Federal Reserve Accounts, Money Supply, and Bank Credit

Over the past four and one-half years of economic advance, total loans and investments at all commercial banks have grown at a compound annual rate of 8.5 per cent, more than twice as fast as the rate of growth of bank credit in the two preceding general business expansions. Moreover, due to a surge in bank credit demands in the early months of 1965, the 9.4 per cent rate of growth in bank credit over the year ended in September 1965 has been more rapid than earlier in the expansion.

This article focuses on the provision by the Federal Reserve of member bank reserves underlying the bank credit expansion between September 1964 and September 1965. The associated rise in the money supply and in commercial bank time deposits is also discussed. The article thus continues and updates a type of analysis initiated in the December 1964 issue of this *Review*. The discussion is illustrated by the set of charts shown on page 268.[1]

The reader will realize that the financial interrelations that are described are highly complex. All magnitudes shown in the charts are determined mutually and simultaneously through additions to reserves by the Federal Reserve and the demands for, and supplies of, funds generated by the banking system and the nonbank public. Where one breaks into this interrelated system to describe what actually has happened during a particular period is largely a matter of choice. The approach adopted here is to begin with the creation of bank reserves by Federal Reserve operations and then to work "forward" through the banking system to the nonbank public. In retracing this analysis with the aid of the charts, it should be kept in mind that a numerical accounting of what actually happened should not be interpreted as a causal chain of past events or a mechanical prediction of future events under similar circumstances. Eventual reactions to the creation of additional bank reserves by the Federal Reserve depends—most broadly—on the demand for credit and the respective costs of borrowing from banks and from other sources. On the liabilities side, the public's relative preference for currency, demand deposits, and time deposits, as well as a number of technical factors, have a bearing on the final numerical outcome. Nevertheless, *ex post facto* analysis of the type here presented can be illuminating provided its limitations are kept in mind.

[1] The data shown in the charts have been compiled from several releases, containing diverse data that are not necessarily wholly consistent. Thus, some of the underlying data are available on a daily average basis, while other items can be obtained only on a last-Wednesday-of-the-month basis. The numbers presented have been derived from balance sheets as close as possible to the two weeks ended September 30, 1964 and the two weeks ended September 29, 1965.

SOURCES AND USES OF BANK RESERVES

The Federal Reserve supplied nearly $4.4 billion of additional member bank reserves during the twelve months ended September 1965, as can be seen by adding the figures in the first column of Chart I. The bulk of this amount was made available to banks through net System purchases of United States Government securities and bankers' acceptances. As has been true in previous periods, however, the volume of reserves actually held by member banks went up by only a fraction of the new reserves supplied by the System. Thus, a large portion of the expanded Federal Reserve credit offset the drain on reserves stemming from the $1.6 billion outflow of gold over the twelve-month period, most of which took place in the first half of 1965. A continued surge in the amount of currency held by the nonbank public was a second major drain, absorbing nearly $2 billion of the increase in Federal Reserve credit. Together, these two factors absorbed about four fifths of the total increase in Federal Reserve credit (as shown by comparing the sum of Columns 2 and 3 of Chart I with the sum of Column 1).

Had the Federal Reserve failed to offset the gold outflow and the increase in currency in circulation, a marked contraction in bank credit and deposits would undoubtedly have been forced. As it was, more than $800 million of the total increase in Federal Reserve credit was added to member bank reserves after allowance for the major

Chart I

CHANGE IN FEDERAL RESERVE ACCOUNTS

September 1964-September 1965

Millions of dollars

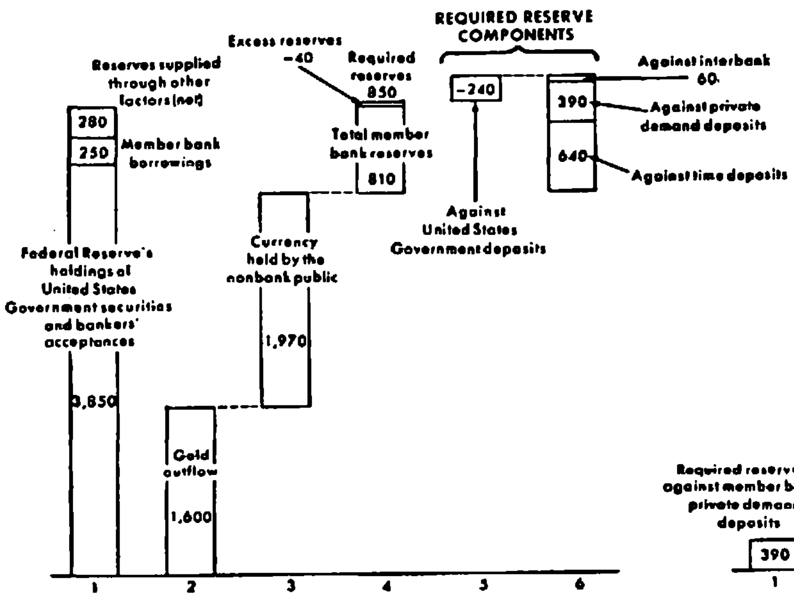


Chart II

CHANGE IN THE MONEY SUPPLY

September 1964-September 1965

Millions of dollars

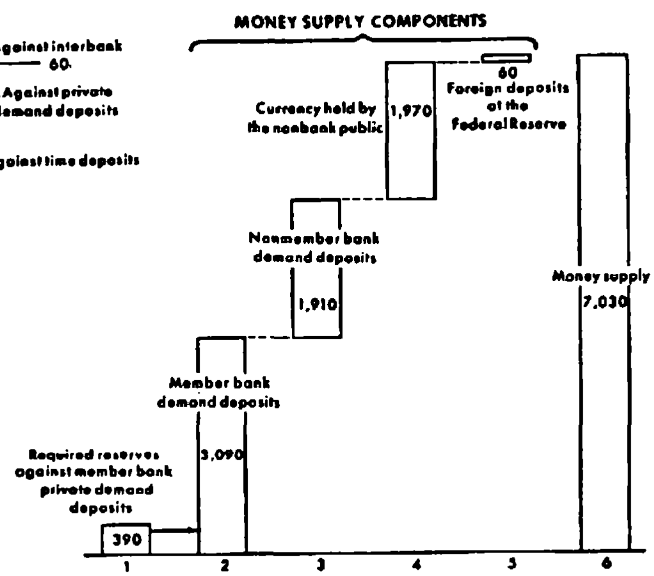


Chart III

CHANGE IN BANK ASSETS AND LIABILITIES

September 1964-September 1965

Millions of dollars

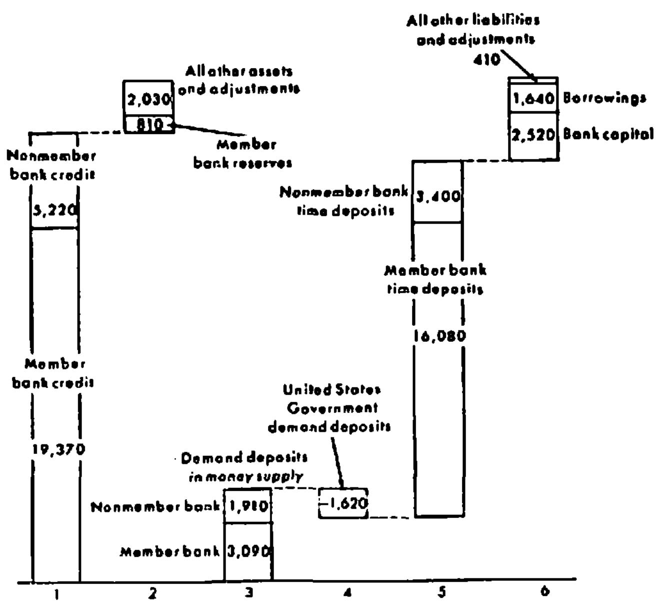
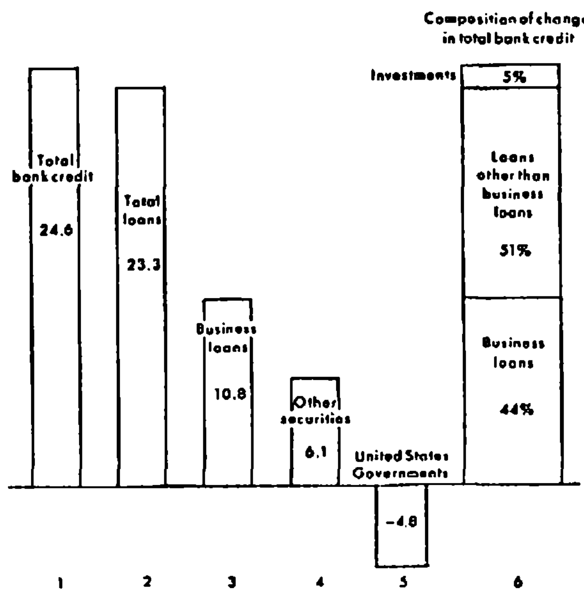


Chart IV

CHANGE IN COMMERCIAL BANK CREDIT BY COMPONENTS

September 1964-September 1965

Billions of dollars or per cent



Note: Minor items are not shown separately in order to simplify the presentation.

Sources: Board of Governors of the Federal Reserve System; Federal Reserve Bank of New York.

drains—an amount that met the bulk of the $850 million increase in required reserves over the year (see Column 4 of Chart I). At the same time, member banks utilized the reserves that they did hold more fully, as indicated by the fact that they reduced their excess reserves by $40 million over the period.

Actually, reserves required against private demand and time deposits as well as against net interbank deposits (shown in Column 6 of Chart I) went up by nearly $1.1 billion over the period. Total required reserves rose by a somewhat smaller amount, however, as a sharp drop in United States Government deposits—the $1,620 million shown in Column 4 of Chart III—released some $240 million of reserves (Column 5, Chart I). It is also noteworthy that, despite substantially lower reserve requirements against time deposits than against demand deposits, the bulk of the additional reserves were required against time deposits.

THE INCREASE IN THE MONEY SUPPLY

The $390 million increase in reserves required against private demand deposits was associated over the period under study with a rise of about $3.1 billion in such deposits at member banks (Chart II). The implied ratio of nearly eight to one between the increases in deposits and reserves over this period reflects, of course, a weighted average of the demand deposit reserve requirement ratios at reserve city and "country" banks. On top of this rise in private demand deposits at member banks, there was some $1.9 billion in such deposits created at nonmember banks over the period.[2] Adding the previously mentioned large increase in currency holdings of the nonbank public to this total deposit increase—and further adding the small increase in foreign demand deposits at the Federal Reserve—one arrives at a gain in the total money supply over the period of some $7 billion (shown in Column 6 of Chart II).[3] This represents a 4.4 per cent increase in the money supply, about the same percentage rise as in the preceding year.

Two points might be made about the composition of this increase in the money supply. First, the addition to coin and folding money accounted for nearly 28 per cent of the over-all gain in the stock of money, considerably more than the 22 per cent share of currency in the money stock outstanding in September 1964. This reflects the fact that currency has in recent years been gaining again in relative importance in the money supply, after nearly two decades of almost continuous relative decline following World War II. Second, with respect to the deposit component of the money supply, a growing share has been accounted for by nonmember banks. In early 1961, at the start of the current business upswing, only about 18 per cent of the demand deposits included in the money supply had been held at nonmember banks. Over the first three and one-half years of expansion, however, nonmember bank deposits accounted for nearly 33 per cent of the gain in total private demand deposits at all commercial banks, and over the past year their share in the increase has amounted to nearly 40 per cent. Nevertheless, nonmembers still accounted for only about 20 per cent of total private bank demand deposits in September 1965.

COMMERCIAL BANK ASSETS AND COUNTERPARTS IN BANK LIABILITIES AND CAPITAL

Fractional reserve requirements permit, as previously noted, a multiple expansion of bank credit and deposits on the basis of given reserve increases. Even though member bank reserves went up only by some $800 million during the period, this rise—combined with a drawing-down of excess reserves—was sufficient to support nearly $19.4 billion in additional member bank credit, as can be seen in the first two columns of Chart III. At the same time, nonmember banks increased their outstanding credit by more than $5.2 billion. Together, these gains in bank loans and investments represented a very substantial 9.4 per cent increase over the twelve-month period. (Chart IV and its discussion will provide a breakdown of the bank credit increase.)

The major counterparts of this growth in bank credit and other assets are shown in the staggered Columns 3 through 6 of Chart III. First, there was the $5 billion increase in private demand deposits that has already been shown in Chart II as a component of the rise in the money supply. Total demand deposits at commercial banks went up by a substantially smaller amount over the period, however, as the previously mentioned decline in United States Government deposits offset some of the gain in

[2] Since nonmember banks do not maintain their reserves at Federal Reserve Banks, the figures for required reserves shown in the charts do not include these reserves. The banks do, however, have to comply with state-imposed reserve requirements; and part of the reserves supplied by the Federal Reserve System in effect served to support expansion of nonmember bank deposits and credit.

[3] The money supply is technically defined as including (a) demand deposits at all commercial banks, other than deposits due to domestic commercial banks and the United States Government, less cash items in the process of collection and Federal Reserve float; (b) foreign (official) balances at Federal Reserve Banks; and (c) currency outside the Treasury, the Federal Reserve System, and the vaults of all commercial banks.

private accounts.[4]

The bulk of the growth in bank credit and total assets has had its liability counterpart in the form of increased commercial bank time deposits. Time and savings deposits at all commercial banks rose by nearly $19.5 billion over the past year, or by some 16 per cent. (This growth rate actually exceeds the rapid pace of 15 per cent per year set in the preceding three and one-half years of business expansion.) Although time and savings deposit balances accounted for only about 40 per cent of total commercial bank liabilities (plus capital) in September 1964, their share of the increase in this total over the subsequent year came to nearly 64 per cent. The growth of time and savings deposits has been fostered throughout the current expansion by the narrowing differential between interest rates on such deposits at commercial banks and at competing institutions as banks have competed more aggressively for these types of deposit. Furthermore, the development of the market for negotiable certificates of deposit and the repeated upward revision of maximum rates of interest payable on such deposits under Federal Reserve Regulation Q have been major stimulants to time deposit growth at commercial banks.

The growth in bank capital contributed another important counterpart to the increase in bank credit (Column 6, Chart III). This increase—some 9 per cent—is somewhat more rapid than the 7 per cent per year average growth during the preceding three and one-half years. A rise in bank borrowings of some $1.6 billion accounts for the bulk of the remaining rise in the counterparts of the bank credit expansion shown in Chart III. This increase consisted mainly of greater interbank indebtedness, more member bank borrowings from the Federal Reserve, and the issue of short-term promissory notes by banks.

BANK CREDIT

The major components of the change in bank credit over the year ended in September are presented in Chart IV. During the early years of the current expansion, loan demand was moderate by the standards of preceding expansions, but it has become considerably heavier in the past year. Thus, the growth rate of business loans amounted to 19.3 per cent in the year ended in September 1965, compared with an annual rate of increase of only 8.5 per cent over the previous three and one-half years of economic advance. This single loan category accounted for some 44 per cent of the rise in total bank credit from September 1964 to September 1965 (see Column 6, Chart IV), as against only half as much earlier in the expansion.

Banks were able to satisfy exceptionally large loan demands without liquidating investments. Indeed, holdings of securities other than those issued by the United States Government have been rising throughout the current expansion. In the year ended in September 1965, the rise in bank holdings of municipals and other securities exceeded the decline in Government securities by more than $1 billion. This net increase in investments occurred although the liquidation of Government securities, which previously had been proceeding at only a slow pace, gained momentum as banks cut their holdings by $4.8 billion, or nearly 8 per cent.

[4] United States Government deposits were unusually volatile over the year ended in September. In early 1965, with Government revenues running substantially higher than expected and well ahead of current expenditures, the Government's balances at commercial banks grew substantially (to a record $9.7 billion in May). This increase has been more than wiped out by a greater than seasonal decline in the past several months so that there was a net decline over the year ended in September.

BIBLIOGRAPHY ON MONETARY THEORY AND POLICY

The Board of Governors of the Federal Reserve System has just announced publication of a bibliography covering monetary theory and policy. Copies are available, upon request, from the Division of Administrative Services, Board of Governors of the Federal Reserve System, Washington, D. C. 20551, at $1.00 each.