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State Bank Failures in Kentucky

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EDITORIAL NOTE

The Bureau of Business Research appreciates the cooperation of Professor Carpenter of the College teaching staff in the preparation of this analysis. It hopes that the study of actual Kentucky banking experience which he and Mr. Johnson have made will be of material aid to bank managements in avoiding pitfalls that in the past have led to bank failures.

It is appropriate also to express the Bureau's indebtedness to the Kentucky Department of Business Regulation, Division of Banking, and to the State Bankers Association for aid and counsel.

This study was undertaken at the request of the Research Committee of the Kentucky Bankers' Association, and the complete report was transmitted to that body in July, 1938. Because of the wide interest in the bank failure problem and the scarcity of available data on the Kentucky experience, this summary has been prepared.

JAMES W. MARTIN, *Director*
Bureau of Business Research

June, 1939

STATE BANK FAILURES IN KENTUCKY

INTRODUCTION

The purpose of this study is to compare the operating histories of twenty-five Kentucky state banks which failed in the years 1931 and 1932 with twenty-five similar banks which remained open throughout the period of high bank mortality. The fact that more than three-fourths of the state banks were able to survive the long period of major depression suggests that some conditions prevailing in the "failed" institutions were not present in those remaining open.¹ This study attempts to reveal these differences in operating conditions in so far as they may be uncovered by analysis of the balance sheets of a sample of successful and unsuccessful banks for several years before the date of failure.

The present investigation is concerned chiefly with the quantitative data available from published bank balance sheets and examiners' reports in the office of the Division of Banking. The valuations in these reports were determined by the bank itself or the state bank examiners and could not be verified by the present writers. Information on the character of the loans and investments, the honesty of the management, the effectiveness of state supervision, and the declining economic activity in the area was not easily obtainable. A comprehensive study of the causes of bank failures would examine these factors with, perhaps, some analysis of income statements and liquidation procedure. In spite of these limitations and difficulties, it is believed that a comparative analysis of the balance sheets of a group of failed banks against a "control" group of non-failing banks will show significant differences in behavior, from which some criteria for successful operation may be developed.

In selecting the sample of failed banks several considerations were recognized. It was necessary that the sample contain

¹At the beginning of 1927 there were 457 state banks in operation. This number had dwindled to 430 in 1930, 396 in 1931, 378 in 1932, 355 in 1933, and 332 in 1934. In the years following 1934 few state banks have failed. From 1928 through 1936 a total of 110 state banks suspended operation and 95 failed to reopen. The years of high mortality were 1930 with 27 failures, 1931 with 23, 1932 with 28, and 1933 with 19.

enough banks to be representative of all state banks failing in Kentucky. Also it was desirable to use banks for the sample which had failed at about the same time. Extremely large institutions and specialized institutions in the trust field were not considered typical of Kentucky state banks; consequently they were eliminated. Twenty-five banks which failed in 1931 and 1932 were selected, and it is believed that this sample is large enough to be representative of state banks failing in Kentucky in the depression period.² These were the years with the greatest number of failures. The institutions selected represent all economic and geographic areas of the state; but emphasis was placed on the north central section because of the concentration there of population, banks, and bank failures.

The open bank sample was selected to correspond as closely as possible to the failed bank sample.³ For each closed bank used, an open bank was selected which was of about the same size and was located in the same town or same community. This was done to eliminate as far as possible the distortion resulting from a comparison of failing banks located in areas of declining business with successful banks located in prosperous and growing communities. Aid was furnished by the Division of Banking in the selection of both samples.

Reports of the condition of the open banks were obtained for the years 1922 to 1932 from the Director of the Division of Banking. In order to have more detailed data on the failed banks, the state examiners' reports on the condition of these banks on the examination date nearest to July 1 of each year was used.⁴ The percentage ratios of each balance sheet item to the total resources were calculated for each bank in each year, and the typical value of each balance sheet item for all banks in the samples was determined.⁵ This resulted in a common-size percentage balance sheet for the failed bank sample over ten

² Similarities in the results of two smaller test samples of failed banks analyzed indicate that the above sample was adequate.

³ The term "failed banks" as used herein refers to the sample of banks failing in 1931-32, while "open banks" refers to the sample of banks which remained open until 1938. In the ratios and percentages for the failed banks in 1932 the sample was made up of seventeen banks. In all other years the figures are based upon data for twenty-five banks.

⁴ In order to test the comparability of the two sources of the data, a trial sample taken from the "Director's Report" was compared with a trial sample taken from the examiners' report. The mean difference, weighted by the importance of each item to the total resources, was only 1.1 per cent. This indicates no important error because of the use of different sources.

⁵ The median was used in order to avoid the distortion caused by extreme items.

years, which could be compared with common-size percentage balance sheets of the open bank sample. From these typical balance sheets, ratios were calculated and indices were computed in order to show significant expansions and contractions.

THE GROWTH IN TOTAL RESOURCES OF FAILED AND OPEN BANKS

Since the growth of total resources (total assets) is commonly used as a measure of the size and importance of a bank, index numbers on this reflection of bank operations were computed for the open and closed bank samples.⁶ Chart 1 shows that this index number increased more rapidly and rose much higher in the open banks than in the closed banks. In 1927 the index of total resources for the failed bank sample had risen to 115.6, while the open bank index had risen to 132.8. In 1930 this index was 122.2 for the failed banks and 128.8 for the open banks. An increase in total resources of banks would be expected in this period when population, wealth, and business activity were growing; but the differences in the amount of growth as between failed and open banks seem significant.⁷

Another interesting result of this comparison appears in connection with the different periods of time over which the most rapid growth took place. The rapid growth of the open banks took place between 1923 and 1926, and the rapid growth of the failed banks occurred between 1926 and 1929. This latter was a boom period when low-grade loans and investments were easily available, and subsequent developments in the failed banks would indicate that they may have obtained more than their share.

This relative growth in resources of failed and open banks in Kentucky is unique when compared with experience elsewhere. A similar study of Florida banks failing in 1922-28 reveals a tendency for the failing banks to increase their resources more than banks remaining open.⁸ Professor Horace Secrist also found a greater relative growth in resources of failing than non-failing national banks.⁹ Since the growth of

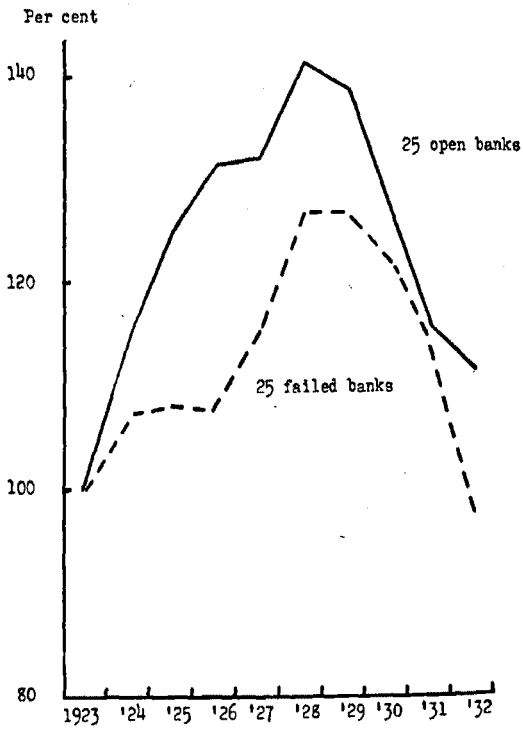
⁶ Based on total resources in 1923 as 100 for both samples.

⁷ It must not be presumed that the failed banks were young, mushroom institutions of the post-war period. Their median age was eighteen years at the date of failure.

⁸ See Harwood B. Dolbeare and Merle O. Barnd, *Forewarnings of Bank Failure*, University of Florida, 1931.

⁹ *National Bank Failures and Non-Failures*, Bloomington, Indiana, 1933.

Chart 1
Growth of Total Resources
1923=100



resources of open banks seemed contrary to general experience, the following index of business activity in Kentucky was obtained for comparison.¹⁰

This index of business activity is suitable for comparison with the total resources indices in Table I above without adjustment of the base year, since the figure of 106 for 1923 is about normal. It would appear that the increase in open bank resources went on at about the same rate as the growth in business activity, up to 1929 at least, while the rate of growth of failed bank resources was slower than general business activity before 1928. Assuming that increased loans are a chief cause of the expansion of total resources in a bank, the above comparison of the resources indices does not indicate such a great increase in the quantity of loans in the failed banks as in the open banks. The quality of the loans made and the date when the expansion of resources took place seem to have a more significant relation to bank failures than does the mere quantity of loans.

TABLE I
INDEX NUMBERS OF THE GROWTH OF TOTAL RESOURCES
IN FAILED AND OPEN BANKS
(1923=100)

Year	Failed Banks	Open Banks
1923	100.0	100.0
1924	107.2	114.2
1925	108.7	124.8
1926	107.9	131.6
1927	115.6	132.8
1928	127.8	141.9
1929	127.5	139.3
1930	122.2	128.8
1931	115.8	116.5
1932	99.5	113.6

¹⁰ Harry G. Davis, *Kentucky Weighted Business Index*, unpublished manuscript, Bureau of Business Research, University of Kentucky.

ANALYSIS OF LOANS AND DISCOUNTS

The asset items of a bank statement are usually discussed under the four main headings of loans and discounts, securities, real estate, and cash resources. Since the quality and amount of these items are closely related to bank failures, the present analysis is presented in some detail.¹¹ Of the four asset items, loans and discounts is the most important, since it is usually the largest. Officers are under a constant incentive to increase the volume of loans, because the largest part of a bank's income normally comes from this source, and depositors and business men of the community are usually anxious to borrow. The loans and discounts item is also important because a bank's closing can generally be accounted for by its inability to collect or otherwise convert the loans into cash with which to meet the demands of depositors. The frozen, slow, and unliquid assets upon which bank failures are so often blamed are usually the loans and discounts.

TABLE II
KENTUCKY WEIGHTED BUSINESS INDEX

Year	Index (percentage of normal)
1923	106
1924	112
1925	122
1926	131
1927	128
1928	130
1929	132
1930	106
1931	86
1932	65

¹¹ Since no significant differences were found in the average amounts of real estate owned by the failed and open banks, the results of that part of the analysis are omitted. That item was small in the sample banks over the period studied.

Analysis of the loans and discounts of the failed and open banks in Kentucky during the ten-year period (Table III) shows that the average percentage of total resources invested in loans and discounts by the failed banks was greater than the percentage invested by open banks in all years except 1927 and 1928. While the difference between the groups was not great, it

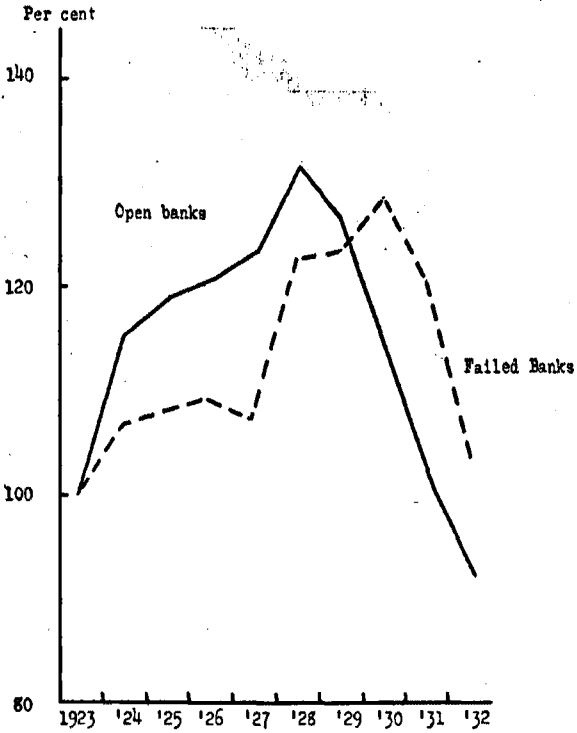
TABLE III
RATIO OF LOANS AND DISCOUNTS TO TOTAL RESOURCES

Year	Failed Banks	Open Banks
1923	76.3%	72.2%
1924	74.9	70.8
1925	72.6	72.0
1926	72.8	69.2
1927	67.5	69.8
1928	68.4	71.8
1929	71.5	69.2
1930	74.2	70.0
1931	73.4	69.6
1932	78.4	59.3

reflects a less satisfactory condition in the failed banks. From 1927 until the year of failure the failed banks had a gradually increasing amount of their assets in loans and discounts. On the other hand, the open banks maintained a fairly constant percentage until 1932 when it fell to 59.3 per cent. At this time the the percentage for the failed banks was 78.4. The rise in the percentage for the failed banks cannot be explained entirely by poor collection tactics of the officers since new loans were being made at all times.

The growth of the loans and discounts in the failed and open banks is shown in Chart 2. Based on 1923 as 100, the index of loans and discounts for the open banks rose to 133.4 in 1928 and then dropped rapidly to 94.6 in 1932. The loans and discounts

Chart 2
Growth of Loans and Discounts
1923=100



index for the failed banks rose more slowly to 123.5 in 1928, to a high point of 129.4 in 1930, and then fell to 105 in 1932. It seems significant that growth in loan volume stopped in 1928 in the open banks and that this growth was protracted to 1930 in the failed banks. At the time that sound banks were curtailing loans, the failed banks allowed the expansion to go on until

TABLE IV
INDEX OF LOANS AND DISCOUNTS

Year	Failed Banks	Open Banks
1923	100.0	100.0
1924	107.1	115.4
1925	108.3	119.9
1926	109.7	121.0
1927	107.6	124.0
1928	123.5	133.4
1929	124.3	126.9
1930	129.4	114.7
1931	121.4	104.0
1932	105.0	94.6

it was too late. Falling values and frozen assets left those banks which had expanded last to the mercy of uneasy depositors. This tendency of the failed banks to overstay the market in 1929 and 1930 was also unwise because of changes in the type of loans being made in the failed banks.

Table V analyzes the composition of the loans and discounts of the failed banks. It shows a decrease in loans on collateral from 12.5 per cent in the first period to 4.7 per cent at the time of failure. This decrease in collateral loans was offset by an increase of about the same amount in loans on real estate. This shows an unhealthy trend in the type of loans which the failed banks were making.¹²

¹² Unfortunately, lack of data prevented a similar analysis of loans of the open banks. This classification of loans was based upon the examiners' reports and is admittedly quite arbitrary.

TABLE V
LOANS AND DISCOUNTS COMPOSITION
Twenty-five Failed Banks

Year	Total	Real Estate	Collateral	Personal
1923	100.0%	22.5%	12.5%	65.0%
1924	100.0	22.2	12.3	65.5
1925	100.0	24.1	11.5	65.4
1926	100.0	26.1	9.9	64.0
1927	100.0	26.8	7.2	66.0
1928	100.0	27.9	7.2	64.9
1929	100.0	29.9	7.8	62.3
1930	100.0	29.0	7.8	63.2
1931	100.0	29.1	5.4	65.5
1932	100.0	30.1	4.7	65.2

The banks were rapidly approaching a time in which they needed more liquid and shorter-term paper, and yet a greater percentage of their notes was being made up of long-term, real estate paper. This development was due to the inability in the periods immediately preceding failure to reduce real estate loans as fast as personal and collateral loans. This fact, considered with the fact that they were owning a greater percentage of real estate, indicates that the banks were becoming less liquid. The real estate owned by the banks increased from 0.1 per cent in the fourth period to 1.6 per cent at the time of failure.

Even more significant is the ratio of loans and discounts to deposits. Ordinarily, the higher the ratio of loans and discounts to deposits the more dangerous is the situation of a bank, and the lower the ratio the greater is the safety of the bank. A high ratio—a ratio approaching 100 per cent—indicates that most of the funds deposited by customers of the bank have been loaned out and that the ability of the bank to repay its depositors

depends too largely upon its ability to secure the repayment of loans by borrowers. A low ratio, on the other hand, shows that only a small part of the depositors' funds has been loaned to borrowers, the balance having been kept in cash or invested in bonds. In such a case, the ability of the bank to meet normal deposit withdrawals is nearly independent of its ability to secure repayment of loans. But if the ratio of loans and discounts to deposits is high, any withdrawals will tend to make it necessary to reduce or collect loans.

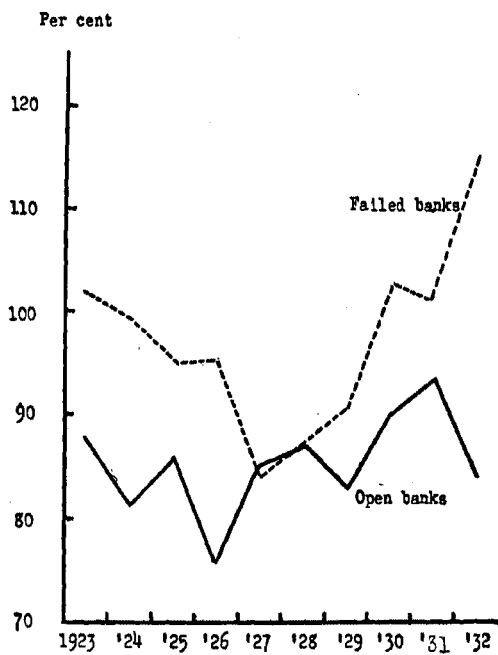
Thus the ratios of loans and discounts to deposits of the open and failed banks should be especially interesting and significant. Examination of Chart 3 shows that this ratio was very high in both groups of banks, but the ratio for the failed banks was greater than the ratio for the open banks in every year but two. The difference between the ratios of the two groups was less in 1927 and 1928 than in any other years. The year of greatest difference was, of course, 1932. From this comparison it seems apparent that the loans of the failed banks were overextended, especially in the last three years.

There is a prevailing view that the ratio of loans and discounts should never be above 85, and a lower ratio normally indicates admirable conservatism in lending. But in 1929 this ratio was 90.7 in the failed banks, and in 1930 it had become 102.8. In 1931 the ratio was 101.8, and by 1932 it had reached the extremely high level of 115.5.

Under this overextended condition of their portfolios the failed banks resorted to borrowing. Bills payable and rediscounts increased from zero in 1929 to 3 per cent of total liabilities and capital in 1930, to 5.9 per cent in 1931, and to 11.9 per cent in 1932. Thus the failed banks were borrowing on their best collateral to meet the demands of uneasy depositors. There is also evidence that collections were not firmly pushed. Examiners' reports on the failed banks show case after case where notes were renewed year after year or were allowed to run for years without renewal. In many cases the security behind these loans was good when the loan was first made, but weak collection tactics during a period of depreciating values caused the losses to accumulate rapidly.

Chart 3

Ratio of Loans and Discounts to Deposits



From the discussion above it is easily apparent that the failed banks managed their loans less efficiently and adopted less sound loan policies than the open banks. The deposit "starvation" which faced all banks in the depression was a more serious problem for the failed banks because of their great loan expansion. The comparison of the growth of deposits in the failed and open banks in Table VI indicates some "starvation" in the failed banks during nearly all of the ten-year period, but the drain was very great in the year of failure. In 1932 the index of deposits, based on 1923 as 100, fell from 113.2 to 86.7 in the failed banks. The index for the open banks fell from 112.4 to 108.0.

TABLE VI
INDEX OF GROWTH OF DEPOSITS* IN FAILED AND OPEN BANKS
(1923=100)

Year	Failed Banks	Open Banks
1923	100.0	100.0
1924	108.5	116.2
1925	109.7	123.3
1926	112.5	135.3
1927	120.8	134.9
1928	133.5	147.1
1929	133.2	143.0
1930	125.5	128.0
1931	113.2	112.4
1932	86.7	108.0

* Another movement was going on in the deposits which had a slight relation to bank failures. In both open and failed banks demand deposits were being changed to time deposits, resulting in a greater expense for interest. This was an added burden to the failed banks, which already had too great losses on loans and investments.

INVESTMENT POLICIES

Banks normally invest a portion of their resources in securities. During the period covered by the present study,

Kentucky state banks purchased high-grade bonds to be held as a secondary reserve and other bonds for income. The latter type of bonds was usually less safe and less marketable but brought in more income than the high-grade securities. Little information was available concerning the investment policies of the open banks before 1932. More extensive information was available on

TABLE VII
RATIO OF SECURITIES TO TOTAL RESOURCES

Year	Failed Banks	Open Banks
1923	1.2%	8.9%
1924	2.3	10.5
1925	.4	9.6
1926	2.1	12.1
1927	7.3	10.6
1928	13.2	12.3
1929	10.7	11.6
1930	8.5	14.2
1931	3.2	13.4
1932	7.4	10.5

the investment policies and practices of the failed banks with regard to both the amounts invested and the kinds of securities purchased. Since a full comparison of the investment policies of the two groups of banks could not be made, it has been difficult to reach definite conclusions on this aspect of bank operation.

The two groups of Kentucky banks studied did not invest a large portion of their resources in securities. Table VII shows that the average percentage of total resources in securities was never more than 13.2 for the failed banks and 14.2 for the open banks during the ten-year period. Since the open banks held a larger percentage of securities in all years except one, it might be concluded that investments of good quality helped to prevent failure. It should be noted, however, that the failed banks were

in and out of the market, holding large amounts of securities in some years and small amounts in others. It is also significant that the percentage of securities owned by the failed banks almost doubled in 1928 when many low-grade issues were appearing in the market. The lack of fluctuation in percentage of securities to resources in the open banks seems to indicate a more carefully planned policy of systematic investment for secondary reserve purposes. The failed banks did not invest heavily until 1928, and in the subsequent years sold their better grade securities to raise cash. Thus the percentage of securities owned by the failed banks decreased to 3.2 in 1931.

Further information on the investment policy is given in Table VIII where the composition of the total bond account of the twenty-five failed banks is analyzed. A similar table for the open banks was not prepared because the Division of Banking is prevented by law from divulging this confidential information.

TABLE VIII
BONDS OWNED BY TWENTY-FIVE FAILED BANKS
(Ratios of Total)

Year	Total	Industrial	Railroad and Utility	Government	Foreign	Real Estate	State County Municipal
1923	100.0%	30.3%	26.6%	22.6%	10.1%	1.0%	9.4%
1924	100.0	30.9	30.7	19.5	8.1	1.2	9.6
1925	100.0	35.1	25.4	12.3	10.3	5.5	11.1
1926	100.0	32.6	22.1	14.4	11.7	10.6	8.6
1927	100.0	35.5	18.5	5.6	12.6	20.3	7.5
1928	100.0	29.3	17.1	5.6	14.9	27.8	5.3
1929	100.0	32.7	18.4	1.6	11.0	29.1	7.2
1930	100.0	31.5	19.1	1.8	9.8	27.8	10.0
1931	100.0	29.5	18.1	0	12.0	28.7	11.7
1932	100.0	22.7	15.5	.2	18.4	32.3	10.9

The most interesting changes in the bond portfolio occurred in foreign and real estate bonds. The failed banks had 1 per cent of their total bond account in real estate bonds in 1923, and this amount had increased to 32.3 per cent in 1932. The amount of foreign bonds owned also became larger during the ten-year

period, while the percentage of government bonds owned fell from 22.6 per cent in 1923 to .2 per cent in 1932.

Bonds suitable for bank investment were amply available in this period. Banks which bought governments seldom lost money on them and some industrials and railroads came through the period with good records. In 1923 the failed banks owned 79.5 per cent of their bonds in these classes. This percentage was allowed to decrease to 46 per cent in 1932, while the amount invested in classes of bonds generally recognized as poor bank investments was gradually increased. It is not surprising that liquidation of these failed banks involved heavy losses on bonds.

CHANGES IN CASH RESOURCES

A fundamental management problem of the banker is to invest his funds in sound assets which will furnish a reasonable income return and will, at the same time, be convertible into cash as the occasion demands. Funds may be invested in bonds, loans, and banking house, but some part must always be held in cash to meet depositors' demands. The immediate cause of failure is usually inability to meet these demands. The policies of the failed and open bank samples as to maintenance of cash reserves may be examined in Table IX. The failed banks maintained a lower percentage of total resources in cash than did the open banks. In 1923 cash resources (cash and due from banks) of the failed banks made up 10.9 per cent of total resources. At this time the open banks held 16.2 per cent of their resources in cash. From 1928 on the percentage of cash resources of the failed bank group declined constantly, while the open banks maintained or raised their percentage of cash funds. Further lending and investing in the face of declining cash reserves seems to have violated a fundamental rule of sound banking.

Since the nature of a bank's investments should be considered in judging its liquidity, the ratio of total United States bonds, plus amounts due from banks, plus cash and cash items, less bills payable and rediscounts, to total time and demand deposits was computed. This ratio, presented in Table X, gives

TABLE IX
RATIO OF CASH AND DUE FROM BANKS TO
TOTAL RESOURCES

Year	Failed Banks	Open Banks
1923	10.9%	16.2%
1924	12.1	13.4
1925	10.7	16.1
1926	10.4	16.3
1927	11.2	12.8
1928	8.3	11.5
1929	9.1	14.7
1930	7.1	11.5
1931	6.7	12.5
1932	3.3	17.0

further basis for comparing the liquidity policy of the banks studied.

In every year except one the liquidity ratio was higher for the open banks than for the failed banks. It seems clearly evident that the open banks admirably maintained their liquid funds in the face of all of the difficulties of the period while the failed banks gradually weakened their reserve position.

The reserves of the latter were especially low after 1927. This was the year which marked the beginning of a rapid expansion of total resources in the failed bank group. The trend of the liquidity ratio also seems to confirm the foregoing suggestions as to the overlending, poor loan management, and imprudent investment behavior of the failed banks. Poor management and desire for profits seem to explain this decreasing liquidity inasmuch as the open banks were able to improve liquidity in the face of disastrous deflations in these years.

TABLE X
LIQUIDITY RATIO*

Year	Failed Banks	Open Banks
1923	10.4%	20.0%
1924	16.0	15.4
1925	14.0	19.2
1926	13.7	19.6
1927	13.9	15.6
1928	10.6	14.1
1929	11.6	17.5
1930	5.7	14.8
1931	1.1	16.8
1932	-11.2	24.2

* United States bonds, due from banks, cash and cash items, less bills payable and rediscounts, divided by total of time and demand deposits.

CAPITAL FUNDS AND NET WORTH

The sources of the funds listed as assets in a bank's statement are indicated by the liability items in the statement. The main sources of these funds are from stockholders, depositors, and accumulated earnings. The part of the funds furnished by the stockholders and accumulated earnings has a special significance because they measure the amount of loss that can take place in assets before loss can fall on depositors.¹³ The amount of capital furnished by stockholders thus has a bearing on failures.

Table XI shows the ratio of net worth (capital stock, surplus, and undivided profits) to total deposits in the failed and open banks. In the failed banks deposits varied from 3.4 to 4.8 times net worth, while in the open banks deposits fluctuated between 4.2 and 6.0 times net worth.

From this table it appears that the failed banks were more conservative, since the proportion of the funds furnished by

¹³ Unless further assessments can be placed on stockholders by reason of double liability on stock.

TABLE XI
RATIO OF DEPOSITS TO NET WORTH

Year	Failed Banks	Open Banks
1923	4.1	4.6
1924	4.4	5.7
1925	4.3	5.7
1926	4.3	5.8
1927	4.8	5.4
1928	4.5	5.9
1929	4.4	6.0
1930	3.8	5.0
1931	3.8	4.2
1932	3.4	4.3

stockholders was greater than in the open banks. The advantage of this conservative policy, however, was overcome by lack of conservatism in lending and investing. The smaller proportion of depositors' funds used by the failed banks was invested and loaned so unwisely that suspension finally resulted.

Another interesting difference in the capital structure of the failed and open banks is found in connection with surplus accumulation.

Table XII shows the ratio of surplus and undivided profits to capital stock. For the failed banks surplus and undivided profits were generally less than 60 per cent of capital stock, while in the open banks surplus and undivided profits were generally above 90 per cent of capital stock. The open banks were thus in a much better position to stand losses without capital impairment than were the failed banks.

More firmness in diverting profits to surplus rather than to payment of dividends might reasonably have saved many banks which failed. The erroneous accounting practices of the failed banks in neglecting to charge off losses showed fictitious profits

almost up to the date of failure, and the failed banks then committed the more serious error of paying dividends. The average dividend based on par value of the capital stock in the failed banks ranged from 9 per cent in 1923 to 5.2 per cent in 1932.¹⁴ Information concerning the dividend policy of the open banks was unavailable. If it is assumed that similar dividends were paid in the open banks, the foregoing criticism would not apply to them since ample surplus and reserves were held back.

TABLE XII
RATIO OF SURPLUS AND UNDIVIDED PROFITS TO
CAPITAL STOCK

Year	Failed Banks	Open Banks
1923	55.1%	95.6%
1924	48.7	90.0
1925	54.8	93.4
1926	57.1	93.2
1927	53.6	106.8
1928	62.0	109.0
1929	60.4	102.9
1930	60.0	102.6
1931	49.2	102.5
1932	40.1	76.3

CONCLUSIONS

Some conclusions based upon the fifty banks studied may be summarized.

1. Distinct differences were noticeable between the items in the statements of the failed and open banks several years before failure.

2. The rapid growth of total resources in the open banks came in the years 1923-26 and in the failed banks in 1926-29.

¹⁴ Unweighted arithmetic mean. The average dividends of other years were as follows: 1924, 8.6 per cent; 1925, 8.1 per cent; 1926, 7.0 per cent; 1927, 7.8 per cent; 1928, 7.8 per cent; 1929, 6.3 per cent; and 1930, 6.7 per cent.

Subsequent developments have indicated that the latter was a dangerous period for expansion of bank loans and investments.

3. The ratio of loans and discounts to total resources ran about the same for both samples, but the ratio of loans and discounts to deposits was much higher in the failed banks through nearly all of the ten-year period. The latter ratio, when high, usually indicates overlending.

4. Fluctuations from year to year in the total amount of bonds owned by the failed banks indicated lack of system in providing secondary reserves. The fact that such fluctuations were not found in the amount of the investments of the open banks indicates that they were following more systematic and sound investment policies. The failed banks' bond accounts also suffered degradation as a result of the increasing proportions of real estate and foreign bonds held while the proportion of government bonds owned was declining.

5. The open banks were always more liquid than the failed and followed better policies as to secondary reserves.

The open banks maintained larger surpluses to protect capital impairment and to safeguard depositors.