Measures of Money

The Monetary Base

The most basic definition of the money supply is currency and coin in circulation. The introduction of banks and the Fed requires a modification of this basic definition. Banks, and now all depository institutions, can hold deposits at the Fed. These deposits are very close substitutes for currency. Just like cash, they do not pay interest. Also like cash, deposits at the Fed are an asset to the bank; and a liability to no private household or business. Moreover, the deposits at the Fed can be turned into cash very quickly and without fail. The bank can just call the Fed, tell it to reduce its account by, say, $1 million, and send $1 million in currency over to the bank. The Fed cannot be caught short of currency because it has the power to issue new notes. Since a deposit at the Fed is a very close substitute for cash, we add the two together as if they were the same. The result is the monetary base, which is sometimes called high-powered money. We summarize

monetary base = currency held by the public + deposits at the Fed.

M1

Some economists use another definition of money. They focus on the funds that households and businesses have ready to spend. Since they are interested in households and businesses, they take out deposits at the Fed and currency held by banks, but, since they are interested in readily spendable funds, they include checkable deposits. This definition of money is called M1, and is given by

M1 = currency held by the non-bank public + traveler's checks from non-bank issuers + checkable deposits.¹

¹ Traveler's checks issued by banks are included in checkable deposits. The official and detailed definition of M1 is (1) currency outside the U.S. Treasury, Federal Reserve Banks, and the vaults of
Other economists object to this definition because checkable deposits differ in at least two important ways from currency. First, many checkable accounts, unlike cash, pay interest or give the holder access to various services, ATM machines for instance. Second, if you have $500 in your checking account, it is an asset to you, just like $500 in cash; but, unlike cash, it is a liability to other private citizens. More specifically, your $500 deposit represents a liability, a debt, to the owners of the bank. In short, currency represents net wealth to economy, but deposits in checkable accounts do not. Since checkable deposits differ from currency, these economists object to adding the two together. Nevertheless, many economists prefer to work with M1.

**M2**

Other economists go further, and prefer a broader concept of money than M1. They believe that, for example, savings accounts are good substitutes for checking accounts, and so they should be included in the definition of money. This definition of money also includes some less familiar items: (1) small, which means less than $100,000 here, time deposits, (2) money market deposit accounts, and (3) shares of money market mutual funds held by non-institutional investors. **Time deposits** are interest earning accounts that have a maturity date, and withdrawal of funds before this date results in a penalty, usually the loss of the interest payment. Examples of time deposits are Christmas club accounts, and certificates of deposits (CDs). Banks also offer **money market deposit accounts**. These accounts typically pay higher interest rates than checkable deposits, but allow only a few checks to be written on them each month. A **mutual fund** pools the funds of many small investors. The pool or fund hires professional investors to buy and sell assets and manage a portfolio. In a **money market mutual fund** the fund restricts itself to buying low risk assets that mature within a year. In the definitions below money market mutual funds are broken into two groups: 1) funds that are managed for non-institutional investors, for example households and 2) funds that are managed for institutional investors, insurance companies for example. To summarize:

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depository institutions; (2) travelers checks of nonbank issuers; (3) demand deposits at all commercial banks other than those due to depository institutions, the U.S. government, and foreign banks and official institutions, less cash items in the process of collection and Federal Reserve float; and (4) other checkable deposits (OCDs), consisting of negotiable order of withdrawal (NOW) and automatic transfer service (ATS) accounts at depository institutions, credit union share draft accounts and demand deposits at thrift institutions.
M2 = M1 + savings deposits + small time deposits + money market deposit accounts +
shares in non-institutional (retail) money market mutual funds.²

Other Assets

There was yet a broader definition of money, so-called M3. The Fed ceased to collect data
on M3 in 2006. M3 included to assets that are interesting because of the connection between
financial regulation and financial innovation. The two assets that have had prominent roles in
circumventing Regulation Q are repurchase agreements and eurodollar deposits. In an
overnight repurchase agreement a bank sells government securities to one of its depositors for,
say, $10,000,000, but promises to buy them back, or we could say repurchase them, at the begin-
ning of the next business day for, say, $10,002,600. The $2,600 represents an interest payment
on the $10,000,000. You may be excused for thinking that this is a very odd arrangement.
These agreements originated at a time when the Fed's Regulation Q forbid banks to pay interest
on deposits, and they allowed banks to circumvent these laws.

Eurodollar deposits are dollar-denominated deposits held outside the United States. For
example, a $1,000,000 time deposit in a bank in London or Hong Kong would be a eurodollar
deposit. Why would someone want a dollar deposit held in London? Why not have the deposit
valued in British pounds? After World War II, the United States was the dominant economy, and
the dollar became the dominant currency in international trade. This made it convenient for
foreign firms to hold dollar deposits. The Soviet Union wanted to trade in international trade
too, but did not want to hold dollar deposits in the United States. Why? The cold war had
begun, and if the Soviets held deposits in the U.S., it would give the U.S. leverage in a confron-
tation. Not so long ago, German deposits had been frozen at the beginning of the World War II.
To avoid this threat, the Soviets held dollar-denominated deposits with a bank in France. The
market for eurodollars then spread as a convenient way for traders to hold and swap assets.
Eurodollar deposits also became another way to pay interest on deposits. U.S. banks would open

² The official definition is: M2 consists of M1 plus savings deposits (including money market
deposit accounts), small-denomination time deposits (time deposits in amounts of less than $100,000),
and balances in retail money market mutual funds. Excludes individual retirement account (IRA) and
Keogh balances at depository institutions and money market funds.
offshore branches or subsidiaries abroad. At the end of the business day a U.S. bank would transfer the deposits of one of its large customers to an account in, say, the Cayman Islands. These islands are not subject to U.S. law so the Cayman branch could pay interest on the eurodollar deposits. The deposits are then returned to the U.S. bank at the beginning of the next business day.

**Conclusion**

These are the three definitions of money that garner the widest circulation. They will tend to behave similarly, but they won't always do so. As a result, in discussion of the money supply it is best to be clear on which definition is employed to avoid possible confusion.