

Loan Loss Reserves

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"Landmark Lifts Reserve, Takes \$28 Million Loss"

"PNC to Boost Loss Reserves By As Much As \$450 Million"

"Big loan-loss provisions, reflecting gloomy economic prospects, continued to color the earnings reports of regional banks . . ."

"UJB Raises Loan Reserves and Posts \$17 Million Loss"

"Bank of Boston reported Thursday that it lost \$187 million in the fourth quarter, after taking a \$280 million provision for credit losses. The company also announced plans to cut . . . 1000 jobs . . ."

(American Banker various 1991 issues)

INTRODUCTION

In 1990 banks throughout the United States had total provision for loan losses of over \$31 billion, an amount almost twice bank profits. Since the mid-1980s, provision for loan losses has been one of the most important factors affecting bank profitability. Headlines and narratives like those listed above demonstrate the interest of the financial press in banks' loss provisions. Yet for many banking students the subject generates questions: What types of accounts are being discussed? Is there a difference between loan loss reserves, loan loss provision, provision for credit losses, and allowance for loan losses? Where do these reserves come from? How do banks decide how much to add to the reserve? Why does increasing reserves produce losses for banks? And why do banks use reserves in the first place?¹

This paper seeks to answer these questions. In doing so it lists and defines the terminology frequently used in discussions of bank loan losses (see "Definitions of Terms" on p. 29) and examines the history and current use of the reserve for loan losses. It also discusses how and why methods for determining the level of reserve for loan losses have changed.

¹ For expositional simplicity leasing is ignored since it is handled in essentially the same manner as lending. Names of accounts are therefore shortened throughout the article. For example, provision for loan and lease losses as on bank Reports of Condition and Income is called provision for loan losses.

DESCRIPTION OF RESERVES FOR LOAN LOSSES

The primary business of banking is the collection and investment of depositors' funds. As a part of this business banks bear credit risk, i.e., the possibility that the borrower will fail to repay as promised. The two major assets in which banks invest depositors' funds are securities and loans. Credit losses on securities are minimal because the bulk of these holdings are government securities with little or no default risk. Loans are a different story. In 1990 banks throughout the United States wrote off over \$29 billion in loans as uncollectible (net of recoveries), an amount almost twice total profits of all U.S. banks for the year.

The federal banking regulators (Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency, and Federal Reserve) require that all banks include in their financial statements an account named *allowance for loan losses* (also known as *reserves for loan losses*). Figure 1 provides an illustrative example showing how the reserve for loan losses (line 4) is typically reported. The account absorbs loan losses both from loans the bank can currently identify as bad loans and from some apparently good loans that will later prove to be uncollectible. The reserve for loan loss account is established and maintained by periodic charges against earnings. The charges show up on the income statement as an expense category named *provision for loan losses* (see Figure 2, line 10). The reserve for loan losses is

Specific Reserves

At many banks, for analytical purposes or on internal books, the reserve is divided into two categories, specific or allocated reserves, and general reserves. Specific reserves are those that a bank views as being associated with some particular loan or group of loans. When a bank determines that a loan presents a greater-than-normal risk of loss it may either add to its reserves specifically for that loan or designate some portion of reserves to be allocated for the loan. Those reserves that are not allocated to particular loans or groups of loans are the general reserves. Division of the reserve account into these two categories allows the bank to analyze its loan loss reserve needs more precisely. On financial reports, however, general and specific reserves are summed and reported simply as reserves for loan losses.

increased by an amount equivalent to the amount charged against earnings as a provision for loan losses (Figure 3, line 4). Banks make additions to the reserve account when (1) it has become apparent that a loan or group of loans is more likely to be in part or wholly uncollectible; (2) an unanticipated charge-off has occurred for which the bank did not set aside reserves; or (3) the amount of loans in the bank's portfolio has increased.

When loan losses are recognized, that is, when a bank decides that some portion of a loan will not be collected and therefore must be *charged off* or *written down*, the amount of the loss is deducted from the asset category loans and also from reserves for loan losses. Suppose for example a bank had made a \$100 loan but only expected to be able to collect \$40 from the borrower. In Figure 1, \$60 would be deducted from \$64,000 on line 3 so as to reduce the loan portfolio by the uncollectible amount of the questionable loan. The \$60 would also be deducted from \$1,000 on line 4. If the bank had already anticipated a \$60 loss on the loan and had added \$60 to its reserve then the bank's current income would not be affected by the write-down. On the other hand if the loan loss had not been anticipated before the loan was written down, then in all likelihood the bank would add \$60 to its reserves following the write-down in order to maintain its reserve at a level sufficient to absorb future loan losses.

Why Banks Create Loan Loss Reserves

Displaying loans on a bank's balance sheet as the amount of funds lent without an adjustment for expected but uncertain future losses would mislead the bank's board of directors, creditors, regulators, and investors by overstating the bank's assets. The income-earning potential of the bank and its capital would also be overstated, making the bank appear stronger than it really is. One would prefer the balance sheet to show as assets only that portion of loans that will be collected. It is difficult, however, for a bank's management to determine before the fact which loans will not be repaid. The compromise

Figure 1

Balance Sheet as of December 31, 1990

Illustrative National Bank

(000)

Assets			Liabilities and Equity		
1	Cash	\$ 8,000	9	Deposits	\$ 74,000
2	Securities	20,000	10	Other liabilities	<u>19,000</u>
3	Total loans	\$ 64,000	11	Total liabilities	\$ 93,000
4	Less: Reserves for loan losses	<u>1,000</u>			
5	Equals: Net loans	63,000	12	Owners' Equity	7,000
6	Other real estate owned	400			
7	Other assets	8,600	13	Total liabilities and owners' equity	<u>\$ 100,000</u>
8	Total assets	<u>\$ 100,000</u>			

Figure 2

**Income Statement for Year Ending
December 31, 1990**

Illustrative National Bank

(000)

Interest income		
1	Interest and fees on loans	\$ 7,000
2	Interest on securities	1,800
3	Other interest income	200
Noninterest income		
4	Service charges	400
5	Other noninterest income	<u>600</u>
6	Total income	\$10,000
Interest expense		
7	Interest on deposits	\$ 4,000
8	Other interest expense	2,000
Noninterest expense		
9	Salaries and benefits	1,000
10	Provision for loan losses	300
11	Other noninterest expense	<u>1,700</u>
12	Total expense	<u>\$ 9,000</u>
13	Income before taxes	\$ 1,000
14	Income taxes	<u>250</u>
15	Net income	<u>\$ 750</u>

used by banks is to estimate the amount of losses that are likely to result from all of the loans in the bank's portfolio and to call this estimate the reserve or allowance for loan losses. According to the American Institute of Certified Public Accountants (AICPA):

"... the allowance for loan losses represents an amount that, in management's judgment, approximates the current amount of loans that will not be collected" [AICPA, (1983), p. 62].

The reserve for loan loss account appears on the asset side of a bank's balance sheet as a deduction from total loans; it is what accountants refer to as a *contra asset account*. The total book value of a bank's loans less the reserve for loan losses should be, if the bank is accurate in its assessment of future loan losses, the best estimate of the net realizable value of the loan portfolio as of the financial statement date. Total loans less the reserve is called *net loans* (Figure 1, line 5).

Figure 3

Calculation of Reserves for Loan Losses for 1990

Illustrative National Bank

(000)

1	Reserves for loan losses, beginning of 1990	\$ 900
2	Less: Charge-offs during 1990	285
3	Plus: Recoveries during 1990 of loans previously charged off	85
4	Plus: Provision for loan losses, 1990	<u>300</u>
5	Reserves for loan losses, end of 1990	<u>\$ 1,000</u>

**Informational Value of the Reserve
for Loan Losses**

Depositors, bank stock investors, and bank analysts are not, in general, privy to information about the riskiness of banks' loans beyond that revealed by the amount of past due and nonaccrual loans which banks are required to report. In other words, the management of a bank has more information about the quality of the loan portfolio than do outsiders. Data on the amount of reserves a bank holds and additions made to reserves are useful to outsiders, since they provide additional information about the quality or riskiness of the loan portfolio. The value of this information is demonstrated by the strong reaction of bank stock prices to unexpected news about bank reserves.

The loan quality information or signal provided by the reserve should be most trustworthy immediately after regulators examine a bank. Examiners provide an independent, unbiased assessment of the quality of a bank's loan portfolio and also have the power to force the bank to restate loans and reserves when their values deviate from the regulator's best estimates. Financial reports coming out soon after a visit from examiners are, therefore, more likely to include an accurate statement of expected net realizable loan values.

LOAN CATEGORIES

At any given time a bank is likely to have some loans in each of the following four categories:

1. **Good loans.** The borrower is making scheduled interest and principal payments and the bank has no reason to suspect that the borrower will not pay back the loan in full.

2. **Loans past due or otherwise in doubt.** Scheduled interest or principal payments have been missed or the bank has some other information indicating that repayment of the loan is in doubt.
3. **Written-down loans.** The bank has removed some of the face value of the loan from its books because it believes it will be able to collect only a portion of the loan.
4. **Charged-off loans.** The value of the loan has been completely removed from the bank's books, because the bank believes it will be able to collect little or nothing from the borrower. The bank may continue to attempt to collect funds from the borrower though it has charged the loan off its books and may be carrying some collateral from the loan on its books.

Most loans stay in category 1 until repaid. Some loans however start off in category 1 but later travel through all three remaining categories before being closed out. Any loan in categories 2 or 4 is a problem loan. Loans in category 3 are often considered problem loans. In some cases, however, when a loan has been written down by an amount sufficient to lower its reported value to its collectible amount, it might be considered a good loan.

The Problem Loan

For most loans only the passage of time and scheduled interest and principal payment dates allow banks to distinguish good loans from problem loans. When the borrower is more than 30 days past due on a scheduled payment the loan is considered past due and the bank lists it as such in its financial statements. The bank probably will have made some effort to contact the borrower to secure payment before delinquency reaches this stage. As scheduled payments fall further in arrear, the likelihood of ultimate repayment diminishes.

When repayment of a loan becomes less likely most banks will add to the reserve in anticipation of a possible loss. Beyond setting aside additional reserves, past due or doubtful loans may be handled in one of several ways depending on the bank's policies. Some banks promptly charge past due or doubtful loans off their books and then attempt to recover from the borrower whatever funds possible. Other banks carry such loans on their books until the borrower recovers or until forced either by the passage of time or by regulators to charge off the

loan. Banks will at times attempt to renegotiate the terms of a loan if renegotiation seems likely to encourage some repayment. In most cases if a loan is past due more than 180 days it will be charged off or at least written down. When a loan is charged off, interest income accrued but not received during the current accounting period is subtracted from current income, and interest accrued but not received in prior accounting periods is deducted from reserves for loan losses [Board of Governors (1984), Section 219.1, p. 4].

The decision between charging off all or only a portion of a loan will depend on whether the bank believes any of the loan is collectible, on the bank's normal procedures for handling losses, and on examiners' opinions. Banks with very conservative loan loss procedures may choose to completely charge off any past due or doubtful loan even if it is likely to be partially repaid. Other banks may, when relatively certain that some portion of a loan will ultimately be collected, deduct only a portion of the face value of the loan from the asset category loans, meaning the loan is written down to its collectible amount. The amount of the write-down is also deducted from reserves for loan losses. If it is unlikely that any portion of a loan will be ultimately collectible then the loan normally will be charged off completely. Regulatory examiners may, following an examination, require a bank to set aside additional reserves for a loan, to write it down, or completely charge it off, depending on their opinions of the probability of repayment.

Collection of funds on a loan that has been completely or partially charged off can be a long and expensive process. Banks usually foreclose on or repossess available collateral. The amount a bank will ultimately recover from written-down or charged-off loans depends on the financial health of the borrower, the borrower's willingness to pay, the value of any collateral, the strength of guarantors or cosigners, and the ability of the bank's workout department or that of the individual loan officer assigned to the account. Any recovery of an amount previously charged off or charged down is added to reserves upon its collection (see Figure 3, line 3).

DETERMINATION OF THE SIZE OF THE RESERVE FOR LOAN LOSSES

Banks' use of the reserve for loan losses, and especially banks' decisions with respect to the size of the account, have changed since the 1940s. The main forces shaping the change have been tax policy,

regulators' instructions, and the growing loan losses of the 1980s. For the first 30 years of the routine use of the account, tax policy determined the amount of reserve held by banks. Then regulatory pressures and high loan losses became dominant determinants.

The Influences of Tax Policy

From 1947 until the mid-1970s or early 1980s, the amount of reserve for loan losses held by banks was largely based on tax considerations. Few banks employed the account before 1947. Most banks relied instead on the "specific charge-off method" since its tax treatment was straightforward [FDIC (1947), pp. 25-26, and Blake (1952), pp. 30-35]. That method of accounting for loan losses involved the subtraction of loan losses from current income or net worth when the loan was charged off.

On December 8, 1947, the Commissioner of Internal Revenue liberalized its policy for banks by ruling that banks' reserves for loan losses could be calculated in a manner that differed from that of other businesses [FDIC (1948), p. 45]. Banks were allowed to hold a reserve for loan losses equal to three times their average yearly loan loss experience of the past 20 years. Soon after the 1947 ruling most large banks and many small banks began holding reserves for loan losses (see Table 1). With some modifications, this policy continued until 1969. Banks could hold reserves exceeding the maximum specified by the IRS, but once the maximum was exceeded additions to the reserve were not tax deductible. This was the case for years before and since 1969. See Table 2 for details of tax laws and rulings.

The Tax Reform Act of 1969 broke with the most recent 20 years of IRS policy and gradually required banks to hold a reserve equal to their current and past five years' losses [U.S. Congress, House of

Representatives (1969), pp. 464-75]. The 1969 act was passed in part to lower banks' tax advantage over other businesses. The change was to be phased in over the next 18 years (see Table 2, 1969 Tax Reform Act). During the phase-in period a bank could either add to reserves for loan losses until they equaled a percentage of loans specified by the act, or until they equaled the bank's average ratio of loan losses to loans of the past six years. The maximum ratio of reserves for loan losses to loans specified by the act declined every six years over the 18-year phase-in.

In 1986 the Tax Reform Act of 1986 was passed, eliminating, for banks with more than \$500 million in assets, the opportunity to subtract, as a pre-tax expense, any provision for future loan losses beyond the amount of loans actually charged off during the year. Small banks continued to hold reserves based on the specifications of the Tax Reform Act of 1969 [U.S. Congress, Joint Committee on Taxation (1987), pp. 549-53].

The rapid growth in reserves following 1947 and the maintenance of levels close to the maximum allowed by the IRS until the early 1980s are apparent in the chart (see listing of IRS maximums in Table 2). While bank loan losses were small and on average fairly constant relative to total loans from 1947 through the early 1970s, banks held reserves throughout the period that greatly exceeded losses. Banks' best estimates of expected loan losses during most of the period were almost certainly considerably lower than the amount of reserves held. However, it was to the banks' advantage to hold reserves at the maximum allowed by the IRS since doing so resulted in lower taxes.

Tax Considerations Become Less Important

Until at least the early to mid-1970s, tax rulings and laws encouraged banks to hold reserves that greatly exceeded losses so that significant regulatory efforts aimed at influencing banks' holdings of reserves were not necessary. Beginning in 1976, however, federal regulators began to encourage banks to hold a reserve of at least 1 percent of total loans. By 1976 the maximum reserve allowed by the IRS had declined to 1.2 percent of loans.

Beginning in 1981 bank failures began to rise and in 1982 net loan losses relative to total loans began a fairly steady increase that would last through the 1980s and into the 1990s (see chart). Regulators and accountants were no longer willing to permit

Table 1

Percentage of Banks with a Reserve Account in Selected Years

1948	38
1950	43
1957	51
1963	61
1971	91
1975	94

Sources: 1948 and 1950 figures, FDIC (1950), p. 51; 1957 figure, ARCB (1972), p. 11; 1963-75 figures, ARCB (1977), p. 4.

Table 2

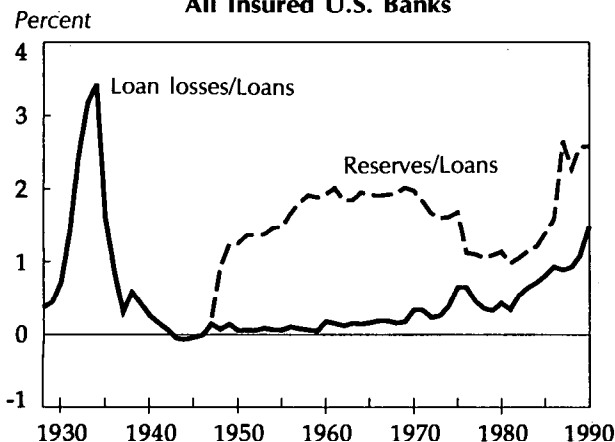
Tax Laws and Rulings Affecting Banks' Reserves for Loan Losses

Year	Type of decree	Effect on reserves
1921	Revenue Act	Allowed all businesses to make additions to bad debt reserves from pre-tax income. Amount set aside was to be reasonable based on loss experience of individual businesses.
1947	Ruling	Allowed banks to cumulate reserves for loan losses from pre-tax income up to three times the banks' average annual losses of the past 20 years.
1954	Ruling	Banks could choose any 20-year period after 1927 on which to calculate their maximum reserves.
1965	Ruling	All banks could accumulate reserves from pre-tax income up to 2.4 percent of total loans. Further additions must come from after-tax income.
1969	Tax Reform Act	Mandated the following phased reduction of maximum reserves percentage above which provisions could not be made from pre-tax income: 1969-75 maximum reserves/loans = 1.8 percent 1976-81, 1.2 percent 1982-87, 0.6 percent. Also specified eventual replacement of percentage-of-loans method with maximum reserves based only on bank's loss experience. Between 1969 and 1987 banks could choose either the appropriate percentage or the "experience method" in which the maximum reserve equals the product of the average net charge-off to total loans ratio for the most recent six years times current outstanding total loans. Banks could switch between percentage-of-loans method and experience method from year to year between 1969 and 1987. After 1987 only the experience method could be used.
1986	Tax Reform Act	Banks with assets over \$500 million must use "specific charge-off method" that permits no additions to reserves for loan losses from pre-tax income beyond current year's charge-offs. For smaller banks, 1969 Tax Reform Act holds.

banks to base the size of their reserves either on a standard rule or on a shrinking arbitrary percentage set by the IRS (after 1982 banks were not taxed on additions to reserves when the reserve was less than .6 percent of loans). Regulators began to encourage banks to calculate reserves based on their own expectations of future losses in the loan portfolio. The chart shows that in the early 1980s banks, on average, responded to regulatory pressure, or at least

to growing loan losses, by maintaining reserves well above the maximum .6 percent of total loans permitted by the IRS. The chart also demonstrates that the gap between reserves and loan losses (both expressed per dollar of loans) shrank from the early 1970s to 1987 but recently has returned to levels common in the 1950s and 1960s. The earlier gap developed in response to tax incentives, but the more recent gap reflects expected large losses from loans to less developed countries and from commercial real estate loans.

**LOAN LOSSES AND RESERVES
RELATIVE TO TOTAL LOANS
All Insured U.S. Banks**



While regulators have been pushing banks to base reserves on expected loan losses, they have recently de-emphasized reserves somewhat as a component of regulatory capital. Traditionally reserves for loan losses have been counted in regulators' measures of capital (see "Definitions of Terms" on p. 29 for the ratios regulators use currently in capital adequacy measures). Before 1988 all of a bank's reserve for loan losses was included in the regulators' main measure of bank capital, primary capital, and therefore was allowed to play an important role in adding to bank capital adequacy. Since 1988, reserves for loan losses have been de-emphasized somewhat in capital adequacy measures, since they are counted only in Tier 2 capital and only up to a specified

proportion of assets [Board of Governors (1991), pp. 3-474.1 and 3-474.2]. According to the capital guidelines agreed upon by all three federal regulators in 1988, capital adequacy is measured using Tier 1 capital and total capital (the sum of Tier 1 and Tier 2 capital). Total capital includes reserves for loan losses, up to a specified limit, and therefore is augmented by additions to reserves.

Determining the Size of the Loan Loss Reserve

Banks employ various techniques to set their reserve for loan loss levels. The amount of reserve maintained is scrutinized by bank regulators and is often modified following bank examinations. Banks maintain reserves at a constant ratio to loans, to past loan losses, or at levels comparable to those maintained by their peers. Alternatively they set reserves to advance income or tax management goals. Finally they set reserve levels by performing an analysis of potential loan losses in their portfolios. They may even use a blend of some or all of the preceding.

Constant Percentage-of-Loans Rule This technique requires that the bank decide on some target level for the ratio of reserves to total loans and then add to the reserve account whenever the ratio falls below target. The percentage-of-loans technique requires no determination of expected future loan losses. The method was used by the majority of banks before the mid-1970s with the target percent determined by the IRS and by tax laws. For large banks, since the passage of the Tax Reform Act of 1986, and for small banks, since 1988 and the beginning of the final phase of the Tax Reform Act of 1969, there is no tax incentive to base reserves on a percent of loans. Some small banks, however, may continue to use the rule, setting the ratio of reserves to loans at 1 to 2 percent.

Use of the technique limits the analysis a bank must perform to determine the size of its reserve account but can lead to several problems. First, regulators and a bank's outside accountants are likely to object to the technique at some point since both the Financial Accounting Standards Board (FASB) and federal regulators have stated plainly that the reserve is to be based on expected losses [FASB (1989), p. 35]. Therefore a bank may be required to show that there is a relationship between its reserves and expected loan losses. Second, using the technique may leave the reserve for loan losses too small to deal with several quarters of substantial loan losses. If instead

the bank were performing a more sophisticated analysis of expected loan losses, loan losses might be better predicted and the reserve augmented in preparation.

Peer Equivalent In its most basic form the peer equivalent technique involves setting the reserve for loan losses equal to or near the level maintained by a bank's peers. Financial reports for banks are widely published, so determining the amount of reserves held by peer banks of equivalent size operating in equivalent markets is a simple matter.

The advantage of the technique is that, like the constant percentage-of-loans technique, it allows the bank to avoid any detailed and costly analysis of its loans. While a few small banks may make exclusive use of such a simple approach, most banks make use of peer information as one of several elements in their determination of appropriate reserve level. Banks compare their own reserves relative to loans to that of peers to determine if their reserve is in line with that of their peers. Regulators also encourage banks to compare themselves with peers but not to the exclusion of analysis of expected losses [see, for example, Board of Governors (1984), Section 219.1, p. 3; and OCC (1984), Section 217.3, p. 1].

Loss History Most banks use prior years' history of loan losses to help them determine current reserves for loan losses. Since the amount of each small bank's tax benefits available from provisions for loan losses is determined by a formula based upon past years' loan losses, some of these banks place considerable weight on such losses when deciding current reserves. For other banks, prior losses on fairly homogeneous loans such as credit card loans, auto loans, personal loans, and home mortgages can provide a reasonable guide to what can be expected in the future.

Since the regulatory agencies warn their examiners not to allow banks to rely too heavily on historical loss data, it is likely that most banks do not place an unwarranted emphasis on past experience when determining their appropriate reserve levels [see, for example, OCC (1984), Section 217.1, p. 2; Board of Governors (1984), Section 219.1, p. 2; and AICPA (1983), p. 62]. The problem with relying completely on loss history is that loan losses are affected by factors that change over time, such as the phase of the business cycle and management philosophy about the declaration of loan losses, so that the experience of the last several years may not always be a good predictor of future conditions.

Income Management Banks can smooth variations in reported income through their choices of when to take provisions for loan losses. By taking small provisions during periods of poor operating income and large provisions when income is high, a bank can shift reported income from prosperous to depressed times, thus smoothing its reported income stream. Choosing the size of provisions to dampen reported income fluctuations may, however, lead the bank's auditors, regulators, or the Securities and Exchange Commission (SEC) to question the bank's income or expenses reporting.

Tax Management When additions to the reserve for loan losses were tax deductible beyond actual charge-offs or loan loss experience, bank income taxes were lowered in high income years by taking larger provisions for loan losses. When income was down, and tax benefits were not as valuable, provisions were decreased. Banks can still produce some tax benefits through shrewd use of the reserve account. Large banks, for which tax deductions are limited to actual loan charge-offs, can to some extent concentrate charge-offs when income is high. Small banks, which since 1988 have been using the experience method of determining tax-deductibility, can set aside the maximum provisions allowed by past loss experience when income is high, and fairly low provisions in years when income is low. As with income management, these maneuvers are likely to produce questions from the IRS, regulators, and auditors.

Loan Analysis Regulators, in their efforts to promote more accurate reporting of banks' income and net worth, have been encouraging banks to use careful loan analysis in the determination of reserve levels since the mid-1980s. When a bank sets its reserves for loan losses equal to an estimate—based on analysis of each loan or loan category—of the loss inherent in the loan portfolio, it determines its reserves using the loan analysis method. While there is considerable variation among banks in the specifics of the analysis, the basic procedures are similar.

Banks generally divide loans into categories and then apply differing analyses to each category to estimate the reserves needed for each category. These estimates are summed across categories to arrive at a total for the loan portfolio (see Figure 4). In general, loans are divided at a minimum into large classified loans, other large loans, and small commercial and consumer loans.

Figure 4

Estimate of Needed Reserves for Loan Losses

<u>Loan Category</u>	<u>Principal Amount</u>	<u>Estimated Needed Reserve</u>
Large classified loans		
Potentially weak	\$ 5,000	\$ 500
Substandard	4,000	800
Doubtful	2,000	1,000
Loss	500	500
Other large loans	1,250,000	12,500
Problem small commercial loans	8,000	1,600
Problem small consumer loans	10,000	2,500
Small commercial loans	900,000	9,000
Consumer loans	1,000,000	<u>10,000</u>
Total estimated needed reserves		<u><u>\$38,400</u></u>

For most banks the majority of large loans, i.e., those that are significant in relation to bank capital or total loans, are found in the commercial loan portfolio. Classified loans are those that have been placed in higher-than-normal risk classes either by the bank's internal loan review or by examiners. A bank's entire portfolio of large loans is frequently reviewed to determine (1) which loans present greater-than-average risk and should therefore be classified and (2) whether those loans already classified should be unclassified or moved to a higher risk category. Classified loans are scrutinized more carefully than other loans when determining reserves for loan losses.

An expected loss or range of losses for all classified loans for each risk class may be estimated from past years' losses and recoveries for that class of loans, from knowledge of the individual classified loans, or from a combination of both. A reserve need is computed for each loan or class of loans as the multiplicative product of the chance of expected loss for the loan or class times the dollar amount of the expected loss. Some of the factors banks typically consider when deciding the probability and amount of loss from a classified loan are the following: whether the loan is currently past due, and if so, how far past due; also, the financial condition of the borrower, the availability of responsible cosigners or

guarantors, the availability of collateral and its value, national and regional economic trends, and, finally, industry trends.²

The losses inherent in the portfolio of other large loans, i.e., large loans that are not classified, must also be estimated to determine the amount of reserves needed for these loans. The estimate is based on (1) historical loss data for large loans with normal risk, classified by type of loan, (2) knowledge of the creditworthiness of the individual borrowers, and (3) economic and industry trends.

Expected losses on small commercial loans and consumer loans that are not past due or on nonaccrual status are estimated from loss histories of the various types of loans and from other considerations that may influence losses in the future. For example, a bank may have suffered losses ranging from 2 to 4 percent per year of its credit card portfolio over the past five years. It would be reasonable, therefore, for the bank to maintain reserves for credit card loans equal to 4 percent of the average amount of the bank's outstanding credit

² During 1990 the Financial Accounting Standards Board, the primary accounting rule-making body, began considering a proposal that could, if implemented, result in a new accounting standard to be used by banks in their calculations of the amount of reserve needed for individual "impaired loans" (loans for which it is probable that the bank will not collect all principal and interest payments according to the terms of the loan contract). Under the new standard the amount of reserve considered adequate for an impaired loan would equal the difference between the book value of the loan and the present value of the expected cash flow generated by the loan. The new standard would apply only to impaired loans.

card loans, assuming conditions affecting losses on such loans to be unchanged in the coming year.³ If rising unemployment or some other factor that might increase losses is expected in the coming year, the amount of reserves needed for these loans would be higher. Small commercial loans and consumer loans that are past due or on nonaccrual status generally require larger reserves than current loans, since a borrower's failure to make scheduled loan payments is an indication that a future loss may be imminent.

CONCLUSION

Most banks no longer set their loan loss reserves at some fixed percentage of total loans as was customary until the early 1980s. Owing to (1) the elimination of most of the tax incentive to maintain excess loan loss reserves, (2) to regulators' abandonment of a fixed target reserve to loans ratio, (3) to the diminished role of reserves in regulatory capital measures, and (4) to regulatory pressure to use loan loss analysis in reserve determination, the reserve is now more likely to measure potential loan losses than in the past. Nevertheless, the desire to smooth reported profits, to lower taxes, and to limit the expenses of estimating future loan losses continues to provide an incentive for banks to hold reserves at levels that differ from their best estimates of the losses inherent in their loan portfolios.

³ For low value, high volume loans regulators require banks to hold reserves only for the coming year's expected losses, rather than holding reserves for expected losses over the life of the loan, which may exceed one year.

Definitions of Terms

Allocated transfer risk reserve	Balance sheet item, separate from loan loss reserve (LLR), that accounts for the risk that foreign borrowers will not be able to acquire sufficient foreign exchange to repay loans.
Charge-off	Completely removing a loan from the balance sheet by subtracting its book value from loans and from LLR. Also called write-off .
Default	Failure of borrower to satisfy provisions of loan agreement.
Experience method	Basing the amount of the addition to LLR on historical loan loss experience.
Foreclosure	Legal proceeding removing from the debtor all interest in mortgaged property when conditions of the mortgage have been violated.
Loan loss reserves (LLR)	Balance sheet account. Deducts from total loans the portion of loan principal not expected to be paid back. Also called allowance for loan losses or reserves for credit losses .
Loan workout	Process following default in which a bank attempts to recover whatever loan funds it can.
Net loans	Total loans less LLR and allocated transfer risk reserve.
Nonaccrual loan	A loan carried on the bank's balance sheet that no longer accrues interest. Any payments received are deducted from principal but not booked as income.
Other real estate owned	Balance sheet account showing the book value of all real estate, other than bank premises, owned by the bank. Consists largely of repossessed real estate.
Past due loan	A loan more than 30 days behind in interest or principal payments.
Percentage method	Basing the amount of the addition to LLR on a percentage specified by regulators or by tax policy.
Problem loan	A loan judged likely to produce a loss. Characterized by some occurrence such as late principal or interest payments. Includes any loan past due or on nonaccrual status. Also called a troubled loan .
Provision for loan losses	Income statement expense account showing amount added to LLR.
Recovery	Funds received on a loan previously charged off.
Restructured loan	A loan on which the bank has granted the borrower some concession because of the borrower's financial difficulties.
Tier 1 capital	Stockholders' equity + perpetual preferred stock + minority interest in consolidated subsidiaries.
Tier 2 capital	Limited-life preferred stock + subordinated debt + reserves for loan losses up to a specified maximum percent of risk-weighted assets (1.5 percent before 1993 and 1.25 percent after 1992).
Total capital	Tier 1 capital + Tier 2 capital. Tier 2 capital cannot exceed Tier 1 capital in Total capital.
Write-down	Reducing the book value of a loan by subtracting a portion of that value from the loan and from LLR.

Source for some definitions: Glenn G. Munn, F. L. Garcia, and Charles J. Woelfel, eds. *Encyclopedia of Banking and Finance*, 9th ed., Rolling Meadows, Ill.: Bankers Publishing Company, 1991.

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