Bank Examination Classifications and Loan Risk

By Kenneth Spong and Thomas Hoenig

The commercial. bank examination process strives to protect depositors and ensure that a bank properly serves its community. A major part of the examination process is the evaluation of a bank's loan portfolio in order to identify any loans that show undue risk and may be uncollectible. Such loans, which are referred to as classified loans, may be useful in evaluating the risk exposure of bank loan portfolios. Banks having a relatively low volume of classified loans, for example, might be low-risk banks. This would be true, however, only if a reliable relationship exists between loans classified by examiners and actual loan losses. While such a relationship might exist, few formal studies have been made to determine the usefulness of examination data in evaluating the risk exposure of bank loan portfolios.[1]

This article analyzes information compiled from examination reports of a sample of state member banks in the Tenth Federal Reserve District. The purpose of the analysis is to explore, for the sample banks, various aspects of the relationship between loans classified by examiners and actual loan losses and to determine whether data from the sample banks provide any evidence that examination information may be used to indicate the riskiness of loan portfolios.

THE EXAMINATION PROCESS

The primary objective of the loan examination is to evaluate the overall condition of a

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1 Other studies using bank loan classification data include George Benston, "Substandard Loans," ***National Banking Review,*** Vol. 4, March 1967, pp. 271-81; George Benston and John T. Marlin. "Bank Examiners' Evaluation of Credit: An Analysis of the Usefulness of Substandard Loan Data," ***Journal of Money. Credit, and Banking.*** Vol. 6, February 1974, pp. 23-44; David R. Graham and David Burras Humphrey, "Bank Examination Data as Predictors of Bank Net Loan Losses," ***Journal of Money, Credit. and Banking.*** Vol. 10, November 1978, pp. 491-504; Joseph F. Sinkey, Jr., "Identifying 'Problem' Banks," ***Journal of Money, Credit, and Banking,*** Vol. 10, May 1978, pp. 184-93; Albert M. Wojnilower, ***The Quality of Bank Loans: A Study of Bank Examination Records.*** Occasional Paper 82, National Bureau of Economic Research, 1962; and Hsiu-Kwang Wu, "Bank Examiner Criticisms, Bank Loan Defaults, and Bank Loan Quality," ***Journal of Finance,*** Vol. 24, September 1969, pp. 697-705. Also, see Thomas Hoenig and Kenneth Spong, "Examiner Loan Classifications and Their Relationship to Bank Loan Chargeoffs and Economic Conditions," September 1977, which is available from the authors upon request.

bank's loan portfolio. Since the majority of a typical bank's assets are loans, this review is one of the more important segments of a bank examination. In a,loan review, examiners first determine a dollar cutoff level for a bank and then proceed to examine only those lines of credit above this level. Loans below the cutoff level are usually not reviewed because of their large number and their relatively small contribution to the total dollar amount of the bank's loan portfolio.[2]

The examiners next begin to collect information that they will need to judge the soundness of those loans selected for review. First, examiners record on "line cards" the relevant details of each particular loan, such as borrower's name, business, original and present loan balance, repayment terms and interest rate, collateral, payment history, and other supporting documentation. With this information, the examiner also ties major credit lines together by borrower, since the examiner is concerned with evaluating all of a borrower's loans. The bank's credit files are then employed to analyze the credits and to complete the loan documentation. These credit files will normally contain financial and operating statements and cash flow projections, as well as other important financial information. Also, the credit lines are discussed with the bank's management to check on any missing information and recent developments as well as to gain insights into management loan policies.

Once the examiner collects the needed information, he begins to formally evaluate each loan. Loans which demonstrate weakness or undue risk are then criticized or classified by the examiners. According to the standardized loan classification procedures drafted by the three Federal supervisory agencies in 1949, the three main loan classification categories are:

1) Substandard—for those lines of credit "involving more than a normal risk due to the financial condition or unfavorable record of the obligator, insufficiency of security, or other factors noted in the examiner's comments."

2) Doubtful--credits "the ultimate collection of which is doubtful and in which a substantial loss is probable but not yet definitely ascertainable in amount."

3) Loss-credits which are regarded as uncollectible and as estimated losses which should be written off against the bank's capital.

In choosing whether to classify a loan into one of these categories, the examiner will rely on the loan documentation, collateral, and his analysis of the financial statement. The examiner will also look at the repayment history of the loan and the present and future prospects of the borrower. For example, an examiner would generally classify a loan if past payments have not been made, the collateral is **insufficient,** or the borrower is demonstrating a poor earnings record. Also, a loan might be criticized if the bank's credit files did not contain sufficient current information on the borrower and if the bank's management was not closely supervising the loan. But more importantly, the examiner must use a great deal of judgement and discretion in evaluating loans, especially since he has no direct contact with the borrower. The basis for such

2 For most of the banks in the sample, this cutoff level was set at approximately 1 per cent of a bank's gross capital. This ensured that the most important loans in a bank's portfolio were examined and that approximately 70 per cent of the dollar volume of each bank's loans were reviewed.

judgement rests on the examiner's training and experience and on certain credit guidelines similar to those used by bankers in granting loans.

The actual choice of which classification category is appropriate for a weak loan will further depend on the examiner's view of its ultimate collectibility. For example, "doubtful" and "loss" classifications are judged as probable losses and uncollectible loans, respectively. Thus, these loans should be much more likely chargeoff candidates than "substandard" loans, which represent the **ex** ante judgements of examiners, since any weaknesses these loans show are not yet sufficient to immediately threaten their collectibility. The examiner may also choose to classify only a portion of any loan or to separate a loan and classify portions of it in different categories. This might be likely if only part of a loan was adequately collateralized or if the borrower's income was sufficient to retire only part of the debt.

After this examination, all classified loans judged by the examiners as uncollectible should be charged off against the bank's capital account. In addition, the bank's management is then expected to review the remaining classified loans and determine if there is any way to improve the quality of these loans.

The subsequent performance of many classified loans may be followed in later examination reports. For example, if a classified loan has shown no improvement, it would usually be criticized again in the next examination. Moreover, if such a loan has shown any deterioration, it could be listed in a more severe category. Thus, a classified loan might be criticized in several examinations until either it had to be charged off or its condition improved enough to warrant an unclassified status. Finally, some of these loans might be partly charged off at one time, with the remainder being continued as an active loan on the bank's books.

THE LOAN CLASSIFICATION-LOSS RELATIONSHIP

This section analyzes data from examination reports from a sample of 13 Tenth District banks over a 14-year span from 1%2 through 1975. The purpose of the analysis is to investigate several aspects of the **classification**-loss relationship. First, the analysis determines the portion of all loan losses that were previously classified by bank examiners. The second aspect examined is the loss experience of classified loans and the extent to which examiners were successful in identifying the relative riskiness of such loans. Finally, this section compares the loss experience of classified loans with that of unclassified loans.

The examination data are analyzed using the following theoretical framework. First, total loan losses from a bank's portfolio are divided into two categories: losses from loans classified by the examiners and losses from loans not classified. This can be written as follows:

$$B = C_B + U_B$$

where

B = total loan losses (in dollar terms),
C_B = losses from classified loans, and
U_B = losses from unclassified loans.

(Note: U_B includes losses from both loans above the cutoff level which the examiners did not classify and loans below the cutoff level which were not reviewed by the examiner.)

Next, these losses can be expressed in percentage terms and related to all classified and unclassified loans as follows:

$$B = [(C_B/C)C] + [(U_B/U)U]$$

where

C = total amount of classified loans, and
U = total amount of unclassified loans.

Finally, in the above equations, losses from classified loans, C_B, can be divided into the three classification categories:

$$C_B = [(S_B/S)S] + [(D_B/D)D] + [(L_B/L)L]$$

where

S = substandard classifications,
D = doubtful classifications,
L = loss classifications, and
Subscript B represents losses from each respective category.

With this framework, examination data from the 13 state member banks were analyzed, including all classified loans.[3] The data yielded over 1,000 loan classifications at these banks. Also, a record was made of all chargeoffs (that is, losses) and recoveries from these classified loans as well as all other significant chargeoffs included in the reserve for bad debts adjustment page of the state and Federal Reserve examination reports. Information from examiner loan chargeoff cards and line cards was used to supplement the above information and to ensure that a complete data set was assembled. Although the dates of classifications and losses were also recorded, the following analysis focuses primarily on the size and number of classifications and losses, and not on their timing. For the sample banks, the vast majority of loan losses occurred within three or four years after the initial date of classification.

Loan Losses and Their Previous Classification

Losses can arise from either classified or unclassified loans. If losses previously classified, C_B, constitute a large portion of a bank's total losses, B, bank examinations have been successful in detecting and classifying most risky loans. If this C_B/B fraction is small, however, the examination has failed to identify most loan problems.

To determine the C_B/B ratio for the sample banks, all chargeoffs from loans above the examiner cutoff level were traced back to see whether they had previously been classified.[4] These large loan losses and their previous classification records were examined in terms of both the number of chargeoffs and their dollar amounts. The loan loss information was then used to divide all of the sample banks' charge-offs into three separate categories: small loan chargeoffs, large loan chargeoffs not previously classified, and large loan chargeoffs previously classified. The chargeoffs from classified loans were further divided into substandard, doubtful, and loss categories for the last examination prior to chargeoff.[5] Since the results

[3] The 13 banks were selected from the list of all Tenth District state member banks. Stratified sampling was utilized to select a small and a large bank group on the basis of total bank assets as of June 30, 1969. Five banks, each having total assets of $25 million or more as of that date were in the large bank group, while eight banks were in the small bank group. These 13 banks ranged in size from approximately $3 million to $250 million in total assets. The sample was restricted to 13 banks because of practical resource restrictions and the desire to follow a group of banks and all of their classified loans over a period encompassing a variety of economic conditions.

[4] Both complete and partial loan chargeoffs are included in this section. A few of the partial chargeoffs were less in dollar terms than the examiner cutoff level; these partial chargeoffs were included if they could be shown to come from loans above the cutoff level. In the case of large loans not previously classified, this information was generally available from the examiner's line and chargeoff cards or from the examination reports.

[5] A number of the loans charged off were previously listed under more than one classification category during a particular examination. If this occurred, each chargeoff was assumed to originate with and continue through the severest classification categories listed. Also, if a loan chargeoff arose from more than one classification category, this chargeoff was apportioned among the respective categories.

Table 1
LOAN CHARGEOFFS AND THEIR SOURCES: 1962-75
(In thousands of dollars)

	All Banks (12)		Large Banks (4)		Small Banks (8)	
	Dollar Amount	Per Cent	Dollar Amount	Per Cent	Dollar Amount	Per Cent
Total chargeoffs (B)	6,420	100.0	4,253	100.0	2,167	100.0
Previously classified (C_B)*	3,932	61.2	2,586	60.8	1,346	62.1
Substandard	1,355	21.1	887	20.9	468	21.6
Doubtful	866	13.5	729	17.1	137	6.3
Loss	1,712	26.7	970	22.8	742	34.2
Previously unclassified (U_B)	2,489	38.8	1,667	39.2	822	37.9
Examined (large loans)	569	8.9	348	8.2	221	10.2
Not examined (below cutoff level)	1,920	29.9	1,319	31.0	601	27.7

*Last examination prior to chargeoff.

from the number of chargeoffs and the dollar amount of chargeoffs are generally comparable, only dollar terms are discussed here.

Of total loan chargeoffs for the sample banks, over 61 per cent (*i.e.*, the C_B/B ratio) were from large loans which the examiners had previously classified (Table 1).[6] Of the remainder, nearly 30 per cent came from small loans below the cutoff level and fewer than 9 per cent were from large loans which the examiners did not classify. In addition, of total loan chargeoffs, 21 per cent had been classified as substandard, and 13 and 27 per cent had been classified as doubtful and loss, respectively, in the most recent examination prior to their chargeoffs. Of the loss **classification** chargeoffs, over one-half had been originally detected at the substandard or doubtful level. Indeed, nearly 40 per cent of all chargeoffs were first classified as substandard, and over 8 per cent of total chargeoffs were **originally** classified as doubtful.[7]

Bank examiners thus appear to catch a large portion of the problem loans in the pool of

[6] One of the larger banks had to be dropped from this section because of a change in reporting procedures, so the results reported are for the remaining 12 banks. A number of the smaller loans charged off had been previously reviewed and classified by the examiners because of their past due status or because they were the remainder of larger classifications. However, such loans were not reported separately in Table 1 because no specific chargeoff information was available on many of these classifications below the cutoff level. Also, these loans were generally not of sufficient number or size to warrant further consideration.

[7] These results were based on our review of loans by number of chargeoffs and by initial classification category for classified loans.

loans that they examine. In fact, of the $4.5 million ($3,932 million + $0.569 million) of large loan chargeoffs in Table 1, less than $0.6 million ($0.569 million), or approximately one-eighth, was not previously classified by the examiners. Since loan classifications represented, on average, only 1 to 3 per cent of total loans at the sample banks, the bank examiners have used a relatively small pool of loans to identify these problem loans.

Loss Experience of Classified Loans

If the examiners are successful in grouping classified loans into separate categories, those classified as loss should have the highest chargeoff rates, followed by doubtful loans, and substandard classifications should have the lowest loss record.

In terms of the loan-loss model, the following relationship would be expected:

$$(S_B/S) < (D_B/D) < (L_B/L).$$

For the sample banks, this classification-loss relationship was estimated by tracing each loan classification through from its initial listing in an examination report to its final settlement as loss, paid-in-full, or removed from classification.[8]

Since an individual loan may be classified for a number of consecutive examinations, a procedure must be established for tracing loans classified more than once. Such a loan can be counted as a classification either once, that is, at the time it is first noted, or each time it is encountered in an examination report as a classified loan. The first method is more appropriate for studying the loss possibilities of an examiner's first perception of a weak loan. The second alternative, however, also has important implications. For example, if one's concern is the loss implications of classified loans from a particular examination report, or if one's concern is the loss relationship of loans repeatedly classified, then this second approach is more useful.[9] Because of this difference, therefore, both approaches are followed in the study.

When classified loans were traced according to their original criticism, the three classification categories of substandard, doubtful, and loss generally conformed to the expected relative risk pattern. Substandard loans had the lowest chargeoff rate, and loss classifications were the most likely chargeoff candidates. These results are presented in Table 2.

Of the 631 classifications in Table 2, a total of 538, or 85 per cent, were first classified as substandard, with the remainder roughly split between doubtful and loss classifications. Of the loans classified as substandard, about 19 per cent were charged off, fewer than 9 per cent were still classified, and 72 per cent were paid in full or were still outstanding without classification. For loans classified as doubtful,

8 Before proceeding, we would caution that we are not testing here for examiner efficiency or accuracy. Examiners, in carrying out their responsibilities, are not directly trying to predict a bank's losses, but rather trying to promote bank soundness by identifying possible loan problems before they have deteriorated to the point of default. Thus, an examiner would be judged successful if he alerted a bank's management to potential loan difficulties in time to reduce the risk of default.

9 The classified loans that were traced in this section include all substandard, doubtful, and loss classifications above the cutoff level at the 13 sample banks. If a loan was classified under more than one category, the separate amounts classified were listed under each of the respective categories. Any chargeoffs and recoveries from classified loans were recorded according to whether they were complete or partial. Also, if a loan classified under more than one category was only partly charged off, the chargeoff was assumed to originate from the most severe loan classification categories. In addition, any loan still classified in the 1976 and 1977 examinations without any chargeoffs was listed under the separate category of "loans still classified."

54 per cent were charged off. Of the loss classifications, 93 per cent were charged off.

Table 2 also indicates that if complete and partial chargeoffs are compared for each classification category, the loss category has the highest percentage of complete chargeoffs, while substandard classifications have the lowest percentage. Thus, loss classifications, in addition to being the most likely chargeoff candidates, are also the most likely to be charged off in their entirety.

When the second approach for tracing loans

Table 2
11088 EXPERIENCE OF CLASSIFIED LOANS: 1962-75

	Total		Substandard		Doubtful		Loss	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
All Banks (13)								
Classified	631	100.0	538	100.0	50	100.0	43	100.0
Charged off:	170	26.9	103	19.1	27	54.0	40	93.0
Complete	88	13.9	39	7.2	13	26.0	36	83.7
Partial	82	13.0	64	11.9	14	28.0	4	9.3
Not charged off:	461	73.1	435	80.9	23	46.0	3	7.0
Paid-in-full or no longer classified	415	65.8	389	72.3	23	46.0	3	7.0
Still classified	46	7.3	46	8.6	0	0	0	0
Large Banks (5)								
Classified	269	100.0	234	100.0	17	100.0	18	100.0
Charged off:	66	24.5	37	15.8	12	70.6	17	94.4
Complete	33	12.3	10	4.3	7	41.2	16	88.9
Partial	33	12.3	27	11.5	5	29.4	1	5.6
Small **Banks (8)**								
Classified	362	100.0	304	100.0	33	100.0	25	100.0
Charged off:	104	28.7	66	21.7	15	45.5	23	92.0
Complete	55	15.2	29	9.5	6	18.2	20	80.0
Partial	49	13.5	37	12.2	9	27.3	3	12.0

was used, recording loans each time they were classified, the chargeoff percentages for classified loans in the three categories were slightly higher than under the **first** approach. Thus, the higher chargeoff percentages under this second method imply that loans classified more than once have higher default **rates.**[10] Since these percentages are otherwise comparable with the previous results, no separate presentation is given. In summary, therefore, these results indicate that about 20 per cent of-substandard loans, 50 per cent of doubtful, and 95 per cent of loss classifications will eventually be charged off.

Loss Comparisons of Classified and Unclassified Loans

If the examination process has been able to separate sound loans from unsound ones, losses from unclassified loans should be less likely than losses from classified ones. That is, U_B/U should be less than C_B/C. In fact, given the definitions for each classified loan category, the following relationship should occur:

$$U_B/U < S_B/S < D_B/D < L_B/L.$$

To test this relationship, chargeoffs from unclassified loans were first compared with all unclassified loans.[11] Also, chargeoffs from loans in the three classification categories were compared with total classifications in each category. Since information was available only on the dollar amount of unclassified loans and their chargeoffs, and not on the number of such loans, both unclassified and classified loans were traced by their dollar amounts. This is in contrast to the previous analysis in which the chargeoff percentages are based on the number of loans rather than their dollar size. The dollar chargeoff figures, however, give a more direct indication of the actual risk exposure in a bank's loan portfolio and also reflect the fact that many loan losses, both unclassified and classified, are only partial chargeoffs.

According to Table 3, the chargeoff rate on unclassified loans, U_B/U, was approximately 0.14 per cent. The small bank group had a higher rate of 0.19 per cent, while the rate of the large bank group was 0.12 per cent.

For classified loans, on the other hand, the dollar chargeoff rates were just under 10 per cent on substandard loans, nearly 60 per cent on doubtful loans, and about 95 per cent on loss classifications. When compared with the previous section, these figures demonstrate that many substandard classifications were only partly charged off, while doubtful and loss classifications were more likely to be charged off in their entirety. The percentages also imply that the average substandard loan was about 70 times more likely to be charged off than an unclassified loan at the sample banks. In addition, doubtful and loss classifications, respectively,

10 As a verification of this, substandard loans were separated into two groups: those classified one year only and those classified two years or more. These loans were then traced to check for eventual chargeoffs. Of the loans classified one year only, approximately 14 per cent were charged off. For loans classified substandard for two years or more, the chargeoff rate was just over 30 per cent.

11 Total unclassified loans between 1962 and 1975 were computed by subtracting each bank's total classifications above the cutoff level from total loans. Likewise, total chargeoffs from unclassified loans were computed as the difference between total chargeoffs and chargeoffs from classified loans above the cutoff level. Thus, no individual unclassified loan was separately traced, and the above chargeoff total for unclassified loans was simply compared with total unclassified loans over the same period. The reported chargeoff percentages should therefore be viewed as approximations which are probably of reasonable accuracy given the large volume of loans included. In addition, one of the larger banks was dropped in this section because of unavailable loan information.

were 6 and 10 times more likely to be charged off than the average substandard loan.

EVALUATION OF LOAN RISK

If information from the examination process is to be used in evaluating the riskiness or future loss exposure of bank loan portfolios, a reliable estimate must be available of the relationship between examiner classifications and loan losses. As shown earlier, the relationship between losses and classifications may be stated as follows:

$$B = (S_B/S)S + (D_B/D)D + (L_B/L)L + (U_B/U)U.$$

Thus, if accurate estimates can be made of the percentage of substandard, doubtful, loss, and unclassified loans that will eventually be charged off, then future loss exposure can be closely projected. On the other hand, if these percentages vary significantly in a manner that cannot be foreseen, then the loan loss estimates may give a misleading signal of loss exposure. Therefore, this section evaluates the "stability" of the classification-loss relationship and discusses factors that might affect its stability.

The chargeoff percentages of both classified and unclassified loans did vary among individual banks and from year to year. The variations among individual banks were examined with the aid of the individual bank data. Each bank's chargeoff percentages by classification category were collected, and for each category an unweighted average, a standard deviation, and a coefficient of variation was calculated for the sample bank group. The standard deviation indicates the dispersion of individual bank chargeoff percentages around the mean, while the coefficient of variation relates this dispersion to the mean. These results are reported in Table 4.

Deviations occurred largely among the small banks. For example, three of the four coefficients of variation for the small bank group were over 50 per cent, while the large

Table 3
UNCLASSIFIED AND CLASSIFIED LOANS AND CHARGEOFFS: 1962-75

	Total Loans ($millions)	Amount Charged Off ($ millions)	Per Cent
All Banks			
Unclassified*	1,827.2	2.5	0.14
Classified:†			
substandard	30.3	2.9	9.61
Doubtful	2.0	1.1	58.11
Loss	1.9	1.8	94.75
Large Banks			
Unclassified*	1,401.6	1.7	0.12
Classified:†			
Substandard	19.2	1.6	8.28
Doubtful	1.3	0.8	65.98
Loss	1.0	0.9	97.78
Small Banks			
Unclassjfied*	425.6	0.8	0.19
Classified:†			
Substandard	11.1	1.3	11.90
Doubtful	0.7	0.3	44.00
Loss	0.9	0.8	91.47

*These are all loans during the bears 1962-75 that were not classified at the sample banks. The amount charged off is the difference between all chargeoffs, 1962-75, 'and the chargeoffs from classififed loans during this period.

†These are all substandard classifications above the cutoff level, 1961-74, and all doubtful and loss classifications above the cutoff level, 1962-75. The chargeoff data were generated by tracing the subsequent performance of each classified loan.

bank coefficients of variation were all below **27** per cent. This result is not surprising since a few of the small banks had only a handful of classifications in each of the categories over the sample period.

Some of the variation in chargeoff percentages is to be expected even if the examiners classified loans on a consistent basis, since a sizeable fraction of unclassified loans was not reviewed and since bankers differ in their efforts to collect on problem loans. Some variation is also due in part to differences in examiner judgements and possible diversity among individual loans in each category, particularly in the wider categories of substandard and unclassified loans.

Another factor that may cause variability in the chargeoff ratios is changing economic conditions. Bank loan chargeoffs as a percentage of total loans may be higher when economic conditions are worsening than when they are improving. This hypothesis has been tested and confirmed over a larger sample size by the **authors.**[12]

Also, if the economy is worsening, a higher percentage of classified loans might be expected to deteriorate to chargeoffs than during a recovery period. This relationship was examined by computing the percentage, according to the number of loans, of each year's substandard classifications at 'the sample banks that was subsequently charged off. Since most of these chargeoffs occurred within three years after classification, the chargeoff percentages were **compared** to the economic conditions that prevailed just after the classifications.

These yearly chargeoff ratios exhibited a definite cyclical trend. Loans classified substandard in **1965, 1968,** and **1973** had the highest chargeoff rates. For these loans, the period after classification was characteristically a recession or growth recession. Additionally, the lowest substandard chargeoff rates were recorded for those classifications near the end or shortly after each of the **above** recession periods. Such substandard classifications would thus be facing a rapidly improving economy. Overall, the chargeoff rate for loans classified substandard at the sample banks just prior to a recession period averaged about one and one-half times the chargeoff rate of such loans during economic expansions.[13]

Table 4
PERCENTAGE OF CLASSIFIED AND UNCLASSIFIED LOANS CHARGED OFF: 1962-75

	Mean	Standard Deviation	Coefficient of Variation
All Banks			
S_B/S	10.19	7.75	.761
D_B/D	49.25	27.73	.563
L_B/L	89.68	17.50	.195
U_B/U	.16	.08	.500
Large Banks			
S_B/S	8.42	2.20	.261
D_B/D	64.28	17.08	.266
L_B/L	97.77	1.94	.020
U_B/U	.13	.03	.231
Small Banks			
S_B/S	11.07	9.47	.856
D_B/D	39.23	30.14	.768
L_B/L	86.65	19.95	.230
U_B/U	.17	.09	.529

12 Hoenig and Spong, "Examiner Loan Classifications and Their Relationship to Bank Loan Chargeoffs and Economic Conditions," unpublished paper, pp. 18-20.

13 In numerical **terms,** the lowest chargeoff rate was 14.75 per cent for 1971 substandard classifications, and the highest chargeoff rate was 35.19 per cent for 1968 substandard classifications. During the three cycles or growth cycles observed in this study, the chargeoff percentages for **sub-**

Economic conditions and trends, then, are important factors in interpreting examination data and in forecasting future loan loss exposure. As mentioned previously, however, examiner judgement and other factors also may affect the variability of chargeoff ratios. Consequently, while examination data do provide useful information about loan portfolio risk, some variability exists in the relationship between loans classified by the examiners and future loan losses.

The actual consequences of this observed variability in the classification-loss relationship must be evaluated in the context of the bank examination process. Since the main purpose of bank examination is to protect bank depositors, forecasts of future loss exposures are important to bank supervisors only as a means of protecting depositors. Thus examiners are primarily concerned with finding an efficient means to detect bank problems before such problems threaten depositor safety. Variability in the classification-loss relationship becomes a severe problem only if it disguises the condition of problem banks. On balance, it would seem that the moderate degree of variability in the chargeoff percentages in Table 4 is not sufficient to result in a bank with serious loan problems not being noticed by the examiners.[14]

standard classifications occurring immediately prior to a recession ranged from 6.22 to **13.33** percentage points higher than the chargeoff rates for substandard classifications at or near the beginning of the previous recovery period.

CONCLUSION

A major portion of the loan problems for the banks studied were identified in bank examinations. Examiners were also successful in categorizing bank loans according to their relative risk of default. In addition, although loan classifications and chargeoffs showed some definite fluctuations among individual banks and among the years of the study, part of this variation could be explained by economic conditions.

Consequently, bank examinations provide useful information on loan risk, although some allowance must be made for unexplained factors in predicting future loss exposure. And, because of this classification-loss relationship, loan classification data serve as an important factor in identifying problem banks which need closer supervision.

14 The value of loan classifications in identifying banking problems has also been recently tested with a larger sample of banks. See **Sinkey**, op. *cit.* **Sinkey** did not look at individual loan classifications, but instead tested the relationship between classifications and problem banks. He found that classified loans were a major factor in identifying problem banks and that while "most 'problem' banks do not fail," "most failed banks are classified as 'problem' banks prior to their closing." (See p. 191.) Similarly, not all classified loans are charged off, especially substandard classifications, but most loan chargeoffs were previously classified by the examiners.

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