

Research Department  
Federal Reserve  
Bank of  
San Francisco

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## Apples, Oranges and Money: I

Since the mid-1970's, commercial banks have experienced a gradual erosion of their uniqueness as transaction-deposit-creating institutions. Likewise, general agreement among economists and policymakers about the definition of "money" has eroded. This shift has created a problem for monetary authorities, particularly since the Federal Reserve System has announced a goal of slowing the rate of inflation by controlling money growth. The Fed attempted to clarify the definition of money when it published new monetary aggregates in 1980. However, the problem has intensified because of the proliferation of means-of-payment media by non-bank institutions, as well as investors' increased sophistication which permits them to earn market rates of return on liquid funds while holding transaction balances to a minimum.

### **Problem—How to define "money"**

The Federal Reserve in 1981 officially published five "concepts of money"—M-1A, M-1B, M-2, M-3 and L—but has now dropped the first of those categories. Yet historically, money generally meant only demand deposits and currency in the hands of the nonbank public—that is, M-1A. Money was often equated with means of payment, the financial asset used to buy goods and services or to cancel a debt. But with the increasing evolution of our financial system, and with an increasing tendency for transaction deposits to resemble other short-term financial assets and vice versa, economists and semanticists have faced the challenge of separating the apples and oranges into money and non-money baskets. The problem is not unique to the United States. The Bank of England currently publishes seven alternative monetary and liquidity aggregates, and at different times has used different aggregates in its formation of monetary policy.

In years past, economists often answered the question—what is money?—by display-

ing the empirical regularity of a relationship between alternative money definitions and some aggregate economic variable, such as nominal output or prices. In some cases this meant estimating the demand for money and testing whether this relationship was stably related to its determinants. Some economists chose to dismiss the issue, settling for their own personal favorite, with comments like: "Money is what money does." The problem today is that "money" does a lot of things, and satisfies a number of motives by holding it.

### **Base money**

To sort out some of the definitional problems, let us begin by defining the level of aggregation of our money definition. The aggregation level makes a lot of difference. If we define the relevant money concept by first adding all private-sector financial claims, we find that many of these claims cancel in the aggregate; one person's asset is another's liability. This would leave us with a measure of the financial claims of the private sector against the Federal government. These include primarily Treasury interest-bearing debt, currency, and the private banking system's claims against the central bank (that is, bank reserves).

By defining money as that element which is *directly* exchangeable for goods, we have only currency. But since the banking system can potentially create means of payment by creating loans and deposits in some multiple of reserve holdings, we can add bank reserves to currency and call this "money" also.

Should we include Treasury securities in our money concept? Most people would argue not, since they are not used to make direct exchanges for goods and services. But they do have a liquidity characteristic that cannot be ignored. Here the problem begins. Our definition of money could potentially broaden depending on the liquidity characteristic of the government liability.

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Historically, economists stop short of including Treasury securities as money and, at the broadest level of aggregation, define "money" as non-market-interest-bearing government debt. This definition yields the monetary base, which represents the non-market-interest-bearing claims of the private sector against the Federal government—as well as part of the net wealth of the private sector.

#### **Money as wealth**

The monetary base also represents the government liability which can be used to expand and contract means of payment created by the private sector, such as demand and savings deposits. Now we encounter a second level of aggregation. Defining money only as assets which can be used as *means of payment* by the *non-bank* private sector, we arrive at a money concept like our narrowly-defined M-1A, currency and demand deposits (for reasons cited below, the Federal Reserve has now discarded that narrow concept). Demand deposits were once thought to be the unique creation of the banking system and, together with currency, to bear an important relation to economic activity.

But what makes demand deposits unique? Why aren't credit cards money, since they clearly can be used to buy goods? Or for that matter, why isn't trade credit considered money? Here the argument hinges on "money" as an asset of the private sector. Even though credit cards may discharge payments for goods, the credit they represent

does not add to the net wealth of the non-bank sector.

If we utilize the definition of money-as-asset—as an asset of the non-bank private sector—we find ourselves with the concept of "currency plus bank demand deposits." Theoretically, the uniqueness of the narrow money concept derived from the fact that demand deposits did not bear interest. In fact, this particular attribute made it possible to relate money predictably to nominal output. As the monetary authorities varied the provision of money via their control of bank reserves, they could alter the financial-portfolio composition of the private sector. Thus, an increase in the supply of (non-interest-bearing) money raised the relative value of other financial assets, reduced the relative value of money, and thereby caused it to be spent on goods and services in a predictable manner. At present, demand deposits do not bear interest and NOW accounts yield a fixed, non-market determined, return. (In this connection, the Depository Institutions Deregulation Committee is considering permitting NOW accounts to bear a return which varies with market rates.) Also, checkable money-market funds do bear a market yield, and these are perfect substitutes with demand deposits and NOW accounts for some individuals. Thus, with "money's yield" becoming more market determined, a change in its supply does not clearly alter the demand for real goods and services. Money has thus become more like other financial assets.

Theoretical considerations notwithstanding, demand deposits have indeed lost their uniqueness as payments media. Because of recent innovations, the concept of money as an asset of the nonbank private sector runs afoul of the question, what is a "bank"? After all, commercial banks are not the only financial institutions creating transaction balances, i.e., means of payment. Thrift institutions issue deposits which are much like traditional demand deposits but which also earn interest—NOW accounts at savings-and-loan associations and mutual savings

banks, plus credit-union share drafts. These components thus may be added to M-1A to arrive at M-1B—or rather, M-1, now that the narrower concept has been discarded. Where then does the aggregation stop?

### **M-1, M-2, M-3 and ?**

Furthermore, money is not held solely for its means-of-payment motive. It has a “rainy day” quality to it—a “temporary abode of purchasing power,” to use one of its economic metaphors. Why not then include time and savings deposits, which provide explicit returns and can also be easily converted to means of payment? But by broadening the definition of money in this way, we open the floodgates to a host of short-term liquid assets which also can at low cost be readily converted into means of payment—such as certificates of deposit, repurchase agreements, overnight Eurodollar liabilities and money market funds. In this case, two liquidity distinctions are useful in defining broader definitions of money—denomination of the instrument and its term to maturity. Depository institutions’ savings and small-denomination time deposits thus are included in the M-2 money concept, but not large-denomination time deposits or bank and S&L term repurchase agreements; they are reserved for inclusion in the broader aggregate, M-3.

Economists have for some time admitted that defining broader monetary aggregates on the basis of liquidity characteristics presents a difficult theoretical and empirical problem, since “liquidity” itself is difficult to define and to measure. Regulatory changes and the introduction of new short-term financial assets have made the problem even more difficult. Consider just a few examples:

- In 1970, the authorities permitted S&L’s to make pre-authorized non-negotiable transfers from household savings accounts. Such accounts could thus be used to pay household bills, if the payments were pre-authorized. Did this increase in the liquidity of savings deposits make them more

like demand deposits, and thus includable in a narrowly-defined aggregate?

- In 1972, Massachusetts authorities allowed mutual savings banks to issue negotiable orders of withdrawal (NOW’s), easily satisfying a means-of-payment definition.

- In 1974, money-market mutual funds came into their own, permitting investors to put funds in money-market instruments and to withdraw shares by check through mail or wire transfer. In 1974 also, credit unions received permission to issue check-like share drafts.

- In 1978, the Federal Reserve and the FDIC permitted the coverage of commercial-bank overdrafts by automatic transfers of funds from savings accounts.

With the flurry of innovations and regulatory changes that took place during the 1970’s, the most commonly used definitions of money, M-1 and M-2, clearly had to be changed. The basic change took place in 1980 with the introduction of M-1A, M-1B and a new definition of M-2. But now, in early 1982, our current monetary definitions again may not be adequate for the purpose they serve, in view of a new flurry of innovations and regulatory changes. The next *Weekly Letter* will consider some of these more recent innovations.

**Barbara Bennett and  
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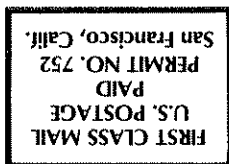
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**BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT**

(Dollar amounts in millions)

| Selected Assets and Liabilities          | Amount Outstanding | Change from         | Change from year ago       |         |
|--|--------------------|---------------------|----------------------------|---------|
|  |                    |                     | Dollar                     | Percent |
| <b>Large Commercial Banks</b>            | 1/6/82             | 12/30/81            |                            |         |
| Loans (gross, adjusted) and investments* | 156,295            | 85                  | 8,658                      | 5.9     |
| Loans (gross, adjusted) — total#         | 135,300            | 269                 | 10,205                     | 8.2     |
| Commercial and industrial                | 41,736             | 348                 | 4,030                      | 10.7    |
| Real estate                              | 55,765             | — 17                | 5,335                      | 10.6    |
| Loans to individuals                     | 23,836             | — 4                 | — 85                       | — 0.4   |
| Securities loans                         | 1,972              | — 56                | 594                        | 43.1    |
| U.S. Treasury securities*                | 5,783              | — 55                | — 1,002                    | — 14.8  |
| Other securities*                        | 15,212             | — 108               | — 524                      | — 3.3   |
| Demand deposits — total#                 | 46,224             | 2,403               | — 368                      | — 0.8   |
| Demand deposits — adjusted               | 30,665             | 1,108               | — 2,078                    | — 6.3   |
| Savings deposits — total                 | 31,179             | 1,037               | 2,078                      | 7.1     |
| Time deposits — total#                   | 89,392             | — 488               | 15,220                     | 20.5    |
| Individuals, part. & corp.               | 80,489             | — 274               | 15,992                     | 24.8    |
| (Large negotiable CD's)                  | 35,903             | — 508               | 7,060                      | 24.5    |
| <b>Weekly Averages of Daily Figures</b>  | Week ended. 1/6/82 | Week ended 12/30/81 | Comparable year-ago period |         |
| <b>Member Bank Reserve Position</b>      |                    |                     |                            |         |
| Excess Reserves (+)/Deficiency (—)       | n.a.               | 350                 |                            | 66      |
| Borrowings                               | 34                 | 14                  |                            | 179     |
| Net free reserves (+)/Net borrowed(—)    | n.a.               | 335                 |                            | — 113   |

\* Excludes trading account securities.

# Includes items not shown separately.

Editorial comments may be addressed to the editor (William Burke) or to the author. . . . Free copies of this and other Federal Reserve 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.