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Rules vs. Discretion in Controlling Money

During the last decade, and especially since October 1979, the Federal Reserve System has expressed its monetary policy objectives in terms of the growth rates of monetary aggregates, often with the principal emphasis on M1 (which consists of the public's holdings of currency and checking accounts). Annual and quarterly targets for these aggregates are established by the Federal Open Market Committee (FOMC), and the System uses its policy instruments —principally the buying and selling of government securities in open market operations —to achieve these targets. Since 1979, the major focus of monetary policy has been to reduce monetary growth gradually to a rate consistent with reasonable price stability over time.

One issue that has commanded the attention of the FOMC in this period has been whether it should establish a quasi-fixed rule for responding to unexpected increases or decreases in monetary growth relative to its targets, or follow a more flexible approach of treating such divergences on a case-by-case basis. In the course of describing the methods of short-run monetary control used by the Federal Reserve in recent years, this *Letter* discusses some of the advantages and disadvantages of a procedure based on rules versus one allowing greater discretion.

Since most money in the U.S. consists of checking accounts, which are the liabilities of private depository institutions, the Federal Reserve cannot *directly* control the quantity of money outstanding. However, the central bank can affect the money stock *indirectly* because depository institutions are required to hold reserves equal to specified proportions of certain of their deposit liabilities, and the supply of reserves is under the Federal Reserve's control. By increasing or decreasing the supply of reserves, the Federal Reserve can change the quantity of deposit liabilities the private banking system is able to create. It thus can increase or decrease the total stock of money in the hands of the public.

Sources of bank reserves

Bank reserves take the form of reserve accounts held by depository institutions at Federal Reserve Banks and of cash held in their vaults. They have two components: nonborrowed reserves and borrowed reserves. The supply of nonborrowed reserves is directly influenced by the Federal Reserve: when the Trading Desk at the New York Federal Reserve Bank buys or sells government securities in the open market, nonborrowed reserves rise or fall.

Borrowed reserves, on the other hand, come into existence when private banks and other depository institutions borrow from the Federal Reserve Banks, or "come to the discount window" as it is usually called. Although the Federal Reserve sets the interest rate ("discount" rate) on this borrowing, the quantity of borrowing —at least in the short run —is determined mainly by the decisions of individual banks. If, for example, market interest rates rise and make discount window borrowing relatively less expensive as a source of bank funds, borrowed reserves tend to rise. A portion of the total stock of reserves is thus determined by the decisions of private depository institutions rather than exclusively by the monetary authority.

In theory, it would be possible for the Trading Desk to control the *total* stock of bank reserves by using open market operations to offset all changes in borrowed reserves with equal and opposite changes in nonborrowed reserves. In fact, however, the System has never followed such a *total reserves control procedure,* although it frequently has been urged to do so by its critics.

Before February 1984, each bank's required reserves in a given week depended on its deposit liabilities two weeks earlier, which meant that total required reserves were predetermined in any particular week. Since the Federal Reserve had no option but to supply at least that quantity of reserves, a total reserves control procedure was not feasible. Reserve requirements on transaction deposits are now contemporaneous, but it is still argued that the banking system cannot quickly alter its total deposits, and hence its required reserves. In practice then, attempts to control total reserves might cause short-term interest rates to become unduly volatile. Partially

in response to this concern, such a procedure has not been implemented even though the shift to contemporaneous reserve requirements was urged by many Federal Reserve critics to make a total reserves control procedure feasible.

Instead, short-run monetary control since October 1979 has focused on the proportion of total reserves in borrowed versus nonborrowed form. A rise in this proportion tends to reduce money growth. Both the Federal Reserve and individual commercial banks view access to the discount window as a privilege. There is a general reluctance to borrow from the Fed, but this attitude depends on the spread between the federal funds rate and the discount rate. The greater the spread, the greater the willingness to borrow from the discount window. As a result, if the Trading Desk were to reduce the supply of nonborrowed reserves, market interest rates would tend to rise and only then would banks become willing to borrow more from the discount window. Hence, such a Desk action increases the proportion of total reserves that is borrowed, pushes up interest rates, and causes money growth to slow as the holding of money becomes less attractive to the public relative to the holding of interest-bearing assets.

The reserves control experiment

In the period between October 1979 and October 1982, the Federal Reserve followed what came to be known as a *nonborrowed reserves control procedure*. Given the desired short-run path for money, and hence for required reserves, the Desk (after each FOMC meeting) set a path for nonborrowed reserves. Despite the influence of uncontrollable and unpredictable factors such as changes in Federal Reserve float and in the Treasury balance, the Desk is able to hit such a nonborrowed reserves objective with considerable accuracy.

If the demand for money grew more rapidly than planned, the path for nonborrowed reserves was normally not raised. This rule meant that the resulting need for additional reserves had to be met at the discount window. Hence, faster money growth caused interest rates and the proportion of borrowed reserves in total reserves to increase. These higher rates in turn tended to curb money growth and bring it back toward path. The main advantage of this "rule-based" procedure therefore was that it had a built-in "automatic stabilizer" which tended to moderate departures of money from the short-run path over time.

As a side-effect of the nonborrowed reserves rule, interest rates tended to become more variable than they had been prior to October 1979. This would not have been a disadvantage if most changes in the quantity of money demanded reflected changes in the level of economic activity which the Federal Reserve wished to "lean against." However, critics of the procedure argued that, to the extent that changes in money demand represented temporary or random fluctuations that the central bank should have been content to accommodate because they did not significantly affect the growth of nominal GNP, the interest rate fluctuations unsettled the money markets without serving any useful money control purpose.

Since late 1982, the FOMC has come to the view that many changes in money represent increases or decreases in the demand for money that do not appreciably influence real output and prices. Hence, a control procedure that automatically offsets all short-run money demand fluctuations is not necessary. A more discretionary system would enable the central bank to decide, on a case-by-case basis, which variations in money demand should be accommodated and which should be offset.

The result of this re-appraisal is the present *borrowed reserves control procedure* which focuses on the level of discount window borrowing rather than on nonborrowed reserves. Under this procedure, an initial path for nonborrowed reserves is derived by subtracting from required reserves (in turn derived from the short-run money path) the objective for discount window borrowing, and adding an assumed level of excess reserves. The Trading Desk may alter this initial path for nonborrowed reserves between FOMC meetings as needed to achieve the borrowing objective. Importantly, under the current control procedures and in contrast to the procedure used before the fall of 1982, there is no fully automatic mechanism by which the level of borrowed reserves changes in response to deviations of observed money from its short-run path. However, the FOMC's directive to the Trading Desk usually does indicate the economic conditions under which the borrowing objective would be altered.

Although both procedures described operate by varying the ratio of borrowed to nonborrowed reserves, there is a considerable difference between pre- and post-fall 1982 control procedures. Under the current procedure, as long as the borrowing objective is unchanged, the Federal Reserve passively supplies as many nonborrowed reserves as the banking system demands with little Fed-induced change in interest rates. In general, only when the borrowing objective is altered are the degree of Federal Reserve pressure on banks' reserve positions —and hence on short-term interest rates —changed. Under the earlier procedure, by contrast, nonborrowed reserves were the active policy variable that automatically transmitted short-run variations in reserve market conditions and money demand to changes in borrowed reserves and interest rates.

Evaluating the current procedures

The considerable reversal in M1 growth between the first and second halves of 1984 raises the question of whether the current control procedures are adequate. M1 grew at an 8-percent annual rate in the first six months of 1984 but only at a 4-percent rate between June and December. Critics have argued that, although short-term rates rose in the earlier period and declined sharply after September, these changes would have taken place sooner under a nonborrowed reserves procedure and that, as a result, monetary growth would have been smoother over the year as a whole.

This criticism of the current procedure is the latest example of a more general and longstanding criticism that the central bank attempts to smooth market interest rates and so causes monetary growth to be determined by demand. The Federal Reserve often is charged by its critics with inadvertently accommodating the public's *demand* for money rather than independently controlling its *supply,* and thus with producing pro-cyclical rather than contra-cyclical money growth. To avoid this tendency, critics argue that control procedures should incorporate some automaticity in the response of borrowed reserves, and hence interest rates, to deviations of money from target. The nonborrowed reserves control procedure incorporated such an automatic response since money deviations necessitated changes in the level of discount window borrowing.

The important policy debate is over the extent to which interest rates should move automatically in response to deviations of M1 from some pre-determined target. The choice is between greater short-term discretion over interest rates and possibly tighter short-run control over money growth. As already mentioned, the principal feature of the nonborrowed reserves approach, which distinguished it from both earlier and later control procedures, is that interest rates tended to respond somewhat automatically to deviations of money from its target path.

All monetary control procedures operate ultimately by causing variations in interest rates that affect the public's willingness to hold and depository institutions' incentives to supply money. On a theoretical level, a strong argument may be made on monetary control grounds for a nonborrowed reserves regime because under such a procedure, interest rates respond quickly to deviations of money from path since no explicit policy decision is required. In 1984, however, the FOMC was willing to permit the wide swings in interest rates required to hold M1 within its long-run target range, so the argument for a rule-based procedure may be less applicable in that recent experience. Nonetheless, the debate over short-run monetary control always will involve the extent to which interest rates should be permitted to move in order to reduce deviations of money from target, and the issue of "rules versus discretion" will remain a hot one.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 02/13/85	Change from 02/06/85	Change from 02/22/84 Dollar	Change from 02/22/84 Percent[7]
Loans, Leases and Investments[1] [2]	188,177	636	12,697	7.3
Loans and Leases[1] [6]	170,084	744	14,815	9.5
Commercial and Industrial	52,449	384	5,961	12.8
Real estate	62,211	48	2,622	4.4
Loans to Individuals	32,542	48	5,637	20.9
Leases	5,269	− 21	266	5.3
U.S. Treasury and Agency Securities[2]	11,010	− 106	− 1,245	− 10.2
Other Securities[2]	7,083	− 2	− 868	− 10.9
Total Deposits	194,596	1,727	10,575	5.7
Demand Deposits	45,998	1,764	3,582	8.4
Demand Deposits Adjusted[3]	28,226	−2,019	733	2.6
Other Transaction Balances[4]	12,923	46	992	8.3
Total Non-Transaction Balances[6]	135,675	− 84	6,005	4.6
Money Market Deposit Accounts—Total	43,714	86	3,436	8.5
Time Deposits in Amounts of $100,000 or more	38,966	− 92	783	2.0
Other Liabilities for Borrowed Money[5]	19,955	− 416	− 1,038	− 4.9
Two Week Averages of Daily Figures	Period ended 02/11/85	Period ended 01/28/85		
Reserve Position, All Reporting Banks				
Excess Reserves (+)/Deficiency (−)	31	123		
Borrowings	21	57		
Net free reserves (+)/Net borrowed(−)	10	66		

[1] Includes loss reserves, unearned income, excludes interbank loans
[2] Excludes trading account securities
[3] Excludes U.S. government and depository institution deposits and cash items
[4] ATS, NOW, Super NOW and savings accounts with telephone transfers
[5] Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources
[6] Includes items not shown separately
[7] Annualized percent change