Research Department
Federal Reserve
Bank of
San Francisco

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Weekly Letter
FRBSF

Innovation and Monetary Policy: II

Two important institutional changes affecting the Federal Reserve's monetary policy have occurred this year—a sharp rise in the use of money-market mutual funds, especially by households, and the nation-wide introduction of NOW accounts. As we pointed out in the last *Weekly Letter*, these innovations may have reduced the public's demand for money. Such a shift would change the impact of Fed monetary policy, making any given growth target for the monetary aggregates less restrictive in its effect on inflation.

Monetary policy

In pursuing its policy objectives, the Federal Reserve System seeks a money-supply growth rate which allows for real growth in the economy but which also curbs the rate of inflation. But to make this general policy operational, the Fed must select a precise statistical definition of the "money supply." Despite the availability of a number of alternative definitions, the Fed places considerable emphasis on a definition which stresses money's role as a medium of exchange and hence includes only funds which are used for making payments. The aggregate which most closely corresponds to this "transactions" definition of money is M-1B, which consists of currency, traditional checking accounts at banks, and the newer interest-bearing checkable deposits (e.g., NOWs) at banks and thrift institutions.

Economic theory and considerable empirical research suggest a close and stable relation between the demand for transaction balances and the levels of nominal income and interest rates. As a result, control of the supply of transaction money enables the Fed to exert pressure to bring down the inflation rate by influencing spending—both directly and indirectly via interest rates. However, the Fed's ability to predict the impact of its policies on the economy depends on the maintenance of a constant relationship between those variables and the public's demand to hold (M-1B) money. For example, with a decline in the average amount of money which the public wishes to hold at given income and interest-rate levels, any particular monetary growth rate will become less restrictive. Essentially, this occurs because a given stock of money will be able to finance a greater number of transactions if each transactor holds on to money for a shorter period of time before spending it on goods and services or exchanging it for another type of asset.

Hence, in formulating its monetary growth targets, the Fed must always be on the look-out for shifts in the demand for money, since any such shift changes the effect of a given rate of money growth on the economy. However, in an uncertain and changing financial environment, a shift in money demand may not be recognized until after it has actually occurred.

NOW Accounts: New Fed Problem

Since the beginning of 1981, banks and thrift institutions have been able to issue NOW accounts to their household and non-profit customers, in accordance with one of the key provisions of the Depository Institutions Deregulation and Monetary Control Act of 1980. NOWs are accounts at banks and thrift institutions which may be used to make third-party payments but which—unlike traditional bank demand deposits—also yield interest. Between December 1980 and July 1981, the volume of these accounts outstanding increased from $28 billion to $69 billion. Most of these new accounts represent funds transferred from either demand deposits or saving accounts.

As we have seen, the Fed's best estimate of the stock of transaction money—M-1B—includes NOW accounts in addition to currency and traditional demand deposits. However, a significant proportion of new NOW accounts represents funds shifted out

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of savings deposits and other non-transaction instruments, which yield about the same as NOWs but are not checkable. As a result, M-1B's growth rate has been inflated this year because it contains a component which it did not include in earlier years. Moreover, although funds transferred from savings to NOWs may be used to make payments, their owners probably will continue to treat them as savings rather than transaction accounts. This poses a problem for the Fed because it wishes to control the rate of growth of transaction balances. Therefore, the Fed has attempted to construct a statistical magnitude comparable to the earlier M-1B series by adjusting the data to exclude balances shifted to newly opened NOW accounts in 1981 from sources other than demand deposits. However, it is difficult to obtain information on the proportion of new NOW accounts which are not truly transaction balances. The Fed views its estimates of this proportion as being subject to rather wide margins of error.

Sources of NOW data

The Fed obtains its information, first, from surveys of banks and thrift institutions regarding sources of new NOW accounts. However, an institution receiving a new NOW account has no sure way of knowing the source of the funds except for those transferred from another account within the same institution. For example, although a customer opens a NOW account with a check drawn on a bank checking account, this does not necessarily mean that that account was the original source of the funds, which may have been shifted from some other type of account only to permit the switch to the other institution.

The Fed also obtains information from a statistical analysis of weekly changes in demand deposits and NOW accounts at about 9,000 commercial banks nationwide. This analysis attempts to measure the extent to which increases in NOW accounts are associated with the loss of traditional checking accounts. This approach fails to capture shifts of funds from bank checking accounts into thrift-institution NOW accounts—or movements of funds between and within thrifts. The result is an under-estimation of the share of new NOWs coming from savings accounts. Other data sources, however, provide some indication of shifts of funds between banks and thrifts.

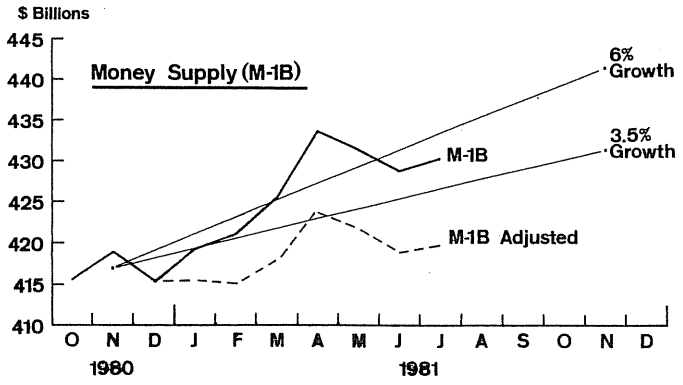
The Fed finally obtains information from a series of surveys of households conducted by the Survey Research Center at the University of Michigan. These surveys, however, are designed to gain information about a variety of household decisions and attitudes, so that a random sample of households at large may not be representative of NOW account-holders.

Relation to M-1B

These various estimation procedures provide similar results, despite all the statistical and conceptual problems involved. They suggest that time and savings accounts provided between 20 and 25 percent of the NOWs opened in January 1981, and 25 to 30 percent of those opened in later months.

Using the midpoints of these estimated ranges, the Fed now publishes data on "shift-adjusted M-1B," which represents M-1B minus the portion of new NOW accounts estimated to have come from non-demand deposit sources. Each month, the total increase in NOW accounts (apart from a small "trend" increase) is split into two parts, depending on the source of the original funds. The portion estimated as coming from non-transaction sources is deducted from the total increase in M-1B for that month to yield an estimate of the *increase* in shift-adjusted M-1B. The *level* of adjusted M-1B then equals the cumulative sum of these monthly increases.

This adjusted aggregate rose from $415.6 billion in December 1980 to $423.9 billion in April 1981, but then declined to $420.2 billion in July. For the entire December-July period, this represented only a 1.9-percent annual rate of growth, so that adjusted M-1B



fell below the lower bound of the Fed's 1981 target range. By contrast, M-1B without a shift adjustment increased at a 6.0-percent annual rate between December and July.

Many analysts attribute the recent rise in interest rates, deceleration of inflation and reduction of real growth to this slowdown in M-1B. Nonetheless, nominal GNP has risen substantially faster in 1981 than might have been expected from past relationships of money, income and interest rates. As we argued in the last *Weekly Letter*, statistical tests using shift-adjusted M-1B data suggest that equations explaining this relation were much less successful in 1981 than in earlier periods.

This phenomenon may perhaps be explained in terms of a falling demand for money, which has permitted the economy to finance a substantial rise in the volume of transactions with only a modest increase in the stock of transaction balances. Last week, we argued that recent financial innovations, such as the growth of money-market mutual funds, might be involved in such a reduction of money demand.

Alternatively, this phenomenon may result from a faulty NOW-shift adjustment—in other words, less NOW-account money has come from non-transaction sources than is currently assumed. As we noted, the Fed's estimate of this proportion is subject to error, as shown by the fact that the Fed bases its adjustment on the midpoint of an estimated range. This suggests that the "true" stock of transaction balances may be greater than currently estimated—and that M-1B may have grown faster this year than the estimated 1.9-percent annual rate. That is, rather than a falling *demand* for money, we may be experiencing a higher *supply* of money than suggested by the official data. However, this argument is weakened by the fact that the error may go in either direction.

Implications for policy

These two alternative explanations may have different implications for monetary policy in 1982. This reflects the fact that most of the shift of funds into NOW accounts will probably be completed by the end of 1981, whereas high interest rates could continue to induce financial innovations and reduce money demand for some time into the future.

Once the shift into NOWs is complete, this factor will no longer affect the observed monetary growth rate. Even a too high estimate of the share of NOW accounts coming from non-transaction balances would not significantly affect the estimated *growth rate* of M-1B once the shift is complete, so that the Fed would have no need to alter previously announced targets for monetary growth in 1982. On the other hand, a downward shift in money demand, if continued into 1982, would imply not only less restrictiveness than projected in past targets, but also a continuation of that situation in the future. This would imply a need for downward adjustment of future targets.

At present, there appears to be no reliable way of judging which of these explanations is the correct one. However, both imply that the Fed should lower its targets for 1981. Federal Reserve Chairman Volcker recently announced that the Fed planned to aim for the lower bound of its 1981 target during the remainder of this year. Such a move would be dictated either by a downward shift in money demand or by a finding of error in the NOW-account adjustment. In the former case, any adjusted M-1B growth rate is less restrictive than would have been true in the past. In the latter case, the appropriately-adjusted supply of (M-1B) money is growing more rapidly than currently estimated.

Brian Motley and John P. Judd

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 9/2/81	Change from 8/26/81	Change from year ago Dollar	Change from year ago Percent
Loans (gross, adjusted) and investments*	152,555	938	12,387	8.8
Loans (gross, adjusted) — total#	131,426	901	13,129	11.1
Commercial and industrial	39,766	430	5,497	16.0
Real estate	53,845	69	6,204	13.0
Loans to individuals	23,195	18	− 744	− 3.1
Securities loans	1,375	− 113	373	37.2
U.S. Treasury securities*	5,906	− 52	− 609	− 9.3
Other securities*	15,223	89	− 129	− 0.8
Demand deposits — total#	40,692	1,990	− 7,071	− 14.8
Demand deposits — adjusted	27,890	718	− 5,205	− 15.7
Savings deposits — total	29,771	225	65	0.2
Time deposits — total#	86,538	597	23,108	36.4
Individuals, part. & corp.	78,302	516	23,126	41.9
(Large negotiable CD's)	35,535	147	11,758	49.5

Weekly Averages of Daily Figures	Week ended 9/2/81	Week ended 8/26/81	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves (+)/Deficiency (−)	− 204	102	79
Borrowings	10	195	133
Net free reserves (+)/Net borrowed(−)	− 214	− 93	− 54

* Excludes trading account securities.

Includes items not shown separately.

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