A BRAVE NEW WORLD

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Will effective monetary control of the economy still be feasible in the brave new world of automated payments? Yes, I think, via a transmission process not much different from the present one. Some adaptations will be needed, both in the laws and regulations applying to banks and other financial intermediaries and in the operating procedures of the central bank. But these pose no insuperable difficulties. They continue a process of adaptation that has gone along successfully for a long time.

After all, Congress and the Fed have adapted to other striking technological, institutional, and regulatory changes, confounding many predictions that these innovations would render monetary control ineffectual. Think back to the development of the Federal Funds and Eurodollar markets, the facilitation of transfers between deposits subject to reserve test and other bank liabilities, the erosion of Regulation Q, the inauguration and spread of NOW accounts, the generalization of checkable deposits to intermediaries other than commercial banks, and now the payment of uncontrolled interest rates on transactions accounts.

## THE RESERVE TEST

In the United States the fulcrum of monetary control is the reserve test. To judge the future of monetary control in a system of auto-

mated payments, we must ask whether and how a reserve test will work in that system. I begin by reminding you how it works now.

Designated “depository institutions”—I shall call them all banks for short—must pass a reserve test periodically. Large banks, which account for the bulk of deposits, must do so every two weeks; some others have to do so only quarterly. The pecuniary sanction against failing does not seem formidable; an interest rate two points above the Fed discount rate is charged on the reserve deficiency, and this penalty is mitigated by allowance for some carry-forward of deficiencies to subsequent test periods. The more important sanction de facto is presumably the bank’s fear that failures will impair access to Federal Reserve credit in future.

To pass one of its periodic tests a bank must hold eligible reserve assets during its reserve maintenance period in daily amounts averaging no less than its requirement for the test. There are two eligible reserve assets: currency and deposits at Federal Reserve Banks. They differ in reserve maintenance period. I am going to gloss over this and similarly inessential technicalities. The requirement depends, now almost proportionally, on the amounts of certain types of liabilities to nonbanks. Liabilities subject to reserve requirements are now mostly confined to transactions accounts, that is, accounts payable on demand and on order by check or wire to third parties. The requirement computation period leads the maintenance period for reserve balances in Federal Reserve Banks by two business days; thus, since February 1984, reserve accounting is essentially simultaneous.

An essential requisite of monetary control via reserve tests is that the government, via the central bank, monopolize and control the aggregate supply of the eligible reserve assets, the monetary base. This the Federal Reserve does by open market operations and by setting the rates and other terms on which it will lend reserves to the banks. Another requisite, also met in the United States, is that the banks subject to reserve tests are in aggregate weighty enough participants in financial and capital markets so that central bank operations affect importantly the quantities, prices, and interest rates determined in those markets.

The question is whether the mechanism just described will apply in a new payments system and how it will need to be amended. To consider that question, I need first to describe a new payments system as I imagine it.

## AN AUTOMATED PAYMENTS SYSTEM

Here is my vision of the brave new world:

1. Payments will be made at time of purchase or settlement on the initiative of the payor. They will be made from computer stations connected to banks and Federal Reserve Banks, located at banks themselves but also in stores, offices, and homes. This network will somehow use the telephone system. Plastic cards will be used, as at interactive automatic teller stations today. The payor will enter or confirm information about the transaction by keyboard or telephone dial.

2. Four things will happen when the transaction is executed, either at once or at a future time designated by the payor: (a) The payment will be debited to the payor's account; (b) simultaneously it will be debited to the payor's bank's account at the Fed, and (c) credited to the payee's bank's account at the Fed, and (d) credited to the payee's account. There will be no float, either for depositors or for banks. Note that this is a greatly accelerated version of the European giro system, which seems a more efficient flow of information than our check system—from payor to payor's bank to payee's bank to payee rather than from payor to payee to payee's bank to payor's bank. The absence of float will enhance the controllability of the monetary base by open market operations.

3. Banks will allow overdrafts up to previously established credit lines like those now defined by bank credit cards. Indeed, extensive use of overdrafts, long common abroad, is the principal innovative by-product of the new system for the United States. A transaction will be completed if and only if it would not result in an overdrawn balance exceeding the prearranged limit.

4. Interest will be credited to positive balances and charged to overdrafts, both of course automatically. I assume that interest rates will be uncontrolled by law or regulation, as the trend of legislation in the United States already suggests; but this is not essential or germane to our present topic. Almost surely the rate for overdrafts will exceed the rate on positive balances.

5. Automatic transfers via the same machinery will be possible to and from nonmonetary accounts at banks and other financial institutions. Nonmonetary accounts would be those not payable or transferable on demand, or those redeemable on demand but variable in value (like shares in variable-price mutual funds). The network could

not be used to transfer the ownership of a nonmonetary asset to a third party, but only to buy such an asset by transfer from a monetary account or to order the sale or redemption of such an asset and deposit of the proceeds in a monetary account. Any financial intermediary institution that would wish to use the network for transfer of ownership of its liabilities or shares would have to become a "bank" subject to reserve tests and associated regulations.

### RESERVE TESTS AND MONETARY CONTROL IN THE AUTOMATED SYSTEM

The likely extensive use of overdrafts would make it necessary to revise the present base for calculation of bank reserve requirements. If reserves were required, as at present, only against positive liabilities of transactions balances, use of the overdraft facility could make them very small or even zero for many banks. This would be even more likely if overdrafts were netted out. These schemes would, moreover, give banks incentive to offer generous credit lines in order to minimize costly required reserves. Evidently it will not be practical to stick solely to reserve requirements against liabilities. Milton Friedman taught that only the liability side of bank balance sheets should concern us and the central bank. That proposition can be rescued from absurdity only if unused overdraft credit lines are counted as a liability, perhaps a "reserve" charged against the capital account.

The most natural revision might be to set reserve requirements as a function of the bank's—net transactions account balances plus aggregate credit lines. This corresponds to a rationale often given for basing reserve requirements on transactions deposits today, that they represent balances immediately available for making payments. A related rationale is that the demand for such balances, of which M1 is meant to be the contemporary aggregate, is a stable and predictable function of nominal income, prices, and interest rates. To be enforceable, this revision would require that the overdraft limit to a depositor be precisely defined and that, as described in the previous section, the automated payment be blocked if it would transgress the limit. It would also require that the bank report, in connection with each reserve test, the total of its credit lines to depositors.

Although this revision would be feasible, I do not think it is the best way to proceed. I have never found the above rationales for

reserve requirements on immediately transferable deposits very convincing. They become less so when interest on deposits deters their use in payments to acquire other assets, and a fortiori when high interest charges on overdrafts would deter use of credit lines. There is precious little econometric evidence for the stability of demand for money in this sense, and I suspect there will be even less in a regime of automated payments.

Effectiveness of the reserve test mechanism does not depend on scaling reserve requirements to deposit liabilities, actual or potential. The mechanism will work however the requirement is computed, so long as the Federal Reserve controls the medium of interbank clearing. A bank loses reserves when it comes up short in check clearings; the same will be true when it is short in automatic transfer clearings. To avoid the fate of running out of liquid federal funds with which to meet deposit losses and negative clearing balances, a bank may hold excess reserves; and if these are depleted, the bank will sell securities, curtail lending, bid for deposits of all kinds, borrow from other banks or from the Fed. All these responses to actual and potential reserve scarcities restrict bank credit and raise interest rates. So long as the central bank defines what assets are eligible to meet reserve requirements and limits their supply, the reserve test system will evoke these responses. Its effectiveness does not depend on reserves being required against transactions balances, even though it is mainly through shifts of transactions balances that reserves are moved from bank to bank.

It is also true, incidentally, that monetary control depends primarily on the effectiveness of the reserve test, not on the size of the fractional reserve requirement. The system will work with low reserve ratios or with high, so long as the same penalties against reserve deficiencies are enforced. Indeed, it will in principle work with zero reserve requirement—please understand that “zero reserve requirement” does not mean “no reserve test.” However, the size of the fractional reserve requirement, whatever the base to which it applies, does affect the properties of the system. The lower the fraction, the more important are banks’ demands for net free reserves in determining the total demand for the unborrowed monetary base. Those demands are more volatile and unpredictable than required reserves against deposits or assets. Another consideration in deciding the size of required reserve ratios is equity between bank shareowners and other taxpayers. “Old taxes are good taxes.” Bank owners

have already enjoyed windfalls from recent reductions in reserve requirements.

I propose gearing the reserve requirement to bank assets minus capital liabilities. Assets include overdraft advances to depositors. Assets covered by capital liabilities would be free of reserves. It seems to be desirable also to exempt assets covered by subordinated debt, that is, liabilities on which there is explicit understanding that they are not insured either *de jure* or *de facto*.

My proposal in effect extends reserve requirements to “nontransactions accounts,” that is time deposits and CDs. These “near moneys” will be even more easily transferable on maturity or sale into transactions accounts than they are now. In the new system banks one of the uses of these funds will be to advance overdraft credit to holders of transactions accounts. In effect, reserves will be required against overdrafts in use rather than unused credit lines. This is the appropriate “tax,” because it is the use of credit lines as demand for goods and services, rather than their mere existence, that the central bank seems to control. Moreover, unused overdraft facilities will mean different things in different banks.

In an automated system of the type imagined, M1 will not be a very interesting statistic, for much the same reasons that render deposits unsuitable as the base for reserve requirements. However the monetarist savants decide to redefine M1, its velocity will probably be even more volatile than it is now. But monetary policy will be no less effective. Variation of the Fed’s instruments, open market operations, and discount rates will still affect the monetary base and will be transmitted to macroeconomic variables that really matter. Mechanical monetarism, targeting of monetary aggregates, will be dead, but monetary theory will be very much alive. The payments system will be more efficient and convenient.