Commercial Banks and the Government Securities Market

By JOSEPH SCHERER*

Commercial banks are a dominant force in the market for United States Government securities. They are still the largest single ownership group, even though their holdings have declined in the postwar years, both absolutely and as a percentage of the total Federal debt outstanding. And, aside from dealers and brokers, banks are also the heaviest participants in the Government securities market, buying and selling for their own account and as agents for their customers. Moreover, the United States Government securities market is itself the largest and most active financial market in the country. For instance, in 1967 the dollar value of total trading in Government securities far exceeded the volume of trading on the registered stock exchanges.

Marketable Government obligations serve a variety of purposes in the portfolios of commercial banks. Most obviously, these investments are an important source of income. In 1967, for example, the interest earned by commercial banks on their portfolios of Government securities exceeded $2½ billion, almost 14 per cent of bank earnings from total loans and investments. In addition to providing income, Government securities—especially short and intermediate maturities—provide liquidity because they are the most readily marketable of all fixed-income securities. Consequently, the United States Government securities market is a principal avenue by which banks adjust their reserve positions. Moreover, as a matter of convenience, commercial bank borrowings from the Federal Reserve "discount window" in recent years have been secured chiefly by Government obligations rather than by rediscounting commercial paper. Government securities are also used as a temporary haven for funds in order to secure income at times when demand for bank loans is low, either for seasonal or cyclical reasons. Finally, they serve as collateral to secure governmental (Federal, state, and local) bank deposits, which typically require such protection. Over time, of course, there is considerable shifting in the relative importance of each of these motives for purchasing and holding United States Government securities. Banks, of course, also invest and trade in these securities for their trust accounts, but this article deals only with banks' direct holdings.

In managing its portfolio of Government securities to serve these various objectives, the individual bank must constantly reassess its position and decide what avenues, singly or in combination, it will choose to achieve its objectives. Thus, the passage of time automatically shortens the maturity composition of a bank's holdings without any overt action by the bank. On the other hand, decisions must be made, and implemented, if a bank wishes to acquire new issues offered for cash and exchange by the Treasury. Finally, a bank must weigh the relative attractiveness of making adjustments in its portfolio through the purchase or sale of outstanding issues in the secondary market. This article does not explore the decision-making process of an individual bank; rather it is concerned with explaining the observed variations in the holdings of United States Government securities of the commercial banking system as a whole.

Unfortunately, the standard published data on bank holdings of Government securities are inadequate for properly identifying the factors which, in the aggregate, explain the changes in bank holdings. A retabulation of the available data, however, makes it possible to assess the relative importance of new Treasury borrowings, of the progression of outstanding issues toward maturity, and of secondary market activity of commercial banks on changes in the level of total bank holdings and in the level of holdings in particular maturity classes. Failure to account explicitly for these influences—in particular the passage of time—may introduce significant errors.

Some of the highlights of this study are briefly summarized here. The most important single factor influenc-

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ing the *level* of total bank holdings of Government securities since 1951, as well as holdings in broad maturity sectors, has been bank acquisition of new securities in Treasury financings in both cash operations and exchange operations. Acquisition of new issues has averaged about $8 billion per quarter. Second in importance has been the passage of time, which has operated to reduce holdings by about $5½ billion per quarter on the average. Third in importance is net market transactions of outstanding issues, which have averaged about $2 billion of sales per quarter. The relative importance of these three factors in each of the broad maturity classifications—short, intermediate, and long—is approximately the same, although the dollar magnitudes drop off sharply in the intermediate and long sectors as compared with the short sector.

Net market transactions (purchases less sales) typically have been negative; that is, on balance, commercial banks sell more Government securities in the secondary market than they buy. Several factors help explain this statistical finding, including the special tax position of banks, the underwriting role played by banks in some Treasury operations, and the tendency of banks to liquidate holdings of Governments to undertake other bank credit activities. The timing and magnitude of bank sales of Government securities is, of course, also influenced by market conditions as they are affected by other participants in the market, including the Federal Reserve System's conduct of open market operations. However, the overall result is due entirely to net selling in the short- and intermediate-term sectors. Net market transactions in the long maturity sector, by contrast, typically have been positive; that is, on balance, the banking system buys outstanding issues over five years to maturity. The different pattern in the long sector probably stems from the relative infrequency of new issues in this maturity sector, so that banks must acquire securities in the secondary market to maintain a balanced portfolio as the erosion of time reduces their holdings in this area. In addition, the special tax position of the banks probably provides an incentive to acquire those longer issues in the market which are selling appreciably under par.

Among the three maturity classes (short, intermediate, and long) the most regular cycle-related pattern—an inverse relationship—is found in the long maturity sector, where holdings increase during the recession period and are reduced during the recovery. This pattern has been modified since the advance refunding technique was introduced in 1960. The reduction in holdings of long-term securities in the recovery period stems primarily from the movement of large amounts into the intermediate maturity classification as time passes, rather than from market sales out of banks' portfolios.

CYCLICAL PATTERN OF COMMERCIAL BANK HOLDINGS OF GOVERNMENT SECURITIES

PATTERNS BASED ON PUBLISHED DATA. For banks included in the Treasury's Survey of Ownership,[1] there has been no strong *secular* trend in total commercial bank holdings of Government securities in recent years. Since 1954, holdings have fluctuated within a band some $14 billion wide, ranging from $45 billion to $59 billion (see Chart I). Fluctuations within this band, however, display a pronounced cyclical pattern, with total holdings attaining a peak about two or three quarters after the cyclical troughs and bottoming out approximately at the cyclical peaks.

Total bank holdings of Government securities tend to trace a cyclical path roughly the inverse of that traced by bank loans. In periods of recession when loan demand is weak relative to deposit flows, banks seek other income-producing uses for their available funds and therefore add to their investment portfolios, particularly United States Government securities. Then, when business activity picks up and loan demands grow stronger, holdings of Government securities are partially liquidated to provide additional funds for financing the growing demand for loans.

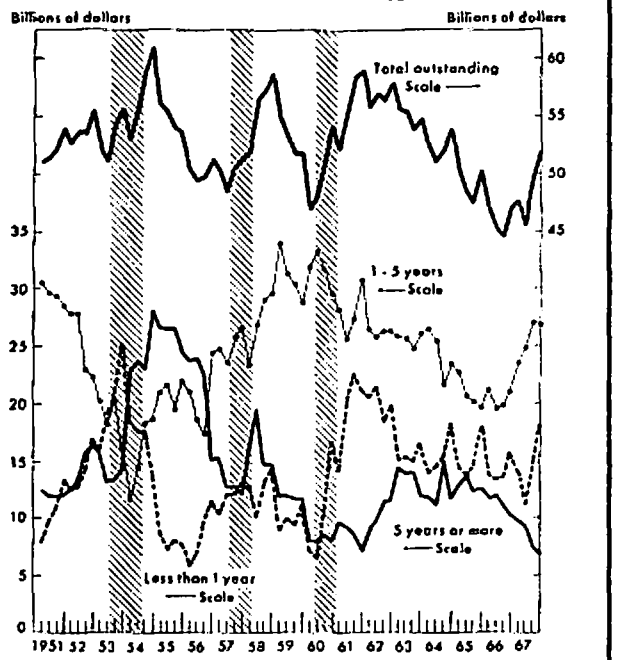
To pinpoint more precisely the avenues whereby these cyclical adjustments take place, it is necessary to examine changes in the components of total bank holdings. The conventional grouping of Government securities is by years to maturity in three categories—less than one year, one to five years, and five years or more—as shown in Chart I. While these series provide valuable information, at times they are subject to misinterpretation. In subsequent sections, the interpretation of these data will be discussed, and new data will be presented to picture more accurately some of the factors that influence the level of commercial bank holdings of Government securities.

The component displaying the strongest cycle-related pattern, again an inverse relationship to business activity, is the long-term maturity sector (five years or more to maturity) in which holdings increase for about four quarters after each cyclical peak, and then as the next cyclical peak is approached bank holdings of these long-term

[1] Although the survey includes only about 6,000 out of an approximate 14,000 commercial banks, the marketable Government securities held by these reporting banks represent about 90 per cent of the total held by commercial banks. Consequently, the survey data are a good proxy for the holdings of the entire commercial banking system.

Chart I

COMMERCIAL BANK HOLDINGS OF MARKETABLE UNITED STATES GOVERNMENT SECURITIES



Note: Shaded areas represent recession periods, according to the National Bureau of Economic Research chronology.

Source: United States Department of the Treasury, Treasury Bulletin.

Government securities decline. Two factors work in tandem to create this pattern. First, during the postwar period the Treasury confined most of its offerings of long-term securities to recession periods, because at that time the supply of long-term funds seeking investment outlets was large as compared with the demand for such funds. Long-term rates tend to be low, thus minimizing the longer run cost of carrying the debt. Second, as already noted, during periods of recession banks are eager to find investment outlets for idle funds, since the demand for bank loans is relatively slack at such a time. While this pattern has been modified to some extent with the introduction by the Treasury of the advance refunding technique in 1960, the basic contour remains essentially unchanged.[2]

A problem arises, however, in using the standard series for the outstanding long-term securities, because a reduction in the amount of bank holdings of such securities is often interpreted as a *market* sale of these securities when in fact this is not the reason for the decline in holdings. Some observers of this cyclical pattern of increase in bank holdings of long-term Governments in periods of recession and of reduction of holdings as a cyclical peak approaches have wondered whether such behavior is not questionable from a profit-maximizing point of view. This view, that banks frequently liquidate large amounts of long-term Government securities at a loss to finance their loan expansion, is examined critically in a later section.

The cyclical pattern of holdings becomes less regular when bank holdings of Government obligations in other than the long maturity sector are examined. For the years just prior to the cyclical peak in 1957, the decline in Government securities, which was concentrated mainly in the long sector, appears to have been partially offset by additions to bank holdings in the intermediate maturity sector (one to five years to maturity) and to a lesser extent in the short maturity sector (less than one year to maturity). On the other hand, in the years just prior to the 1960 cyclical peak, bank liquidation of Government securities was concentrated about equally in the short sector and the long sector, while the intermediate sector showed substantial, though irregular, increases. In summary, then, only the long maturity category regularly shows consistent declines as the cyclical peak is approached (except for the period when advance refundings have modified the pattern for this maturity sector).

What lies behind this diversity of movement among the three maturity sectors? In part, different patterns reflect the special influences in each maturity sector as, for example, those already mentioned for the long maturity sector. But these special influences do not account for all the differences. Some of the alleged differences can be attributed to the data which are not always in the appropriate form for the problem under investigation.

Bank holdings of Government securities, as shown on Chart I, give the *level* of bank holdings of these securities. But changes in the levels for any maturity sector, or for the total, do not necessarily reflect market activity, i.e., purchases and sales of outstanding securities. To analyze properly the changes in the level of holdings in each of the standard maturity classifications, data in the Treasury's Survey of Ownership must be reclassified to separate three different factors: (1) changes due to purchases and sales of *outstanding* issues, (2) changes due to new issues acquired through Treasury cash financings and exchange operations, and (3) changes due to the inevitable impact of the passage of time which moves outstanding issues into ever-shorter maturity classifications

[2] In an advance refunding, the Treasury offers owners of a given issue which still has some time to run the opportunity to exchange their holdings for securities of longer maturity.

until the issues reach final maturity and are redeemed. Such a reclassification of the available data can be made by tracing what happens over time to each individual issue as reported in the Treasury's Survey of Ownership.

PATTERNS BASED ON RECLASSIFIED DATA. The results of such a reclassification of the data for total holdings are summarized in Chart II. Almost invariably, the acquisition of new issues in Treasury financings for cash and exchange has constituted the largest single factor affecting the size of bank holdings. In most quarters, purchases of new issues (for cash and exchange) run between $6 billion to $10 billion; occasionally, such purchases have totaled $14 billion. To a considerable extent, purchases on such a scale are inevitable, even when the banking system is reducing its total holdings, because the passage of time carries large blocks of securities to final maturity and banks generally do not want to reduce their holdings by the full amount of the maturing issues.

Runoffs of issues due to the passage of time, on the other hand, generally range from $4 billion to $8 billion per quarter. These include, not only Treasury bill issues, but also large amounts of coupon issues which have reached maturity. Finally, market sales of outstandings usually are greater than purchases, so that *net* secondary market activity (purchases less sales) is almost always negative—that is, on balance, the banking system is almost always selling in the market for its own account. Such selling generally ranged between $1 billion to $3 billion per quarter prior to 1958 and from $2 billion to $4 billion from 1958-67.

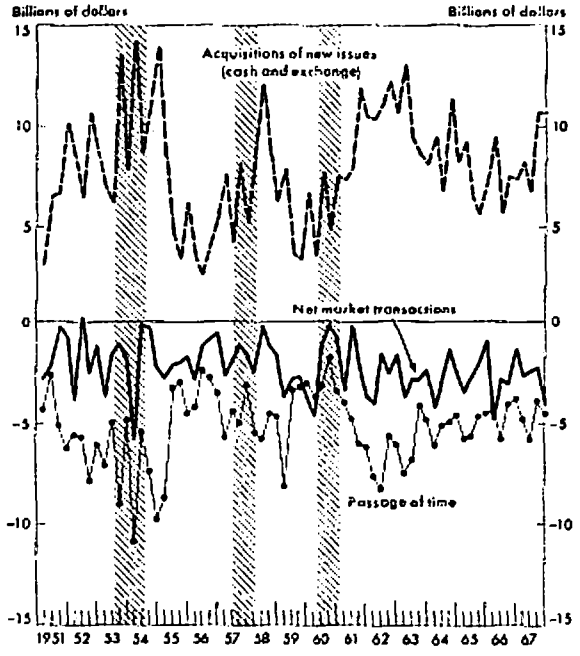
In a broad overview, then, the portfolio of Government obligations is continuously subject to large-scale reductions in size and to marked shortening of the maturity structure because of the automatic erosion stemming from the passage of time. New Treasury financings and the passage of time frequently account for a larger share of the changes in the level of bank holdings than secondary market purchases and sales. Nonetheless, market transactions play a critical role in the management of the portfolio. The ready marketability of Government securities provides the most flexible avenue for portfolio adjustments to meet the varying needs of banks responding to their own changing situations—changes which are related not only to local influences but also to developments in the economy as a whole, including monetary policy developments. Without an efficient secondary market in Government securities, the role of these securities as a liquidity instrument would be appreciably reduced.

Short maturity sector. A complex picture emerges from an examination of specific maturity sectors. The patterns in the short maturity sector (less than one year to maturity) are generally similar to those already described for the total, except that the dollar totals in each category are somewhat smaller than those for the same category of total holdings. Acquisition of new issues in Treasury financings—cash and exchange—is the largest single variable (see Chart III). Activity in bill issues is always heavy, even in periods when total holdings of Governments are unchanged, or declining, because large amounts of bills are maturing every week. Banks are likely to replace maturing bills, at least to some extent, by new purchases in the bill auctions. During most of the period since 1950, purchases of new short-term issues for cash and in exchanges have ranged between $4 billion to $8 billion per quarter, although at times they have fallen as low as $3 billion and risen as high as $11 billion. On the other hand, the banking system, on balance, sells more short-term securities in the secondary market than it buys, generally supplying (net) from $1 billion to $3 billion per quarter.

Passage of time in the short maturity sector typically

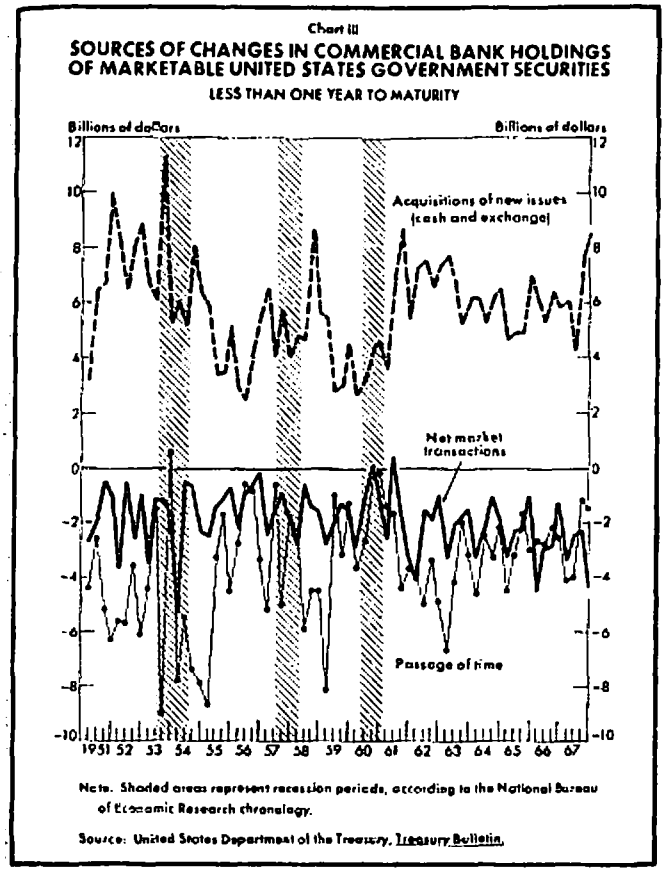
Chart II

SOURCES OF CHANGES IN COMMERCIAL BANK HOLDINGS OF TOTAL MARKETABLE UNITED STATES GOVERNMENT SECURITIES



Note: Shaded areas represent recession periods, according to the National Bureau of Economic Research chronology.

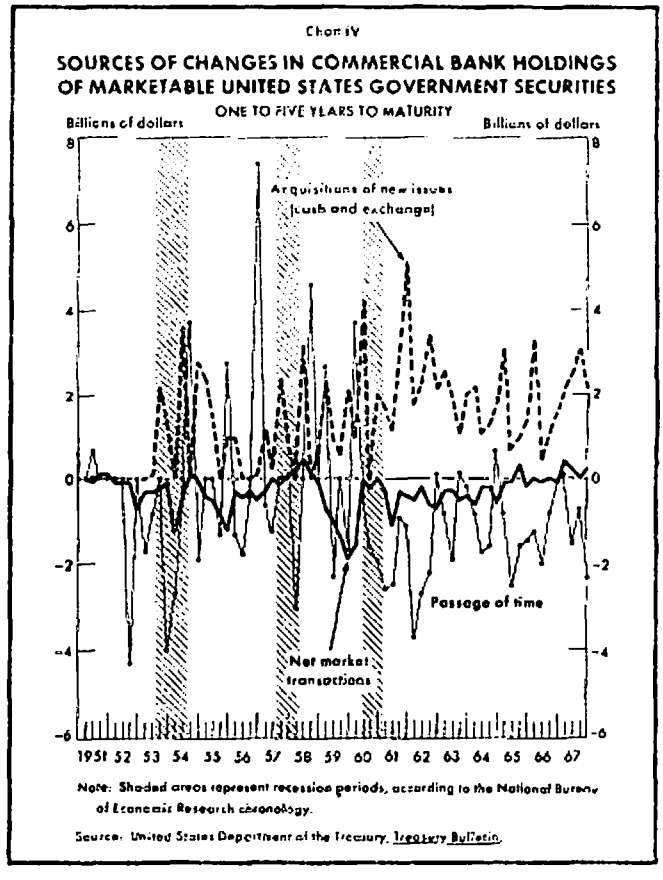
Source: United States Department of the Treasury, Treasury Bulletin.



operates to run off securities in amounts ranging from $1 billion to $5 billion per quarter, although the actual spread varies from a gain of $½ billion to a runoff of more than $9 billion. The wide variability of passage of time, with fairly wide fluctuations from one quarter to the next, stems from two opposing forces at work in this sector. There are always large amounts of securities reaching maturity, both bills and coupon issues; but as time passes there are also large amounts of securities dropping into this maturity sector from the intermediate maturity sector (one to five years to maturity). Occasionally, therefore, passage of time actually adds to the total holdings in the short sector because the drop-ins exceed the runoffs. Thus, specific allowance must be made for the impact of the passage of time if all the important factors at work influencing the size and maturity distribution of these holdings are to be identified. This factor, however, is generally more important for analyzing the changes taking place in the longer maturity sectors, as noted below.

Intermediate maturity sector. In the intermediate maturity sector, as in the short maturity sector, passage of time is two directional: that is, large blocks of issues periodically fall out of the long maturity sector adding to the intermediate sector, while at the other end large blocks of intermediate issues move into the short sector. The interplay of these two forces in the intermediate sector produces results much more varied from those shown in the short sector. Passage of time has a very irregular influence, at times adding and at times subtracting large or small amounts (see Chart IV). Passage of time usually ranges from losses to the intermediate sector of more than $4 billion to gains of the same amount. In one instance, gains almost reached $7.5 billion. A change of $4 billion from one quarter to the next is not at all unusual. Indeed, in many quarters passage of time is the most important single influence on the level of intermediate-term holdings.

Passage of time also accounts for much of the apparent anomaly noted earlier—that, even though *total* bank holdings of Government securities were declining as the 1957 cyclical peak was approaching the normal pattern for total



holdings over the cycle, bank holdings of intermediate Government securities were increasing. The increase in holdings of intermediate securities at that time stemmed from the unusually large block—almost $7.5 billion—of long-term securities which dropped into the intermediate sector just a few quarters before the 1957 peak.

It is to be expected that secondary market activity in the intermediate sector should run considerably smaller than in the short sector. Similar to the short maturity sector, purchases of outstanding issues are typically much smaller than sales, so that net market activity is almost always on the selling side and generally amounts to less than $1 billion per quarter. However, net market sales ranged between $1 billion to $2 billion during 1959 and 1960, coinciding with the period when total outstandings in this maturity sector were at a peak.

Long maturity sector. The long maturity sector often attracts much attention because the cyclical pattern of total bank holdings of Government securities seems to be reflected most strongly and regularly in this sector. It was noted earlier that banks increase their holdings of long Government securities for several quarters after the cyclical peak and then reduce their holdings during the business expansion. As shown in Chart V, the increase in holdings occurs primarily through the acquisition of new issues, either for cash or exchange, via Treasury financings, followed by long periods of inactivity during which the Treasury offers no further new issues in this maturity category (again, with the exception of the period since the advance refunding technique was introduced).

Contrary to widely held views, the reduction in holdings in this sector as the business expansion proceeds is not accomplished primarily by sales of outstanding issues in the secondary market. Instead, the reduction mainly arises from the heavy shift of securities from this sector to the intermediate sector due to the passage of time, which inexorably shortens the maturity of every security once it is issued. Generally, large blocks of securities, often totaling more than $2 billion per quarter, move out of this sector in at least two quarters of each year and drop into the intermediate maturity classification.

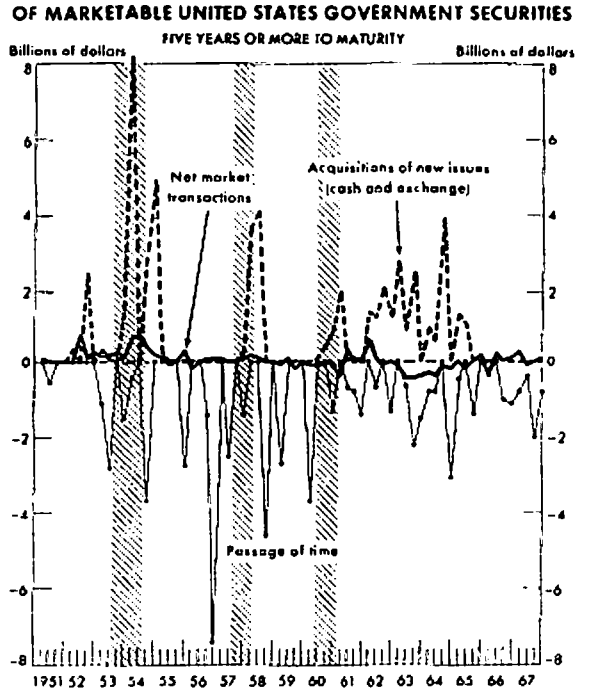
It is now possible to explain why banks buy long-term Government securities during recession when interest rates are low to earn some income and then appear to sell them at a loss during the recovery when they seek additional funds to help finance loan expansion. The evidence cited for this seemingly irrational behavior is the decline in bank holdings of long-term securities—those classified as five years or more to maturity. But, in fact, the bulk of the reduction of bank holdings in the long maturity sector does not come through market sales but through the passage of time. Liquidation of total bank holdings through market sales takes place primarily in the short and intermediate maturity sectors, as shown above.

Despite the overriding importance of Treasury financings and the passage of time, market purchases and sales do play a significant role. In part, the amount of market activity is a function of the total amount outstanding in the sector, so that activity tended to be smaller during the midfifties when the amount outstanding was particularly small as compared with the years preceding or following the midfifties. Unlike the other maturity sectors, however, net market activity is frequently on the buying side, which probably reflects, at least to some extent, the relative infrequency of new long-term Treasury offerings.

Market purchases and sales of long-term Treasury issues, as in other maturity sectors, provide an avenue whereby banks can adjust their portfolios whenever they find that their holdings are not at desired levels or well balanced in their maturity distribution. A bank may use the market to adjust its position when securities acquired

Chart V

SOURCES OF CHANGES IN COMMERCIAL BANK HOLDINGS OF MARKETABLE UNITED STATES GOVERNMENT SECURITIES



Note: Shaded areas represent recession periods, according to the National Bureau of Economic Research chronology.

Source: United States Department of the Treasury, Treasury Bulletin.

in a new financing exceed its needs—a situation which may prevail when a new financing for cash allows a bank to pay for its purchases by crediting its Tax and Loan Account. Likewise, a bank may use the market to increase its holdings when it acquires less than it desires of a security because the allotment turns out to be smaller than anticipated. In addition, if banks wish to restore the previous maturity mix, which has been shortened by the passage of time, there are periods when it can be accomplished only through market transactions, if no additional long-term securities are being offered by the Treasury.

A portion of the market activity recorded in Chart V (as well as the market activity in the intermediate sector, shown in Chart IV) may also arise from the fact that securities in this maturity sector at times sell at large discounts below par. Some market transactions in this sector (and in the intermediate sector) undoubtedly can be traced to the special tax position of banks. Unlike other financial institutions, banks may use the capital gains tax rate for their net long-term capital gains on Government securities and deduct losses on these securities against ordinary income subject to regular tax rates. With such tax flexibility, they can minimize the tax bite in years when sales of Government obligations are profitable by choosing the capital gains option, but in years of losses banks can deduct the full loss against other income by treating transactions in Government obligations as ordinary income.

This tax option makes long-term Government securities an attractive investment whenever a coupon issue is selling significantly below par and there still is sufficient time to run on the issue so that it may again be quoted at or near par. The tax option on Government securities also is likely to increase the total amount of *gross* market activity above that which otherwise might take place because it encourages "tax swaps". Thus, a bank might sell a particular issue of Government securities at a loss, deducting it against ordinary current income. At the same time, by simultaneously purchasing a different, though similar, issue of Government securities, which is also selling below par, the bank maintains an approximately unchanged asset position. This swap establishes the base for realizing potential capital gains in the future if the securities should rise in price because of interest rate changes. Tax swaps do not change the total amount of long-term securities held by commercial banks as a group, and consequently such transactions are not reflected in the statistics on "net market activity" by maturity classification.

CONCLUDING COMMENTS

This article has dealt with only selected aspects of the relationships between commercial banks and the United States Government securities market. It has, for instance, largely ignored the mechanisms by which policy actions of the Federal Reserve System influence the behavior of the commercial banking system in the market. Also, as noted earlier, commercial banks buy and sell Government securities for their customers, but such transactions, including those made by a bank's trust department, were not considered in this article. Instead, this article has emphasized some neglected aspects of bank operations for their own account in the Government securities market. The fact that a reworking of the available published data reveals new empirical generalizations suggests that additional insights might be obtained by further examinations of the data at a more detailed level than has been customary.