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Is It Time to Look at M2 Again?

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In July 1993, Chairman Greenspan informed Congress that the monetary aggregate, M2, had been "downgraded as a reliable indicator of financial conditions in the economy, " reflecting the fact that "the historical relationships between money and income and between money and the price level [had] largely broken down." More recently, however, there have been signs that M2 has resumed a more "normal" relationship with key macroeconomic variables. If true, such a development would be especially important now in light of recent robust M2 growth and would suggest the economy will continue to grow at robust rates in the near future. In this *Letter* we review the evidence on the stability of the traditional relationships between M2 and key macroeconomic variables and try to determine whether M2 will provide useful information about the future course of the economy.

The role of monetary aggregates in the conduct of monetary policy

It is easiest to understand the role of monetary aggregates in the conduct of monetary policy by looking at the Fed's experience with monetary targets. The Fed began to pay more attention to monetary aggregates in the 1970s, especially M1. M1 is a "narrow" monetary aggregate, consisting of money balances held as currency and checking accounts. M1 had two characteristics required of a desirable target variable: it had a reasonably close relationship to economy-wide spending, and it was relatively easy to control through Fed policy. Both properties were the result of legal restrictions on checkable accounts. Checking accounts in M1 paid no interest; at the same time, it was not possible to write checks on other types of accounts. The restriction on interest payments meant consumers were unlikely to put savings balances in M1. The two restrictions together meant there was a reasonably close correspondence between M1 and transaction balances in the economy. The restriction on deposit rates also meant that banks could not offset interest rate changes made by the Fed, so a change in market interest rates had a direct impact on the cost of holding money. In this environment, the ultimate effect

of a policy action on policy goals such as output growth or inflation — which are not directly controllable by the Fed — could be gauged by looking at the short-term response of M1 to such a move.

Changes on the demand side

The unique position of M1 eroded over time as a result of both deregulation and financial innovation. Checking accounts began to pay explicit interest, and it became easy to write checks on accounts outside of M1. As a consequence, firms and households had little reason to distinguish between cash balances held inside and outside of M1. This caused the stable relationship between M1 and economy-wide spending to disappear. To take one example, small changes in interest rates caused individuals to move in or out of M1, which in turn led to substantial swings in the aggregate's growth rate that had little to do with individuals' spending plans.

In response, the Fed downgraded M1 in 1987 and turned its attention toward the broader monetary aggregates, especially M2. M2 includes M1 plus small time deposits and other instruments such as noninstitutional money market mutual funds. In view of all the changes in the financial environment that had taken place, M2 was unlikely to be as useful for policy as M1 had once been. Nevertheless, since it contained most of the close substitutes to M1, it was expected to internalize many of the portfolio shifts that had plagued M1.

M2 did not last long as a target variable. In the early 1990s, the relationship between M2 and economy-wide spending changed noticeably. To provide some perspective on the magnitude of the change, Figure 1 shows the velocity of M2 since the 1960s. (The velocity of M2 is defined as the ratio of nominal GDP to the quantity of M2, and can be thought of as a measure of turnover.) Slow growth of M2 deposits in the 1990s caused velocity to rise well above the maximum levels seen prior to this decade.

What can explain this sharp rise in velocity? Continuing financial innovation played a big role, especially innovation in the area of bond and stock mutual funds: the cost of acquiring them fell markedly, and they grew explosively, both in number and variety. For households and firms, these changes meant a gradual increase in the availability of close substitutes for M2.

The Fed's Survey of Consumer Finances provides one measure of the shift out of M2 and into mutual funds over this period. In 1989, M2 (less currency) accounted for almost 27% of consumers' financial assets, yet by 1995 the share of M2 had declined by more than one-third to account for only 17% of consumers' financial assets. During the same period, the share of mutual fund holdings grew about 2.5 times to represent 13.2% of financial assets in 1995.

Was this shift a one-time event? More generally, is recent financial innovation unusual and unlikely to continue? Our opinions on this issue are basically the same as those of Woodford (1997), who states that "…there is every reason to expect further innovations, due to improvements in information processing and to increased creativity in the evasion of the remaining regulatory constraints…." And, " … from the standpoint of economic theory, there is no reason to believe that there is any uniquely rational or efficient set of arrangements that result in any stable demand for money at all" (p. 1).

The role of the supply side

While increased substitution on the demand side is a big part of the story, it does not completely explain the shift in M2 velocity during the 1990s. Financial innovation had been a factor before this dramatic shift, so why did individuals suddenly decide to move out of M2? Some recent research suggests the answer to this question lies in the banking sector. To understand this explanation, recall that most of the balances in M2 represent the liabilities of banks and thrifts, and any change in these liabilities must be linked to changes elsewhere in banks' portfolios. For instance, if the unusually slow growth in M2 reflected a decision by households to hold less of the aggregate, banks could respond either by cutting back on assets (such as loans to firms or households) or by increasing other kinds of liabilities (which

would be likely to show up in increased M3, an even broader aggregate).

The other possibility is that the slowdown in M2 reflected developments originating from the supply side. The early 1990s were a time of considerable strain in the banking and thrift industries, when an unusually large number of thrifts were "resolved" (either shut down or merged with healthy institutions) by the Resolution Trust Corporation. Some banks also were constrained from lending, since the amount of capital they were legally required to hold against various assets had gone up. Lown, Peristiani, and Robinson (1997) show that the anomalous behavior of M2 was localized in deposits held at troubled thrifts and capital-constrained banks. Specifically, they show that there was little change in the relationship between M2 deposits at unconstrained banks and the traditional determinants of these deposits, such as income and the opportunity cost of holding money. By contrast, in the case of resolved thrifts and capital-constrained banks this relationship fell apart.

If this evidence stands up to further scrutiny, it has important implications for understanding the usefulness of M2 as an indicator. To see why, consider what would "normally" happen as the banking sector (or thrifts) undertook a reduction in loan portfolios. To shrink liabilities, banks would reduce the rates they offered on deposit accounts; consumers would find it more attractive to hold other kinds of assets, and so would shift assets out of M2. This would shrink the quantity of M2 but would not cause the relationship between M2 and its traditional determinants to shift.

The research by Lown, et al., suggests that the slow M2 growth during the early 1990s reflected something more than the simple adjustment process just described. Households appear to have reacted to the supply side disturbance by taking money balances out of M2, even though they could have placed these balances at other healthy banks or thrifts and earned comparable rates of return. In fact, this is what they should have done if they were concerned about the quantity of their M2 holdings, that is, if the demand for M2 were well-defined. In other words, this evidence suggests that there is no longer a well-defined demand for the aggregate: households and firms see little difference between accounts in M2 and those outside, so disturbances on the supply side can cause them to move outside M2 and make it appear that the demand for the aggregate has shifted. This apparent shift (away from the previous trend) can be seen in Figure 2, which shows that M2 velocity increased steadily over the early 1990s, while the opportunity cost of holding M2 first fell and then rose. (The opportunity cost of M2 is the interest income that an individual gives up by not holding higher yielding assets instead of M2.)

Implications and conclusions

To summarize, we have argued that ongoing financial innovation has spurred the creation of financial assets outside M2 which are very good substitutes for those available inside M2. As a result, the demand for M2 is no longer well-defined. Just how much has changed became evident in the early 1990s, when a large shock to the supply side led to a big "shift" in the demand for M2.

It is possible to argue that the early 1990s were a transitory period of institutional turbulence and, further, that any resulting portfolio shifts have been completed since then. Indeed, recent data in Figure 2 appear consistent with this argument, since the relationship between M2 velocity and its opportunity cost looks like it might be stabilizing at a new, higher level. However, our interpretation of developments in the early 1990s suggests this argument is incorrect, since the observed instability was a result of fundamental changes in the financial system — such as the innovations associated with mutual funds — that are unlikely to be reversed. In particular, the existence of close substitutes for M2 means that the aggregate is likely to remain susceptible to many developments unrelated to the near-term spending plans of households and firms.

As a consequence, it will remain difficult to tell what a change in M2 means for the near-term performance of the economy. To take a recent example, some observers have suggested that the rapid M2 growth during the last few months reflects uncertainty about financial market developments, as

investors have turned to M2 as a safe haven from stock market selloffs. To the extent that stock market volatility reflects concerns about the health of the economy, the recent acceleration in M2 may be signaling slower growth instead of an increase in growth, as traditional theory suggests. We can imagine other similar disturbances that could once again "shift" the relationship between M2 and its traditional determinants. Because of these considerations, we think it would be unwise to place too much reliance on M2 in the formulation of monetary policy.

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