

## Developments in the Commercial Bank Loan-Deposit Ratio\*

Throughout the postwar years the over-all loan-deposit ratio of the banking system has moved upward with only minor interruptions. At slightly more than 63 per cent, this ratio currently is around the highest level since the late 1920's and thus, for most bankers, is now above any level reached in the span of their own professional experience. Moreover, the upward trend has been especially strong over the past few years of business expansion. Since the trough of the last business contraction in 1961, the loan-deposit ratio has advanced about 8.3 percentage points from a level which many bankers had previously thought to be near the upper limit of sound banking practice.

As a measure of liquidity, the loan-deposit ratio of banks has traditionally been employed to assess their ability to withstand deposit withdrawals and to judge their willingness to meet loan demand by reducing their cash assets and their investments in securities. The loan-deposit ratio, however, is widely recognized as providing only a very crude index of liquidity. The ratio takes no account, for instance, of the mix between time and demand deposits, nor does it allow for such important factors as the liquidity characteristics of the particular loans and investments held in bank portfolios. Consequently, changes in the aggregate loan-deposit ratio between two separate points of time must be evaluated against the background of changes over the interval in the composition of both bank assets and liabilities. Moreover, the portfolio liquidity "needs" of banks are not constant. Such needs depend upon economic conditions in general and upon the whole array of other bank opportunities for asset and liability adjustment.

Even so, loan-deposit ratios can still be a useful device for assessing bank liquidity. The extended postwar rise in loan-deposit ratios—and their recent sharp further increase—is therefore a development of genuine significance. There is reason to believe, moreover, that the banking system has

now approached the point where liquidity factors may again be watched very closely by bankers. The present article reviews developments in loan-deposit ratios since 1946, and examines some of the more important factors bearing on the significance of these ratios as an indicator of bank liquidity positions.

### POSTWAR TRENDS IN THE LOAN-DEPOSIT RATIO

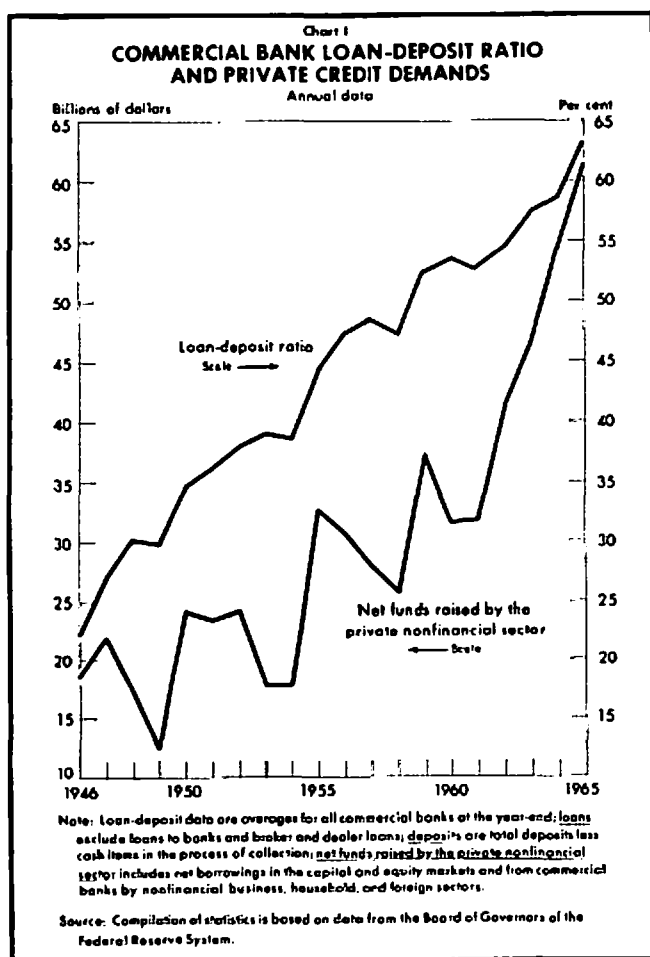
In the past two decades, the average loan-deposit ratio of all commercial banks has increased nearly threefold, moving from a very low level of roughly 22 per cent at the end of 1946 to 63 per cent at the end of 1965 (see Chart I).<sup>1</sup> This rise has reflected many forces, including perhaps most importantly, the ample liquidity of the banking system at the end of World War II, the relative strength of credit demands of the private sectors of the economy to which banks lend, and the willingness of banks to accept progressively lower liquidity positions.

Commercial banks were highly liquid at the start of the postwar period, and thus were quite ready to include additional loans in their portfolios as suitable loan demands arose. The loan-deposit ratio was around historically low levels and markedly below the general range that prevailed during the 1920's.<sup>2</sup> On the one hand, bank portfolios in 1946 reflected a lack of private credit demands both in

<sup>1</sup> The loan-deposit ratio is defined in this article as total loans less loans to banks and loans to brokers and dealers divided by total deposits less cash items in the process of collection. Loans to banks and to brokers and dealers are netted from total loans since they are used by banks to adjust temporary variations in reserve positions. Cash items in the process of collection are netted from total deposits in order to avoid counting twice funds that have not been cleared. Ratios for 1946 and 1947 are estimated because data neither for dealer and broker loans nor for cash items are available for those years.

<sup>2</sup> At all member banks, for example, the loan-deposit ratio in 1946 was 21 per cent, compared with 55 per cent in 1928. (Due to data limitations, the deposit figure does not exclude cash items in the process of collection for either year.)

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the 1930's, when business activity was depressed, and in the war years, when private spending was limited and selective credit controls were in operation. On the other hand, commercial banks held substantial amounts of United States Government securities stemming from bank participation in wartime Government financing. Indeed, banks appeared so well supplied with liquidity at the end of World War II that the possibility of the banking system becoming "loaned up" seemed highly improbable.

As it turned out, the United States made a rapid transition to a peacetime economy. In the first postwar year, total net funds raised by the private nonfinancial sectors<sup>3</sup> in the credit and equity markets (including bank borrow-

ings) amounted to only \$18.4 billion (see Chart I). However, as economic activity expanded and the large stocks of private liquidity accumulated during the war were gradually drawn down, borrowings by the private sector grew steadily, and by 1965 reached \$61.3 billion. Over the entire interval, in contrast, net funds raised by the combined United States Government and state and local government sectors—borrowers who provide the bulk of the banks' securities investments—have loomed considerably smaller in the total credit picture, and have expanded at a much slower rate than the net funds raised by the private nonfinancial sector. It seems clear, therefore, that the composition of postwar credit demands was favorable to, if not a compelling reason for, increases in bank loan-deposit ratios.

Banks met the private demands for loans in part by reducing their holdings of Government securities. At the same time, banks received a steady inflow of funds as deposits in the banking system grew quite rapidly through 1951. Subsequently, however, the Federal Reserve System reduced the rate at which reserves were provided to the banking system, and bank deposits rose more slowly. Accordingly, by the end of 1953, the loan-deposit ratio of all commercial banks had advanced almost to a level of 40 per cent, about double the 1946 figure. The possibility that banks could run into a liquidity problem no longer seemed a purely academic question, and was clearly highlighted by the falling prices of Government securities accompanying the continuing bank sales of these obligations. To be sure, even in retrospect, it is difficult to identify when banks might be approaching a loaned-up position. Nevertheless, by the mid- and late 1950's, it appears that a point was reached where some banks became concerned about their rising loan-deposit ratios and at times limited new lending for this reason. Thus, for example, in a survey of bankers' lending and investing objectives during 1959, several bankers noted that their lending policies had been partly conditioned by the prevailing composition of their portfolios. In particular, one banker looking back on the 1959 experience commented that: "When for twenty years loans have consistently been less than 40 per cent of deposits you begin to feel tight when they get to about 50 per cent, even though in retrospect we could legitimately have justified an even higher level."<sup>4</sup>

However, despite the apparent uneasiness that some banks felt at times with respect to the level of their loan-

<sup>3</sup> The private nonfinancial group of borrowers includes all nonfinancial businesses, households, and foreign borrowers.

<sup>4</sup> Douglas A. Hayes, *Banking Lending Policies* (Bureau of Business Research, University of Michigan, 1964), page 217.

deposit ratios, these ratios have continued to push higher. This probably reflects in part the gradual acceptance by bankers of levels of loan-deposit ratios which at first seemed high. That these higher ratios did not present any serious problems during the postwar recessions no doubt proved reassuring to many. And, of course, bankers were gaining additional confidence in the stability of the economy and in the national commitment to carry out countercyclical policies.

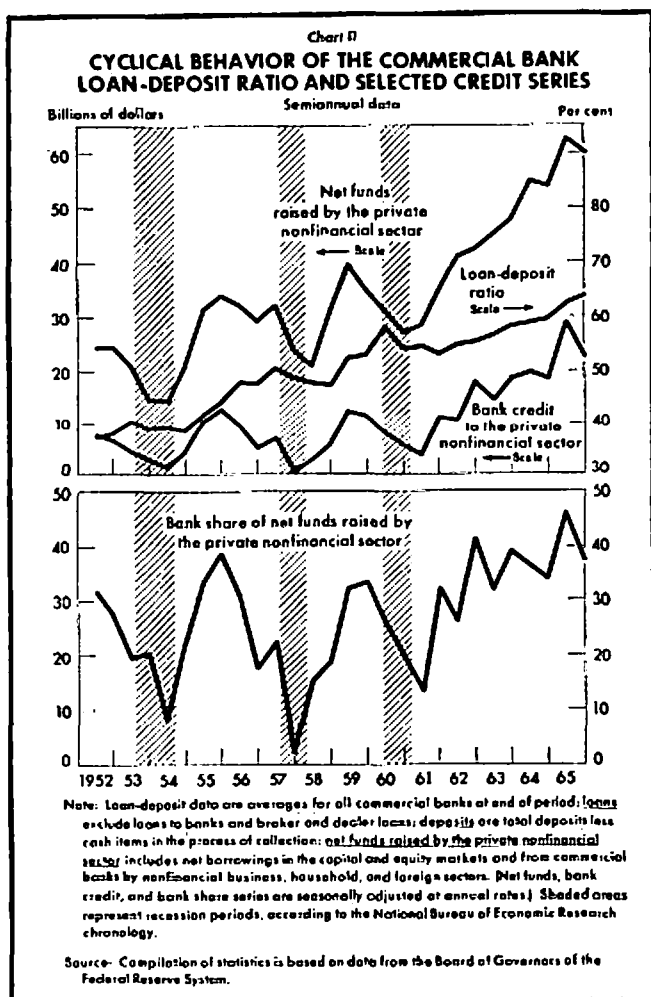
### CYCLICAL MOVEMENTS

The only significant interruptions in the long postwar climb of the loan-deposit ratio occurred during the four postwar recessions in economic activity. During each of these periods, the ratio leveled off or fell back slightly. With the subsequent recovery of business activity, the

loan-deposit ratio began to rise once more and, of course, eventually passed its previous peak. To a considerable degree, this cyclical pattern can be explained in terms of the behavior of loan demands coupled with the desire of banks to meet the bulk of these demands in order both to preserve existing and to establish new long-term customer relationships. Variations in monetary policy, however, also have had an influence on the cyclical movements in the loan-deposit ratio, particularly on the timing of the upper turning points of the ratio.

The rise in the private nonfinancial sector's credit demands in the early stages of the business expansion and the subsequent decline in such demands through the ensuing downturn in business activity are clearly reflected in the flow of bank credit to this sector (see Chart II). The resulting general influence on the loan-deposit ratio, moreover, is reinforced by a similar cyclical pattern in the bank share of the total net funds raised by the private nonfinancial sector (Chart II, lower panel). The cyclical behavior of the bank share may partly reflect the timing of certain components of aggregate spending that rely relatively heavily on bank borrowing and whose own rate of expansion (or contraction) leads the pace of economic activity. Business inventory outlays provide such an example. In addition, during periods of low business activity, borrowers may seek to refinance outstanding bank loans with more permanent debt in order to take advantage of lower prevailing interest rate levels, and thus banks then provide a smaller share of the private sector's credit needs.<sup>5</sup>

The cyclical behavior of loan demand is not the sole determinant of the cyclical behavior of the loan-deposit ratio, however. This is evident from the fact that while both private credit demands and the bank share of these demands have tended to peak before the peak in general business, the loan-deposit ratio continues to rise during the late stages of the expansion, peaking at about the same time that the economy as a whole reaches its upper turning point. The expansion of the loan-deposit ratio beyond the point where private credit demands have already begun to decline probably reflects in part the slower growth of reserves that has typically characterized the late stages of business expansions and which, in turn, reflects a relatively more restrictive monetary policy. With the flow of new reserves reduced, banks find that they need to sell



<sup>5</sup> See George Budzicka, "Commercial Banks as Suppliers of Capital Funds to Business", this *Review* (December 1963), pages 185-89, reprinted in this Bank's *Essays in Money and Credit* (December 1964), pages 67-71.

or run off part of their holdings of Government and other securities in order to obtain the funds to accommodate existing loan demands. Accordingly, although the rate of new additions to bank loans drops off, there occurs a correspondingly greater decline in deposit growth—at times, an actual reduction in total bank deposits—and the loan-deposit ratio advances further.

#### THE CURRENT EXPANSION

Since the prior peak in economic activity in mid-1960, the commercial bank loan-deposit ratio has followed the same general pattern of movements established during the three earlier postwar cycles. Thus, the ratio edged lower in the 1960-61 recession and then resumed its upward course as the expansion got under way. In the current expansion, however, credit demands of the private nonfinancial sector have recorded a much stronger and better sustained advance than during any of the previous postwar business upturns. At the same time, the share of the borrowings of this sector supplied by the commercial banks has been consistently near previous postwar highs, since banks have expanded their activities in such fields as consumer, real estate, and farm lending while filling a sizable portion of business credit needs.<sup>6</sup>

The willingness of banks thus far to permit progressive increases in their loan-deposit ratios raises the question of what factors may have enabled bank managements to accept values of this ratio unprecedented in the experience of many present-day bankers. Perhaps the most important influences of a general nature have been the over-all improvement in the "science" of bank management and the steady, orderly, and thus far noninflationary pace of the current economic expansion. Both these developments have made it significantly easier for individual banks to project their cash requirements and thus have reduced liquidity needs.

Of course there are still sizable unpredicted variations in deposit levels and loan demands. The creation and broadening of a number of markets for various short-term instruments have contributed to the banks' ability to adjust to such variations and hence have also been a factor in the willingness of bankers to permit loan-deposit ratios to rise to new postwar highs. An important example of this development has taken place in the market for

Federal funds—member bank balances held at Federal Reserve Banks. The growth of the Federal funds market has led effectively to a greater integration of this country's predominantly unit banking system, so that banks needing reserves can buy (borrow) them from banks with a reserve surplus. The growing participation, even of fairly small banks, in this market has reduced the need for individual banks to hold large amounts of liquid assets as a buffer against possible variations in reserve positions. As a result, banks are willing to place a larger proportion of their earning assets into loans.

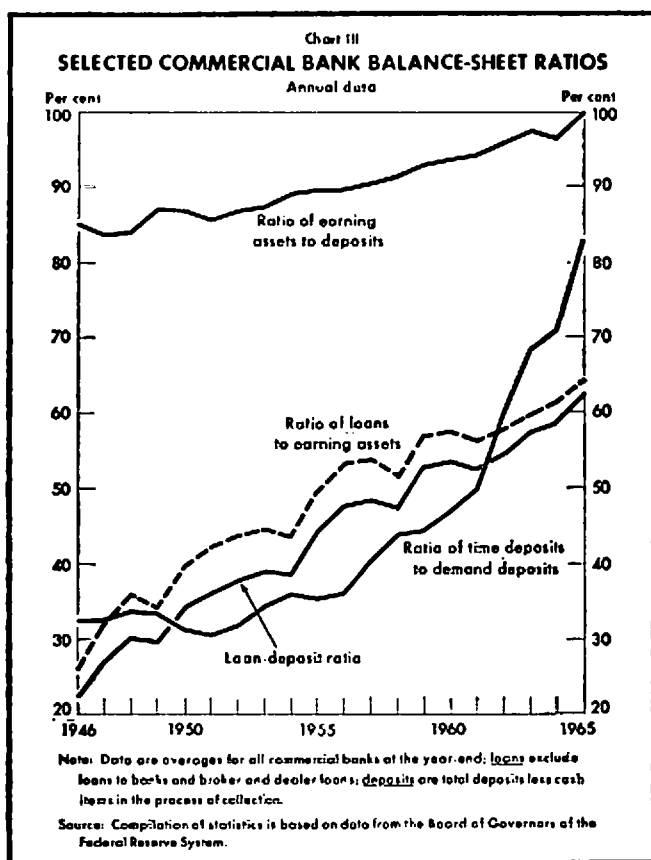
Similarly, the development or broadening of markets for various other short-term instruments has also provided banks with a variety of avenues by which they can adjust their reserve positions. Such markets include those for time certificates of deposit and short-term obligations of Governmental agencies.<sup>7</sup> In addition, the Euro-dollar market is being used by major banks as an alternate source for short-term funds. For example, the overseas branches of the major international banks in the United States acquire dollar balances in the Euro-dollar market for deposit at their head offices whenever differentials between rates in our money market and foreign deposit markets for dollar balances make such transactions attractive. Finally, a market has arisen in the last two years for short-term notes issued by banks. These various markets have grown, not only in terms of the dollar volume of the instruments outstanding, but also in terms of the number of participants. As a result, they function with a high level of efficiency, providing banks (and others) with a greater degree of confidence that they will be able to obtain cash balances with only a minimum amount of risk and cost involved.

#### INFLUENCE OF CHANGES IN COMPOSITION OF BANK LIABILITIES AND ASSETS

**TIME AND SAVINGS DEPOSITS.** There is widespread agreement that the rise in the commercial bank loan-deposit ratio in recent years has been influenced by the rapid increase in time and savings deposits relative to demand deposits. At the end of 1946, time and savings deposits were equal to roughly 30 per cent of total commercial

<sup>6</sup> See William F. Treiber, "Recent Trends in Commercial Bank Lending and Borrowing", *Proceedings: Eighteenth National Credit Conference*, American Bankers Association, New York City, January 31, 1966 (also in this *Review*, February 1966, pages 27-32).

<sup>7</sup> The relative growth of these instruments was described by Robert W. Stone, "The Changing Structure of the Money Market", *Papers and Proceedings of the Twenty-third Annual Meeting of the American Finance Association*, Chicago, Illinois, December 28-30, 1964 (printed in the *Journal of Finance*, May 1965, pages 229-38, and in this *Review*, February 1965, pages 32-38).



bank demand deposits, and were only slightly more than 35 per cent at the end of 1956 (see Chart III). Since 1956, the maximum rates payable on member bank interest-bearing deposits under the Board of Governors' Regulation Q has been raised five times. And in 1961, the nation's larger banks started to seek aggressively interest-bearing deposits, particularly in the form of negotiable certificates of deposit. These developments enabled banks to become increasingly competitive for the liquid funds of the economy and thus by the end of 1965 commercial bank time and savings deposits were nearly 83 per cent of total demand deposits.

The sharp advance in time and savings deposits no doubt has increased the ability of banks to predict the over-all levels of their total deposits. This is particularly true for individual savings accounts (which made up about 28 per cent of commercial bank total deposits at the end of 1965), since these deposits do exhibit a smaller degree of variation than demand deposits. On the other hand, time deposits held by interest-sensitive customers may

actually be more volatile than demand deposits.<sup>8</sup> Nevertheless, because these deposits have definite maturities, banks do at least know when such deposits might be lost. In all, the reduction in the uncertainty of deposit levels associated with the strength of time and savings deposits has probably led many banks to accept a smaller proportion of liquid assets in their portfolios and to maintain higher loan-deposit ratios.

Moreover, reserve requirements against member bank time and savings accounts are lower than those against demand deposits. Thus, the strong gains in time and savings deposits have permitted a gain in total bank earning assets relative to deposits (see Chart III). In addition, decreases in the statutory member bank reserve requirements have also enabled banks to expand earning assets relative to total deposits. There is, of course, no reason to assume mechanically that reductions in the relative importance of required reserves would be offset by increases in the relative importance of loans rather than investments. Nevertheless, at least in statistical terms, the fall in the ratio of these reserves to total bank assets has been equivalent to about one third of the over-all rise in the commercial bank loan-deposit ratio since 1960. The rest of the gain has stemmed from a change in the composition of bank portfolios toward loans (see Chart III).

**CHANGING BANK ASSETS.** A different structuring of bank portfolios over the past several years may also be a factor associated with a rising loan-deposit ratio. The available data on commercial bank assets, unfortunately, are not sufficiently disaggregated to permit more than a few observations: First, banks now hold a much wider variety of short-term assets which have considerable liquidity. Such assets include short-term obligations of Federal, state, and local governments and of Governmental agencies and loans to brokers and dealers and other financial institutions. These short-term liquid assets have apparently increased as a percentage of deposits since the mid-1950's, and accordingly have compensated for some of the loss of liquidity associated with rising loan-deposit ratios.<sup>9</sup> Second, some loans that banks now hold are guaranteed or insured by Federal agencies, are fairly readily marketable,

<sup>8</sup> See, George R. Morrison and Richard T. Selden, *Time Deposit Growth and the Employment of Bank Funds* (Association of Reserve City Bankers, Chicago 1965), pages 12-19.

<sup>9</sup> Commercial bank holdings of short-term United States Government securities (maturing within one year), broker and dealer loans, and loans to banks amounted to 9.3 per cent of total deposits in June 1965, compared with 9.0 per cent in June 1960 and 5.2 per cent in June 1957. On the other hand, the ratio in June 1953 and June 1948 was 18.2 per cent and 14.5 per cent, respectively.

and thus at least in these respects may have more in common with long-term investments than with loans. (In mid-1965, over 20 per cent of the real estate loans held by commercial banks were insured by the Federal Housing Administration or the Veterans Administration.) Third, banks may now be willing to operate with higher loan-deposit ratios since a substantial amount of liquidity is provided by the regular cash flow arising from amortized loans. Amortization features appear in consumer instalment loan contracts, real estate loans, and business term loans. In 1965 these loans made up a sizable share of total commercial bank loans.<sup>10</sup> Finally, the use of loan participation agreements between banks permits them to maintain higher loan-deposit ratios and still be ready to accommodate the potential needs of their more important customers.

It should be noted, of course, that some changes in the structure of bank assets may actually have made higher loan-deposit ratios *less* acceptable to banks. The increase of state and local obligations or other investments relative to United States Government securities, for example, may have raised the average risk of bank investments and thus reduced the willingness of banks to maintain high loan-deposit ratios. Moreover, there has been some indication that bank municipal portfolios have been shifting recently toward relatively longer maturity and lower rated securities.<sup>11</sup> Another factor which may have tended to reduce the attractiveness of higher loan-deposit ratios is the expanded use of term lending agreements. As noted above, such agreements do provide a steady flow of liquidity through their amortization provisions. At the same time, however, term loans increase the average maturity of total bank loans and, for that reason, presumably add to the risk of loan portfolios.

<sup>10</sup> In June 1965, consumer instalment loans and real estate loans were 14.4 per cent and 24.5 per cent of total loans, respectively. Data on term loans of all commercial banks are not available. However, at major New York City banks, term loans were over 60 per cent of all business loans in 1965.

<sup>11</sup> Federal Reserve Bank of Cleveland, "Another Look at Municipal Portfolios" (November 1965), pages 21-27.

#### CONCLUDING COMMENT

Bank attitudes toward their individual loan-deposit ratios have obviously undergone considerable change in the postwar period. It is clear that many banks are now willing to operate with higher loan-deposit ratios than they would have thought appropriate even at the close of the 1950's. Nevertheless, although the loan-deposit ratio has been a highly flexible element in the portfolio decisions of many banks, the ratio remains a significant criterion in determining over-all lending and investing policies for a large number of banks.<sup>12</sup> At current levels, many banks again seem to be questioning the desirability of still further rises in their ratios. While the loan-deposit ratio has very definite limitations as a measure of bank liquidity, a point can be reached where prudence dictates that the individual bank should go no further. Bankers are probably aware that what seem reliable sources of liquidity may prove less than sufficient when many banks are relying on the same sources—a case in point is the competition for liquid balances of corporations—and some of these sources may be actually shrinking. Bankers are also aware that borrowings from the Federal Reserve Banks are available only under the conditions stipulated in Regulation A governing the use of the "discount window".

To the extent that banks are again giving careful attention to their loan-deposit ratios, loan accommodations are becoming more closely geared to the over-all growth of bank deposits, which in turn is heavily influenced by Federal Reserve policy. Such a development might be expected to be accompanied by more selective credit policies on the part of banks in choosing among their many applicants for credit.

<sup>12</sup> The relative frequency of the use of the loan-deposit ratio as a guide for individual bank lending policies is noted in Jules F. Bogen, *The Changing Composition of Bank Assets* (Graduate School of Business Administration, New York University, New York, 1961), page 32, and in George R. Morrison and Richard T. Selden, *op. cit.*, page 35.