

FUNDAMENTAL REAPPRAISAL OF THE DISCOUNT MECHANISM

**DISCOUNT POLICY AND
BANK SUPERVISION**

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The following paper is one of a series prepared by the research staffs of the Board of Governors of the Federal Reserve System and of the Federal Reserve Banks and by academic economists in connection with the Fundamental Reappraisal of the Discount Mechanism.

The analyses and conclusions set forth are those of the author and do not necessarily indicate concurrence by other members of the research staffs, by the Board of Governors, or by the Federal Reserve Banks.

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by

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I. INTRODUCTION

The purpose of this study is to examine the relationship between the discount policy and bank supervision. Bank supervision, being concerned with the condition of individual components of the commercial banking system, is primarily affected by discount policy as that policy, in turn, affects the supply of funds available to individual member banks to meet anticipated demands. Any change in discount policy which increases or decreases that supply will necessarily lead to some adjustment in liquidity management for individual banks. It is one of the responsibilities of bank supervision to identify possibly needed adjustments and, where appropriate, to counsel banks how best to make them. This study considers the present approach to liquidity used by examiners for the New York Federal Reserve Bank, and compares this approach with some other liquidity standards, concluding with some comments on the consequences for the bank examiner's approach to commercial bank liquidity of proposed changes in discount policy.

A. Summary Conclusions

The changing asset structure of banks, the development of new money market instruments and the decline during the post-war period in commercial bank liquidity as measured by traditional indices have focused attention on the problem of bank liquidity. The primary responsibility for maintaining adequate liquidity rests with the individual bank; this is particularly true under the present provisions of Regulation A which provide for the extension of Federal Reserve credit only on a short-term basis except in emergency or other unusual situations. As a result, supervisors place great emphasis on liquidity in their examinations of banks. A number of liquidity formulas have been developed to assist both bank management and the examiners by providing useful reference standards for assessing and evaluating bank liquidity.

Various proposals made in connection with the overall study of the discount mechanism would liberalize the administration of the System's facilities so as to provide greater assistance to the banks in supplying funds either on a short-term basis or perhaps for longer periods of time. Any liberalization of Regulation A to permit readier access to the discount window would, of course, tend to reduce in some degree the need for member banks to make provision for their own liquidity since they could rely to a greater extent on the Reserve Bank.

Under a more liberal discount policy, the examiner's emphasis would be shifted to some degree from the short-term liquidity position, and additional emphasis would be placed on the quality and soundness of the longer-term assets, to the adequacy of capital and to the adequacy of earnings to cover the costs of borrowing. Examiners would continue to criticize any banks using the discount facilities for purposes inconsistent with statutory and regulatory requirements and sound banking principles.

B. Definition of Liquidity

Bank liquidity may be defined as the ability of a bank to meet the known and foreseeable demands for money that may be made upon it. These demands may come from the depositors or they may come from the bank's borrowing customers. A bank is considered to have an adequate liquidity position when it can meet normal cash withdrawals and requests for loans without having to sell or liquidate medium or long-term assets. Adequate liquidity can be achieved by holding, in addition to cash or its equivalent, a sufficient quantity of other highly liquid assets readily convertible into cash (secondary reserves) and by spacing maturities of loans and investments to assure the necessary inflow of cash.

Aside from the legal reserves that banks must maintain against their demand and time deposits, there are no uniform supervisory standards governing the liquidity of American banks. The responsibility for maintaining adequate liquidity is left to the individual bank, which must solve its problem in the light of the ever-changing conditions under which it operates.

The foregoing definition of liquidity is asset-oriented and suggests that banks provide for their normal liquidity needs out of their own resources. It is recognized, however, that in some instances many banks rely on borrowed funds as sources of funds for meeting deposit withdrawals and credit demands. These borrowings are of a short-term nature and include, in descending order of importance, purchase of Federal funds, loans from correspondents, sale of securities under repurchase agreements, and direct borrowings from the Reserve Banks. In recent years negotiable time certificates of deposit and Euro-dollar deposits have provided additional sources of funds. While these various types of essentially short-term funds provide a cash flow, each such short-term borrowing itself represents a requirement for liquid funds for its repayment at some near-term date. From time to time this borrowing may create problems for some or all of the banks, because sources of outside funds are not always readily available at reasonable cost in time of need.

Borrowings from the Reserve Bank or from other sources, such as those mentioned above, do provide funds to meet short-term demands. However, borrowings from the Reserve Bank differ in character from other short-term borrowings. Under the present administration of Regulation A, control of the use of the discount window rests with the Reserve Banks. In practice, banks traditionally have been reluctant to borrow from the Reserve Banks, preferring to obtain needed funds from other sources. Several of the

proposals to liberalize the use of the window might alter or at least modify bank attitudes regarding borrowings from the Reserve Banks and the use of the discount window as a "lender of last resort", and call for reconsideration of the general concept of bank liquidity.

C. Secular Trend in Commercial Bank Liquidity

Although the need to maintain adequate liquidity in individual institutions has always been present in the American banking system it has become increasingly important in the years since the end of World War II. For most of the period between 1934 and 1944, liquidity problems were generally of minor concern in the affairs of commercial banks, since the Federal Reserve System maintained a generally stimulative monetary policy and total excess reserves of member banks ranged between one and five billion dollars. Moreover, since the loan demands of business were at a low ebb, commercial banks invested heavily in United States government securities. By 1940 the volume of such Government securities held by commercial banks was nearly equal to the volume of loans in their portfolios.

The financing of the war efforts during the early 1940's greatly intensified this trend and resulted in the growth in the volume of Government securities held by commercial banks far outstripping the growth in loans. By the end of 1945, the volume of Government securities held by the commercial banks was more than $3 \frac{1}{2}$ times the aggregate of their loan portfolios. At that time liquidity, as measured by the inverse of the commonly used ratio of loans-to-deposits, amounted to 82.6 percent. Moreover, until 1951 the Federal Reserve System supported the Government securities market, so that, in effect, these securities, regardless of maturity, were fully liquid assets, being readily convertible into cash without loss.

The post-World War II period has seen an expanding economy which has sought more and more bank credit. While deposits have increased during this period, their growth has not been sufficient to provide fully for the expanding demand for credit. As this demand increased, commercial banks reduced their holdings of Government securities in order to enlarge their lending activities. Accordingly, their liquidity positions underwent a steady erosion.

This changing asset structure of the commercial banks, and the revision in 1955 of Regulation A which emphasized the responsibility of the individual banks for maintaining adequate liquidity, created interest in the development of a more sophisticated approach to the measurement of liquidity needs. Such an approach would enable both the commercial bank management and the supervisors to evaluate and discuss the liquidity position of a bank.

In 1961, negotiable certificates of deposit were introduced on a large scale, providing commercial banks with an additional source of funds, and changing somewhat the structure of their liability accounts. While this new money market instrument was designed originally as a defensive measure to protect banks from the drainage of deposits to other short-term markets, it soon came to be used in an aggressive manner. Through the use of the certificate of deposit, many banks were able to attract a large volume of deposits within a relatively short period of time, the proceeds of which were used for loan expansion by individual banks far beyond the expansion which would have been possible by the liquidation of securities. More recently the large commercial banks have looked to the Euro-dollar market as an additional source of funds.

Recourse to these new types of time deposits and other liabilities as sources of funds has made more complex the banks' problems of maintaining

adequate liquidity, and has altered to some extent the traditional methods of assessing liquidity positions. In turn, they have increased the pressure for the development of a more sophisticated approach to the measurement of liquidity needs.

II. SUPERVISORY APPROACHES TO LIQUIDITY

A. One Approach to Liquidity

Revision of Regulation A in 1955 led the Federal Reserve Bank of New York to develop a new approach to the problem of commercial bank liquidity in the examination of Second District State member banks. This included a means of measuring bank liquidity which was designed to provide non-money-market banks with a convenient method of analyzing their own situations and to assist examiners and supervisors in evaluating management's efforts in maintaining a sound liquidity position.

The liquidity formula adopted by the Federal Reserve Bank of New York in 1955 was introduced to its bank examiners by a bulletin noting that under the revision of Regulation A, "The responsibility of providing for normal seasonal swings of funds, or for finding funds to expand the loan portfolio, is placed squarely on the individual member bank." The bulletin describes the liquidity formula as a means of assisting examiners in appraising the degree to which a bank has provided itself with adequate liquidity, and as a possible guide to member banks themselves. It emphasizes that the formula does not provide a hard-and-fast rule, that it has no substitute for logical reasoning or more extensive analysis, and that it is primarily designed as a starting place or rough screening device to focus proper attention on such liquidity problems as may exist in individual commercial banks. In the following discussion of the Federal Reserve Bank of New York's liquidity formula, this emphasis on its limitations in the total evaluation of a commercial bank's liquidity is important to keep in mind. In the final evaluation of liquidity which accompanies every report of examination of a commercial bank, the New York Reserve Bank examiner brings to bear not only the results of the application

of the liquidity formula, but his knowledge of the bank's history and of the financial markets in which it operates, his understanding of the broader financial and economic developments affecting the bank's operations, the pattern of the bank's borrowings at the discount window and elsewhere, and his discussions with the management of the bank and with his colleagues in the Examinations and Discount Departments of the Federal Reserve Bank.

This liquidity formula has been refined and expanded since 1955. The instruction memorandum currently in use by the Examining Division of the New York Federal Reserve Bank, dated February 15, 1965, may be found in Appendix A. The basic principles of the formula are summarized below:

1. Rationale of the New York Reserve Bank Formula. The New York Reserve Bank's liquidity formula endeavors to evaluate a bank's liquidity requirements and position as follows:

- (a) Projects a bank's liquidity position over and above the day-to-day legal reserve requirements and minimum cash balances needed to be maintained with its correspondents.^{1/}
- (b) Projects a bank's liquidity needs on the basis of a current loss of deposits and an expansion of the loan portfolio.

^{1/} The formula and the other analyses described later in this paper generally do not take into consideration the cash flow from term and other amortizing loans which would be available for liquidity purposes. In practice, the cash flow from loans generally rolls over into new loans to maintain the volume of the loan portfolio. Nevertheless, the cash flow does provide a bank some freedom of action with respect to liquidity in that in extreme emergencies, a bank could curtail its lending activities and use the cash flow from loans as a source of funds to meet deposit withdrawals.

On the basis of these projections of liquidity position and needs a fairly comprehensive and effective appraisal of a bank's loan and investment policies is possible. The New York Reserve Bank's liquidity formula contains two principal parts, namely, an estimation of the liquidity requirements arising from fluctuations in deposit and loan demands, and the availability of liquid assets to meet such requirements. Since liquidity is needed not only for the everyday operations of a bank but also to meet future demands for funds, the formula classifies the liquidity needs and instruments held into three time categories:

Short term	Under 1 year
Medium term	1 - 2 years
Longer term	2 - 5 years

These liquidity needs and instruments are described as follows:

a. Liquidity Requirements for Deposits (Italics). The New York Reserve Bank's formula distributes deposits into three classifications based on the degree of stability. The minimum requirement for each such liquidity classification is considered to be satisfied by distributing funds so classified among short-term, medium-term and longer-term investments in specified percentages. Demand and time deposits are considered separately but the liquidity requirements depend to a greater degree upon whether such deposits are determined to be volatile, vulnerable or residual.

"Volatile" deposits are those most likely to be withdrawn and include seasonal deposits. They should be fully covered by liquid assets of the shortest maturities.

"Vulnerable" deposits are those the sudden or unexpected withdrawal of which would place heavy pressure on the bank's

liquidity position. These are usually the larger deposits, i.e., those in excess of 1/2 of 1 percent of total deposits. Deposits classified as "volatile" are deducted from the sum of the large deposits to arrive at the total of "vulnerable" deposits. The formula requires a liquidity provision of 20 percent against such deposits in the form of so-called medium-term instruments with maturities of 1 to 2 years.

"Residual" deposits are regarded as the "hard core" deposits which may be fully invested in earning assets. However, as a precaution the formula prescribes a liquidity provision of 10 percent for such deposits classified as demand and 5 percent for deposits classified as time.

In addition, the formula specifies higher liquidity requirements for certain types of deposits deemed to be subject to unusual liquidity pressures.

b. Liquidity Requirements for Portfolio (Italics). The requirements for portfolio consist of liquid funds available for the purpose of making additional loans or investments. These holdings protect a bank from having to borrow unduly or to dispose of securities, possibly at a loss, to meet possible credit needs of its customers. Loan demand is divided into three categories: Seasonal, Unexpected and Projected. The Unexpected demand represents an arbitrary figure equal to twice the bank's legal lending limit for unsecured loans. Seasonal and Unexpected loan demands require full coverage in short-term liquid instruments; the Projected demand requires 100 percent coverage, divided equally between short-term instruments and those maturing in one to two years.

The anticipated liquidity needs for deposits and portfolio are totaled for each time category to show the aggregate needs for liquid assets.

c. Liquidity Instruments Held (Italics). The liquidity instruments held are generally considered to consist of cash or bank balances (primary reserves) and investments in assets readily marketable with minimal risk of loss (secondary reserves). For purposes of liquidity analysis, such liquid assets are classified according to their remaining maturity - short-term, medium-term, and long-term.

Not all primary reserves are available for liquidity because a certain portion of the balances is required for everyday operations. Thus, only those primary reserves in excess of established working needs are considered as qualifying for liquidity purposes. Likewise, some of the secondary reserves, such as brokers loans and loans to correspondent banks, involve normal customer relationships and it is unlikely that a bank would permit them to fall below certain specified levels, except in cases of extreme contingency. Thus, the full amount of such assets should not be included as liquid assets; only the amounts in excess of the average amounts of such loans over the previous 12 months or in excess of the minimum amounts specified by the management may be considered as liquid assets.

The liquidity instruments in the three categories are totaled and any borrowings are deducted from the short-term category. Net liquidity in the three time categories is determined by deducting liquidity demands from available liquid assets.

A composite liquidity index is computed by weighting the dollar amounts of the liquidity requirements and net instruments held in each of the three time categories and comparing the total of the instruments held to the total requirements. A composite index of 100 or more is normally considered to denote adequate liquidity.

2. Other Analyses Made by Examiners in Appraising A Bank's Liquidity.

Since, as stated earlier, the New York Reserve Bank's liquidity formula serves merely as a starting point or a rule of thumb for evaluating liquidity, its examiners prepare other analyses which are equally important in the overall evaluation of a bank's liquidity position and its loan and investment policies. Such analyses include the following:

- (a) A review of the bank's procedures in computing the daily record of required and maintained reserves to determine whether or not the bank is handling its money position properly. If the review shows periodic closing of reserve periods with either deficiencies or heavy excess reserves, the situation is discussed with management and recommendations are made for correction.

- (b) A complete analysis of the bank's borrowing activities for the period between examinations, based in part on the record of the bank's borrowings from the Federal Reserve Bank, the reasons advanced for such borrowings and when appropriate, discussions with members of the Reserve Bank's Credit and Discount Department; and also including a determination of:
 - (1) the principal sources of borrowings, with particular emphasis on the volume and steadiness of the bank's utilization of the discount window as compared with purchases of Federal funds and the use of other sources of borrowings, and

- (2) whether the borrowings were used to maintain the bank's legal reserves due to seasonal deposit fluctuations, inaccurate projections of deposit and loan growth, or because of an over-extended loan and investment position.
- (c) A general review of the bank's loan and investment policies to determine the extent to which they have affected the liquidity position. Such an analysis would include a review of outstanding loan commitments, distribution of loans by type and a projection of the cash flow from the loan and investment portfolios.
- (d) Consideration of general trends in national and local economic and financial conditions, including such factors as interest rates, loan demand and the state of capital markets, that may affect liquidity.

3. Evaluation of the New York Reserve Bank's Examining Approach to Liquidity. While the liquidity formula and other analyses discussed above constitute the general approach used by the New York Reserve Bank's examiners in the appraisal of a bank's borrowings and liquidity position, the manner in which they are utilized depends largely upon the judgment of the individual examiner. In practice, the liquidity formula and other analyses are normally geared to the specific circumstances of a particular bank. The examiner's conclusions are predicated on a careful consideration of the following basic concepts with regard to the appropriate utilization of borrowed funds, regardless of source, to support a bank's operations:

- (a) That borrowings at the Reserve Bank, regardless of size, which do not conform to the 1955 revision of Regulation A, are objectionable.
- (b) That steady and somewhat heavy borrowings from sources other than the Reserve Bank may be considered a normal occurrence in banks that are active participants in the money market. The extent to which such borrowings are used to support other than money market operations is an important factor in determining whether the borrowing activities of these banks might be subject to criticism.
- (c) That steady and somewhat heavy borrowings from sources other than the Reserve Bank are objectionable if used to support unsound extensions of credit or other practices inconsistent with prudent banking.

In view of the differences in the appropriateness of borrowings and since there are wide differences in the operations of non-money market banks compared with the operations of banks connected with the money market, the approach to liquidity and borrowings in these two broad classifications of banks differs considerably and the evaluation of the approach should be reviewed accordingly.

a. Non-Money Market Banks (Italics). Traditionally, banks in this group generally have been reluctant to borrow from any source, preferring to obtain needed liquidity by making adjustments to their own loan and investment portfolios. In many cases, particularly among the smaller banks,

estimates of liquidity, needs have resulted in either very illiquid positions or, more often at the other extreme, excessive liquidity with a resultant loss of income.

The New York Reserve Bank's liquidity formula has proven to be a valuable instrument to the examiners in evaluating liquidity in this group of banks in this District. More importantly, because of its relative simplicity, it has been useful in assisting the managements of these banks to better understand their liquidity needs and the means by which such needs can be met without resorting to excessive use of the Reserve Bank's discount facilities or by selling assets at a loss. In other instances, it has helped management to recognize its excessive liquid position and to make the necessary adjustments to improve earnings. We believe that the formula has been responsible for developing a common understanding of liquidity on the part of both the examiners and bank management and for making more appropriate use of borrowings.

The Federal funds market has provided the country banks with a convenient and flexible means of adjusting their excess reserve positions. Until recent years, the country banks were largely excluded from the use of this market because of the size of the trading unit. However, with the increased demand by the large city banks for borrowed funds to maintain positions in relatively high-yielding assets, these large banks, at least in the Second Federal Reserve District, have been willing to trade in much smaller units to tap the excess reserves of even the smallest institutions. Access to the Federal funds market has enabled the country banks to put otherwise idle funds to profitable use. While these banks generally enter the market on the "selling" side, the increased knowledge of this market permits them on occasion to purchase Federal funds, thus reducing their dependency on the discount window.

Examples of the type of comments made by the New York Reserve Bank examiners in connection with non-money market banks found to have excessive liquidity positions and those with marginal liquidity positions may be found in Appendices B and C.

b. Money Market Banks (Italics). The application of the New York Reserve Bank's liquidity formula to banks in this category poses somewhat different problems. For one thing, the formula was not designed primarily for application to these large banks; for another, these banks maintain a close and continuing watch over their liquidity positions and attempt to provide the necessary liquidity through a wide variety of transactions which have not been fully recognized in the formula.

While these large banks have their normal levels of deposits of individuals, partnerships and corporations, the examiner's analysis of the liquidity position and the application of the formula is governed largely by the extent to which these banks are financing money market transactions, such as loans to U.S. Government bond dealers, operation of bond trading accounts, etc. It is generally recognized that these banks support these money market transactions by borrowing. In addition, these banks usually are actively engaged in providing correspondent bank services to banks located throughout the United States. Besides the usual correspondent bank services, the money market banks are a major source through which the country banks can adjust their reserve positions by selling Federal funds. Many of the large banks increasingly rely on the availability of such funds when projecting their own liquidity requirements.

Moreover, in recent years these large banks probably have seen greater changes in their deposit structure than the country banks and they have had to seek loanable funds by obtaining time deposits because demand deposits

have shown little growth. The time deposits generated have been largely in the form of negotiable certificates of deposit. In common with most banks, the money market banks also have seen a steady decline in their short-term liquid assets as these assets have been converted into longer-term, higher-yielding loans to offset the increased costs of their growing volume of time and savings deposits. The tight money conditions which existed in 1966 and the unstable short-term money rate structure placed severe strains on the liquidity positions of most of the money market banks. As a result, a number of these banks were forced to place greater reliance on their ability to borrow to support their heavily-invested positions in loans and securities as well as their money market activities.

Because of these conditions, the examiners have had to analyze each situation carefully and to modify the liquidity formula in order to arrive at satisfactory conclusions with respect to a money market bank's actual liquidity position. For example, the liquidity requirements against certain types of deposits, such as the negotiable certificate of deposit, did not appear realistic in the light of present day conditions and were increased. In addition, the examiners have given consideration to the relationship between the bank's activities in the money market and the volume of borrowings from all sources to support these activities.

Examples of the type of comments made by the New York Reserve Bank's examiners in connection with money market banks with adequate liquidity positions and those with tight liquidity positions may be found in Appendices D and E.

c. Summary (Italics). The New York Bank's liquidity formula has been a useful tool for both examiners and bank management in evaluating and discussing bank liquidity and borrowings, particularly in non-money market

banks. The present formula is somewhat inadequate when applied to the larger banks in part because of their increased reliance on liability management. Modifications of the formula, based in part on experience gained during the recent period of tight money, are needed to make it more effective for that purpose.

B. Other Liquidity Standards

There is a variety of ratios and other formulas used to measure bank liquidity. Probably the two ratios most widely used are the liquid assets-to-liability ratio and the loan-to-deposit ratio. The first ratio shows the relationship of the means of cash payment to the possible demands for payment. It is usually computed by taking the sum of cash and due from banks, brokers and dealers loans, and short-term Government securities, less any borrowings, as a percentage of total deposits less cash items in process of collection and reserves on deposit at the Federal Reserve Bank. The loan-to-deposit ratio, as the name implies, relates the volume of loans outstanding to the volume of deposits to indicate the extent to which deposits are tied up in relatively illiquid assets. These ratios, either used in combination or separately, are at best only rough measures of the liquidity position. They are not considered to be adequate for supervisory purposes because they omit any consideration of the flow of funds from loan repayments, the amount of funds that a bank may be called upon to supply, or the varying stability of different types of deposits.

Among the formulas in use for measuring the liquidity position are those used by the examiners for the New York State Banking Department and the examiners for the Comptroller of the Currency. In addition, the examining staff of the Board of Governors of the Federal Reserve System includes a liquidity calculation section in its Form For Analyzing Bank Capital (F.R. 363) attached hereto as Appendix F. Each of these measurements is described briefly below.

1. Board of Governors. As noted above the examining staff of the Board of Governors of the Federal Reserve System includes a liquidity calculation in its Form For Analyzing Bank Capital.^{2/} In the strictest sense, the liquidity calculation is not a measurement of a bank's liquidity position but merely indicates the extra capital which would be needed to cover possible losses in the event that a forced liquidation of portfolio assets was required to supplement liquidity provided by primary and secondary assets. The calculation is based on certain assumptions as to deposit shrinkage, made on the basis of a review by the Board's staff of historical data.

2. Comptroller of the Currency. The formula currently used by the National bank examiners is explained briefly in the "Regional Newsletter, Second National Bank Region, July 1966", a copy of which is attached as Appendix H. It is a much simpler formula than that used by the New York Reserve Bank and relates liquidity only to deposit liability. Liquid assets are considered to be cash and balances due from banks, the market value of the bank's unpledged security portfolio, including bonds pledged in excess of legal requirements, and Federal funds sold. From the total of such assets are deducted borrowings, Federal funds purchased, and required reserves. The resulting figure is considered to be the net liquid asset position of the bank. A net deposit figure is obtained by deducting secured deposits from total deposits and a percentage of liquidity is computed by dividing net liquid assets by net deposits.^{3/} It is understood that the Comptroller's office

^{2/} See Appendix F. This form (F.R. 363) is completed by the New York Reserve examiners during their examinations of all Second District State member banks.

^{3/} At the year-end Call for 1966, the three Federal supervisory agencies requested banks under their supervision to complete liquidity forms patterned after this formula.

would consider a percentage of 35 percent or more as reflecting a reasonably adequate liquidity position.

The value of this formula in the analyses of the liquidity positions of National banks cannot be readily determined because discussions of liquidity and borrowings in reports of examination of these banks are generally not extensive. This liquidity formula appears to serve as a rough rule of thumb for calculating deposit liquidity as on the examination date. It does not include any consideration of the liquidity needs for the portfolio nor does it include any projection of liquidity needs for deposits and loans.

3. New York State Banking Department. At each examination the New York State examiners compute a "Quick Asset Ratio", which is similar to the liquid assets-to-liability ratio described above. The quick assets consist of cash and due from banks, readily marketable stocks and bonds at market value (excluding securities deposited for purposes other than as security for deposits or borrowings, as for example, securities deposited to secure trust activities), loans secured by readily marketable collateral and other quick assets. Secured deposits and borrowings are deducted from the total of quick assets to arrive at net quick assets the sum of which is related to net liabilities consisting of total liabilities less the secured deposits and borrowings.

The New York State Banking Department considers this ratio to be a useful measurement of the proportion of a bank's assets intrinsically liquid in character. However, it is a view of the bank's liquidity position which contemplates the liquidation of secured loans, thus implying an unusual and severe contingency. To supplement the quick asset ratio and to index the extent to which immediate conversion of assets to cash is possible without interfering with the normal activities of the institution, the Department has

developed a "primary liquidity" formula. This formula is explained in Supervisory Circular Letter CB-14 dated May 6, 1959, a copy of which is attached as Appendix G.

The primary liquidity formula is similar in approach to that of the New York Reserve Bank's liquidity formula, except that it does not distribute the liquidity requirements and instruments held into different time periods. In addition, the use of liquidity instruments as "primary reserves" in the formula is limited, for the sake of uniformity, to the five different types listed in Circular Letter CB-14. Moreover, the formula does not include a reduction in "primary reserves" due to outstanding borrowings; such borrowings are treated as a deduction from the total of quick assets in the quick asset ratio.

4. Comparison of Various Approaches to Liquidity. The New York Reserve Bank liquidity formula differs in concept from those developed by the staffs of the Comptroller and the Board of Governors. The New York approach attempts to gauge the relationship between those assets which may readily be liquidated with little, if any, loss in order to meet the foreseeable needs of a bank with respect to changes in loan volume or deposit losses during the normal course of its business. Such an approach is also used to some extent by examiners of the New York State Banking Department. Both the Comptroller's and the Board of Governor's examining staff formulas, on the other hand, seek essentially to determine a bank's ability to meet any deposit loss short of going into liquidation; neither of the latter formulas recognizes the liquidity needs for the portfolio. The Board staff's approach, however, is the more sophisticated of the two since it places a ceiling on any possible deposit losses and recognizes that under certain circumstances a bank may

have to rely for liquidity on assets other than those considered to be primary or secondary reserves.

Comparison of these various measurements of liquidity for a typical country bank (whose balance sheet as of December 31, 1966 appears on page 1 of Appendix I), including the different types of ratios and the formulas used by the examining staffs of the New York Reserve Bank, the Board of Governors and the Comptroller are set forth in Appendix I. A computation of the primary liquidity formula used by examiners for the New York State Banking Department has not been made because the formula is similar to that used by the New York Reserve Bank.

The results of computing these various ratios and formulas indicate the following regarding the sample bank's liquidity position:

- (a) Loan-to-Deposit ratio at 68.6 per cent indicates a fairly heavy loan position. Member banks in New York State outside of New York City had a ratio of about 61 percent at year-end 1966.
- (b) Liquid Assets-to-Liability ratio at 11.8 percent seems to reflect an adequate position when compared with the December 21, 1966 average ratio of 8.2 percent for all weekly reporting member banks in the Second Federal Reserve District outside of New York City.
- (c) New York State's Quick Asset ratio at 41.4 percent, however, indicates a tight liquidity position. The average ratio for all banks in New York State outside of New York City was 55 percent in 1966. However, the

State Banking Department also reviews the bank's liquidity position on the basis of the State's primary liquidity formula discussed previously.

- (d) New York Reserve Bank's liquidity formula reflects an adequate liquidity position on the basis of the consolidated index of 113. The net liquidity in the three time categories shows adequate liquidity for the short- and long-term categories and a deficit for the medium-term category. The examiner's comments regarding this bank (see Appendix C) indicate that if certain large public demand deposits were reclassified as volatile, the bank's short-term position might not appear as favorable.
- (e) Board of Governor's Form For Analyzing Bank Capital shows that the bank would need additional capital of \$206,000 against assets, other than primary and secondary reserves used for liquidity. Such a requirement would represent 26 percent of the total capital required and would account for the low ratio of actual capital to required.
- (f) Comptroller of the Currency's liquidity formula at 30.3 percent also reflects a tight liquidity position.

III. LIQUIDITY STANDARDS AND CHANGES IN DISCOUNT POLICY

Changes in discount policy including such concepts as a "basic borrowing privilege" and a "seasonal borrowing privilege", involving freer and perhaps more frequent access to the discount window, would of course require some modification of the examiner's approach to liquidity and overall evaluation of bank management and loan and investment policies. Under such a liberalization of discount policy, an additional responsibility may be placed on the bank examiner in counseling the management of some banks as to how to operate effectively in such an environment. Bank supervision would have the responsibility of reminding management of the possible dangers of relying to heavily on the discount window, and of assuring that the banks retain the skills necessary to manage their liquidity positions in times when exclusive reliance on borrowings may be unprofitable for them.

The studies conducted in connection with the Fundamental Reappraisal of the Discount Mechanism have served to re-emphasize the desirability of establishing uniform standards of capital and liquidity, and the need to take changes in discount policy into account in developing such standards. One result has been the establishment within the Federal Reserve System of a Study Group to consider the various approaches to capital adequacy and liquidity and the possibility of introducing such techniques and cash flow analysis in the evaluation of liquidity, with a view toward developing standards that may meet with general acceptance among bankers and bank supervisors.

February 15, 1965

ESTIMATING LIQUIDITY REQUIREMENTS

An Explanatory Memorandum of the Bank Examinations Department,
Federal Reserve Bank of New York

The Function of Liquidity

The problem of bank liquidity is essentially that of having available sufficient funds (or marketable assets readily convertible into funds) to meet at all times the demands for money that may be made on a bank. Adequate liquidity is the basic protection afforded against losses that could develop should the bank have to sell or forceably liquidate creditworthy assets in an adverse market. Maintaining adequate liquidity, therefore, means having enough funds on hand or readily available with which to meet the actual or potential demands for funds by the bank's depositors or borrowing customers.

The liquidity requirements of an individual bank will vary from day to day as funds flow into and out of the bank. Management's responsibility is to measure these requirements and to anticipate them on a current and continuing basis. Our objective, therefore, has been to develop a yardstick capable of systemizing the variables involved and producing as accurate and simple a measure as possible.

The Background

The Bank Examinations Department of the Federal Reserve Bank of New York has for some time been using a measure of bank liquidity as an adjunct to its regular bank examinations. Several years' development of bank liquidity standards and their application in the field has seen widening interest on the part of bankers and supervisory authorities in the objectives of such measurements. The first of these is to provide bankers with a convenient means of analyzing their own situations, thereby encouraging closer attention to their liquidity positions. The second is to aid bank examiners and supervisors in evaluating management's performance in maintaining sound liquidity positions.

A third objective might be to create a measure of relative liquidity which could be used to evaluate the impact of credit policy changes on groups of banks.

Banks, themselves, for the most part have not developed any systematic procedures for estimating liquidity needs. Rough measures generally used, such as loan-deposit ratios or ratios of liquid assets to total loans and investments, do not adequately reflect prospective demands for funds. Most often liquidity needs have been estimated by intuition born of experience or calculated so as not to be "out-of-line" with other banks whose needs may be entirely different. A need for guiding principles and uniformity of approach seemed clear. For these reasons, the Liquidity Position Form described in detail below was developed as a basis for management's necessary exercise of judgment.

The Liquidity Position Form

A form for estimating the Liquidity Position is shown in Table 1. The Liquidity Requirements are first computed (as described below). The Holdings of liquid assets are then listed and compared with needs to arrive at a Net Liquidity (excess or deficit) in the individual banks' positions. Both requirements and holdings of liquidity instruments are shown separately for short-term needs (under 1 year) medium-term needs (1-2 years) and longer term needs (2-5 years). Excesses of liquid assets in the shorter maturities may of course be used to satisfy the longer term requirements.

These time periods play a key part in deciding upon how to assign and apportion liquid assets. Liquidity Requirements have been established primarily to provide for normal or seasonal changes in deposits and loan demand plus a margin of safety for cyclical variations or unforeseeable events. Liquidity Instruments which mature within 1 year are considered the first line of protection, and the only holdings sufficiently fluid to meet correspondingly short-term liquidity needs. But defense in depth is also advisable to allow for maneuverability in less predictable circumstances. Liquid assets with maturities of

1-2 and 2-5 years are more realistically termed Shiftable Reserves. Segregating these from Liquidity Holdings emphasizes the essential difference, even though borderline distinctions are often difficult to apply.*

LIQUIDITY REQUIREMENTS

Demands for funds on a bank may be made by its depositors or by its customers seeking credit.

Deposits

Bankers know from experience that the major portion of liquidity need is related directly to the volume and stability of their Demand and Time deposits. Obviously, not all deposits are equally active and do not require the same degree of liquidity. The actual requirement is related to the likelihood that any specific deposit or group of deposits will be withdrawn. Forecasts cannot be made with certainty, but it is feasible to rank potential demands for funds by degrees of intensity: those that will surely occur; those that are likely, but not certain to occur; and finally, those that are less likely but, under certain circumstances, could possibly occur. These groupings are more precisely shown on the Liquidity Position form as Volatile, Vulnerable, and Residual deposits. Time deposits are considered separately because of their somewhat greater stability under normal circumstances.

Volatile Deposits: The greater the likelihood of withdrawal, the larger the percentage of liquidity required and the shorter the maturities of

* Depending upon market conditions, shiftable reserves may sometimes prove highly liquid. However, these cannot always be relied upon to meet short-term liquidity needs. They are instead relied upon to meet the longer term demands anticipated on the Form. These reserves can, however, serve as reinforcements for converting during emergencies when there are liquidity deficits and no alternatives available. But they do not fully pass the major test of "liquidity"--the ability to convert to cash with no risk of sizable loss whenever sold. Of course, the passage of time, as well as shifts in response to changing money market conditions, may see securities of over-1 year maturity flowing into the under-1 year liquidity classification with appropriate changes in entries on the Form.

the liquid assets that should be held. Deposits with the greatest likelihood of being withdrawn are termed "Volatile" and should be covered fully by liquid assets with the shortest maturities, ranging from cash to high-grade securities, and other instruments maturing within 1 year. Prescribing 88% as the liquidity need directly reflects the current member bank legal reserve requirements set at 12% for demand deposits at country member banks.* This amounts to saying that the total of the two types of reserves covers the volatile withdrawals in full. The dollar entry of volatile demand deposits (\$1,150 thousand on the Table) is not the product of guesswork but reflects the bank's accumulated experience. Typical of volatile deposits are the local payroll accounts which are built up weekly or biweekly and immediately checked against; the municipal deposits of tax monies which are known to be drawn down over a period of time to meet municipal expenses; and seasonal deposit fluctuations that are also of the same character.

The extent of such short-term deposit swings can be most simply shown by a chart of month-end deposit totals. Chart A shows the bank's recent experience in clear visual form. Chart B similarly depicts the volatility of time deposits. The trend line connecting the low points determines the "base" line.** At any particular point on the chart the amount of deposits above the "base" line are considered volatile and required to be covered in full by liquid assets plus the automatic release of required reserves.

* For banks in reserve cities the comparable percentage would be 83.5%.

** In charting deposits, or the loan figures mentioned later, there will sometimes be unusually sharp increases or decreases. These may not represent a change in trend but rather a change in level. For example, if a new large deposit account is obtained--or if one is lost--it will raise or lower the level of total deposits without affecting the trend. The base lines may therefore have to be adjusted upward or downward without changing their directions. This further underscores the continuing need for management to exercise judgment in the individual situations confronting its bank.

APPENDIX A

CHART A
DEMAND DEPOSITS

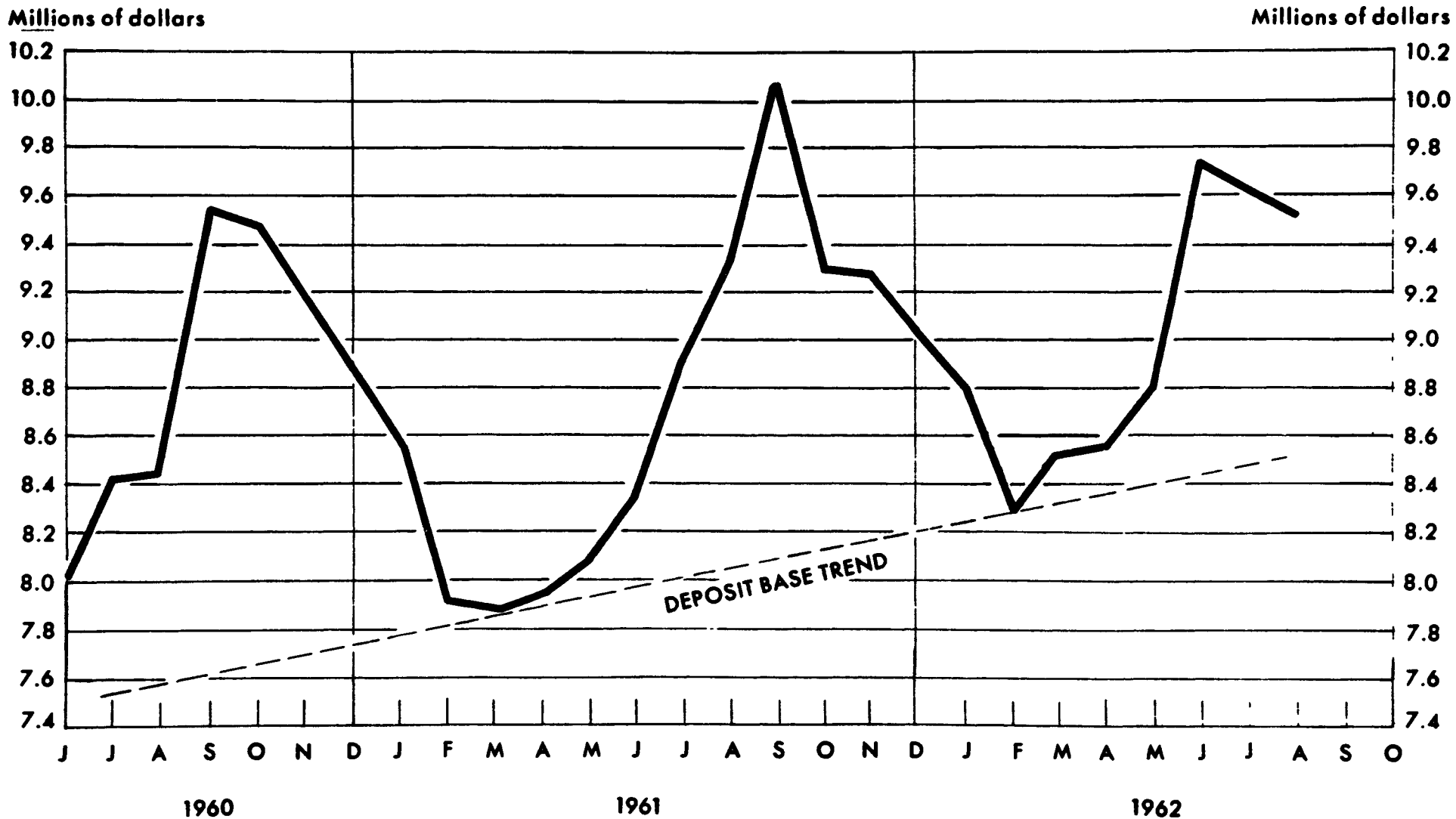
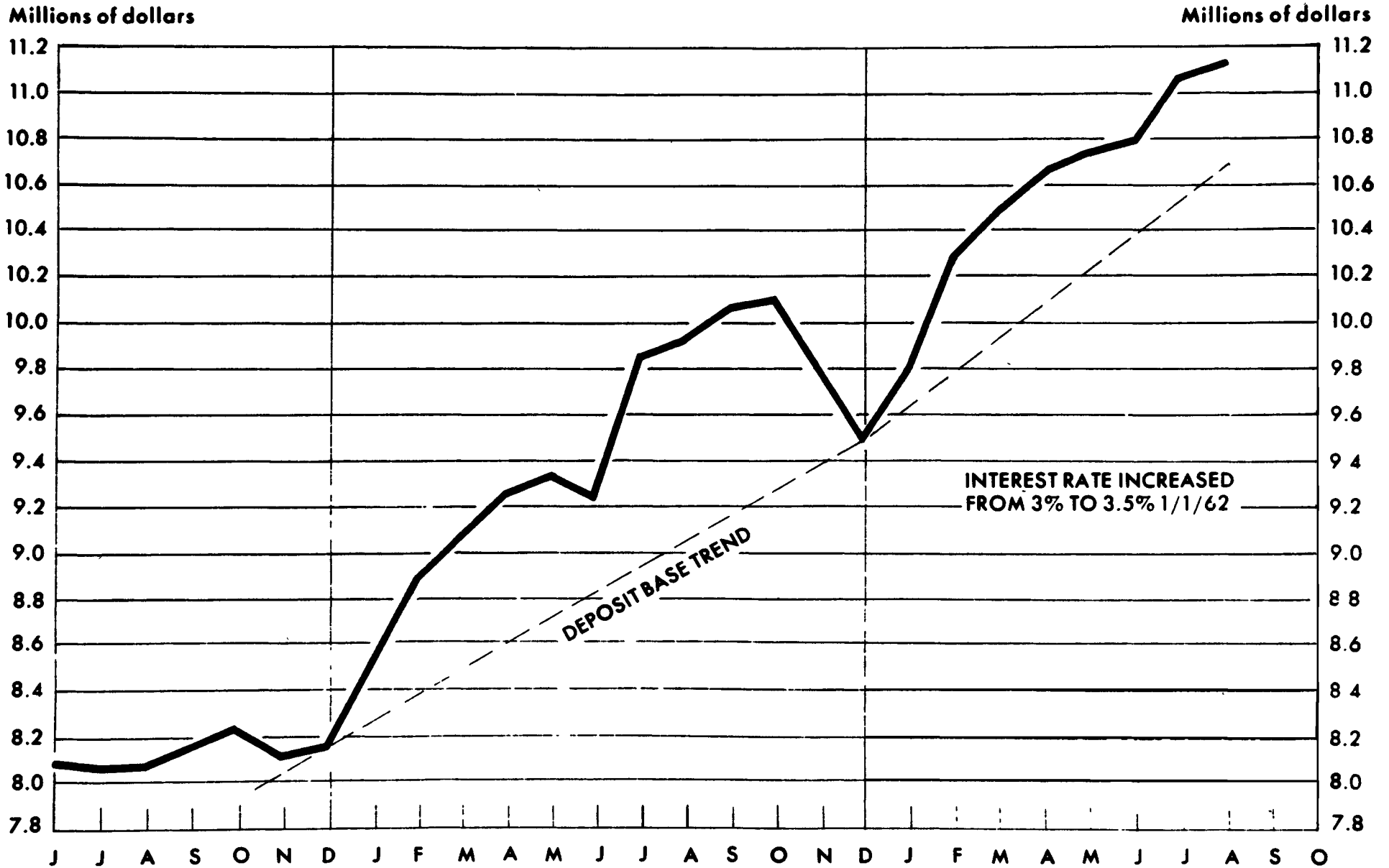


CHART B
TIME DEPOSITS



By the same token, the aggregate amount below the line indicates the nonvolatile deposits. This status does not, however, exempt them from the need for some liquidity. Should unusual withdrawals carry deposits below the base line, the need for a second, or even a third, line of liquidity defense will come into play. These liquid assets, however, may be comprised of securities in somewhat longer term maturities if interest considerations justify it from an investment viewpoint. As shown on the Table, these longer term assets are assigned against the Vulnerable and Residual deposits.

Vulnerable deposits are those whose sudden or unexpected withdrawal would place heavy pressure on the bank's liquidity position. They are likely to be the bank's larger deposit accounts.* These accounts, in any event, should be identified and more closely followed by the officer responsible for the liquidity position. Experience will generally show that most of the volatility of demand deposits will be in these large, and therefore vulnerable accounts. (A time deposit, of course, can be large and vulnerable even though it does not fluctuate at all.)

Volatile deposits, having already been determined and provided for, are therefore deducted from the total of large demand deposits to determine the "vulnerable" deposits in the Table and a 20% requirement of 1-2 year maturities set up for them. The choice of intermediate rather than shortest term maturities would seem to provide reasonable protection against possible but unanticipated withdrawals of substantial magnitude.

Residual deposits are those remaining deposits which are neither volatile nor vulnerable. They represent what is often referred to as the "hard core" of stable deposits which can be fully invested in earning assets. A more

* For purposes of uniform practice "large deposits" have been defined as those exceeding, in round figures, 1/2 per cent of total deposits.

conservative view, however, calls for a precautionary margin of liquidity even for such stable deposits. A 10% requirement in liquid assets with maturities ranging out to 5 years, when market conditions justify,* is suggested. To the ultra-conservative this requirement may seem low. But it should be remembered that this requirement, as well as that against vulnerable deposits, is supplemented to the extent of 12% of the demand deposit loss (4% for time deposits) by the release of required reserves.

Time Deposits

Although under normal circumstances there may be less immediacy with respect to liquidity needs for time deposits, banking practice and experience has shown that time deposits share several characteristics normally attributed to demand deposits. For this reason much that has been said above about demand applies to time deposits as well. For example time deposits, too, often exhibit seasonal fluctuations: Christmas Club accounts are almost entirely seasonal and such seasonality, readily discernible from Chart B, represents a volatile portion of time deposits requiring full liquidity reserves. This protection is afforded by a 96% reserve of liquid assets in conjunction with the 4% release of required reserves brought about by a time deposit decline.

Large savings deposits, as noted above, can be vulnerable without being volatile. Against such deposits, together with large time deposits held indefinitely (such as State time deposits in many localities), a 20% liquidity reserve in medium-term liquidity assets is recommended.

Negotiable Time Certificates of Deposit are also considered vulnerable and a liquidity requirement of 20% is prescribed. These certificates are usually short-term and, therefore, the liquidity reserve generally should be in short-term liquidity assets.

* Investment specialists counsel lengthening maturities when interest rates are relatively high and shortening maturities when interest rates are low.

Special Time Deposits refers to some large time deposits that management may know will be withdrawn at maturity or even after a relatively short period of time. An example of such deposits would be the proceeds of a school bond issue scheduled for disbursement as the school construction progresses. Such accounts are considered "special deposits" and require specific liquidity provision in the light of their prospective withdrawal.

Residual liquidity reserves of 5% for remaining time deposits are prescribed for the same reasons set forth earlier in connection with demand deposits. Maturities may be of somewhat longer term and, in times of high interest rates, might be concentrated toward the longer end of the 2-5 year range.

Portfolio Liquidity

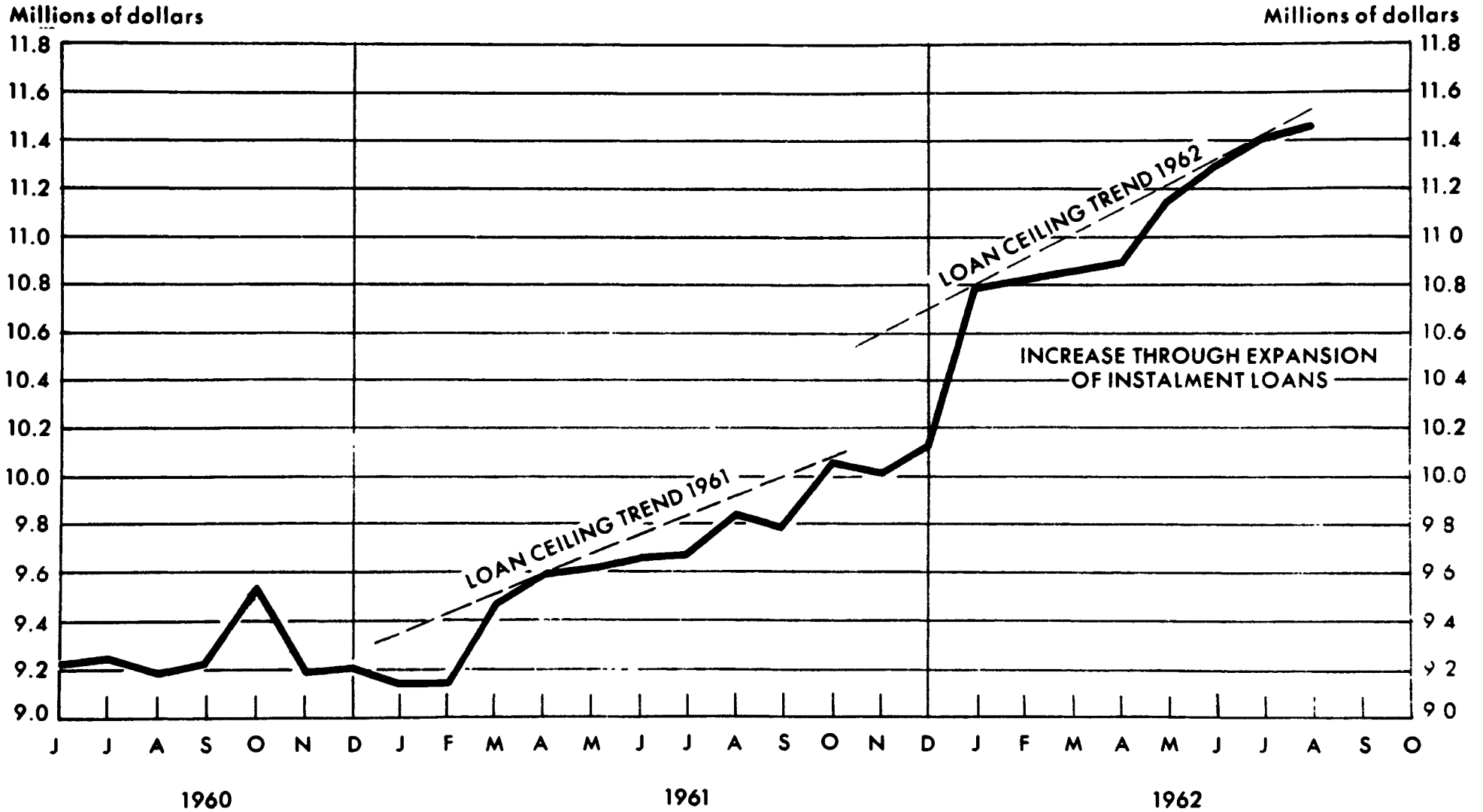
Portfolio liquidity, as the term is used here, consists of liquid funds for the purpose of making additional loans or investments. These holdings safeguard the bank against the need of having to borrow unduly or sell securities at a loss in order to meet the foreseeable credit needs of its customer. Three categories of loan demand are identified: Seasonal, Unexpected, and Projected.

Seasonal loan demand is one of the surer fluctuations bankers can anticipate. Chart C shows month-end loan figures similar in principle to Chart A. The trend line, this time connecting high (instead of low) points, is the loan "ceiling"--the amount to which loans may be expected to rise seasonally or periodically based on recent experience. The amounts by which loans at any time drop below this ceiling measure the bank's liquidity needs to meet normal or seasonal loan variations. These needs should be provided for in full.

Unexpected and unusual loan demand, by definition, cannot be foreseen. A minimum provision would seem to be an additional fund of liquid assets equal to at least 20% of capital and surplus (twice the 10% legal loan limit on unsecured borrowings). The bank is then reasonably prepared to accommodate some loan requests from good customers who may not have borrowed in recent years and whose need for credit is not reflected in the chart.

APPENDIX A

CHART C
LOANS



Projected Loan Increase superimposes on the preceding categories any definite loan expansion plans that management may have in mind and provides for any expected net increase in the community's demand for credit in the foreseeable future, at least to the extent that such demand may exceed accompanying deposit increases. Additional liquidity provision would be made and closely related to the size of, and time when the demands are expected. No specific requirement can be allocated other than by management with its detailed knowledge of the local community and its needs.

In addition to the foregoing, there may exist a need for further modification of this formula approach. Management may know of some change in policy to become effective in the near future which would affect the bank's liquidity requirements. For instance, a change in the rate of interest paid on savings accounts or time accounts might be expected to change the deposit level materially. If such a situation exists, an adjustment of the liquidity requirements should be made.

LIQUIDITY INSTRUMENTS HELD

Adequate liquidity means the bank's ability to meet the immediate and potential demands for funds as outlined above. Liquid assets are generally thought to consist of cash or bank balances (primary reserves), and investments in short-term assets readily marketable with minimal risk of loss (secondary reserves). Such liquid assets are subdivided on the Liquidity Position Form into maturity categories having varying degrees of ready convertibility into money.

Excess Reserves and Correspondent Balances

A bank requires some working balances at all times to carry on its daily business. For this reason, a portion of bank balances, over and above

the required legal reserves, is not truly liquid; and, for purposes of this analysis, the Liquidity Holdings should include only that part of primary reserves which is freely available. Only excess reserves, therefore, and correspondent balances exceeding essential working balances are countable as Liquidity Instruments Held.

Other Liquidity Instruments-Secondary Reserves

The remaining stocks of liquid assets include money-market loans such as brokers' loans and commercial paper, and investment-grade securities maturing within one year.*

The distribution of longer term high-grade securities enumerated on the Form is directly related to the nature of the individual bank's deposits and its potential loan demands spelled out in some detail earlier. (It is worth repeating at this point that the legal reserves freed by withdrawals of demand and time deposits are among the liquidity sources. Although not enumerated as a liquidity instrument they have been implicitly recognized in the setting of 88% and 96% in liquid reserves against volatile demand and time deposits.)

NET LIQUIDITY

The aggregated figures on either side of the Liquidity scale provide useful information. However, better perspective for bank appraisal is obtained by netting the two categories and showing the bank's excess or deficit liquidity balance in each category. The illustration given on the Liquidity Position Table shows, for example, that the bank is in balance regarding its shortest term liquidity requirements and holdings and is in a surplus position relative to its longer term needs.

* There are instances, however, where short-term securities are pledged to secure specific deposits and certain banking functions. In such cases, pledged short-term securities should not be considered available for meeting liquidity requirements--unless available "nonliquid" securities holdings may be substituted in their place.

In the process of comparing requirements with holdings, banks' responses to cyclical changes should come to light in the aggregated statistics over a period of time.* It is well, however, to emphasize here that the Bank Examinations Department regards its immediate function more narrowly, and gives primary attention to the condition of individual banks on a case-by-case basis.

Liquidity Index

Because of wide differences in banks' size, it would be helpful to convert the individual net dollar liquidity positions to a Liquidity Index that would lend itself to drawing inter-bank comparisons on a comparable base. This is illustrated on the last line of the Form, Table 1. Such indicators lend themselves to a study of relationships between banks' Liquidity Indexes grouped by bank size, unit or branch structure, geographic location; and, going further, with other statistics of local or nation-wide economic and business data.

Comments up to now have been mainly restricted to banks' short-term liquidity positions. The longer term securities, however, account for an important share of holdings and the bank's ability to meet its projected longer term deposit and loan responsibilities. Although a distinction has been drawn between short-term and longer range liquidity needs, it may prove useful to combine the short and longer term categories into a composite index that gives recognition to the total liquidity distribution over time.

The Form, Table 2, illustrates the method followed in computing the Consolidated Index of Liquidity. The Bank Examinations Department has assigned weights to the dollar amounts of Liquidity Requirements and Net Liquidity Holdings. The weights are tailored to the relative importance of short, medium,

* A distinction must be drawn, however, between the banking system and the single bank. While liquidity of the entire system is the concern of the monetary authorities, the liquidity position of the individual bank is local management's responsibility and may either directly reflect or run counter to general trends.

and longer term liquidity needs. The dollar amounts, rather than the Liquidity Indexes shown in the Form, Table 1, are used in arriving at the Consolidated Index, in order to avoid any distortion.

TABLE 2
CONSOLIDATED INDEX

	<u>Liquidity Requirements</u>	<u>Net Holdings</u>
Under 1 year (Weight 2x)	3,706	3,706
1-2 years (" 1x)	81	117
2-5 years (" .5x)	<u>669</u>	<u>689</u>
	4,456	4,512
Consolidated Index: 101		

Conclusion

The major purpose of the Position Form is to lend practical assistance in measuring liquidity rather than to establish a "grading" system. Nor is there any intention of imposing a formal liquidity ratio upon banks to which they must measure up in a way comparable, say, to legal reserve requirements. It should also seem clear that ways toward improvement in banks' practice and the methods of accounting therefor are, as yet, far from closed.

The most likely way toward improvement in both directions lies in objective appraisal by the bank examiner followed by frank discussion with management. But the examiner's "still-photograph" taken at the time he is on the premises will require continuing follow-ups by the banker since liquidity needs will obviously vary as funds flow into and out of the bank. For this reason no formula can be so perfect as to displace completely the continuing need for management's "educated" judgment in the local and special circumstances confronting his bank. It is important, however, to reinforce judgment with some formal guides. Wider use of the method described here should contribute toward that end.

**Example of an Examiner's Comments
Concerning the
Excessive Liquidity Position
of a
Non-Money Market Bank**

The bank, which has not borrowed for several years, maintains what appears to be an excessive amount of liquid assets at all times. This excessively liquid position is not the result of board policy, but stems rather from an apparent total absence of effort on the part of management to employ profitably all available funds. During the year 1965, the reserve account balance was in excess of required by a daily average of approximately \$125,000. Because of the pressing demands of daily activities, management admittedly maintains "a safe cushion" in the reserve account so that it will not be forced to make a daily calculation of the requirement. The regular offers of a correspondent bank to purchase excess Federal funds are always refused because the reserve position is unknown. In addition, the bank sold to a correspondent bank mortgage participations aggregating about \$300,000 on June 1, 1965. As of examination date, about \$100,000 of the proceeds of this transaction had not been reinvested and remained with the correspondent bank. The elimination of these excess balances would leave the bank still in a highly liquid position, with about 20% of the investment account in Treasury bills. As standby liquidity protection, management has an open commitment from the correspondent bank to purchase an unlimited amount of this bank's mortgage portfolio. The loss of potential earnings inherent in a situation such as this was discussed with management.

Example of an Examiner's Comments
Concerning the
Marginal Liquidity Position
of a
Non-Money Market Bank

Our formula indicates that the bank's liquidity position has improved between examinations, primarily due to a shortening of maturities of high-grade securities. Total liquidity holdings under two years now aggregate only about \$45,000 less than requirements over the same period. However, if in computing this formula, a few large public demand deposits were considered as volatile (as indeed they appear to be) rather than vulnerable, liquidity requirements for "under 1 year" would be increased by as much as \$150,000. The basic liquidity problem appears to stem from the bank's failure to properly invest short-term public deposits. Cyclical increases of public funds in the spring and fall of each year usually runoff rapidly at precisely the same time that loan demands and other deposit withdrawals reach their cyclical peaks. Without the additional public money, the bank's liquidity holdings during these periods are hardly sufficient to cover the seasonal demands.

This bank has been forced to borrow from the Federal Reserve Bank regularly over the past few years. Since last examination, there were eight borrowing periods which totaled 46 days. Average borrowings were \$66,000 per day, and the bank's reserve balance was deficient during three reporting periods. Almost all borrowing occurred during periods of heavy public

deposit withdrawals with inadequate short-term asset protection, except for Government securities which the bank was reluctant to sell. Holdings of Treasury bills will now be increased in an attempt to alleviate this problem in the future. Management was receptive to the suggestion that future short-term borrowing requirements might be better satisfied in the Federal funds market, or from correspondents rather than at the discount window.

Example of an Examiner's Comments
Concerning the
Adequate Liquidity Position
of a
Money Market Bank

This bank continues a policy of maintaining a fully invested position and, in so doing, operates close to the minimum of liquidity requirements. For the most part, management has been able to operate satisfactorily because it has various means of supporting its heavily invested position. These means include the bank's correspondent relationship with about 1,500 banks throughout the U.S., and various corporate, institutional and municipal entities, which look to this bank for the investment of their excess funds. An important service offered correspondent banks is the management of their reserve positions, which results in this bank's heavy activity as a purchaser of Federal funds. The bank also occasionally borrows heavily at the discount window of the Federal Reserve Bank. As a result, the bank's money position desk maintains a close daily watch over the flow of funds placed at its disposal. It builds up heavy reserve deficits at some time during each reserve period which are subsequently offset by borrowed funds. As a consequence, the bank generally maintains its daily reserve position with a minimum average excess of one million dollars or less over its required reserves.

Current projections of the bank's liquidity requirements, over the second quarter of 1965, have set a loan growth of about \$300 million. The funds to support these projections are expected

to be generated primarily by increasing negotiable C/D's by a like amount. It would appear, however, that if the bank for some reason were unable to hold and/or attract additional C/D growth, heavy pressures on the bank's money position may develop such as have existed at times in prior years. If such a situation should arise, it may be necessary for the bank to liquidate a portion of its municipal bond holdings and place additional reliance upon borrowings to support its heavily invested position.

Example of an Examiner's Comments
Concerning the
Tight Liquidity Position
of a
Money Market Bank

Comparing daily averages for 1964 with those of September 1966, deposits increased \$146 million, borrowings increased \$278 million, and securities decreased \$29 million, for a total of \$453 million which is the amount of loan increase during the same period. Therefore, an obvious conclusion would be that the major portion of the loan expansion has been supported by borrowings, mostly Federal funds. Management has always contended that borrowed funds were used primarily to support loans to non-money market borrowers. For this reason alone, the bank's borrowing activities can only be described as excessive, particularly since a review of the bank's liquidity position shows that there has been no reduction in lending activities and an appreciable decrease in liquid assets to cover short-term needs.

Time C/D's totaled \$452 million (\$402 million negotiable), a decrease of about \$150 million since last examination. The heavy runoff is attributed primarily to a tight money position of corporate depositors and the more attractive yields in other short-term investment instruments. The bank's ability to borrow Federal funds at more attractive rates has apparently detracted from the desirability of generating additional C/D's or even maintaining outstandings at the 1965 examination level. It is difficult to obtain any reliable estimate of how long the negotiable

C/D's will be carried and apparently no provisions have been made for meeting a further runoff of these volatile-type deposits.

Average loans outstanding show a continual increase since 1964 with the major increases occurring in term loans and mortgages. While management estimates term loan and mortgage repayments of \$212 million and \$330 million, respectively, over the next two years, unused commitments in both of these loan categories aggregate about \$433 million. All of these commitments will not be drawn down, but it is quite probable that the total draw downs will exceed repayments in the next year. Every effort is reportedly being made by management to curtail the loan expansion, with all new loan applications carefully screened to determine how they can turn down requests without impairing customer relationships. Loans reached their highest level during the past year.

Investment securities have been maintained at about \$600 million with \$233 million in U.S. securities and the balance primarily in tax exempts. While the maturity distribution is considerably less long-term than in other banks, liquidation of securities to meet liquidity needs would result in sizable losses.

In connection with the above, attention is directed to the fact that, while this bank was an infrequent borrower at the discount window, the examiner was very much concerned over the large volume of borrowings from other sources.

BANK: _____

LOCATION: _____

BASED ON REPORT OF EXAMINATION AS OF _____ DISTRICT NO. _____

(Dollar Amounts in Thousands)

	AMOUNT OUTSTANDING	CAPITAL REQUIREMENT		LIQUIDITY CALCULATION			
		Per Cent	Amount				
(1) PRIMARY AND SECONDARY RESERVE				47% of Demand Deposits i.p.c.	\$ _____		
Cash Assets	\$ _____	0%		36% of Time Deposits i.p.c.	_____		
Guar. Portion of CCC or V-loans	_____	0.5%	\$ _____	100% of Deposits of Banks	_____		
Comm. Paper, Bnk Accept. & Bk's Lns	_____			100% of Other Deposits	_____		
U.S. Govt. Secs:	_____			100% of Borrowings	_____		
Bills	_____			Allow. for spec. factors, if info. available (+ or -)	_____		
Certificates, etc. (to 1 yr.)	_____			A. Total Provision for Liquidity	_____		
Other (1-5 yrs.) (incl. Treas Inv. Series A & B)	_____						
Other Secs. Inv. Rtngs 1 & 2 or Equiv. (to 3 yrs.)	_____	4.0%	_____	B. Liquidity available from Prim. and Secondary Res. ("amt. outstanding" less cap. required thereon)	_____		
TOTAL	\$ _____						
(2) MINIMUM RISK ASSETS				C. Liquidity to be provided from assets in Groups 2, 3 or 4 (zero if B equals or exceeds A, otherwise A less B)	_____		
U.S. Govt. Secs. (5-10 yrs.)	_____	4%	_____	D. Liquidity available from Min. Risk Assets (90% of "amt. outstanding" in line 2)	_____		
Ins. Portion FHA Rep. & Mod'n Loans	_____					E. Liquidity to be provided from assets in Groups 3 or 4 (zero if D equals or exceeds C, otherwise C less D)	_____
Loans on Passb'ks, U.S. Secs. or CSV	_____					F. Liquidity available from Intermediate Assets (85% of "amt. outstanding" in line 3)	_____
Life ins.	_____						
Short-term Municipal Loans	_____					G. Liquidity to be provided from Portfolio Assets (zero if F equals or exceeds E, otherwise E less F)	_____
TOTAL	\$ _____						
(3) INTERMEDIATE ASSETS							
U.S. Govt. Secs. (Over 10 yrs.)	_____	6%	_____				
FHA and VA Loans	_____						
TOTAL	\$ _____						
(4) PORTFOLIO ASSETS (Gross of Res.)							
Investments (not listed elsewhere)	_____	10%*	_____				
Loans (not listed elsewhere)	_____						
TOTAL	\$ _____						
* Plus 15% of 1st \$100,000 of portfolio, 10% of next \$100,000 and 5% of next \$300,000.							
(5) FIXED, CLASSIFIED & OTHER ASSETS				Extra Capital Required on Any Assets in Groups 2-4 Used for Liquidity			
Bk Prem., Furn. & Fixt., Other Real Est.	_____	100%	_____	6.5% of line C	_____		
Stocks & Defaulted Secs.	_____					4.0% of line E	_____
Assets Classified as "Loss"	_____			50%	_____	9.5% of line G	_____
Assets Classified as "Doubtful"	_____			20%	_____		
Assets Classified as "Substandard"	_____						
Accruals, Fed. Res. Bk. Stock, Prep. Expen.	_____	0%	_____				
TOTAL ASSETS	\$ _____						
(6) ALLOWANCE FOR TRUST DEPT. (Amt. equal to 300% of annual gross earnings of Department)	_____						
(7) EXTRA CAP. REQD. IF ANY ASSETS IN GROUPS 2-4 USED FOR LIQUIDITY (zero if line C in Liquidity Calculation is zero, otherwise Total in line H)	_____			← H. Total Extra Cap. Req.	\$ _____		
(8) ALLOW. FOR SPEC. OR ADDIT. FACTORS, IF INFO. AVAILABLE (+ or -) (see notes on reverse side)	_____						
(9) TOTAL CAPITAL REQUIREMENT (1 thru 8)	_____		\$ _____				
(10) ACTUAL CAP., ETC. (Sum of Cap. Stock, Surplus, Undiv. Profits, Res. for Conting., Loan Valuation Res., Net unapplied Sec. Valuation Res., Unallocated Charge-offs, and any comparable items) (Exclude Depreciation and Amortization Reserves)	_____				\$ _____		
(11) AMOUNT BY WHICH ACTUAL IS:							
MORE than requirement (10 minus 9)	_____				+\$ _____		
or							
LESS than requirement (9 minus 10)	_____				-\$ _____		
(12) RATIO OF ACTUAL CAPITAL, ETC. TO REQUIREMENT (10 divided by 9)	_____				_____ %		

NOTES REGARDING FORM FOR ANALYZING BANK CAPITAL

A thorough appraisal of the capital needs of a particular bank must take due account of all relevant factors affecting the bank. These include the characteristics of its assets, its liabilities, its trust or other corporate responsibilities, and its management--as well as the history and prospects of the bank, its customers and its community. The complexity of the problem requires a considerable exercise of judgment. The groupings and percentages suggested in the Form For Analyzing Bank Capital can necessarily be no more than aids to the exercise of judgment.

The requirements indicated by the various items on the form are essentially "norms" and can provide no more than an initial presumption as to the actual capital required by a particular bank. These "norms" are entitled to considerable weight, but various upward or downward adjustments in requirements may be appropriate for a particular bank if special or unusual circumstances are in fact present in the specific situation. Such adjustments could be made individually as the requirements are entered for each group of assets, but it usually is preferable, particularly for future reference, to combine them and enter them as a single adjustment under Item 8, indicating on the Analysis Form or on an attached page the specific basis for each adjustment.

The requirements suggested in the Analysis Form assume that the bank has adequate safeguards and insurance coverage against fire, defalcation, burglary, etc. Lack of such safeguards or coverage would place upon the bank's capital risks which it should not be called upon to bear.

ITEM (4) - PORTFOLIO ASSETS

Concentration or Diversification. - The extra requirement of 15% of the first \$100,000 of portfolio, 10% of the next \$100,000, and 5% of the next \$300,000, as specified in item 4, is a rough approximation of the concentration of risk (lack of diversification) which is likely in a smaller portfolio, and which is usually reflected in the somewhat larger proportion of capital shown by most banks with smaller portfolios. This requirement is applied to all banks, but is naturally a larger portion of the total capital requirements of banks with smaller portfolios. However, a particular portfolio, whatever its size, may in fact have either more or less concentration of risk than other portfolios of similar size. If there is in fact substantially greater or lesser concentration of risk in the portfolio assets of the particular bank--as for example dependence upon a smaller or larger number of economic activities--it would be appropriate to increase or decrease requirements correspondingly.

Drafts Accepted By Bank. - When drafts have been accepted by the bank, ordinarily the customers' liability to the bank should be treated as Portfolio Assets if the acceptances are outstanding, or the acceptances themselves should be so treated if held by the bank.

ITEM (5) - FIXED, CLASSIFIED, AND OTHER ASSETS

Rental Properties. - Bank premises, furniture and fixtures, and other real estate are assigned a 100% requirement as a first approximation, since these assets usually are not available to pay depositors unless the bank goes into liquidation, and even then they usually can be turned into cash only at substantial sacrifice. However, some properties which bring in independent income, such as bank premises largely rented to others, may be more readily convertible into cash by selling or borrowing on them, and in such situations it may be appropriate to reduce the 100% requirement by an amount equal to an assumed "sacrifice" value, such as, say, two or three times the gross annual independent income.

Stocks. - In the case of stocks, their wide fluctuations in price suggest a 100% requirement as a first approximation. However, in some cases it may be appropriate to reduce the 100% requirement against a stock by an amount equal to an assumed "sacrifice" value, such as the lowest market value reached by the stock in, say, the preceding 36 or 48 months.

Hidden Assets. - In some cases assets may be carried at book values which appear to be below their actual value, and may thus appear to provide hidden strength. However, any allowance for such a situation should be made with great caution, and only after taking full account of possible declines in values and the great difficulty of liquidating assets in distress circumstances.

ITEM (6) - ALLOWANCE FOR TRUST DEPARTMENT

Deposited Securities. - The requirement for the trust department should in no event be less than the amount of any securities deposited with the State authorities for the protection of private or court trusts, since such securities are not available in ordinary circumstances to protect the bank's depositors.

LIQUIDITY CALCULATION

Percentages of Deposits. - The provision for 47% liquidity for demand deposits of individuals, partnerships and corporations actually represents 33-1/3% possible shrinkage in deposits, plus 20% of the remaining 66-2/3%. 36% of time deposits i.p.c. represents 20% shrinkage, plus 20% of the remaining 80%. In both instances, the provision for 20% liquidity for remaining deposits is to help the bank continue as a going concern even after suffering substantial deposit shrinkage.

Among possible special factors to be considered in connection with the liquidity calculation would be concentration or diversification of risk among deposits. This might be due to such things as dependence upon a smaller or larger number of economic activities, or preponderance of large or small deposits--large deposits usually being more volatile.

Liquidity Available from Assets. - Liquidity available from primary and secondary reserves is assumed to equal the amount of those assets less only the regular capital required thereon, since the regular capital specified for these assets assumes forced liquidation. However, the regular capital specified for other assets (i.e., those in Groups 2-4) is only a portion (approximately 40%) of that required for forced liquidation. Therefore, in determining the liquidity available from such other assets, the amount of such other assets must be reduced by more than the regular specified capital.

Extra Capital Required. - This extra capital is to cover possible losses in forced liquidation of assets other than primary and secondary reserves in case they had to be used to provide liquidity. The 4% indicated for Line E amounts to an automatic addition to the 6.5% that has already been applied to Line C, and results in a total extra requirement of 10.5% of the liquidity to be provided from Intermediate Assets. Similarly, the total extra requirement on the liquidity to be provided from Portfolio Assets is 20%. If the same amounts of extra capital were stated as percentages of the assets to be liquidated rather than of the liquidity to be provided, the percentages would be smaller, namely, 6% of Minimum Risk Assets, 9% of Intermediate Assets, and 15% of Portfolio Assets.



G. RUSSELL CLARK
SUPERINTENDENT OF BANKS

STATE OF NEW YORK
BANKING DEPARTMENT
100 CHURCH STREET
NEW YORK 7, N. Y.

Supervisory Circular Letter CB-14

May 6, 1959

To the Institution Addressed:

PRIMARY LIQUIDITY

This Department has been studying a new approach to the problem of primary liquidity of the state banks and trust companies and similar types of institutions under its supervision. The basic premise is that each bank should maintain an adequate amount of cash and other assets which can be quickly converted into cash with a minimum risk of loss to meet any foreseeable or potential deposit decline or other cash needs without resort to borrowing except for temporary purposes such as adjustment of reserve balances. Provision should be made for the fluctuation of deposits, with appropriate consideration to concentrations in large balances and those of a temporary nature.

To assist the Department in preparing statistics on this subject, each institution is requested to analyze its deposits as of the last business day of each month. If, however, your experience shows that total deposits are usually at the lowest point during some other part of the month, we recommend that a focal date within that period be selected instead of the last business day.

A deposit segregation should be made each month, as at the last business day or the focal date, as follows:

1. Date
2. Deposits of U.S. Government, states, and political subdivisions (including time)
3. Deposits of other domestic and foreign banks (including time)
4. Other demand deposits
5. Savings deposits
6. Other time deposits
7. Total deposits

May 6, 1959

The figures may be adjusted to the nearest thousand dollars. A record should be retained by the bank covering at least the period between examinations by this Department, and is to be made available to the examiner. The executive officers will probably find it helpful to retain this record for a more extended period to enable them to study seasonal trends and other pertinent factors affecting the liquidity position.

If each institution will compute the aggregate difference between the current total in each type of deposit with the lowest monthly figure for the preceding twelve months, it should have a fair estimate of the minimum amount of "primary reserves" which it should have available to meet its ordinary requirements. It is unlikely that the "low" point in each of the deposit segregations will occur in the same month of a yearly period, but any over-estimate due to such circumstances will provide a margin to cover unexpected developments. If, however, the deposit level is lower than in the preceding year, further study should be made of the causes, and a projection made of potential future trends and liquidity requirements with special consideration to deposits of a temporary nature, and to heavy concentrations of deposits in a small number of accounts.

In addition to being prepared to meet potential deposit losses, the institution should also make adequate provision to cover its outstanding loan commitments, the ordinary seasonal credit requirements of its customers, projected new loan demands, and other factors which may deplete its liquid assets.

The term "primary reserves" as used in the preceding paragraph will consist of the following assets:

1. Cash, demand cash items, and balances due on demand from banks in excess of the reserves required to be maintained against deposits,
2. Readily marketable securities maturing within two years (at market values),
3. Loans to brokers and dealers in securities,
4. Bankers acceptances and prime commercial paper which are readily marketable through brokers and dealers in such paper, and
5. Federal funds sold.

May 6, 1959

Since reserves against deposits required by the Banking Law or Federal Reserve regulations may not be drawn down without penalty for deficiencies, only the excess reserves maintained, demand balances due from nonreserve depositaries, and demand cash items are allowed in this formula. Securities maturing within two years are allowed at market value. They can usually be disposed of with relatively moderate, if any, loss. The other assets which are classified as "primary reserves" can also, as a rule, be quickly disposed of with minimum loss. While some institutions may hold other assets of similar marketability and quality to meet the qualifications of "primary reserves", for the sake of uniformity only those listed above will be used for this purpose.

The Department intends to use the primary reserve formula as a supervisory guide to supplement the quick asset ratio shown on Schedule 2A of the examination report. Although the latter is useful in revealing the proportion of assets intrinsically liquid in character, the former will indicate to what extent immediate conversion to cash is possible without interfering with the normal activities of the institution.

Your cooperation is requested in facilitating the work of our examiners in compiling these data.

Very truly yours,



E.H. Leete
Deputy Superintendent
of Banks

HOW'S YOUR LIQUIDITY ?

The present "tight-money" market in which our banks are operating has led to increasing loan-to-deposit ratios and narrowing liquidity positions. While most bankers are conversant with the rule-of-thumb standards relating to deposit ratios, we find that many National bankers are unfamiliar with the method of computation and standards utilized by this Office in analyzing their liquidity position.

Since this is a topic of mutual interest, a copy of our form is shown below. Based on our experience with the formula over the past two years, this Office makes a detailed analysis of the asset structure when Net Liquid Assets to Net Deposits is 30 percent or less.

It will be noted that the formula eliminates the market value of pledged bonds but does include municipal and corporate securities as a source of liquidity.

We would appreciate receiving the views and comments of bankers with respect to the merit of the guidelines.

LIQUIDITY ANALYSIS FORM

Cash and Due From Banks	_____	
Market Value - Unpledged Bonds	_____	
Market Value of Excess Pledged Bonds	_____	
Federal Funds Sold	_____	
Subtotal	_____	
Less: Borrowings	_____	
Federal Funds Purchased	_____	
Required Reserves	_____	
Net Liquid Assets	_____	(A)
Total Deposits	_____	
Less Secured Deposits	_____	
Net Deposits	_____	(B)
% of Net Liquid Assets to Net Deposits (A $\frac{\circ}{\circ}$ B)	_____	%

APPLICATION OF FORMULAS

Sample Bank

Balance Sheet

(In thousands of dollars)

Cash & Due From Banks	291		Deposits		
Reserves With FRB And Cash Items in Process	<u>241</u>	532	Demand		
Investment Account*			I.P.C.	774	
U.S. Government	967		U.S. Government	57	
Municipals	766		States & Municipals	568	
Other Securities	<u>26</u>	1,759	Other	<u>59</u>	1,458
Loans & Discounts	3,947		Time		
Less Val. Res.	<u>63</u>	3,884	I.P.C.	3,892	
Fixed Assets		63	Cert. of Dept. (non. neg.)	19	
Other Assets		<u>14</u>	States & Municipals	237	
			Others	<u>52</u>	4,200
			(Total Deposits)		(5,658)
			Other Liabilities		53
			Book Capital Funds		<u>541</u>
Total Assets		<u>6,252</u>	Total Liabilities		<u>6,252</u>

*Maturity Distribution (Par Value)

Under 1 year	229
1 - 2 years	192
2 - 5 years	491
Over 5 years	<u>860</u>

1,772

Securities pledged to secure deposits total \$405 (Par Value)

Ratios

Loan to deposit ratio 68.6%

Liquid assets to liability ratio 11.8%

Cash & due from banks	291	Total deposits		5,658
Brokers & dealers loans	0	Less: Cash items	9	
U.S. Government Securities (Up to 2 yr. maturities)	350	Reserves at FRB	<u>232</u>	<u>241</u>
	<u>641</u>			
Less borrowings	<u>0</u>			
	<u>641</u>			<u>5,417</u>

New York State's Quick Asset Ratio 41.4%

Cash, due from banks, exchanges and demand items	532	Total Liabilities		5,711
Unpledged Securities (Mkt. value)	1,756	Less: deposits and borrowings secured by pledge of assets		<u>357</u>
Loans sec. by readily marketable collateral	<u>286</u>			
Total Quick Assets	2,574			
Less: Secured deposits and borrowings	<u>357</u>			
Net Quick Assets	<u>2,217</u>	Net Liabilities		<u>5,354</u>

New York Liquidity Formula

Sample Bank

Requirements

<u>Deposit Liquidity</u>	<u>Amount</u>	<u>%</u>	<u>Under 1 year</u>	<u>1-2 years</u>	<u>2-5 years</u>
Demand deposits					
Volatile	60	88	53		
Vulnerable					
Large	698				
(-)Volatile	<u>60</u>	20		128	
Residual					
Total	1,458				
(-)Large	<u>698</u>	10			76
Time deposits					
Volatile	55	96	53		
Large	654	20		131	
Residual					
Total	4,200				
Less Vol. & Vul.	<u>709</u>	5	—	—	<u>175</u>
<u>Deposit Requirements</u>			<u>106</u>	<u>259</u>	<u>251</u>
<u>Portfolio Liquidity</u>					
Seasonal loan demand	70	100	70		
Unexpected demand	90	100	90		
Projected loan increase	68	100	<u>34</u>	<u>34</u>	—
<u>Portfolio Requirements</u>			<u>194</u>	<u>34</u>	<u>0</u>
<u>Aggregate Requirements</u>			<u>300</u>	<u>293</u>	<u>251</u>

Holdings

<u>Liquidity Instruments Held</u>	<u>Under 1 year</u>	<u>1-2 years</u>	<u>2-5 years</u>
Excess reserves and correspondent balances	127		
High-grade securities maturing in			
Under 1 year	229		
1 - 2 years		192	
2 - 5 years	—	—	<u>491</u>

- 2 -

Net Liquidity

	<u>Under 1 year</u>	<u>1-2 years</u>	<u>2-5 years</u>
<u>Aggregate Holdings</u>	356	192	491
Less borrowings	<u>0</u>		
(a) Net Holdings	356	<u>192</u>	<u>491</u>
(b) Aggregate Requirements	300	293	251
\$ excess (+) or deficit (-)	+ 56	(-)101	+240
Liquidity Index ((a) + (b))	119	66	196

Consolidated Index

		(c) <u>Liquidity Requirements</u>	(d) <u>Net Holdings</u>
	<u>Weight</u>		
Under 1 year	2 x	600	712
1-2 years	1 x	293	192
2-5 years	.5 x	<u>126</u>	<u>246</u>
		1,019	1,150
 Consolidated Index ((c) + (d))	 113		

NOTE: For examiner's comments relating to this bank's liquidity position and borrowings, see Exhibit D.

BANK: SAMPLE BANK

LOCATION: _____

BASED ON REPORT OF EXAMINATION AS OF _____

DISTRICT NO. _____

(Dollar Amounts in Thousands)

	AMOUNT OUTSTANDING	CAPITAL REQUIREMENT		LIQUIDITY CALCULATION	
		Per Cent	Amount		
(1) PRIMARY AND SECONDARY RESERVE				47% of Demand Deposits i.p.c.	\$ 364
Cash Assets	\$ 532	0%		36% of Time Deposits i.p.c.	1,427
Guar. Portion of CCC or V-loans	_____			100% of Deposits of Banks	_____
Comm. Paper, Bnk Accept. & Brks' Lns	_____			100% of Other Deposits	921
U.S. Govt. Secs:		0.5%	\$ 1	100% of Borrowings	_____
Bills	200			Allow. for spec. factors, if info. available (+ or -)	_____
Certificates, etc. (to 1 yr.)	_____			A. Total Provision for Liquidity	2,712
Other (1-5 yrs.) (Incl. Treas Inv. Series A & B)	535			B. Liquidity available from Prim. and Secondary Res. ("amt. outstanding" less cap. required thereon)	1,415
Other Secs. Inv. Rtns 1 & 2 or Equiv. (to 3 yrs.)	177	4.0%	28	C. Liquidity to be provided from assets in Groups 2, 3 or 4 (zero if B equals or exceeds A, otherwise A less B)	1,297
TOTAL \$	1,444		29	D. Liquidity available from Min. Risk Assets (90% of "amt. outstanding" in line 2)	288
(2) MINIMUM RISK ASSETS				E. Liquidity to be provided from assets in Groups 3 or 4 (zero if D equals or exceeds C, otherwise C less D)	1,009
U.S. Govt. Secs. (5-10 yrs.)	235			F. Liquidity available from Intermediate Assets (85% of "amt. outstanding" in line 3)	148
Ins. Portion FHA Rep. & Mod'n Loans	_____			G. Liquidity to be provided from Portfolio Assets (zero if F equals or exceeds E, otherwise E less F)	861
Loans on Passb'ks, U.S. Secs. or CSV	85			
Life ins.	_____			Extra Capital Required on Any Assets in Groups 2-4 Used for Liquidity	
Short-term Municipal Loans	_____	4%	13	6.5% of line C	84
TOTAL \$	320			4.0% of line E	40
(3) INTERMEDIATE ASSETS				9.5% of line G	82
U.S. Govt. Secs. (Over 10 yrs.)	_____			← H. Total Extra Cap. Req.	\$ 206
FHA and VA Loans	174	6%	10		
TOTAL \$	174				
(4) PORTFOLIO ASSETS (Gross of Res.)					
Investments (not listed elsewhere)	612				
Loans (not listed elsewhere)	3,353	10%*	431		
TOTAL \$	3,965				
* Plus 15% of 1st \$100,000 of portfolio, 10% of next \$100,000 and 5% of next \$300,000.					
(5) FIXED, CLASSIFIED & OTHER ASSETS					
Bk Prem., Furn. & Fixt., Other Real Est.	64	100%	64		
Stocks & Defaulted Secs.	_____				
Assets Classified as "Loss"	_____				
Assets Classified as "Doubtful"	59	50%	29		
Assets Classified as "Substandard"	213	20%	43		
Accruals, Fed. Res. Bk. Stock, Prep. Expen.	14	0%			
TOTAL ASSETS \$	6,252				
(6) ALLOWANCE FOR TRUST DEPT. (Amt. equal to 300% of annual gross earnings of Department)					
(7) EXTRA CAP. REQ. IF ANY ASSETS IN GROUPS 2-4 USED FOR LIQUIDITY (zero if line C in Liquidity Calculation is zero, otherwise Total in line H)			206		
(8) ALLOW. FOR SPEC. OR ADDIT. FACTORS, IF INFO. AVAILABLE (+ or -) (see notes on reverse side)					
(9) TOTAL CAPITAL REQUIREMENT (1 thru 8)			\$ 825		
(10) ACTUAL CAP., ETC. (Sum of Cap. Stock, Surplus, Undiv. Profits, Res. for Conting., Loan Valuation Res., Net unapplied Sec. Valuation Res., Unallocated Charge-offs, and any comparable items) (Exclude Depreciation and Amortization Reserves)					\$ 604
(11) AMOUNT BY WHICH ACTUAL IS:					+\$
MORE than requirement (10 minus 9)					
or					
LESS than requirement (9 minus 10)					-\$ 221
(12) RATIO OF ACTUAL CAPITAL, ETC. TO REQUIREMENT (10 divided by 9)					73 %

National Bank's Liquidity Formula

Sample Bank

Cash and Due From Banks		532	
Market Value - Unpledged Bonds)		
Market Value of Excess Pledged Bonds)	1,396	
Federal Funds Sold		<u>0</u>	
Sub total		1,928	
Less: Borrowings	0		
Federal Funds Purchased	0		
Required Reserves	<u>319</u>	<u>319</u>	
Net Liquid Assets		<u><u>1,609</u></u>	(A)
Total Deposits		5,658	
Less: Secured Deposits		<u>360</u>	
Net Deposits		<u><u>5,298</u></u>	(B)
% of Net Liquid Assets to			
Net Deposits (A ÷ B)		<u><u>30.3%</u></u>	