Research Department
Federal Reserve
Bank of
San Francisco

April 15, 1977

Business & Financial Letter

M_1 and M_2

Economists and money-market watchers now agree that "money matters," but they still tend to disagree over the most relevant measure for policy purposes—M_1, M_2, or one of the several other monetary aggregates. (M_1 equals currency plus bank demand deposits, and M_2 equals M_1 plus bank time deposits except large time certificates.) The question has become increasingly important in recent years because of the instability created in these measures by technological and other factors, including the public's tendency to utilize saving deposits essentially like demand deposits in its financial transactions.

The Federal Reserve, in its monetary policy decisions, thus is faced with the question of which monetary aggregate is more meaningful in terms of influencing the economy, as well as being easier to control. The problem is difficult, because the Federal Reserve directly influences only one part of the equation—the monetary base. (The base consists of total member-bank reserves plus currency in the hands of the public, adjusted for reserve-requirement changes.) Commercial banks and the public also influence the aggregates through their decisions regarding the allocation of the monetary base between currency and reserves.

Stable relationships?

The question involves the stability of the relationships between the aggregates and the variables which the Fed can directly affect, such as the monetary base. Over the eight quarters of the 1975-76 period, the monetary base has grown at annual rates of between 6.7 percent and 7.5 percent, in contrast to the much wider swings in the growth rates of the two major aggregates—between 3.6 percent and 5.5 percent for M_1, and between 6.6 percent and 10.8 percent for M_2.

Over a longer period, 1960-76, the ratios of the monetary base to the two aggregates have moved in different directions—drifting downward from 2.77 to 2.44 for the M_1 "money multiplier" but rising steadily from 4.06 to 5.70 for the M_2 multiplier. Moreover, M_2 has behaved more predictably than M_1 since 1973, especially in view of the steep decline in the M_1 multiplier in recent years.

The movements of these multipliers have been affected by changes in several subsidiary ratios, such as the currency/demand deposit ratio and the time deposit/demand deposit ratio. (A rising currency/demand deposit ratio means declines in both the M_1 and M_2 multipliers; a rising time deposit/demand deposit ratio means a declining M_1 multiplier but a rising M_2 multiplier.) The time-deposit ratio has displayed remarkably consistent growth over this period—despite wide fluctuations in interest rates which would be expected to lead generally to wide swings in time-deposit flows.

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A partial explanation may be the record amount of investment-type funds ("hot money") which has inflated the savings component of M_2, making that traditionally stable component a potentially destabilizing factor in the money supply.

Stable savings?

Over the past two years, savings deposits have been responsible for most of the rapid growth in the time-and-savings component of M_2; today, they account for nearly one-half of the total component. Institutional factors (as noted below) have been responsible for a large proportion of the savings growth, but substantial inflows of highly interest-rate sensitive funds have also contributed to this growth. Because of the instant-withdrawal privilege available to savings depositors, these funds are readily available for investment in other instruments whenever interest differentials change. Indeed, savings flows have become quite volatile in the past two years—a period in which Treasury bill rates have fluctuated rather narrowly around the 5-percent ceiling rate on bank time deposits.

What would happen in the event of a significant rise in market interest rates? Some indication might be found by examining what happened during the last protracted period of savings outflow (January 1969 to March 1970), when sharply rising market rates induced a 3.5-percent ($3.3 billion) decline in savings deposits, even though most such deposits at that time were considered insensitive to interest-rate fluctuations. But today the situation is different, with the savings component containing a much larger proportion of "hot money."

Any significant rise in the 90-day Treasury bill rate—say, to 5.25-5.50 percent—could generate an outflow of funds from 5-percent savings accounts. The outflow probably would be concentrated in larger accounts of $100,000 and over, although a significant amount might simply be transferred into non-negotiable certificates, and would thus continue to be counted in M_2. However, if market rates rose to higher levels, smaller savings as well would probably be withdrawn and placed in market instruments, thereby depressing the growth of M_2.

Stable GNP ratio?
Underlying the shifts discussed above are a number of recent changes in financial regulations and financial innovations, which make it difficult to estimate the amount of money growth needed to support a given amount of growth in GNP. A given M_1 is consistent with a higher GNP than before, because of the growth of a number of demand-deposit substitutes for handling transactions. These include business savings accounts, NOW accounts (negotiable orders of withdrawal), mutual savings-bank deposits, money-market mutual funds, and credit-union share drafts. Other factors leading to improved utilization of demand balances include the use of telephone transfers or pre-authorized transfers between time deposits and demand deposits. By some estimates, M_1 growth fell about two percentage points below what might have been expected in relation to current GNP growth last year, because of the public's increased ability to economize on demand balances. But as already discussed, regulatory and innovational changes may not be alone in influencing the future direction of M_1 and M_2; the direction of interest rates may also be important.

Necessary deceleration
Experts disagree over which measure provides the better guide to policy, but few disagree with the argument made in recent Congressional testimony by Federal Reserve Chairman Arthur Burns, "The monetary growth ranges established during the past two years have been considerably higher than they should be over the long run." He argued against any sharp adjustment, saying that that would be too abrupt in view of the need to keep the economy moving along a satisfactory expansion path. But he added that, over the long run, the combination of increases in the money supply and increases in monetary turnover (velocity) should approximate the 3½-percent long-term growth of real GNP. Although the brakes should be applied gradually, an eventual slowdown in monetary growth seems essential in order to unwind the inflation that still bedevils the economy.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 3/30/77	Change from 3/23/77	Change from year ago Dollar	Change from year ago Percent
Loans (gross, adjusted) and investments*	94,558	+ 572	+ 6,996	+ 7.99
Loans (gross, adjusted)—total	71,706	– 17	+ 6,533	+ 10.02
Security loans	1,467	+ 39	+ 268	+ 22.35
Commercial and industrial	23,448	– 212	+ 1,341	+ 6.06
Real estate	22,269	+ 87	+ 2,416	+ 12.17
Consumer instalment	12,503	+ 69	+ 1,628	+ 14.97
U.S. Treasury securities	9,965	+ 604	+ 198	+ 2.03
Other securities	12,887	– 15	+ 265	+ 2.10
Deposits (less cash items)—total*	94,843	+ 1,644	+ 5,968	+ 6.72
Demand deposits (adjusted)	26,848	+ 693	+ 2,106	+ 8.51
U.S. Government deposits	188	– 36	– 44	– 18.97
Time deposits—total*	65,951	+ 822	+ 3,760	+ 6.05
States and political subdivisions	5,279	– 65	– 949	– 15.24
Savings deposits	32,253	+ 595	+ 6,571	+ 25.59
Other time deposits‡	26,338	+ 311	– 1,412	– 5.09
Large negotiable CD's	9,620	+ 167	– 3,158	– 24.71

Weekly Averages of Daily Figures	Week ended 3/30/77	Week ended 3/23/77	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves (+)/Deficiency (–)	+ 49	+ 48	+ 73
Borrowings	1	50	1
Net free(+)/Net borrowed (–)	+ 48	– 2	+ 72
Federal Funds—Seven Large Banks			
Interbank Federal fund transactions			
Net purchases (+)/Net sales (–)	– 740	+ 117	+ 599
Transactions with U.S. security dealers			
Net loans (+)/Net borrowings (–)	+ 121	+ 147	+ 194

*Includes items not shown separately. ‡Individuals, partnerships and corporations.

Editorial comments may be addressed to the editor (William Burke) or to the author. . . . Information on this and other publications can be obtained by calling or writing the Public Information Section, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco 94120. Phone (415) 544-2184.