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FEDERAL RESERVE BANK OF CLEVELAND

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BANK MERGER ACTIVITY IN THE FOURTH FEDERAL RESERVE DISTRICT, 1960-1967

In recent years, bank mergers have had a noticeable effect on the structure of Fourth District banking, that is, the number, size, and geographical distribution of banks and banking offices. During the period from the adoption of the Bank Merger Act in May 1960 to December 1967, the number of banks in the District declined by more than 12 percent, as nearly one-seventh of District banks were absorbed through merger. In contrast, there was a net increase in the number of banks in the United States during the period, as the number of de novo, or newly formed, banks exceeded the number of banks absorbed through merger (see Table I).

The extensive merger activity in both the District and the nation in recent years raises

at least two questions about the nature of merging banks: (1) What are the characteristics of the acquired banks in terms of size, profitability, nature of business, and location;¹ and (2) How do acquired banks compare with acquiring banks in terms of the above characteristics? This article will attempt to answer these questions by analyzing the

¹ Only a limited amount of quantitative data has been advanced concerning the characteristics of merging banks. For example, see Charlotte P. Alhadeff and David A. Alhadeff, "Recent Bank Mergers," *Quarterly Journal of Economics*, LXIX (November 1955), pp. 503-532; Ernest Kohn, *Branch Banking, Bank Mergers and the Public Interest* (Albany: New York State Banking Department, 1964); and Peter W. Bacon, "A Study of Bank Mergers in Marion County, Indiana, 1945 to 1966," Unpublished doctoral dissertation, Indiana University, 1967.

140 bank mergers² consummated in the Fourth District from May 1960 through December 1967.³

The data for the study were derived from the "Report of Condition" and the "Report of Earnings and Dividends" for the yearend preceding the merger for each Fourth District bank involved in a merger during the period under review. A total of 239 banks were included in the study—139 acquired and 100 acquiring banks.⁴

ASSET SIZE OF MERGING BANKS

During the 1960-1967 period, bank merger activity in the Fourth District generally in-

² For the purpose of this study, a merger is defined as any form of combination whereby two or more banks are joined together under the same charter.

³ The analysis is based on a comparison of selected balance sheet items and operating ratios of acquired and acquiring banks, divided into several categories characterizing bank behavior. Selected measures of central tendency, including the mean, standard deviation, median, and midpoint of the modal class were calculated for each ratio for acquired and acquiring banks and provided the basis of comparison. A t-test was made to determine whether the means of the ratios for acquired and acquiring banks were significantly different. In addition, frequency distributions were established for each variable. A statistical appendix, including the coefficients of relative skewness and kurtosis, is available upon request from the Research Department of the Federal Reserve Bank of Cleveland.

⁴ One acquired bank was omitted due to incomplete data. For purposes of comparison between acquired and acquiring banks in those cases where banks made acquisitions in more than one year, data for the acquiring banks are included for each year in which a merger occurred. Consequently, the data for the acquiring banks consist of 126 observations, although there were only 100 different acquiring banks. In those cases where banks made multiple acquisitions in a given year, data for the acquiring banks were included only once for the year.

volved relatively small banks. One-half of the acquired banks had total assets of less than \$5 million as of the yearend preceding their merger, and three-fourths of all acquired banks had less than \$10 million in assets (see Table II). In contrast, only six acquired banks had assets of more than \$25 million.

Although the acquiring banks were, in general, larger than acquired banks, the differences in bank size were not as great as might be expected. One-half of the acquiring banks had assets between \$5 million and \$50 million, with banks in the \$10 million to \$25 million class accounting for about one-fourth of all acquiring banks (see Table II). However, the larger banks in the District were noticeably less active in acquiring banks. Banks with more than \$100 million in total assets accounted for less than one-third of the acquisitions during 1960-1967, while banks with more than \$250 million in total assets accounted for only one-eighth of the acquisitions. No banks were acquired by a bank with more than \$1 billion in assets during the period under review.⁵

The data in Table II also suggest that the smallest banks in the District tended to merge with medium-sized banks, while medium-sized banks tended to merge with even

⁵ The lack of merger activity among the largest banks in the District during the period may have been due, in part, to the Bank Merger Act of 1960 and the subsequent emphasis upon the anticompetitive effects of many mergers. In the seven year period 1954-1960, banks with more than \$250 million in total assets dominated merger activity in the District, accounting for one-third of all acquiring banks. In contrast, only one-eighth of acquiring banks in the District in the 1961-1967 period had assets of more than \$250 million. For additional information see "Bank Regulation and Structural Changes in Fourth District Banking," 1968 Annual Report, Federal Reserve Bank of Cleveland.

TABLE I
Change in Number of Commercial Banks
United States and Fourth District
May 1960-December 1967

	United States	Fourth District
Number of Banks		
May 31, 1960*	13,384	939
December 31, 1967	13,641	823
Change in Number of Banks		
Banks absorbed through merger	— 1,103	—140
De novo banks	+ 1,424	+ 24
Other changes	— 64	—0—
Net change	+ 257	—116

* Estimated.

Sources: Board of Governors of the Federal Reserve System and
 Federal Reserve Bank of Cleveland

TABLE II
Distribution of Bank Mergers by Asset Size of Acquiring and Acquired Banks
Fourth District
May 1960-December 1967

Asset Size of Acquiring Banks (Mil. of \$)	Asset Size of Acquired Banks (Mil. of \$)							Total	Percent
	Under \$2	\$2 to \$5	\$5 to \$10	\$10 to \$25	\$25 to \$50	\$50 to \$100	\$100 to \$500		
Under \$2	2	—	—	—	—	—	—	2	1.4%
\$2 to \$5	2	3	—	—	—	—	—	5	3.6
\$5 to \$10	8	4	2	1	—	—	—	15	10.7
\$10 to \$25	7	21	5	2	1*	—	—	36	25.7
\$25 to \$50	2	9	5*	7	1	—	—	24	17.1
\$50 to \$100	1	4	8	4	—	—	—	17	12.1
\$100 to \$250	—	5	10	5	2	—	1	23	16.4
\$250 to \$500	—	—	3	4	—	—	—	7	5.0
\$500 to \$1,000	—	2	3	5	—	1	—	11	7.9
Total	22	48	36	28	4	1	1	140	
Percent	15.7%	34.3%	25.7%	20.0%	2.9%	0.7%	0.7%		100.0%

* Excluding an acquisition of a savings and loan association by a bank.

Source: Federal Reserve Bank of Cleveland

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larger banks. For example, 83 percent of the acquired banks with less than \$5 million in total assets merged with banks having up to \$50 million in assets. In contrast, 65 percent of the acquired banks with \$5 million to \$25 million in assets were merged with banks having \$50 million or more in total assets.

BALANCE SHEET COMPARISONS

Examination of the asset structure of banks involved in merger activity in the District during the 1960-1967 period reveals marked differences between acquired and acquiring banks. The typical acquired bank had a significantly higher proportion of its assets invested in U. S. Government securities and a smaller proportion of assets in the form of loans and other securities (primarily state and local government obligations) than the typical acquiring bank (see Table III). The proportion of assets in the form of cash and due from banks was similar for acquired and acquiring banks.

U. S. Government securities accounted for about one-third of the total assets of the average acquired bank, in contrast to only one-fourth of the assets of the average acquiring bank.⁶ The ratio of gross loans to total assets averaged slightly over 40 percent for acquired banks, compared with nearly 50 percent for acquiring banks. Thus, during the period under review, acquired banks had almost one-half of their assets either in cash or U. S. Government securities, compared with a ratio of about 40 percent for acquiring banks. These differences in asset structure of

banks involved in merger activity in the District largely reflect the fact that small banks generally maintain a higher liquidity position than large banks.

The composition of the loan portfolios was also significantly different for acquired and acquiring banks during the period under review. For example, real estate loans and loans to farmers averaged about 55 percent of gross loans at acquired banks, compared with 42 percent at acquiring banks (see Table III). Conversely, acquiring banks had a significantly higher proportion of business loans than acquired banks. Consumer loans accounted for about the same proportion of loans at both acquired and acquiring banks.

In view of the differences in asset size between acquired and acquiring banks, the observed differences in the loan portfolios appear reasonable. Small banks typically make more real estate loans than business loans, while larger banks generally concentrate on business loans, due primarily to their relative advantage in lending limits and customer demand.

In addition to important differences in asset structure and loan portfolios at District banks involved in merger activity during the period under review, the deposit structure of acquired and acquiring banks was significantly different. For example, the ratio of time and savings deposits to total deposits averaged 50 percent at acquired banks, in contrast to 45 percent at acquiring banks (see Table III). There was, however, no significant difference between the capital-deposit ratios at acquired and acquiring banks, suggesting that capital weakness was not an important factor in the merger decisions of most acquired banks.

⁶ Although several measures of central tendency are shown in Tables III and IV, the discussion is generally limited to means.

TABLE III
Selected Balance Sheet Items
Acquired and Acquiring Banks
Fourth District
May 1960-December 1967

	Acquired Banks			Acquiring Banks		
	Mean	Median	Mode†	Mean	Median	Mode†
Asset Structure (as percent of total assets)						
Gross Loans	41.65%* (10.46)	42.04%	38.65%	47.06% (8.18)	46.64%	47.55%
U. S. Government securities	33.13* (11.40)	33.41	35.00	25.21 (7.29)	25.14	21.32
Other securities	8.28* (6.41)	7.19	4.04	10.33 (6.46)	9.74	9.15
Cash and due from banks	14.17 (4.86)	13.48	13.11	14.24 (4.67)	13.44	13.02
Loan Portfolio (as percent of gross loans)						
Real estate loans§	43.06* (19.11)	42.29	42.27‡	35.39 (13.60)	35.22	36.28‡
Farm loans#	12.64* (16.65)	4.63	4.25‡	6.54 (9.45)	2.40	2.72‡
Business loans	12.94* (10.61)	11.37	5.47	21.82 (11.53)	19.75	16.64
Consumer loans	27.74 (15.55)	24.81	23.88	29.61 (11.50)	27.75	26.95
Selected Ratios (as percent of total deposits)						
Gross loans	48.02* (12.68)	47.45	46.53	54.31 (9.37)	53.08	56.54
Time and savings deposits	50.91* (14.83)	52.65	54.85	45.06 (14.85)	47.42	50.89
Total capital	11.16 (4.41)	10.38	10.13	10.43 (3.29)	9.70	8.31

NOTE: Standard errors of the means are given in parentheses.

* The mean of the acquired banks is significantly different from the mean of acquiring banks at .01 confidence level.

† Midpoint of modal class.

‡ Range divided into ten equal classes.

§ Excluding real estate loans secured by farmland.

Real estate loans secured by farmland plus loans to farmers.

Source: Federal Reserve Bank of Cleveland

PROFITABILITY

Because no single index of profitability is satisfactory for all purposes, three profit measures were analyzed, each reflecting a different aspect of bank operations: (1) net current earnings to total assets; (2) net income after taxes to total assets; and (3) net income after taxes to total capital accounts.

The first of these measures—net current earnings to total assets—"reflects bank profitability on current operations measured on a standard base of relative size (total assets) and indicates in terms of current operations how profitably the bank has been utilizing its total resources."⁷ The measure excludes nonoperating items, such as profits or losses on sales of securities, charge-offs or recoveries on loans and investments, transfers to or from reserve accounts, and the effect on tax liabilities of such items as interest earned on tax-free municipal securities. However, the ratio does not measure equity return to stockholders.

The ratio of net income after taxes to total assets incorporates all the activities of a bank and indicates how profitably the bank has been utilizing its total resources in terms of after-tax returns. However, as in the case of the current earnings ratio, it does not measure the rate of return on common equity.

The third ratio—net income after taxes to total capital—does indicate the profitability of a bank in terms of the rate of return to

stockholders.⁸ Because of variations in the relative capitalization of different banks, however, it is possible for two banks to be equally profitable in terms of utilizing their total resources and still have different ratios of after-tax profits to capital.⁹

Despite marked differences between acquired and acquiring banks in the District in terms of size, asset structure, and loan portfolio, there was virtually no difference between the profitability of acquired banks and acquiring banks, regardless of which measure of profitability is used. As shown in Table IV, the mean and median values for each profitability measure were virtually identical for acquired and acquiring banks in the District.

The profit similarity between acquired and acquiring banks appears reasonable, when compared with the average profitability of all Fourth District member banks during the 1960-1967 period (see Table V). Although the largest banks (deposits over \$100 million) tended to be more profitable than smaller banks, there was little difference between the ratios of net current earnings to total assets and net income after taxes to total assets for banks with deposits ranging from \$2 million to \$100 million (a range covering most of the banks involved in merger activity). In sharp

⁸ One analyst contends that "an excellent, if not the best, measure of the profitability of commercial banks is the ratio of net profits after taxes to capital accounts. This is a good measure in that commercial banks compete with other businesses for capital, and investors judge an industry by its rate of return on capital." Edward W. Reed, *Commercial Bank Management* (New York: Harper & Row, 1963), p. 507.

⁹ Kohn, *The Future of Small Banks — An Analysis of Their Ability to Compete with Large Banks*, op. cit., p. 9.

⁷ Ernest Kohn, *The Future of Small Banks — An Analysis of Their Ability to Compete with Large Banks* (Albany: New York State Banking Department, 1966), p. 7.

TABLE IV
Selected Operating Ratios
Acquired and Acquiring Banks
Fourth District
May 1960-December 1967

	Acquired Banks			Acquiring Banks		
	Mean	Median	Mode†	Mean	Median	Mode‡
Profitability						
Net current operating earnings as percent of total assets	1.11% (0.46)	1.05%	1.01%	1.17% (0.37)	1.15%	1.20%
Net income after taxes as percent of total assets	0.73 (0.34)	0.71	0.67	0.69 (0.26)	0.66	0.64
Net income after taxes as percent of total capital	7.66 (3.11)	7.65	8.49	7.89 (2.81)	7.62	5.60
Earnings						
Current operating revenue as percent of total assets	4.31 (0.60)	4.23	4.19	4.37 (0.60)	4.35	4.20
Earnings on loans as percent of gross loans	6.12* (0.77)	6.06	5.59	5.88 (0.71)	5.94	5.95
Service charges§ as percent of demand deposits of individuals, partnerships, and corporations	1.09* (1.36)	0.66	0.37‡	0.65 (0.65)	0.53	0.28‡
Interest on U. S. Government securities as percent of U. S. Government securities	3.20 (0.54)	3.19	3.46	3.26 (0.81)	3.12	3.64
Interest on other securities as percent of other securities	3.00 (1.23)	2.94	3.13‡	2.95 (0.88)	2.80	2.54‡
Expenses						
Total current operating expenses as percent of total assets	3.21 (0.56)	3.22	2.88	3.19 (0.55)	3.18	3.01
Wage and salary expense as percent of total assets	1.05 (0.25)	1.02	0.97	1.04 (0.20)	1.00	0.98
Interest on time and savings deposits as percent of total assets	1.21 (0.46)	1.16	1.24	1.10 (0.48)	1.05	1.11
Other expenses# as percent of total assets	0.95* (0.29)	0.90	0.80	1.05 (0.25)	1.03	1.01

NOTE: Standard errors of the means are given in parentheses.

* The mean of the acquired banks is significantly different from the mean of acquiring banks at .01 confidence level.

† Midpoint of modal class.

‡ Range divided into ten equal classes.

§ Demand deposits only.

Total current operating expenses less wage and salary expense and interest on time and savings deposits.

Source: Federal Reserve Bank of Cleveland

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TABLE V
Profitability and Capitalization
Fourth District Member Banks
Annual Average, 1960-1967

Deposit Size (Mil. of \$)	Profitability			Capitalization
	Net Current Earnings As Percent of Total Assets	Net Income After Taxes As Percent of Total Assets	Net Income After Taxes As Percent of Total Capital	Total Capital As Percent of Total Deposits
Under \$1	1.15%	0.92%	6.6%	16.5%
\$1 to \$2	1.11	0.82	7.4	12.7
\$2 to \$5	1.16	0.77	7.8	11.5
\$5 to \$10	1.18	0.72	8.2	9.9
\$10 to \$25	1.19	0.74	8.9	9.5
\$25 to \$50	1.20	0.71	8.9	9.3
\$50 to \$100	1.26	0.74	9.2	9.1
\$100 and over	1.40	0.82	10.0	9.3
All banks	1.18%	0.75%	8.4%	10.4%

Source: Federal Reserve Bank of Cleveland

contrast, however, the ratio of net income after taxes to total capital rose steadily as the size of the banks increased. The fact that small banks generally have higher capitalization ratios than large banks may, for the most part, explain the higher average rate of return on equity for large banks (see Table V). Consequently, the similar capital ratios among banks involved in merger activity in the District may account for the equivalent rates of return on equity, given the similarity of the other two profit measures.

EARNINGS

In general, analysis of selected earnings measures also revealed few differences between acquired and acquiring banks in the District during the 1960-1967 period. The average yield on assets (ratio of current operating revenue to total assets) was virtually the same for acquired and acquiring banks (see Table IV). Moreover, earnings on U. S. Government securities and on other securities

were not significantly different for acquired and acquiring banks. However, the typical acquired bank had a significantly higher loan yield (ratio of earnings on loans to gross loans) and higher average service charges on demand deposits than the typical acquiring bank.¹⁰

To the extent that the ratios of earnings on loans to gross loans and service charges on demand deposits to demand deposits of individuals, partnerships, and corporations represent average prices charged on loans and demand deposits, the evidence suggests that the typical acquired bank charged *higher* average prices for loans and checking ac-

¹⁰ The frequency distributions of service charges on demand deposits to IPC demand deposits were positively skewed for both acquired and acquiring banks in the District. Consequently, the means had a large positive bias. However, the median service charge for acquired banks was higher than the median for acquiring banks. The midpoint of the modal class was also higher for acquired banks.

counts than did the typical acquiring bank.¹¹ It is possible, however, that the types of loans made by acquiring and acquired banks influenced the average loan yield of the merging banks. In addition, the data on loan yields do not take account of compensating balances. Consequently, the observed differences between the loan yields of acquired and acquiring banks may be more apparent than real. More valid comparisons of the rates charged by merging banks would require information on both the type and maturity of loans.¹²

In order to test further the finding that the typical acquired bank in the Fourth District charged higher average prices for loans and deposit accounts than the typical acquiring bank, the banks involved in individual mergers were paired; then, the average ratios of loan and demand deposit charges of the acquired bank were divided by the corresponding ratios for the acquiring bank. In addition, the ratio of interest on time and savings deposits to total time and savings deposits of the ac-

quired bank was divided by the corresponding ratio for the acquiring bank in individual mergers to compare the average rates paid on time and savings deposits. In each case, a ratio of 100 would indicate that the acquired and acquiring banks in a given merger were charging or paying the same rates. A ratio greater than 100 would indicate that rates at the acquired bank exceeded those at the acquiring bank. Conversely, a ratio of less than 100 would indicate that rates at the acquired bank were below those at the acquiring bank.

As shown in Table VI, in individual mergers, the average prices on loans and demand deposit accounts at acquired banks tended to exceed those charged by acquiring banks. In fact, in slightly more than one-half of the mergers, the average prices for loans and checking accounts at acquired banks were more than 2 percent higher than those at acquiring banks; rates were more than 2 percent lower in less than one-third of the mergers. In contrast, the average rates paid on time and savings deposits tended to be lower at acquired banks than at acquiring banks.

EXPENSES

Examination of selected measures of expenses reveals little difference between acquired and acquiring banks (see Table IV). Current operating expenses of acquired and acquiring banks (expressed as a percent of total assets) were virtually the same for both groups of banks. Similarly, there was no difference between the ratio of wage and salary expense to total assets of acquired and

¹¹ In both cases, the mean of the acquired banks is significantly different from the mean of the acquiring banks at the .01 confidence level.

¹² For surveys of the price and lending policies of merging banks, see Ernest Kohn, *Branch Banking, Bank Mergers and the Public Interest*, op. cit., and Paul M. Horvitz and Bernard Shull, "The Impact of Branch Banking on Bank Performance," *The National Banking Review*, II (December 1964), pp. 143-188. In their survey of national bank mergers in 1962, Horvitz and Shull found that the acquiring banks tended to have lower rates and more liberal terms on unsecured small business loans, 15-year conventional mortgages, and 24-month new car loans than the acquired banks. On the other hand, acquiring banks tended to have higher charges for both regular and special checking accounts.

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TABLE VI
Comparison of Average Prices
Acquired and Acquiring Banks
Fourth District
May 1960-December 1967

	Acquired Bank as Percent of Acquiring Bank					
	Mean	Median	Mode*	Number of Mergers		
				Ratio Below 98	Ratio 98-102	Ratio Over 102
Earnings on loans as percent of gross loans	105.37% (18.18)	104.53%	102.70%†	40	22	77
Service charges as percent of demand deposits of individuals, partnerships, and corporations‡	136.82 (72.14)	119.72	128.78	37	2	73
Interest on time and savings deposits as percent of time and savings deposits	99.32 (19.39)	97.12	97.07	72	20	47

NOTE: Standard errors of the mean are given in parentheses.

* Midpoint of modal class.

† Range divided into ten equal classes.

‡ Based on 112 observations, excluding 27 extreme values. Calculations for all 139 observations: mean, 273.09; median, 134.09; mode, 227.27; number of mergers below 98, 45; number of mergers 98-102, 2; number of mergers over 102, 92.

Source: Federal Reserve Bank of Cleveland

acquiring banks. There was, however, a significant difference between the average salaries paid to officers at acquired and acquiring banks. For acquired banks, the average officer's salary was \$7,889, in contrast to an average of \$9,993 at acquiring banks.¹³ Furthermore, the average officer's salary exceeded \$11,000 at one-third of the acquiring banks, while the average officer's salary exceeded \$11,000 at only one-seventh of the acquired banks.

¹³ The average officer's salary was calculated by dividing total officer salary expense by the number of officers at year-end. For acquired banks, the mean was \$7,889 with a standard deviation of \$3,122. The median was \$7,183, and the midpoint of the modal class was \$7,975. For acquiring banks, the mean was \$9,993 with a standard deviation of \$3,054. The median was \$9,950, and the midpoint of the modal class was \$9,080.

The fact that the ratios of wage and salary expense to total assets were similar for both sets of banks, while the acquiring banks paid significantly higher average salaries to their officers, suggests that the larger acquiring banks had adopted modes of organization that made better use of labor resources. Acquiring banks had fewer total employees per dollar of assets and also had a lower ratio of officers to employees than acquired banks.

Although the average rates paid on time and savings deposits tended to be lower at acquired banks than at acquiring banks, the typical acquired and acquiring banks incurred similar interest expenses on time and savings deposits relative to total assets. This might be due to the fact that time and savings deposits represented a larger proportion of

total deposits at acquired banks than at acquiring banks.

Finally, the typical acquired bank had a somewhat lower ratio of other expenses (total current operating expenses less wage and salary expense and interest on time and savings deposits) to total assets than the typical acquiring bank. Since most acquired banks were unit organizations, while most acquiring banks operated branch systems,¹⁴ the higher ratio of "other expenses" to total assets of the acquiring banks may reflect the higher costs of branching.¹⁵

LOCATION OF MERGING BANKS

Although merger activity in the Fourth District generally involved relatively small banks, a majority of the merging banks were located in Standard Metropolitan Statistical Areas (SMSAs) rather than in rural areas in

¹⁴ Data on the actual number of branches of merging banks are not readily available.

¹⁵ In an analysis of 283 banks in the First, Second, and Third Federal Reserve Districts, Bell and Murphy found that banks able to expand their volume of business without changing the number of their offices were usually able to achieve lower unit costs. However, their analysis showed that if expansion occurred by adding branches, the cost savings due to increased output were largely offset by the higher costs of branch operations. The functional cost analysis showed that for the same number of accounts in the time deposit, instalment, real estate, business loan, and deposit functions, banks with more branches used proportionately more labor than banks with fewer branches. In the demand deposit function, banks with branches used relatively more labor and capital equipment. Expenses for materials were found to be virtually the same for unit and branch systems. See Frederick W. Bell and Neil B. Murphy, *Costs in Commercial Banking: A Quantitative Analysis of Bank Behavior and its Relation to Bank Regulation*, Federal Reserve Bank of Boston, April 1968.

the District. However, as shown in Table VII, only 38 mergers occurred between two banks located in the central city of an SMSA. In 21 cases, banks located in the central city acquired banks located in the SMSA but outside the central city. In 26 mergers, both banks were in an SMSA but outside the central city. Thus, although many acquiring banks (60 of 140) were located in the metropolitan centers of an SMSA, the majority of acquired banks (102 of 140) were located outside of the central cities, or in rural, non-SMSA areas. In fact, 54 of the 140 mergers in the District involved banks located in non-SMSA areas.

To a large extent, the location of merging banks reflected the various branch banking laws of the states included in the Fourth District.¹⁶ For example, in Ohio, about one-fourth (18 of 71) of the acquiring banks were located in the central city of an SMSA, while in the Fourth District portion of Pennsylvania, about one-third (17 of 59) of the acquiring banks were located in the central city of an SMSA (see Table VII). In other words, banks in large cities were more active in the merger movement in Pennsylvania than in Ohio—due mainly to the larger geographical area open for branching to banks in Pennsylvania.

The merger activity of banks located in an SMSA but outside of the central city also differed between Ohio and Pennsylvania.

¹⁶ West Virginia does not permit branch banking. Ohio and Kentucky permit branching within the county in which the main office of the bank is located. Pennsylvania permits branches to be established in the main office county and in any county contiguous to the main office county. See "A Note on Branch Banking Legislation and Banking Structure in the Fourth District," *Economic Review*, Federal Reserve Bank of Cleveland, February 1967, pp. 24-26.

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TABLE VII

Location of Acquiring and Acquired Banks
Fourth District, Ohio, and Pennsylvania*

May 1960-December 1967

	Acquired Banks			Total
	SMSA: Central City	SMSA: Outside Central City	Non- SMSA	
Acquiring Banks				
SMSA: Central City				
Fourth District	38	21	1	60
Ohio	18	8	0	26
Pennsylvania*	17	13	1	31
SMSA: Outside Central City				
Fourth District		26		26
Ohio		15		15
Pennsylvania*		7		7
Non-SMSA				
Fourth District			54	54
Ohio			30	30
Pennsylvania*			21	21
Total:				
Fourth District	38	47	55	140
Ohio	18	23	30	71
Pennsylvania*	17	20	22	59

* Fourth District portion.

Source: Federal Reserve Bank of Cleveland

About one-fifth (15 of 71) of the mergers in Ohio were between banks located outside of the central city, while about one-eighth (7 of 59) of the merging banks in Pennsylvania were located outside the central city. There was little difference between the rate of merger activity of banks located in non-SMSA areas in Ohio and Pennsylvania.

On balance, the greatest difference between the location of merging banks in Ohio and Pennsylvania concerned banks within SMSAs. In Pennsylvania, banks located in the central city were involved in relatively more mergers than similarly located banks in Ohio. In contrast, the merger activity of Ohio banks

located in an SMSA but outside of the central city was relatively higher than for similar banks in Pennsylvania.

SUMMARY

In the period following the adoption of the Bank Merger Act in 1960, bank mergers produced marked changes in banking structure in the Fourth District. One-seventh of the banks in the District as of May 1960 were absorbed through merger by the end of 1967. In general, acquired banks were quite small—three-fourths had less than \$10 million in total assets before merger. Although acquiring banks were larger than acquired banks, the majority of acquiring banks were "medium sized," with assets between \$5 million and \$50 million.

Significant differences were found in the asset structure and loan portfolios of banks involved in merger activity in the District. The typical acquired bank had a lower proportion of its assets invested in loans and other securities and a higher proportion of U. S. Government securities than the typical acquiring bank. Acquired banks generally tended to concentrate on real estate loans and loans to farmers, while acquiring banks made relatively more business loans. Despite these substantial differences between District acquired and acquiring banks, there was virtually no difference in profitability. Regardless of the profitability measure used, acquired banks performed as well as acquiring banks.

The data analyzed with respect to earnings provide some basis to suggest that acquired banks tended to charge higher prices for loans and deposit accounts. However, the

data do not take into account either differences in the loan mix or compensating balances.

There were no significant differences between the ratios of total current operating expenses to total assets of acquired and acquiring banks. However, the composition of expenses differed, as acquired banks incurred slightly higher expenses in interest on time

and savings deposits than acquiring banks; "other expenses" of acquired banks were somewhat lower.

Finally, many acquiring banks were located in the central city of an SMSA, while the majority of acquired banks were located either in an SMSA, but outside the central city, or in a non-SMSA area.

A NOTE ON CORPORATE MERGER ACTIVITY IN SELECTED FOURTH DISTRICT CITIES, 1950-1967

An earlier article on merger activity in the three principal cities in the Fourth District showed that large firms dominated the acquiring side of merger activity during 1950-1967.¹ Firms with assets of \$10 million to \$50 million accounted for the highest proportion of acquisitions by Cleveland-based firms (44 percent), while firms with assets of \$100 million or more accounted for about one-half of the acquisitions by Pittsburgh-based firms. Moreover, in each of the three cities, a relatively large number of firms were involved in the acquiring side of mergers.

In contrast, in Dayton, Toledo, Columbus, Akron, Canton, and Youngstown, a few large firms and a few large industries—the principal sources of employment and income in each city—accounted for most of the merger activity in these cities during 1950-1967. As a general matter, these six cities do not have a

large number of headquarters of major companies and, consequently, do not rank high among the leading headquarters centers in the United States.

NUMBER OF ACQUISITIONS

Among the cities under review, business firms in Dayton were the most actively involved in acquisitions during 1950-1967, while firms in Youngstown were the least active. As shown in Table I, the preponderance of acquisitions made by firms based in each of the six cities involved firms located outside the respective city. Moreover, except for Columbus, the bulk of acquisitions made by firms based in each of the cities involved manufacturing firms. Although manufacturing firms accounted for a high proportion of acquisitions in Columbus, about one-third of the acquisitions involved nonmanufacturing firms, including mainly insurance companies and retail establishments.

As a result of merger activity during 1950-1967, the number of acquisitions by firms

¹ See "Corporate Merger Activity in Selected Fourth District Cities, 1950-1967," *Economic Review*, Federal Reserve Bank of Cleveland, Cleveland, Ohio (January 1969), pp. 17-23.

based in each of the six cities, with the exception of Columbus, substantially exceeded the number of firms acquired by outside firms. In general, the number of acquisitions by firms based in these cities was two to three times larger than the number acquired by outside firms (see Table I). In Columbus, however, the number of acquisitions by Columbus-based firms was equal to the number of acquisitions by companies headquartered outside the city.

Although the data in Table I show five of the six cities experienced a net "gain" in acquisitions, a different picture emerges when assets of acquired firms are taken into account.² As suggested in Table II, the net gain in acquisitions was probably completely favorable only in Akron, where the total assets of firms acquired by Akron-based firms was \$129 million greater than the total assets of Akron-based firms acquired by outside companies. Unfortunately, asset size data are available for only six firms acquired outside of Akron, and assets of these firms amounted to \$154 million. Data are available for only four Akron-based firms acquired by outside firms, and at the time of acquisition, these four firms had assets of \$25 million. The net gain for Akron reflects the fact that more companies with assets of \$10 million or more were acquired by Akron-based firms than were acquired by outside companies.

Although Dayton- and Youngstown-based firms acquired a substantial number of out-

side firms, the gain in asset value was only minimal (see Table II). In Dayton, for example, the net gain in asset value to Dayton-based firms amounted to only \$48 million and reflects the predominance of relatively small firms among acquired firms. Specifically, only two of the 80 firms acquired by Dayton-based firms had assets of \$10 million or more at the time of acquisition.

On the other hand, in Toledo and Canton, where the number of acquisitions by locally based firms also exceeded the number acquired by outside companies, an apparent net loss in asset value was experienced during 1950-1967, reflecting the dominance of small firms acquired by locally based companies. Although Toledo-based companies acquired 56 firms, only four had assets of \$10 million or more, which is the same number of Toledo-based firms acquired by outside firms. The asset loss in the case of Canton was due to acquisitions by outside companies of three firms with assets ranging from \$15 million to \$25 million and one firm with assets of more than \$100 million at the time of acquisition.

Somewhat paradoxically, Columbus had no gain in the number of acquired firms but experienced the largest net gain in asset value among the six cities under review. The gain in Columbus was due in large part to the acquisition of two \$100 million firms by one Columbus-based company. If the two large mergers were excluded from the data, Columbus would also have shown a slight net loss in assets.

ASSET SIZE OF ACQUIRING FIRMS

There are at least two explanations for the relatively modest performance of the six

² Table II should be interpreted with caution because of the limited nature of data on asset size of the acquired firms. Such data generally are not complete because acquired firms are frequently small, privately owned businesses.

TABLE I
Acquisitions Involving Firms in Selected Cities
in the Fourth District
1950-1967

	Firms Headquartered Inside					
	Dayton	Toledo	Akron	Columbus	Canton	Youngstown
Firms Acquired Inside City						
Manufacturing and mining	4	7	1	1	2	1
All other	—	—	—	—	—	—
Total	4	7	1	1	2	1
Firms Acquired Outside City						
Manufacturing and mining	77	55	50	30	28	15
All other	3	1	1	16	—	4
Total	80	56	51	46	28	19
Total acquisitions by firms based in respective cities	84	63	52	47	30	20
	Firms Headquartered Outside					
	Dayton	Toledo	Akron	Columbus	Canton	Youngstown
Firms Acquired Inside City						
Manufacturing and mining	30	34	17	45	11	4
All other	2	—	—	2	1	2
Total	32	34	17	47	12	6
Net difference between acquisitions outside city by firms based in respective city and acquisitions in respective city by firms based outside	52	29	35	—	18	14

Sources: Federal Trade Commission and Federal Reserve Bank of Cleveland

TABLE II
Acquisitions of Firms with Identified Asset Size*
Selected Fourth District Cities
1950-1967

	Acquired by Firms Inside		Acquired by Firms Outside		Net Difference	
	Number	Assets (mil. of \$)	Number	Assets (mil. of \$)	Number	Assets (mil. of \$)
Dayton						
Total Identified Assets	8	\$ 90	8	\$ 42	—	\$ 48
Asset Size \$10 Million and Over	2	83	2	25		
Toledo						
Total Identified Assets	12	221	9	251	3	— 30
Asset Size \$10 Million and Over	4	194	4	235		
Akron						
Total Identified Assets	6	154	4	25	2	129
Asset Size \$10 Million and Over	4	145	1	18		
Columbus						
Total Identified Assets	5	226	11	46	—6	180
Asset Size \$10 Million and Over	2	219	1	18		
Canton						
Total Identified Assets	8	42	5	165	3	—123
Asset Size \$10 Million and Over	2	26	4	163		
Youngstown						
Total Identified Assets	3	34	2	14	1	20
Asset Size \$10 Million and Over	1	20	—	—		

* Includes acquired firms for which asset data are available.

Sources: Federal Trade Commission and Federal Reserve Bank of Cleveland

cities during 1950-1967. First, as shown in Table III, firms with assets of \$50 million or less generally dominated the acquiring side of merger activity in several of the cities, particularly in Columbus, Canton, and Youngstown. Second, in those cities where a few large firms with assets over \$100 million dominated acquisitions, for example, in Dayton and Akron, the bulk of acquired companies apparently had assets of \$10 million or less. Accordingly, a large number of acquisitions of small firms by a few large firms distorted to some extent the asset size pattern in Dayton and Akron. As a general matter, relatively small firms tended to dominate the acquiring side of mergers in the six cities under review.

Firms with assets under \$50 million accounted for 80 percent of recorded mergers in Canton and all of the mergers in Columbus. On the other hand, companies with assets of \$50 million or more accounted for the largest share of merger activity in Dayton and Akron. However, in Dayton and Akron, two firms

with assets of \$50 million or more sharply influenced the distribution as well as the number of mergers. For example, two Dayton-based firms (with assets of \$50 million or more) made 45 acquisitions during 1950-1967. In fact, one firm (with assets over \$100 million) accounted for 34 of the acquisitions made by firms in that asset size class. Thus, of the 81 acquisitions made by Dayton-based firms, slightly more than one-half involved two firms. The dominance of a few large firms also marked merger activity in Akron. For example, firms with assets of \$100 million or more accounted for 34 of the 51 acquisitions made by Akron-based companies; of those 34 acquisitions, 27 involved two firms. Thus, if firms with assets of \$100 million or more are excluded from the data, the bulk of acquisitions in Dayton and Akron also involved firms with assets under \$50 million.

ASSET SIZE OF ACQUIRED FIRMS

It may be presumed that the average size of firms acquired by companies headquartered

TABLE III
Distribution of Mergers by Asset Size of Acquiring Firms*
United States (1955-1967) and Selected Fourth District Cities (1950-1967)

Asset Size (mil. of \$)	United States 1955-1967		Dayton 1950-1967		Toledo 1950-1967		Akron 1950-1967		Columbus 1950-1967		Canton 1950-1967		Youngstown 1950-1967	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under \$10	2,764	25%	14	17%	11	18%	1	2%	23	74%	13	43%	4	25%
\$10 to \$50	3,579	32	11	14	17	27	11	22	8	26	11	37	8	50
\$50 to \$100	1,278	11	13	16	5	8	5	10	—	—	1	3	—	—
\$100 and over	2,549	23	36	44	22	35	34	67	—	—	1	3	3	19
Unknown†	1,060	9	7	9	7	11	—	—	—	—	4	13	1	6
Total	11,230	100%	81	100%	62	100%	51	100%	31	100%	30	100%	16	100%

NOTE: Details may not add to totals because of rounding.

*Includes only manufacturing and mining.

†Includes under \$1 million or unknown.

Sources: Federal Trade Commission and Federal Reserve Bank of Cleveland

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TABLE IV

Distribution of Mergers by Asset Size of Acquired Firms*
Fourth District and Selected Cities in the Fourth District
1950-1967

Asset Size (mil. of \$)	Fourth District								
	Number	Percent		Dayton Number	Toledo Number	Akron Number	Columbus Number	Canton Number	Youngstown Number
		Including Unknown Class	Excluding Unknown Class						
Under \$10	209	16%	61%	6	11	2	1	4	1
\$10 to \$25	74	6	21	1	1	1	—	2	1
\$25 to \$50	27	2	8	1	3	2	—	—	—
\$50 to \$100	12	1	3	1	1	1	—	—	—
\$100 to \$250	16	1	5	—	—	—	—	—	—
Over \$250	7	1	2	—	—	—	—	—	—
Unknown	931	73	—	62	40	33	28	22	12
Total	1,276	100%	100%	71	56	39	29	28	14

* Includes only manufacturing and mining.

Sources: Federal Trade Commission and Federal Reserve Bank of Cleveland

in the six cities fell in the under \$10 million asset size class, which is similar to the nature of merger activity in the District during 1950-1967.³ Data on asset size of firms acquired by companies based in each of the cities are extremely limited, thus precluding a meaningful description of the characteristics of acquired companies (see Table IV). Nevertheless, the data in Table II also suggest that a high proportion of the acquired firms had assets of less than \$10 million at the time of their acquisition.

INDUSTRIES OF ACQUIRING AND ACQUIRED FIRMS

The dominance of a few firms in most of the six cities under review explains in part

the concentration of merger activity in a few industries during 1950-1967. For example, firms in three industries accounted for 60 percent of the acquisitions by Columbus-based companies, and nearly all of the acquisitions by Akron- and Youngstown-based companies. (In contrast, in the District as a whole, firms in six industries accounted for about two-thirds of acquisitions by companies based in the District.)⁴ Companies most active in merger activity in Toledo and Akron were in industries that provide a large part of the employment in the respective cities. However, in Dayton, where two firms dominated merger activity, the two industries that were most active in mergers are of relatively small importance in the industrial makeup of that city.

During 1950-1967, except for Columbus, firms in three industries accounted for at

³ See "Corporate Merger Activity in the Fourth Federal Reserve District, 1950-1967," *Economic Review*, Federal Reserve Bank of Cleveland, Cleveland, Ohio (October 1968), pp. 3-10.

⁴ *Ibid.*

TABLE V

Distribution of Mergers by Major Industries of Acquiring and Acquired Firms*
 Selected Fourth District Cities
 1950-1967

	Acquiring Industry		Acquired Industry	
	Industry	Number of Acquisitions	Industry	Number of Acquisitions
Dayton	Paper and allied products	38	Paper and allied products	31
	Rubber and miscellaneous products	14	Machinery, except electrical	10
	Machinery, except electrical	13	Printing, publishing, and allied industries	6
	All other	16	All other	24
	Total	81	Total	71
Toledo	Electrical machinery	18	Machinery, except electrical	12
	Transportation equipment	10	Fabricated metal products	8
	Stone, clay, and glass products	10	Transportation equipment	7
	All other	24	All other	29
	Total	62	Total	56
Akron	Rubber and miscellaneous products	40	Rubber and miscellaneous products	9
	Machinery, except electrical	6	Apparel and other finished products	8
	Fabricated metal products	4	Machinery, except electrical	5
	All other	1	All other	17
	Total	51	Total	39
Columbus	Machinery, except electrical	12	Leather	6
	Leather	3	Lumber and wood products	3
	Lumber and wood products	3	Chemicals and allied products	3
	All other	13	All other	17
	Total	31	Total	29
Canton	Machinery, except electrical	11	Machinery, except electrical	9
	Stone, clay, and glass products	7	Fabricated metal products	5
	Fabricated metal products	6	Printing, publishing, and allied industries	4
	All other	6	All other	10
	Total	30	Total	28
Youngstown	Machinery, except electrical	8	Machinery, except electrical	6
	Furniture and fixtures	4	Furniture and fixtures	2
	Primary metals	3	Fabricated metal products	2
	All other	1	All other	4
	Total	16	Total	14

* Includes only manufacturing and mining.

Sources: Federal Trade Commission and Federal Reserve Bank of Cleveland

least one-half of the companies acquired by firms in each city. Frequently, the bulk of acquisitions by firms in one industry tended to be in the same industry. There were, however, important exceptions in Akron and Toledo. For example, Akron-based companies acquired a sizable proportion of nonmanufacturing firms (especially in wholesale and

retail trade); within manufacturing, fabricated textile producers (shown in Table V as the apparel industry) ranked high among firms acquired by the rubber companies. Finally, in Toledo, acquiring firms in the two industries most active in mergers (electrical machinery and transportation equipment) diversified their acquisitions.

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