shift as the deposit measure increases roughly 2 percent annually.

Chart 5 shows currency/deposit ratios for demand deposits and total transactions deposits. Like the turnover rates in chart 4, a striking feature of chart 5 is that total transactions deposits appear to be behaving more like pre-deregulation demand deposits than do demand deposits themselves.

The ratio of currency to demand deposits shows a protracted rise, which begins at about the same time as the introduction of NOW accounts, but which goes far beyond the period usually identified with initial flows from demand deposits to OCDS.

Putting this evidence together, an interesting possibility emerges. As households switched transactions accounts from regular demand deposits to the new interest-bearing type, the demand deposits component was transformed. Both the turnover rates and currency/deposit ratios suggest that demand deposit behavior has changed dramatically since deregulation.

Within this scenario, we would expect to see the velocity of M1A rising faster during the early 1980s than did M1 velocity before deregulation. But, as noted earlier, the rate of M1A velocity growth from 1982 through 1984 was roughly comparable to that of pre-deregulation M1. This corresponds with the period in which the velocity of M1 was experiencing sharp declines.

It seems possible that the relative stability of M1A velocity in the early 1980s merely reflected a coincidence of offsetting forces on the rate of velocity growth. While the changing composition of demand deposits would have tended to raise the average growth rate of M1A velocity through higher turnover rates, this tendency was offset by the velocity-depressing effects of dissipation. Thus, it is not the composition of transactions deposits that matters most, but the relationship of those deposits to nominal GNP.

Conclusion

In 1981, the nationwide introduction of NOW accounts caused a large shift of funds from demand deposits to OCDS, distorting the measured growth rates of both M1 and M1A. Since then, other regulatory changes have had such disruptive effects. Nevertheless, the velocity of M1 has departed from its previous growth trend to such an extent that the FOMC chose not to set an explicit target for M1 in 1987.

The apparent stability of M1A's velocity from 1982 through 1984 led some observers to suggest that this narrower measure of transactions money could be substituted for M1 as a target. However, data on demand deposit ownership, shares, turnover rates, and currency/deposit ratios suggest that the observed stability of M1A's velocity in the early 1980s may represent a coincidence of offsetting forces.

In the long run, the behavior of MIAA velocity could be expected to diverge significantly from that of M1 prior to the 1980s. The same factors that have affected M1's behavior have also affected MIA., diminishing its usefulness as a potential policy target. The recent decline in M1A velocity provides preliminary evidence that its velocity may not, in fact, follow a growth pattern as predictable as M1's previous velocity trend.

For many years, monetary policy has been implemented largely through the pursuit of monetary aggregate targets. The Federal Open Market Committee (FOMC), the policymaking arm of the Federal Reserve System, sets target ranges for the growth of various monetary aggregates, which are intended to be consistent with the broader objectives of policy.

While the Federal Reserve has maintained the target for multiple monetary targets, business and research economists have considered the M1 target to be the most important of these various monetary targets. The Federal Reserve did not set a target range for M1 in 1987, however, citing "uncertainties about its underlying relationship to the behavior of the economy and its sensitivity to a variety of economic and financial circumstances."?

The uncertainty about M1's behavior is often described in terms of a break-down in the growth trend of its velocity—the ratio of nominal GNP to M1 (see chart 1). M1 velocity rose at roughly a 2 percent annual rate for most of the post-World War II era, fluctuating slightly in response to changes in nominal interest rates. Since 1982, however, the velocity of M1 has shown much greater volatility and has, on average, declined at a 3.2 percent annual rate.

In light of M1's weakened status, economists inside and outside the Federal Reserve System have searched for an alternative policy target. One proposed solution is for the Federal Reserve to target an aggregate that would exclude interest-bearing checking accounts from the present definition of M1 (see table 1). The Federal Reserve reported statistics for this monetary measure from 1980 until 1983, referring to it as MIA.2

From 1982 through 1984, the velocity of M1A seemed to follow a growth trend similar to that which had previously characterized M1 velocity, providing support for the idea of an MIA target. During 1985 and 1986, however, M1 and M1A each grew much faster than expected given the rates of inflation and economic growth, resulting in an anticipated velocity decline for both measures. Despite this departure, support for greater reliance on M1A in the conduct of monetary policy has persisted.3

In this Economic Commentary, we examine the behavior of M1 and M1A in the 1980s and discuss some issues relevant to the possibility of replacing M1 with M1A.

Most analysts who question the use of M1 as a policy target have focused on the contamination of M1 by savings-related balances in interest-bearing checking accounts. However, we suggest that the characteristics of demand deposits have also been altered by deregulation, specifically, that demand deposits are now dominated by commercial accounts. All else being equal, this change would tend to raise the growth rate of M1A velocity above that of pre-deregulation M1.

The similarity of M1A velocity growth in the 1980s to pre-1980 M1 velocity growth may, therefore, reflect a coincidence of offsetting influences. Thus,

Federal Reserve Bank of Cleveland

Research Department

PO. Box 6387
Cleveland, OH 44101

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Table 1 The Composition of M1 and M1A

<table>
<thead>
<tr>
<th>Levels in Dec. 1986*</th>
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<tbody>
<tr>
<td>Currency and Traveler's Checks</td>
</tr>
<tr>
<td>Demand Deposits</td>
</tr>
<tr>
<td>= M1A</td>
</tr>
<tr>
<td>= Other Checkable Deposits</td>
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<tr>
<td>= M1</td>
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*Billions of dollars, seasonally adjusted. SOURCE: Board of Governors of the Federal Reserve System.

Federal Reserve Bank of Cleveland July 1, 1987

MIA — M.I.A.?
by William T. Gavin and Michael L. Pakko

William T. Gavin is an economic advisor at the Federal Reserve Bank of Cleveland, currently on leave of absence from the University of Southern Maine. Michael L. Pakko is an economic analyst at the Federal Reserve Bank of Cleveland. To the best of our knowledge these are the authors and our names are those of the Federal Reserve Bank of Cleveland, independent or of the Board of Governors of the Federal Reserve System.


The element of deposit deregulation most relevant to M1 was the introduction of negotiable orders of withdrawal (NOW) accounts. These interest-bearing checking accounts—now referred to as other checkable deposits or OCDs—were introduced on an experimental basis in Massachusetts and New Hampshire in 1974. OCDs spread to the rest of New England in 1976, to New York in 1978, and to New Jersey and Maryland in 1980. By 1985 and 1986, NOW accounts had been adopted nationwide. While the behavior of M1 was measurably affected by early, limited introduction of NOW accounts, the effect on M1 velocity was not outside the range of uncertainty normally associated with velocity measures.

The nationwide authorization of NOW accounts at the end of 1985, however, triggered large transfers of funds into the new accounts. Although evidence suggests that a complex pattern of flows between different types of accounts took place, chart 2 illustrates that the net effect was a large transfer of funds from demand deposits to OCDs. This phenomenon is reflected in the velocity measures shown in chart 2, primarily as a sharp upward shift in the level of M1 velocity.

The introduction of Super NOW accounts in 1983 and the elimination of rate ceilings and minimum balance requirements in 1986 did not seem to cause the same type of initial net deposit flows observed for the nationwide introduction of NOW accounts. One important reason may be simply that the ceilings had become nonbinding before the introduction of NOW accounts. Thus, were they already below the maximum, so the elimination of that constraint did not cause a change in the distribution of funds that would have attracted new funds.

Regardless of their initial effects, the move toward deregulation has made people manage their savings and transactions balances. OCD growth has been so strong and so much more than demand deposit growth, past or present, given rates of economic growth and velocity of M1.

Because the major difference in the two types of transactions accounts is that OCDs—unlike demand deposits—are interest bearing, the interest rate on transactions deposits is largely the same as that on demand deposits. Thus, the interest rate trend on transactions deposits and money demand in general—has been more clearly revealed.

The Changing Composition of M1A

The M1A velocity declines of 1985 and 1986 would also suggest an explanation that the "pure" M1A aggregate might adequately fill the role that M1 once had as a policy target. Rather, an explanation that includes the effects of transactions on the opportunity costs of financial assets seems necessary to explain the behavior of both aggregates. This point becomes even more apparent when one considers how deregulation has altered the composition and characteristics of MIA.

Because OCDs can be owned by households but not by businesses, demand deposits have become increasingly dominated by business accounts. This development illustrates the stark change in the composition of demand deposits. After increasing gradually through the 1970s, the ratio of business to household demand deposits has risen sharply since 1980.

Businesses tend to manage their transactions accounts much more intensively than do households, so the increase in the share of demand deposits held by businesses has been reflected in a rise in the average turnover rate of demand deposits. This, in turn, affects the nature of M1A behavior and will probably affect the velocity trend of MIA.

The turnover rate of an account is conceptually similar to velocity because it defines the relative intensity with which a particular type of account is managed, relative to expectations. As noted above discussion, the turnover rates compared in the upper panel of chart 4 show an increase in the average turnover rate of demand deposits. This, in turn, affects the nature of M1A behavior and will probably affect the velocity trend of MIA.

The turnover rates in the upper panel of chart 4 represent the use of the different types of deposits in the economy. According to the discussion above, the turnover rates show that an increase in the share of demand deposits held by businesses (as in M1A) has accompanied the change in ownership composition. Interestingly, though, the average turnover rate of total transactions deposits (as in M1A) appears to have increased at roughly the same trend rate of growth as found in the 1970s.

However, the turnover rates in the upper panel of chart 4 represent the use of deposits in ways unrelated to velocity, including intermediate and financial transactions. The lower panel of chart 4 shows turnover measures that reflect to only transactions associated with final sales. With this adjustment, the peak declines are in both demand deposits and total transactions deposits, although demand deposits remain higher than OCD turnover. After the adjustment has been made to turnover rates, neither the demand deposits measure nor the total transactions deposits measure appears very similar to the demand deposits component of M1A before 1980.

6. The adjusted turnover rates shown in the lower panel of chart 4 are used as an experimental basis in Massachusetts and New Hampshire in 1974. OCDs spread to the rest of New England in 1976, to New York in 1978, and to New Jersey and Maryland in 1980. By 1985 and 1986, NOW accounts had been adopted nationwide. While the behavior of M1 was measurably affected by early, limited introduction of NOW accounts, the effect on M1 velocity was not outside the range of uncertainty normally associated with velocity measures.

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