Federal Reserve Accounts, Money Supply, and Bank Credit

Total loans and investments at all commercial banks continued to expand during the twelve months ended in September 1966, as they had over the previous four and one-half years of economic advance. However, largely as a result of the Federal Reserve's policy of restraint, the rate of growth in bank credit over the year declined to 7.5 per cent from the 9.4 per cent rate attained during the preceding year.[1] The slackening in the rate of growth was particularly noticeable toward the end of the period. In fact, during September and October, bank credit actually declined.

The charts on page 275 are designed to highlight some of the key magnitudes and relationships involved in the growth of commercial bank assets and liabilities between September 1965 and September 1966. The financial interrelations to be discussed are, of course, highly complex. All magnitudes shown in the charts are determined mutually and simultaneously through additions to member bank 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 has actually happened during a particular period is largely a matter of choice. The approach taken 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 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 System depend—most broadly—on the demand for additional bank liquidity, the public's demand for credit, and the respective costs of borrowing from banks and from other sources. On the liabilities side, the relative preference of the public for currency, demand deposits, and time deposits, as well as a

[1] The figures used in this article are based on data reported in Federal Reserve releases. Thus, they reflect the changed Federal Reserve regulations concerning hypothecated deposits. Beginning with the data for June 1966, about $1.1 billion of "deposits accumulated for payment of personal loans" was excluded from time deposits and deducted from loans at all commercial banks. If $1.1 billion is added back into the change in bank credit, the rate of growth is about 7.9 per cent. For a review of the changes in Federal Reserve accounts, the money supply, and bank credit in earlier years, see this *Review* (December 1964), pages 250-54, and (December 1965), pages 267-70. The articles in this series are not strictly comparable because of data revisions and changes in Federal Reserve regulations and reporting requirements.

number of technical factors, has a bearing on the final numerical outcome. Nevertheless, *ex post facto* analysis of the type presented here can be illuminating, provided its limitations are kept in mind.

SOURCES AND USES OF BANK RESERVES

The gross increase in reserves made available by the Federal Reserve during the twelve-month period ended in September 1966 amounted to slightly less than $4.2 billion, as can be seen by adding the figures in the left-hand column of Chart I.[2] As usual, the largest portion (87 per cent) was provided through net System purchases of United States Government securities and bankers' acceptances. The remainder came about as a result of member bank borrowings and changes in other Federal Reserve accounts. However, as has been true in the past, not all the additional reserves were available to support an expansion in member bank deposits. Indeed, more than half ($2.1 billion) of the increase in Federal Reserve credit was absorbed by the continuing growth in the public's demand for currency. In addition, another sizable portion was needed to offset the loss in reserves associated with the $600 million outflow of gold in partial settlement of the nation's balance-of-payments deficit during the period. Finally, the Federal Reserve's increases in member bank reserve requirements against time deposits in excess of $5 million also served to absorb reserves. As a result of these increases, member bank required reserves at the end of the period were about $880 million greater than they otherwise would have been.[3]

Thus, as can be computed from the data in Chart I, only $550 million of the increase in Federal Reserve credit was used as the basis for a multiple expansion of bank deposits and credit. At the same time, member banks more fully utilized the reserves that they held, as indicated by the fact that excess reserves declined by $70 million over the period.[4]

In terms of actual developments during the period, approximately $920 million in reserves was required to support the expansion in private demand and time deposits as well as in net interbank deposits at member banks. (This figure does not reflect the previously mentioned change in the reserve requirements against time deposits.) Total reserves required to support additional deposits rose by a somewhat smaller amount, however, as a sharp drop in United States Government deposits at member banks—$1,890 million of the $1,920 million total drop for all commercial banks shown in Column 4 of Chart III—released some $300 million of reserves (Chart I, column 5). It is also worth noting that, although reserve requirements against demand deposits are substantially higher than those against time deposits, a larger amount of the additional reserves was used to "back" the increase in time deposits.

THE GROWTH IN THE MONEY SUPPLY

The $380 million increase in reserves required against private demand deposits during the period under consideration was associated with a rise of about $2.8 billion in such deposits at member banks (see Chart II, columns 1 and 2). The ratio of the increase in reserves to the increase in demand deposits of 13.7 per cent represents a weighted average of the demand deposit reserve requirement percentages at reserve city and "country" banks. This figure is less than the simple average of the two reserve requirement percentages, since the dollar increase in demand deposits at country banks was greater than at reserve city banks. This represents a continuation of the trend that existed over the four and one-half years ended in September 1965.

In addition to the $2.8 billion increase in private demand deposits at member banks, there was an expansion of some $1.3 billion in such deposits at nonmember banks.[5] Adding the growth in total private demand deposits to the

[2] The data in the charts have been compiled from several releases containing information that is not 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 figures presented have been derived from balance sheets as close as possible to the two weeks ended on September 29, 1965 and the two weeks ended on September 28, 1966.

[3] This represents the difference between the actual required reserves against time deposits in excess of $5 million under the present 6 per cent ratio and the amount of reserves that would have been required against the same volume of deposits at a 4 per cent ratio. The change in the reserve requirement from 4 per cent to 6 per cent was accomplished in two steps. During July, the ratio was increased from 4 per cent to 5 per cent, and it was increased once again from 5 per cent to 6 per cent in September.

[4] Included in these figures are reserves released by the changed ruling on hypothecated deposits discussed in footnote 1. The reserves freed by this change amounted to about $30 million.

[5] 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.

Chart I

CHANGES IN FEDERAL RESERVE ACCOUNTS

September 1965-September 1966

Millions of dollars

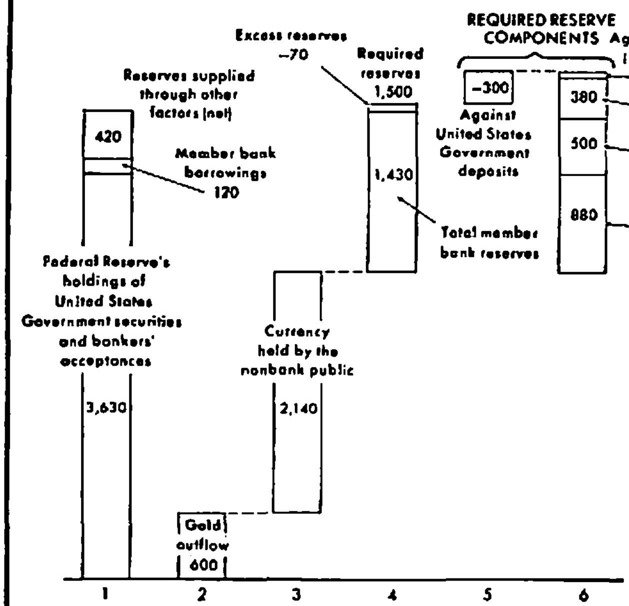


Chart II

CHANGE IN THE MONEY SUPPLY

September 1965-September 1966

Millions of dollars

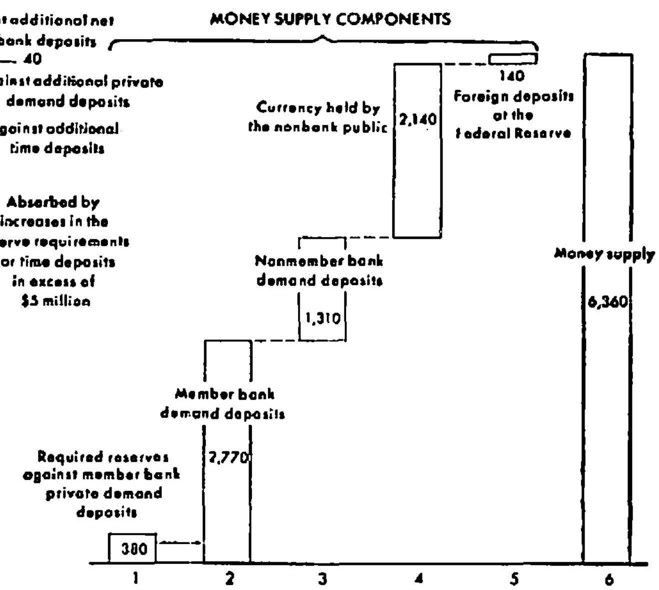


Chart III

CHANGES IN BANK ASSETS AND LIABILITIES

September 1965-September 1966

Millions of dollars

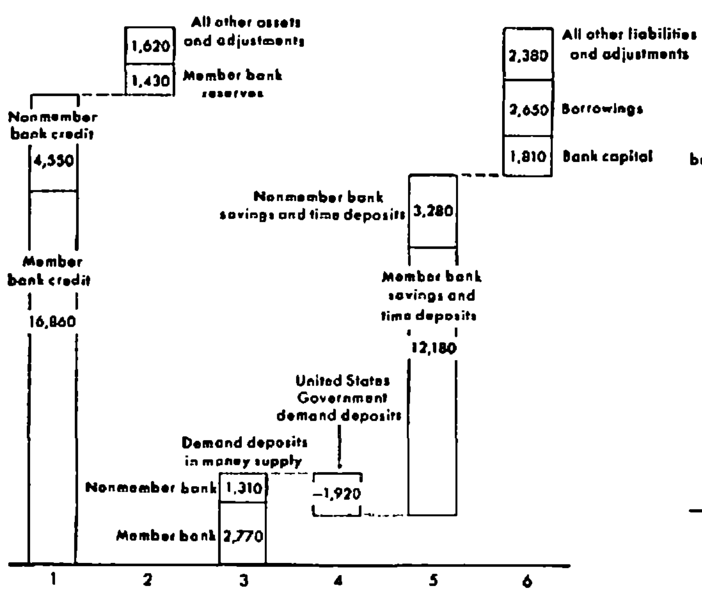
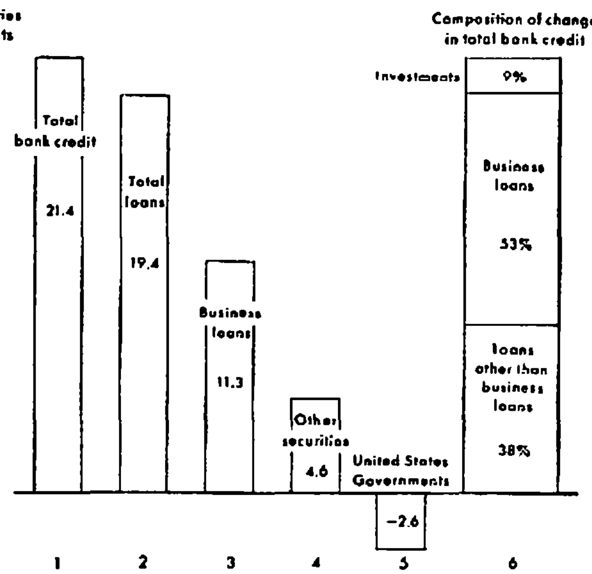


Chart IV

CHANGE IN COMMERCIAL BANK CREDIT BY COMPONENTS

September 1965-September 1966

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.

increase in foreign demand deposits at the Federal Reserve and to the very large increase in currency holdings of the nonbank public yields a gain in the money supply of nearly $6.4 billion (see Chart II, column 6).[6] This represents a 3.9 per cent rise in the money supply, only a little smaller than the rate of gain in recent years. The more rapid rise in the currency component reflects, as it has over the past several years, the fact that currency has been gaining again in relative importance in the money supply after the fairly steady downtrend following World War II. While currency represented slightly less than 22 per cent of the total money stock in September 1965, this component accounted for one third of the increase in the stock during the period. Another shift in the relative importance of the various components of the money supply occurred within the deposit category. In early 1961, at the beginning of the current business expansion, only about 18 per cent of the total demand deposits included in the money supply was held at nonmember banks. Over the first four and one-half years of expansion, however, nonmember banks accounted for nearly 39 per cent of the gain in total private demand deposits. During the past year their contribution to the increase has been somewhat smaller, but it was still much larger than the share of deposits attributable to nonmember banks in 1961.

COMMERCIAL BANK ASSETS AND COUNTERPARTS IN BANK LIABILITIES AND CAPITAL

An essential characteristic of a fractional reserve requirement is to permit a multiple expansion of bank credit and deposits on the basis of given reserve increases. Thus, even though member bank reserves available to support new deposits went up by only $620 million during the period, this rise—combined with the large increase in bank capital and nondeposit liabilities (discussed below) —was sufficient to support an increase in member bank credit of nearly $16.9 billion (see Chart III). In addition, nonmember banks increased their loans and investments by almost $4.6 billion. The 80 per cent contribution of member banks to the total increase in bank credit during the period is approximately the same as it was during earlier stages of the current upswing in business activity.

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 $4.1 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 decline in United States Government deposits of $1.9 billion offset some of the gain in the private accounts. Commercial bank time and savings deposits, however, were considerably more important in the growth of the banking system.

Over the year ended in September 1966, time and savings deposits at all commercial banks rose by more than $15.4 billion, or by some 11 per cent. While this rate of growth is high by most standards, it is substantially less than the 16 per cent rate achieved last year.[7] The reduction in the growth of these deposits during the present period can be attributed largely to the increase in interest rates on marketable securities relative to the maximum rates payable on time and savings deposits. Another factor which may have had some effect near the end of the period was the increase by the Federal Reserve in member bank reserve requirements against time deposits in excess of $5 million. The effect of this action was to increase the cost of time deposits to banks, and perhaps to dampen some of the enthusiasm for acquiring funds through such deposits.

The growth in bank capital and bank borrowings represent two other important counterparts to the increase in bank credit (see Chart III, column 6). Although the sum of the increases in these items was about the same as in the prior twelve-month period, the relative importance of each was practically reversed. Thus, the increase in bank capital of $1.8 billion was $700 million less than the increase in the preceding year. On the other hand, the increase in bank borrowings of $2.7 billion exceeded the previous year's figure by about $1 billion. The nature of bank borrowings has also changed within the past two years. During the twelve-month period ended in September 1965, the increase in bank borrowings consisted mainly of greater interbank indebtedness, more member bank borrowings from the Federal Reserve, and the issue of short-term promissory notes by banks. The present

[6] 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.

[7] The estimates of the growth in bank credit and time deposits reported here exclude the $1.1 billion resulting from the change in the regulation concerning hypothecated deposits. If this amount is added to the growth in time deposits, the resulting increase is $16.6 billion, or 11.7 per cent.

period, however, has seen a large increase in repurchase agreements between banks and nonfinancial corporations and the elimination of short-term promissory notes. The latter is the result of a Federal Reserve ruling which classified such borrowings as deposits. Consequently, reserves are required against these liabilities, and they are subject to the regulations governing the payment of interest on deposits. In addition, there has been a substantial increase in the liabilities of United States banks to their own foreign branches. These liabilities are included in the "all other liabilities and adjustments" category and account for approximately three fourths of the growth in the category during the year.

BANK CREDIT

The major components of the change in bank credit over the year ended in September are presented in Chart IV. Most notable among the movements in the components has been the growth of business loans. Despite the slower rate of growth in total bank credit, the rise of $11.3 billion in business loans during the year was $500 million more than during the previous twelve-month period. As a result, this single loan category accounted for nearly 53 per cent of the expansion of total bank credit from September 1965 to September 1966, compared with 44 per cent during the previous year. There was also a reduction in the rate at which banks liquidated United States Government securities as their holdings of these securities approached the level required as collateral against Government deposits. The net decline in these securities of $2.6 billion was little more than half of the decline over the preceding twelve months.

Evaluation of the other components of bank credit is made difficult because of the changed Federal Reserve ruling concerning hypothecated deposits (see footnote 1) and the reclassification of certain financial assets from the "other loans" category to the "other securities" category. Together these reporting changes produce an understatement of the reported increase in other loans of somewhere in the neighborhood of $2 billion and an overstatement of the rise in other securities of about $1 billion. Even if allowance is made for these two changes, the growth in these components remains smaller than last year.