

Research Department  
Federal Reserve  
Bank of  
San Francisco

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## Is M1 Ruined?—Part I

Recent changes in the laws and regulations governing depository institutions in the United States have highlighted the important effects of regulatory policy on the Federal Reserve's conduct of monetary policy. In particular, the authorization of the Money Market Deposit Account (MMDA) and the Super-NOW Account mark the first time since the Great Depression that depository institutions could pay unregulated rates of return on checkable deposits. Some observers have argued that this deposit-rate deregulation is a watershed for monetary policy, since, in their view, it will cause permanent problems for the Federal Reserve in orienting its monetary policy around the monetary aggregates.

A previous *Weekly Letter* (January 21, 1983) focused on potential short-run problems for the targeting of monetary aggregates during the transition period in which the new deregulated deposits are introduced. Of far greater concern, however, are potential developments that may permanently impair the usefulness of monetary aggregates as guides for monetary policy.

In recent years, the Fed has most often relied on the monetary aggregate called M1, which includes currency in the hands of the public, traditional (non-interest-earning) checking accounts, NOW accounts and other miscellaneous checkable deposits. M1 is intended to measure balances held by the public for making transactions. Some observers argue that because of the newly unregulated yields on the deposits in M1, that aggregate will no longer be a *leading* indicator of the pace of economic activity and inflation; it will merely be a contemporaneous reflection of economic conditions. Moreover, they argue that deposit rate deregulation will make it difficult and *undesirable* for the Federal Reserve to control M1 in the short-run of, say, a calendar quarter. Such control could induce disruptive vola-

tility in interest rates. The following discussion argues that these problems are by no means a certainty. In fact, it is possible that deposit rate deregulation will improve the usefulness of M1 as a policy guide.

### M1 targeting

A fundamental problem in conducting monetary policy is that the effects of Federal Reserve actions (for example, its open-market operations) are not immediately evident. One reason for the delay is that the interest rate consequences of Fed actions affect business investment and other spending with a lag. As a result, the appropriateness of Fed policy also cannot be judged immediately. To circumvent this problem, the Fed sets targets for the monetary aggregates because movements in the aggregates have historically borne a close relationship with economic activity and prices in the *future*. If the Fed feels confident in the continuation of these relationships, it can measure the effects of its current actions on its economic goals for the future by examining the current behavior of the aggregates.

The relationship between the Fed's goals and money exists, in large part, because the quantity of money the public chooses to hold in its portfolio of financial assets is influenced by GNP, prices and interest rates. It is this relationship, called the demand for money, that makes the monetary aggregates potentially useful intermediate targets of monetary policy. For example, suppose concern over inflation makes the Fed want to lower the total spending on goods and services in the economy. If it follows an intermediate targeting procedure, it will lower the target for M1. According to the conventional view of monetary control, the Fed would attempt to achieve this lower target by raising interest rates on Treasury bills and other short-term debt instruments, making them more attractive to the public than the non- or low-interest-bearing check-

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able deposits in M1. The public would then decide to hold smaller quantities of M1-balances and cause M1 to decline.

By raising the cost of credit, the increase in interest rates would also eventually reduce the public's spending on goods and services. Since the lags from interest rates to M1 are shorter than those from interest rates to the economy, the decline in M1 occurs before the decline in economic activity. This timing pattern means that M1 is a leading indicator of the economy, and, as a result, it has value as an intermediate target.

#### **Interest-responsiveness**

This view of the M1-targeting process places great importance on deposit-rate ceilings. These ceilings ensure that M1 is a less attractive asset to the public at high money-market rates than at low rates. Thus, tight monetary policies, which eventually reduce economic activity, show up first in reductions in M1. Without deposit-rate ceilings, this result is far less certain. If banks could raise rates on M1 deposits exactly in tandem with money market rates, higher rates would have little effect on the relative attractiveness of securities versus money, and there would be little effect on the quantity of M1. Without the ability to influence the spread between yields on securities and money, the Fed would not be able to control M1 through that mechanism. Higher interest rates would still lower economic activity with a lag, and this in turn would reduce M1, but M1 would merely be a contemporaneous indicator of the economy. Since movements in M1 would no longer foreshadow movements in GNP, M1 would no longer be as useful as an intermediate target.

The preceding example is obviously an extreme case. Few analysts would argue that the Fed would have absolutely no control of M1 through interest rates. Instead, they would argue that the responsiveness of M1 to changes in the overall level of money market rates would decline significantly. This view of monetary targeting, therefore,

raises an empirical question: how much will the interest-responsiveness of M1 decline in practice? A cut in half, for example, would not seem to present a significant problem. The Fed could achieve a given reduction in aggregate demand simply by lowering M1 by half as much as would have been required prior to deposit-rate deregulation. However, if the interest-responsiveness were to come very close to zero, the conventional view of monetary control implies that the value of M1 as an intermediate target could become very low.

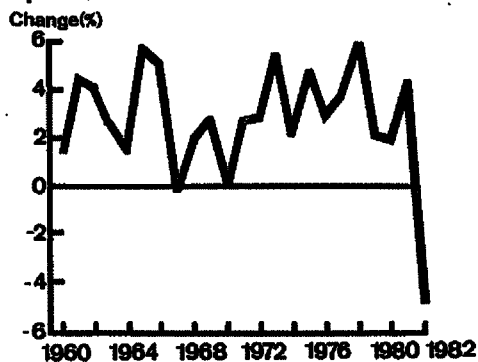
#### **Buffer stocks**

There is an alternate view of how monetary control works that implies that a lower interest-responsiveness of M1 would make it a more effective intermediate target. This view, which has received growing empirical support in recent years, holds that in addition to the interest rate channels noted above, monetary control operates directly through the *supply* of M1 provided by the actions of the Fed and the deposit-creating banking system.

The rationale for this view is that money acts as a "shock absorber" or buffer stock between receipts and spending. Short-run variations in the observed stock of money, therefore, would not necessarily reflect changes in people's underlying desires to hold money balances. They could reflect independent changes in the quantity of money supplied that are unrelated to underlying demand factors such as interest rates. An inventory of goods in a warehouse provides a useful analogy. Such an inventory by its very nature represents the residual of a whole set of other decisions which, in the short-run, could keep the inventory away from its "underlying," or desired, level.

In this view, money demand is partly passive in the short-run, accommodating itself to changes in the supply of money. This view is entirely consistent with the widely accepted inventory theory of the transactions demand for money, which emphasizes the role of

## M1-VELOCITY: YEARLY PERCENT CHANGE



transaction costs in determining how closely money balances are managed. Sudden inflows or outflows of funds cause inventories of money to be pushed away from their underlying desired levels in the short-run because it is costly for money holders to make the frequent adjustments needed to bring money balances quickly back to desired levels.

The emergence of sophisticated money management techniques and new instruments like repurchase agreements has lowered transaction costs for some money holders so that they can now afford to keep their holdings of M1 more closely in line with their underlying demands. However, while large corporations and certain households use these techniques to keep transactions balances at underlying desired levels on a daily basis, smaller or less sophisticated corporations and households are likely to hold more or less than their desired level of money for an extended period of time.

Most households and small corporations have relatively low money balances on average, and actions to adjust those balances to desired levels may be costly relative to any resulting benefit. If money finds its way into these "loosely" managed portfolios it may stay there for awhile. Moreover, actions of one economic unit to bring its holdings into line may throw other units out of balance. For example, when one economic unit spends M1 balances to reduce them to desired levels, it may simply be transferring those balances to another unit which ends up holding the "excess" balances for a while. Thus, the system as a whole takes longer to adjust than does any one household or corporation.

What is the relationship of the buffer-stock role of M1 to monetary targeting? The buffer-stock role means that when the Fed increases the supply of M1 available in the economy, the public will be willing to hold the new quantity of M1 in the *short-run* without large interest rate changes. Over

longer periods of time, the public will adjust its M1 balances to its underlying demand by buying or selling securities and goods and services. These actions will gradually raise GNP and prices and lower interest rates.

M1 can, therefore, be controlled in the short-run even if it is not very responsive to the overall level of interest rates. Moreover, because of M1's buffer-stock role, changes in M1 will tend to occur *in advance* of change in GNP and prices. Thus, M1 will continue to be a useful leading indicator of future movements in those variables, even if deposit rate deregulation makes M1 unresponsive to the level of interest rates.

### Stable velocity

Moreover, the relationship between M1 and GNP (over longer periods of time) actually might be improved by a reduction in the interest-responsiveness of M1. In other words, the velocity of M1—the ratio of GNP to M1—might become less volatile. With deposit rate ceilings, velocity can be highly variable when there are changes in rates of interest.

An example of the latter problem was discussed in last week's *Letter*. In 1983 an unexpectedly large decline in inflation translated into a large decline in market interest rates. With deposit-rate ceilings, the decline in market rates made M1 growth increase relative to growth in GNP. Thus, velocity declined (see chart) and made the rise in M1 a misleading signal of future economic developments.

This problem would not have developed to the same extent with deregulated deposit rates. The decline in market rates would have induced a decline in yields on M1, which would have prevented much of the increase in M1 growth. Velocity would not have declined as much as it did, and M1 could have stayed closer to its target range in 1982.

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**BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT**

(Dollar amounts in millions)

Selected Assets and Liabilities	Amount Outstanding 3/9/83	Change from 3/2/83	Change from year ago	
			Dollar	Percent
<b>Large Commercial Banks</b>				
Loans (gross, adjusted) and investments*	164,014	- 216	4,360	2.7
Loans (gross, adjusted) — total#	142,488	- 207	4,119	3.0
Commercial and industrial	45,049	- 262	3,020	7.2
Real estate	57,359	- 2	564	1.0
Loans to individuals	23,406	- 120	214	0.9
Securities loans	2,901	260	606	26.4
U.S. Treasury securities*	8,029	93	1,847	29.9
Other securities*	13,496	- 101	- 1,607	- 10.6
Demand deposits — total#	39,420	-2,264	374	1.0
Demand deposits — adjusted	28,172	- 162	671	2.4
Savings deposits — total	64,627	758	33,838	109.9
Time deposits — total#	69,427	- 751	- 22,896	- 24.8
Individuals, part. & corp.	61,498	- 662	- 20,965	- 25.4
(Large negotiable CD's)	22,426	- 549	- 13,193	- 37.0
<b>Weekly Averages of Daily Figures</b>	<b>Week ended 3/9/83</b>	<b>Week ended 13/2/83</b>	<b>Comparable year-ago period</b>	
<b>Member Bank Reserve Position</b>				
Excess Reserves (+)/Deficiency (-)	80	163		63
Borrowings	0	81		102
Net free reserves (+)/Net borrowed(-)	80	82		- 40

\* Excludes trading account securities.

# Includes items not shown separately.

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