Money Market Mutual Funds Are Hardly Money

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"I ain't got no money, honey," wailed the Big Bopper during the rock era of the 1950s and 1960s. Everyone within hearing range (and that was most everyone) knew what the Big Bopper was saying—everyone, that is, except economists, who would have preferred a much less poetic statement like "I ain't got no assets which act as or can be easily converted into a medium of exchange, honey."

At the Federal Reserve, which assets fit that description of money was fairly clear at the time of the Big Bopper. They were two: cash because of its acceptability and legal tender status and demand deposits because of their checkability (the ability to write demand drafts on them). Both of these assets were generally acceptable for transaction purposes.

But in the 1970s the financial instruments that were potentially acceptable as a medium of exchange began to expand dramatically. Due in large part to prolonged inflation, nominal interest rates rose to unprecedented levels and stimulated the creation of assets that were alternatives to the zero-interest demand deposit accounts. One of these new assets was the money market mutual fund (MMMF).

MMMFs had features which made it hard to tell whether the public would use them primarily to make payments or to save. They were checkable like demand deposit accounts, and in many cases an unlimited number of checks could be written on these new accounts with negligible incremental cost. But they were also like savings accounts, since—unlike demand deposits—they earned interest at nearly competitive market rates. So MMMFs, in a sense, dominated demand deposits. There were, however, some constraints on the MMMF accounts which demand deposits did not share. They typically required a minimum check size on the order of $500 and a substantial minimum balance. Moreover, they were not federally insured.

Whether MMMFs were used for transactions or for savings became important to the Fed once the extreme popularity of these assets became clear. In November 1973, balances in MMMF accounts totaled only $0.1 billion. By December 1977, that total had reached $2.4 billion; by December 1980, it was $61.4 billion; and in 1982 it reached $182.2 billion. Because of financial deregulation actions allowing commercial banks and thrift institutions to offer competitive deposit instruments, the balances in MMMFs dropped to $138.0 billion in 1983. But by most anyone's standards, MMMFs emerged as important financial assets.

Their rapid growth forced the Federal Reserve to decide whether these assets should be counted for monetary policymaking purposes as part of its primary definition of money (M1) that consists of assets that are actively used for transaction purposes. A study by the staff of the Fed's Board of Governors concluded that only a minor portion (from 1 to 3 percent) of the balances of these assets were used that way (Moran and Furlong, undated). In light of such empirical evidence, the Federal Reserve chose to exclude MMMFs from the M1 definition of money.

This decision was important because in recent years the Fed has frequently based its tactical monetary policy

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actions on the movement of this monetary aggregate. When M1 has grown more rapidly (or slowly) than is consistent with the nation's goals for output, prices, and other measures of economic activity, bank reserves have been generally restricted (or expanded) from what they otherwise would be, and financial market participants tend to describe policy as tightening (or loosening). Had the Fed chosen to include MMMFs in M1, its policy actions and the path of the U.S. economy over the past several years could have been quite different. If MMMFs had been counted as part of M1, then from 1977 to 1982 the growth rate of transaction money would have been 14.3 percent per year rather than 7.3 percent, given the actual increase in MMMFs. This could have induced a tightening in monetary policy even though there were two recessions during this period. Similarly, because balances at MMMFs fell in 1983 due to regulatory changes, had MMMFs been included that year the growth rate of transaction money would have been zero instead of 9.0 percent. This could have induced a more expansionary policy even though the economy was growing at a brisk pace.

Despite the Fed study, it is conceivable that some portion of MMMF balances are being used for transactions and so should be counted in M1. The Fed's study might have missed that portion because it examined the use of a limited number of accounts at a number of funds during a very short period of time—a reasonable approach, but not a thorough one. In this new study, we try to isolate the transaction portion of MMMF balances by examining a much more detailed sample of many more accounts at just one MMMF over a much longer period of time. This new perspective, however, produces old conclusions. Our study's results complement the Board study's and support the Fed's decision to exclude all MMMF accounts from M1.

Why We Suspected Misclassification

MMMFs were not classified in the money taxonomy as assets that are used actively for transaction purposes because empirical data indicated that they were not actually used that way by consumers and businesses. However, the fact that MMMFs earn attractive interest rates while providing extensive check writing privileges raises the possibility that there may be a significant portion of MMMFs that are being used for transaction purposes, but that the available empirical data are simply not providing the proper detail to uncover this portion.

In classifying assets on the money spectrum—from assets which are used actively (like cash) for transaction purposes to those which are not a practical means of payment (like a home)—M1, or its components, can be used as a standard of comparison. The Fed has chosen to define M1 as consisting essentially of coins and currency plus checkable deposits. This definition is meant to capture those assets that can be conveniently used for transaction purposes. Included among the components of M1 are several types of assets which are those most easily identifiable as assets the public uses mainly to make payments: (1) coins and currency, which are the most widely accepted media of exchange since, if for no other reason, they are legal tender; (2) demand deposits, which are undoubtedly a widely used means of payment for consumers and all sorts of businesses; and (3) ATS-NOW accounts, which are also clearly used primarily to make payments, primarily by consumers.

But not all checkable accounts are included in M1. Money market deposit accounts (MMDAs), even though checkable, are not in M1. The transaction activity in these accounts has been deemed to be so much different from that in the components of M1 that MMDAs are counted only in higher level definitions of money, such as M2. And it is not surprising that these accounts are not used actively for transaction purposes, since they typically require relatively large minimum account balances and charge rather expensive penalty fees if more than three checks per month are written.

As noted earlier, MMMFs also have constraints which might limit their use as transaction accounts. Whether these constraints are severe enough to make the public use MMMFs more like savings accounts than checking accounts is an empirical question.

Also as noted earlier, the staff of the Fed's Board of Governors has studied this question. It studied transactions during March 1982 in 150 accounts at each of 60 MMMFs and found that, relative to M1 and its major components, MMMFs are not used actively for transaction purposes.

But because of the Board's particular sample, its study may have missed transaction activity in some large portion of the MMMFs. It may have missed transaction activity in accounts that are used heavily at times other than the month of March or activity that is generated by a subset of the MMMF shareholders that might not be apparent with a sample of only 150 accounts per fund.

So given the check writing features of the MMMFs, their attractive interest rates, and the doubts left by the

Board's study, it seems reasonable to suspect that some large portion of MMMFs are being used for transaction purposes. To explore this suspicion, we examine a new body of data that permits us to focus on the particular weaknesses in the Board's study.

Suspicion Not Confirmed

Our study examines a large sample of accounts at a single MMMF over an 18-month period and thereby overcomes the weak points in the Board's study. However, our findings support the Board's conclusion that MMMFs are not M1-type money.

We examine the check writing activity from January 1982 to June 1983 in nearly 79,000 accounts representing over $700 million at a single money market mutual fund. This fund has shareholders representing most of the 50 states and is representative of other MMMFs in terms of its operating characteristics, such as minimum balance, minimum check size, and cost of writing a check. But we have no way of knowing whether or not this fund is representative of other funds in terms of the distribution of shareholder behavior characteristics regarding check writing activity.

Our large sample over an 18-month period permits a disaggregation of the shareholders into a large number of classes, each containing a large number of accounts, and we can thereby search for a well-defined subset of the shareholders who are heavily using the check writing privilege of the fund, as though the fund were a transaction account. We primarily compare the check writing behavior of our sample of accounts to that of MMDAs and ATS-NOW accounts rather than that of demand deposit accounts. Demand deposit accounts are used heavily by financial firms making purely financial transactions, but there are no financial firms in our sample of accounts, so we focus on MMDAs and ATS-NOW accounts, which are used primarily by consumers.

We calculate two types of measures of transaction activity at our fund. The most direct measure of that activity might be the number of checks written on accounts—the more checks written, presumably, the more those accounts are being used primarily for spending rather than saving.† That rather crude measure is not adequate to determine a high degree of transaction activity, however, because it does not take account of the size of the checks written. An account with a large number of checks written on it might actually be being held primarily as an investment rather than a transaction account if those checks are small compared to the account balance. To take account of that possibility, therefore, we also calculate for our accounts what has become the traditional measure of transaction activity: velocity, or turnover rate. Arithmetically this is calculated as the annual dollar value of transactions generated by an asset divided by the average dollar balance in the asset. Conceptually it represents the number of times an individual dollar flows through or is spent from the asset. A high turnover rate thus usually indicates a high degree of transaction activity; a low turnover rate, a low degree. This distinction has been reflected in the Fed's money definitions, with M1 assets having higher turnover than M2 or M3 assets. For example, in 1983, the turnover rates of demand deposits, ATS-NOW accounts, and MMDAs were, respectively, 376.1, 15.4, and 2.8.

Classification of the MMMF accounts by neither turnover nor number of checks written produces a significant subset of fund balances that are used for transaction purposes like M1 balances.

As is clear in Table 1, the mean turnover rate of the accounts in our sample is only slightly higher than 3, about the same order of magnitude as the turnover rate of MMDAs—which are not counted in M1—and well below the 15.4 of ATS-NOW accounts—which are included in M1. In Table 1 this average for all accounts is also decomposed into accounts owned by households and those owned by corporations, and the results are not substantially different under this disaggregation. Similarly, the mean number of checks written on these accounts per year is only slightly higher than 3, well below the annual rate of 18 checks written on MMDAs (Trans Data Corporation 1984, p. 2). These fund averages are not substantially different from the results produced by the Board's study. However, because of the detail available in the sample of accounts at our single fund, an appropriate decomposition of the accounts could produce a significant subset of them that are being used for transaction purposes like some of the components of M1.

The results of our decomposition are shown in Tables 2 and 3. In Table 2 we show an ordering of all 78,613 accounts according to their turnover rate over the 18-month sample period. There clearly are some accounts which are being used actively; that is, they have turnover

† It might be argued that we are underestimating the transaction activity in MMMFs because we ignore redemptions by telephone, letter, or wire transfer. But it was our presumption that noncheck redemptions would rarely be made to third parties and would typically be a transfer to a demand deposit account which would then become the payment instrument.

rates greater than 200, or of the same order of magnitude as demand deposits. However, if we take the ATS-NOW account turnover rate of 15.4 as a more appropriate standard of comparison, then (as shown in Table 2) only about 0.4 percent of all the balances in this fund are in accounts with a comparable turnover rate (greater than 14). It is also interesting to note the clear negative correlation between turnover and the average balance in the account.

Similarly, in Table 3 the accounts are ordered according to the number of check redemptions made on an annual basis. Here again there is little evidence that checks are written actively on accounts holding large portions of the fund balances. Only about 4.4 percent of the fund balances are in accounts that have checks written on them at a rate of more than 1 per month; this represents only about 3.6 percent of the accounts. In contrast, more than 70 percent of MMDAs, which are accounts with even lower turnover than ATS-NOW accounts, have 1 or 2 checks per month written on them.

So there is a portion of MMMF balances that are being used for transaction purposes, but this portion is extremely small. For even if MMMFs had been counted as M1-type money in our sample years in proportion to their use for transaction purposes (somewhere in the range of from 0.4 to 4.4 percent), there would have been essentially no impact on the monetary policy decisions of the Federal Reserve.

From December 1981 to December 1982, actual M1 grew 8.5 percent, or well above its target range of from 2.5 to 5.5 percent. Adding even 4.4 percent of total (general purpose and broker/dealer) MMMF balances, and allowing for the actual increase in MMMFs that occurred, would have raised the growth rate of this aggregate only 0.2 percentage points to 8.7 percent—a difference that would not likely have affected monetary policy actions. Similarly, in 1983 actual M1 grew 9.0 percent, which is outside the target range of from 4 to 8 percent announced in February 1983. Augmented by 4.4 percent of MMMF balances, M1 would have grown 8.4 percent, or 0.6

Table 1

Average Measures of Transaction Activity in the Sample MMMF Accounts and Other Financial Assets*

	Annual Turnover Rate	Checks		Average Daily Balance
		Annual Number	Average Size	
Sample MMMF Accounts				
Household Accounts	3.02	3.04	$ 3,632	$ 8,692
Corporate Accounts	4.30	3.50	12,615	23,569
All Accounts	3.07†	3.06	4,054	9,259
Other Financial Assets				
ATS-NOW Accounts	15.4	n.a.	n.a.	n.a.
MMDAs	2.8	18.00	n.a.	n.a.

n.a. = not available

* For MMMF accounts, all measures are averages of values for individual sample accounts in the 18-month sample period (from January 1982 to June 1983). For other financial assets, the turnover rates are those reported by the Fed for 1983 and the number of checks is based on the monthly number reported in a nationwide survey in December 1983 and January 1984.

† The sample's aggregate turnover rate—one more strictly comparable to the rates for other assets—is even lower: (Average Size of Checks × Annual Number of Checks) ÷ Average Daily Balance = 1.34. Note that this aggregate rate is not algebraically equivalent to a simple average of the turnover in each account as reported in the above table.

Sources of Data for Other Financial Assets:
Turnover—Board of Governors of the Federal Reserve System
Number of Checks—Trans Data Corporation

Table 2

A Breakdown of the Sample MMMF Accounts by Their Annual Turnover Rate in the 18-Month Sample Period

		Number and Value of Checks					Account Balance	
Annual Turnover Rate	Number of Accounts	Total Number	Annual Number Per Account	Total Number as % of Sample Total	Average Size ($) Per Account	Total Value as % of Sample Total	Average Daily Size ($) Per Account	Total Value as % of Sample Total
1 or Less	48,794	57,884	.9	27.98	1,331	20.40	10,105	68.48
1–2	14,745	65,896	3.6	31.85	4,679	31.80	8,791	18.01
2–3	5,906	34,979	5.5	16.91	4,429	18.06	7,907	6.49
3–4	2,898	18,313	6.6	8.85	4,616	9.57	6,626	2.67
4–5	1,676	10,621	7.9	5.13	5,004	6.58	6,927	1.61
5–6	966	5,865	8.4	2.83	5,281	3.58	5,812	.78
6–7	657	3,813	9.5	1.84	5,689	2.94	6,113	.56
7–8	446	2,073	9.7	1.00	4,853	1.22	4,901	.30
8–9	330	1,508	10.2	.73	5,894	.97	5,371	.25
9–10	226	964	10.4	.47	5,869	.84	5,333	.17
10–12	298	1,402	12.6	.68	5,361	.90	4,232	.18
12–14	209	780	12.3	.38	5,953	.51	3,633	.11
14–16	177	519	13.9	.25	4,857	.28	4,100	.10
16–20	228	588	14.3	.28	5,797	.89	3,582	.11
20–25	134	336	16.3	.16	4,663	.21	2,356	.04
25–50	302	560	15.4	.27	5,826	.53	2,360	.10
50–100	156	253	18.3	.12	4,224	.15	1,186	.03
100–200	103	134	17.5	.06	5,215	.11	1,503	.02
Greater Than 200	362	400	38.0	.19	5,791	.46	138	.01
Sample Total	78,613	206,888	3.1	100.00%	$4,054	100.00%	$9,259	100.00%

Table 3

A Breakdown of the Sample MMMF Accounts by Their Annual Number of Checks in the 18-Month Sample Period

		Number and Value of Checks					Account Balance	
Annual Number of Checks	Number of Accounts	Total Number	Annual Number Per Account	Total Number as % of Sample Total	Average Size ($) Per Account	Total Value as % of Sample Total	Average Daily Size ($) Per Account	Total Value as % of Sample Total
2 or Fewer	45,726	25,030	.4	12.10	2,032	17.09	8,970	56.87
2–4	14,630	47,802	2.8	23.11	3,755	24.40	8,887	18.03
4–6	7,310	39,460	4.8	19.07	3,243	17.24	9,372	9.50
6–8	4,013	28,828	6.9	13.93	3,222	12.50	10,535	5.86
8–10	2,241	19,418	8.9	9.39	3,259	8.73	10,477	3.26
10–12	1,826	13,945	11.0	6.74	3,152	6.28	8,142	2.06
12–14	941	9,757	12.9	4.72	3,444	4.01	10,818	1.41
14–16	523	6,337	14.9	3.06	2,736	2.54	11,309	.82
16–18	375	4,820	17.0	2.33	3,020	2.13	12,012	.62
More Than 18	1,028	11,491	33.5	5.55	3,428	5.07	11,027	1.57
Sample Total	78,613	206,888	3.1	100.00%	$4,054	100.00%	$9,259	100.00%

percentage points less—but still more than the Fed targeted. So in both years of our sample, adding the portion of MMMFs that even begin to resemble transaction balances would not have changed the fact that M1 was outside its target range and, therefore, would not likely have changed the Fed's policy decisions.

Conclusion

Given the small proportion of fund balances that apparently are used for transaction purposes—small both absolutely and also in the context of monetary policy decisions—we conclude that, in the current state of technology and regulation, the Board has made the proper decision to exclude MMMFs from the M1 definition of money. This conclusion is supported by other analysis of these accounts that is not reported above. For example, we disaggregated the accounts by state of residence of the account holder. The distributions of turnover and number of check redemptions are surprisingly similar across states. There is no obvious difference, for example, in the way New York and Minnesota account holders use their mutual fund as a checking account. We also examined all the checks written on the accounts of this fund on four separate days. By looking at the purpose and the payee on each of the more than 5,000 checks, we were unable to detect any evidence that these accounts are being used primarily for transaction purposes. For example, only about 1 percent of the checks were payments to credit card companies, and at least 50 percent of identifiable drafts were associated with financial transactions. The only payment that clearly stood out in this analysis is the large number written for income tax payments around the April 15 tax deadline.

We do, however, admit to some lingering reservations. From the policy perspective, the emergence and expansion of MMMFs and the simultaneous proliferation of other similar assets may have affected household demand deposit balance management, thereby indirectly altering the relation between M1 and spending. And given the proliferation of accounts with many similarities to demand deposits, we question whether it will be meaningful much longer to draw lines of demarcation between M1, M2, and so on. Finally, we wonder (although we have no conviction at this point) about the manner in which payment of interest on demand deposits will affect desired asset holdings, as well as their utilization and yields.

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