

Understanding the Effects of the Merger Boom on Community Banks

By Julapa Jagtiani

The merger boom in the U.S. banking industry has caused the number of banking organizations in the nation to fall by nearly a third since 1990. Most of this contraction has involved small community banks, whose numbers have fallen by more than 3,000 banks. A common perception is that most of these small banks are being absorbed by large banks. Their disappearance is raising concerns in many communities because small banks are often a major source of personal services and relationship lending to local businesses and depositors.

In contrast to this general perception, the effects of the merger boom may be quite different. Despite reducing the number of small banks, the merger boom may to a large extent be joining successful small banks with less successful ones, thereby creating stronger, more efficient, and better managed banks.

This article investigates the merger boom in detail, examining who purchased community banks, the relative performance of the merging banks, and the stock price premiums paid for community banks by large and smaller acquirers. The article suggests that the merger boom has the potential to strengthen the community banking sector, as some

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community banks are taken over by other, more efficiently run community banks located in the same state. Thus, the community banks that have survived the merger boom may be in a good position to continue serving the local businesses and depositors who value personal service and relationship lending.

The first section of the article recounts the fall in the number of small community banks during the bank merger boom and discusses some of the related public concerns. The second section shows that many of the community banks taken over during the boom were purchased by other community banks from the same state and not by larger banking organizations. The third section discusses the characteristics of community banks that merge with each other and provides evidence that these mergers have the potential to create even stronger banks. The fourth section presents additional evidence in support of this view by examining the merger premiums that acquiring banks have been willing to pay over the stock prices of acquired community banks.

I. CONCERNS OVER SMALL BANK MERGERS

The total number of community banks and their share of banking assets have fallen markedly since 1990. This section reviews the evidence of these declines, shows that they resulted from mergers, and discusses some of the reasons for public concern.

The number of U.S. banking organizations has declined by 32 percent during 1990-2006 (Table 1). Banking organizations include bank holding companies and independent banks—thrifts and saving organizations are not included. Small, medium-sized, and large banking organizations are defined as those with assets of less than \$1 billion, between \$1 billion and \$10 billion, and larger than \$10 billion, respectively, where assets are measured in 2006 prices. For convenience, in this article banking organizations are sometimes referred to as banks. Small banks are referred to as community banks.

Most of the contraction has occurred in the community bank sector. The number of community banking organizations fell from about 9,200 at the end of 1989 to 5,900 at the end of 2006, a 36 percent decline. The share of community banks in total domestic banking assets also declined significantly over the period, from 18.5 to 10.5 percent. In the case of medium-sized banks, the number increased by more

Table 1

NUMBER OF BANKING ORGANIZATIONS AND SHARE OF BANKING ASSETS BY SIZE OF ORGANIZATION (END OF YEAR)

	Number of Banking Organizations by Asset Size (billion)				Share of Domestic Banking Assets (%) by Asset Size (billion)			
	< \$1	\$1-\$10	> \$10	All	< \$1	\$1-\$10	> \$10	All
1989	9,193	270	89	9,552	18.5	15.0	66.4	100
1994	7,655	232	79	7,966	16.8	19.1	64.0	100
1999	6,459	338	67	6,797	13.4	10.9	75.6	100
2004	6,004	336	73	6,413	11.4	9.8	78.7	100
2005	5,957	428	71	6,385	11.2	10.3	78.4	100
2006	5,858	444	76	6,302	10.4	9.4	80.0	100
Total change	-3,335	+174	-13	-3,250	-8.0	-5.5	+13.5	

Note: Banking organizations include bank holding companies and independent commercial banks. Size thresholds are adjusted for inflation by using assets measured in 2006 prices.

Source: Call Reports

than 60 percent, but the share of domestic banking assets nevertheless shrunk (from 15.0 to 9.5 percent). Unlike community banks and medium-sized banks, large banking organizations increased their share of U.S. banking assets significantly during the 17-year period (from 66.5 to 80.1 percent).¹

Mergers were the primary reason for the decline in the number and asset share of community banks during the period 1990-2006. This article focuses on those mergers that involved publicly traded banking organizations (either the acquirer or the target or both are traded on the exchanges or over the counter).² There were more than 4,200 such mergers from 1990 through 2006 (Table 2). More than 90 percent of these mergers (close to 3,900) involved acquisitions of community banks. Despite excluding mergers in which neither bank was publicly traded, these 3,900 acquisitions of community banks far exceeded the total decline in community banking organizations shown in Table 1 (roughly 3,300). Thus, mergers more than accounted for the sharp decline in the number of community banks during the last two decades.

Table 2

ACQUISITIONS OF BANKING ORGANIZATIONS BY SIZE OF TARGET

	Number of Acquisitions (in \$ billion) by Target's Asset Size				Amount of Assets Acquired (in \$ billion) by Target's Asset Size			
	< \$1	\$1-\$10	> \$10	All	< \$1	\$1-\$10	> \$10	All
1990-1994	1,299	83	14	1,396	118.3	177.1	357.2	652.6
1995-1999	1,383	91	30	1,504	174.6	221.9	1,452.4	1,848.9
2000-2004	784	60	21	865	122.1	131.4	1,289.7	1,543.2
2005	206	12	—	218	33.5	32.6	—	66.1
2006	225	17	7	249	42.8	36.7	214.1	293.6
Total	3,897 (92%)	263 (6%)	72 (2%)	4,232 (100%)	\$491.3 (11%)	599.7 (14%)	3,313.4 (75%)	4,404.4 (100%)

Note: Banking organizations include bank holding companies and independent commercial banks. Size thresholds are adjusted for inflation by using assets measured in 2006 prices. Data include only those mergers in which the target or acquirer was publicly traded.

Source: SNL database

In fact, the number of community banks would have declined even more if the loss of banks through mergers had not been offset by a substantial number of new charters.³

The dramatic decline in the number and asset share of community banking organizations has created some concern that small businesses and other customers who put a premium on personal banking relationships may suffer. These concerns have two sources.

First, small business lending accounts for a considerably smaller share of assets at large banks than at community banks. In 2006, almost 20 percent of community banking assets was committed to small business lending, compared to less than 7 percent of large bank assets.⁴ This difference reflects the fact that small banks tend to make small business loans, while large banks tend to make large business loans. Because of their small size, the only way community banks can achieve portfolio diversification is by making large numbers of small business loans. With their greater resources, large banks can make large business loans and still make enough loans to achieve portfolio diversification.⁵

Second, research has found that bank mergers can significantly impact the supply of credit to small businesses and that the impact depends on the size of the acquiring banks. For small acquirers, Strahan and Weston (1996, 1998) find that mergers among small banks are less likely to cause a reduction in supply of small business credit and that small business lending could actually increase (rather than decrease) as a result of small bank mergers. For large acquirers, Peek and Rosengren (1996, 1998) find that, unlike in small bank mergers, when a large bank acquires a small bank, the target's small business lending tends to decline.

II. WERE THE COMMUNITY BANKS THAT DISAPPEARED ALL TAKEN OVER BY LARGE BANKS?

The previous section showed that mergers have led to a substantial decline in both the number and the asset share of community banking organizations. This section examines whether the lost community banks have become a part of large banking organizations or remained small.

Most of the acquirers of community banks since 1990 have themselves been community banks (Table 3). In fact, more than 2,000 community banks were acquired by other community banks during 1990-2006, representing a little more than half of all the acquisitions of community banks.⁶

When measured by the volume of assets acquired rather than the number of banks, mergers of community banks with other community banks did not account for as big a fraction of community bank acquisitions. The reason is that the community banks acquired by medium-sized and large banks tended to be larger than those acquired by other community banks. Still, even in terms of assets acquired, acquisitions of community banks by other community banks were quite important, accounting for 30 percent of all community bank assets acquired in mergers over the period.

In terms of assets acquired, mergers of community banks with medium-sized banks were also important, accounting for more than 40 percent of the total assets acquired. However, only a small number of community banks and only about one-fourth of acquired community banking assets were acquired by large banks. Thus, contrary to some early public concerns, community banks have not been gobbled up by large banks.⁷

Table 3
ACQUISITIONS OF COMMUNITY BANKS BY SIZE OF ACQUIRER

	Number of Acquisitions (in \$ billion) by Acquirer's Asset Size				Amount of Assets Acquired (in \$ billion) by Acquirer's Asset Size			
	<\$1	\$1-\$10	> \$10	All	<\$1	\$1-\$10	>\$10	All
1990-1994	684	392	223	1,299	30.8	49.4	38.1	118.3
1995-1999	687	454	243	1,384	49.2	73.2	52.1	174.5
2000-2004	454	249	81	784	39.7	52.9	29.7	122.3
2005	123	67	16	206	14.1	14.0	5.5	33.6
2006	128	81	16	225	14.9	21.7	6.2	42.8
Total	2,076 (53%)	1,243 (32%)	579 (15%)	3,898 (100%)	148.7 (30%)	211.2 (43%)	131.6 (27%)	491.5 (100%)

Note: Banking organizations include bank holding companies and independent commercial banks. Community banks are defined as banking organizations with less than \$1 billion in assets. Size thresholds are adjusted for inflation by using assets measured in 2006 prices. Data include only those mergers in which the target or acquirer was publicly traded.

Source: SNL database

III. WHAT TYPES OF COMMUNITY BANKS MERGE WITH EACH OTHER AND WHY?

It has been shown that more than half of the acquirers of community banks during 1990-2006 were other community banks and that these acquisitions accounted for a substantial share of total acquisitions of community bank assets. Have these community bank mergers strengthened the community banks that remain in business? To help answer this question, this section first discusses some of the ways in which mergers can make the merging banks stronger and increase their combined value. The section then examines important characteristics of acquired and acquiring community banks during 1990-2006 to determine if these mergers were likely to produce stronger banks.

How can mergers make banks stronger?

Several theories explain the various ways in which bank mergers can increase the combined value of the merging banks. The *efficiency* hypothesis suggests that mergers can create value through enhanced

efficiency, as the target's managers are replaced by the more efficient managers of the acquirer. Such gains are especially likely for mergers between firms belonging to the same industry, such as banks, because the superior skills of the acquirer's managers can be more easily applied to the operations of the target.⁸ Under the efficiency hypothesis, the target bank may have greater value to the acquirers than it had to the previous owners prior to the merger. In support of the efficiency hypothesis, Berger and Humphrey found that large bank acquirers tend to be more efficient than their targets, suggesting that the mergers were undertaken with the goal of improving the target's efficiency. This article considers whether increasing the target's efficiency has also been a motive for mergers between community banks.

Another way mergers between two banks with different revenue streams or cost structures could create value is through diversification. The *diversification* hypothesis predicts that through diversifying mergers, the combined banks would benefit from reduced earnings volatility and default probability. The opposite of this idea is the *focusing* hypothesis, which predicts that mergers between similar banking firms would create more value by allowing the merging firms to concentrate in the narrow area in which they both do best. Becher and Campbell found that geographic diversification has been an important motive for large bank mergers since the Reigle-Neal Act of 1994, which authorized full interstate branching. In contrast, DeLong (2001, 2003) found that more value has been created through focusing mergers than diversifying mergers.

How do acquirers compare with targets?

To determine if community banks merge with each other in ways that could make them stronger, it is useful to compare acquirers' and targets' financial characteristics. The characteristics examined in this section include profitability, operational inefficiency, asset quality, loss reserve management, and capitalization. The section also examines the relative location of the acquirer and target (whether they were headquartered in the same state) to explore the possibility of geographic diversification as a primary motivation for the mergers. For mergers between community banks during 1990-2006, Charts 1 to 5 present the yearly average measures of the acquirers' and targets' profitability, inefficiency, asset quality, reserve management, and capitalization, re-

spectively. Table 4 presents information on in-state versus out-of-state mergers among community banks.⁹

Profitability. This characteristic is measured by return on equity (ROE). During the period 1990-2006, the average ROE for community bank acquirers was consistently higher than that for targets (Chart 1).¹⁰ Thus, community banks have been acquiring other, less-profitable community banks. The reason targets have been less profitable than acquirers may be due to inferior management at the target bank. If so, targets' performance could potentially improve significantly when their assets are transferred to better-managed acquirers. Following the efficiency hypothesis, the mergers between targets and more profitable acquirers since 1990 may have been undertaken with the goal of realizing these efficiency gains.

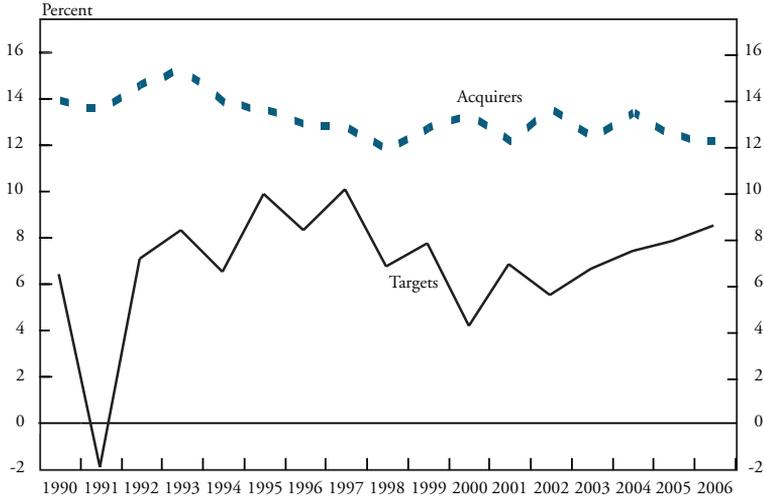
Operational inefficiency. This characteristic is measured by the ratio of noninterest expense to the sum of net interest income and other income. By this measure, community bank acquirers have been generally more efficient (less inefficient) than their targets (Chart 2).¹¹ This is an indication that the operations of the target could become more efficient if put under the management of the acquirer. As before, the efficiency hypothesis would suggest that mergers among community banks were undertaken to realize these gains.

Asset quality and loss reserve management. Asset quality is measured by the ratio of nonperforming assets to total assets. Loss reserve management is proxied by the ratio of reserves set aside to absorb future losses to nonperforming assets. Banks with lower nonperforming asset ratios may be interpreted as being less risky, while banks with higher ratios of loss reserves to problem assets may be viewed as being more conservative in their reserve management. During the period 1990-2006, acquirers had both a consistently lower nonperforming asset ratio than targets (Chart 3) and a consistently higher loss reserve ratio than targets (Chart 4).¹² These differences suggest that acquirers may have had sounder lending practices and practiced more conservative reserve management than their targets. If so, the transfer of assets from targets to acquirers could improve the overall financial health of the merging banks—again, consistent with the efficiency hypothesis.

Capitalization. Capitalization is measured by the ratio of the book value of equity to total assets, which can also be viewed as the inverse

Chart 1

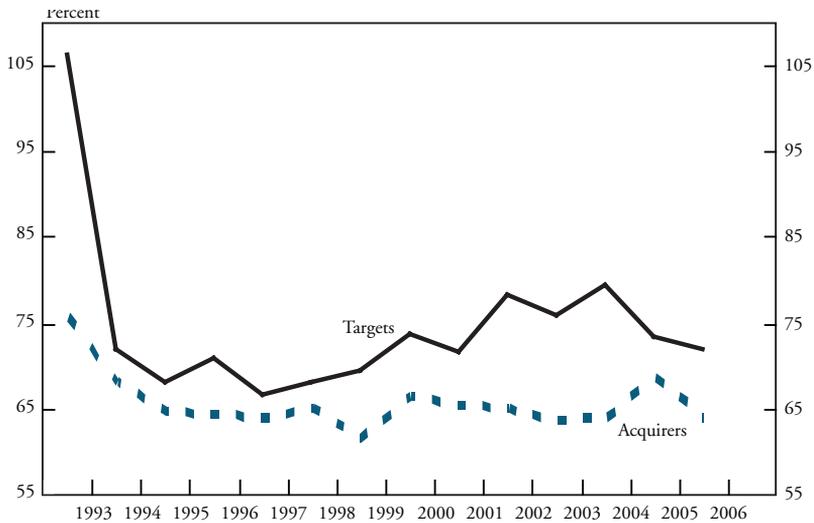
RETURNS ON EQUITY IN MERGERS BETWEEN COMMUNITY BANKS, ACQUIRERS VS. TARGETS



Note: Return on equity is (net income/average equity) x 100
 Source: SNL database

Chart 2

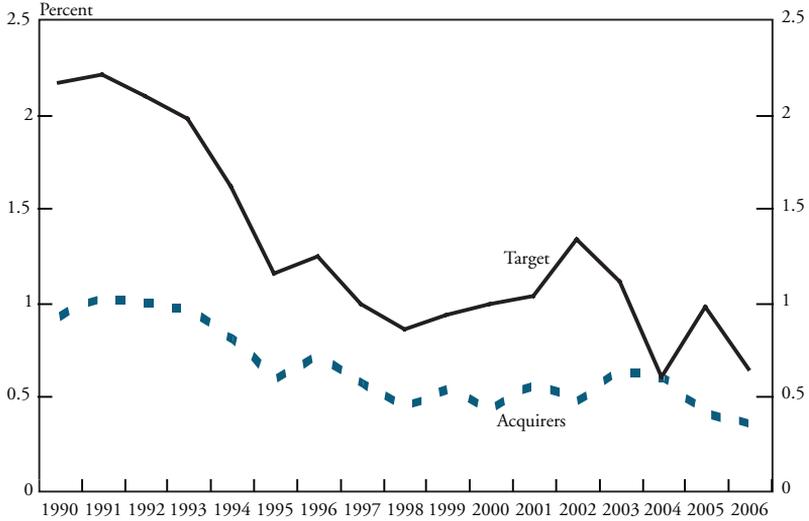
INEFFICIENCY RATIO IN MERGERS BETWEEN COMMUNITY BANKS, ACQUIRERS VS. TARGETS



Note: Inefficiency ratio is (non-interest expense/(net interest income + non-interest income) x 100
 Source: SNL database

Chart 3

NON-PERFORMING ASSET RATIO IN MERGERS BETWEEN COMMUNITY BANKS, ACQUIRERS VS. TARGETS

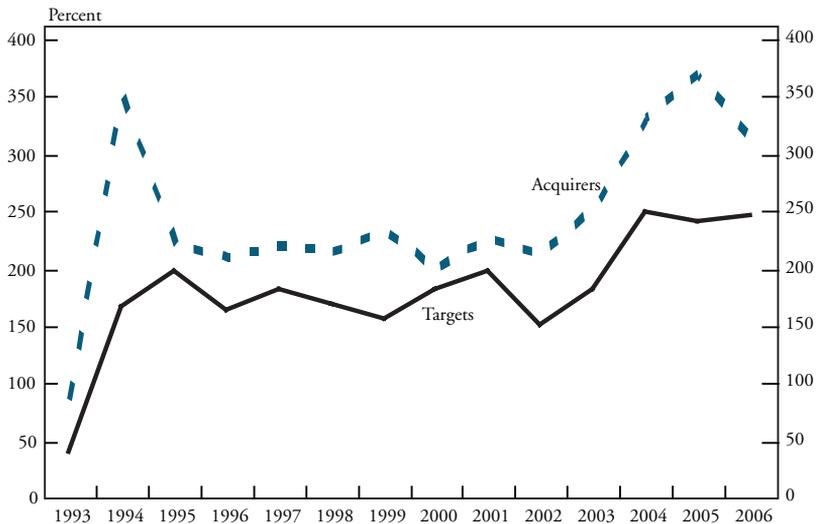


Note: Nonperforming asset ratio is $(\text{nonperforming assets}/\text{total assets}) \times 100$, where nonperforming assets are the sum of nonperforming loans (nonaccrual + renegotiated) and assets acquired through foreclosure.

Source: SNL database

Chart 4

LOAN LOSS RESERVE RATIO IN MERGERS BETWEEN COMMUNITY BANKS, ACQUIRERS VS. TARGETS

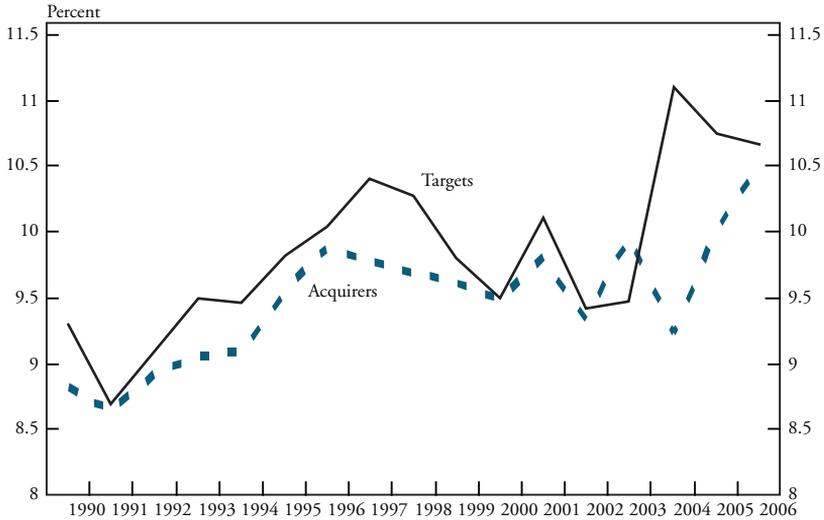


Note: Loan loss reserve ratio is $(\text{loan loss reserve}/\text{nonperforming assets}) \times 100$

Source: SNL database

Chart 5

CAPITAL-ASSET RATIO IN MERGERS BETWEEN COMMUNITY BANKS, ACQUIRERS VS. TARGETS



Note: Capital-asset ratio is (equity/total assets) x 100

Source: SNL database

Table 4

IN-STATE VS. OUT-OF-STATE MERGERS
COMMUNITY BANKS ACQUIRED BY COMMUNITY BANKS

	Number of Acquisitions		Amount of Assets Acquired (in \$ Billion)	
	In-State	Out-of-State	In-State	Out-of-State
1990-1994	621	63	27.53	3.25
1995-1999	615	72	43.87	5.38
2000-2004	379	75	32.93	6.65
2005	101	22	11.40	2.66
2006	107	21	11.79	3.12
Total	1,823 (88%)	253 (12%)	\$127.52 Bill (86%)	\$21.06 Bill (14%)

Note: Banking organizations include bank holding companies and independent commercial banks. Community banks are defined as banking organizations with less than \$1 billion in assets in 2006 prices. Data include only those mergers in which the target or acquirer was publicly traded.

Source: SNL database.

of leverage. According to one interpretation, banks with higher capital-asset ratios are less efficient in their use of capital. In addition, a higher capital-asset ratio may be an indication that the bank is less able to diversify its portfolio and has to hold more capital to cover its greater risk. Over the period 2000-2006, targets had slightly higher capital-asset ratios than acquirers in most years and much higher ratios in 2004 (Chart 5).¹³ The few exceptions were 1991, 2000, 2002, and 2003, when the average capital-asset ratio of targets was equal to or slightly less than that of acquirers. The differences in capitalization between targets and acquirers do not appear as large as some of the other differences between targets and acquirers shown in Charts 1-4. Nevertheless, the data provide some support for the view that some community bank mergers were undertaken with the goal of making more efficient use of the target's capital.

Location. Location is examined in terms of in-state versus out-of-state mergers. An in-state merger is defined as a merger in which both the acquirer and the target are headquartered in the same state. Community banks might be expected to want to merge with community banks located in other states in order to diversify geographically. In the early part of merger boom, analysts expected interstate mergers to rise in response to the passage of the 1994 Reigle-Neal Act, which for the first time allowed banks to have out-of-state branches. If geographic diversification was an important motivation for community bank mergers, we should observe increasing number of mergers across state lines after the Reigle-Neal Act. That is, however, not the case. Even after the Reigle-Neal Act, few community banks merged with each other across state lines (Table 4). Over the entire period 1990-2006, almost 90 percent of mergers between community banks were in-state mergers, and these mergers accounted for nearly 90 percent of all assets acquired.

The finding that the vast majority of mergers between community banks have been in-state suggests that diversification across state lines has not been an important motivation for mergers of community banks. Community bank mergers have been more consistent with the "focusing" hypothesis than the diversifying hypothesis. Community banks appear to have merged with the goal of concentrating their efforts on what they do best, which is to provide personal service to small businesses and other local customers. In-state mergers may have allowed

community banks to cross-sell their products and services to a larger pool of customers with no interruption of services to local customers and no risk of doing business in a new, unfamiliar market environment.¹⁴

IV. FURTHER EVIDENCE FROM MERGER PREMIUMS

The potential gains from a merger should be reflected in the premium that the acquirer is willing to pay for the target, over and above the market value of the target's stock. The greater the potential gains from the merger, the larger the merger premium should be. Thus, comparing the merger premiums offered to community bank targets by acquirers of different size should provide some evidence about the relative gains from community banks merging with each other rather than with larger banks.

Using regression analysis, the relationship between the merger premium and the size of the acquirer was estimated for all publicly traded community banks acquired during 1990-2006. The merger premium is defined as the percent difference between the price offered by the acquirer and the market value of the target's shares just before the merger announcement date. Specifically, the merger premium is calculated as $100 \times (\text{Offer Price Per Share} - \text{Target's Market Price Per Share}) / (\text{Target's Market Price Per Share})$. In this calculation, the target's market price is for the trading day just prior to merger announcement.

Besides including acquirers of all size, the sample used in this section differs from the sample in the previous section in an important way—it excludes all community bank targets that were privately held at the time of the merger announcement. It was necessary to exclude these targets because merger premiums can only be calculated for targets whose shares were publicly traded before the merger. Of the roughly 3,900 acquisitions of community banks during 1990-2006, less than 10 percent involved publicly traded targets. As a result, the sample used in this section is considerably smaller than that in the previous section, despite including acquirers of all sizes.

The effect of the acquirer's size on the merger premium is estimated by including dummy variables for whether the acquirer was a medium-sized or a large bank. The coefficients on these variables show how the

merger premium paid by medium-sized and large acquirers compares with the merger premium paid by community bank acquirers.

To isolate the effect of the acquirer's size on the merger premium, it is also necessary to control for other characteristics of the target and acquirer that might affect the premium. For the most part, these characteristics are the same as those examined in the previous section. The first set of control variables are measures of the relative efficiency of the acquirer and target: the ratio of the acquirer's ROE to the target's ROE, the ratio of the acquirer's inefficiency ratio to the target's inefficiency ratio, the ratio of the acquirer's nonperforming asset ratio to the target's nonperforming asset ratio, the ratio of the acquirer's loss reserve ratio to the target's loss reserve ratio, and the ratio of the acquirer's capital-asset ratio to the target's capital-asset ratio. The other control variable in the regressions is whether the acquirer and target are located in the same state. According to the efficiency hypothesis, the better the management of the acquirer is relative to that of the target, the larger the gains should be from transferring the target's assets to the acquirer, and thus the larger the merger premium should be. Also, the focusing hypothesis would predict that acquirers should be willing to pay higher premiums for community banks located in the same state, because such acquisitions allow the community bank target to continue doing what it does best: provide personal services to local customers.

Another variable sometimes used to measure the potential gains from bank mergers is the ratio of the market value of a bank's equity to the book value. This characteristic was not examined in the previous section because it can be measured only for those targets that are publicly traded. However, like variables such as ROE and the inefficiency ratio, the market-to-book ratio can be viewed as a measure of the efficiency and quality of a bank's management because investors will generally be willing to pay more for shares in a well-managed bank than a poorly managed bank. Under this interpretation, merger premiums should be higher for mergers in which the market-to-book ratio of the acquirer is high relative to that of the target because there will be more potential gains from replacing the target's management with the acquirer's.¹⁵

The regression results are presented in Table 5. The regression in the first column excludes the market-to-book ratio, while the regression in the second column includes this measure. The reason for estimating

Table 5

EFFECT OF SIZE OF ACQUIRER ON MERGER PREMIUM FOR COMMUNITY BANK TARGETS

<i>Independent Variables</i>	(1)	(2)
Intercept	93.05***	19.95
Dummy variable for Medium-sized Acquirers	-17.73*	-9.13
Dummy variable for Large Acquirers	-25.14***	-18.92***
<i>Control Variables:</i>		
Acquirer's Returns on Equity/Target's Returns on Equity	0.03	0.53
Acquirer's Inefficiency Ratio/Target's Inefficiency Ratio	-60.32**	-26.49*
Acquirer's Non-Performing Assets Ratio/ Target's Non-Performing Assets Ratio	-3.16*	-1.83
Acquirer's Loan Loss Reserve Ratio/ Target's Loan Loss Reserve Ratio	-2.77	-2.57
Acquirer's Capital-Asset Ratio/ Target's Capital-Asset Ratio	16.41**	24.73***
Acquirer's Market-to-Book Ratio/ Target's Market-to-Book Ratio	--	18.15***
Dummy Variable for In-State Mergers	0.16	-2.75
R-Square	15.8%	22.6%
R-Square (Adjusted)	11.5%	17.1%
Number of Mergers	168	137

Note: Sample includes all acquisitions of community banks during 1990-2006 in which the target was publicly traded. Dependent variable is the Merger Premium, calculated as $100 \times (\text{offer price minus market price of target's shares}) / (\text{market price of target's shares})$, where the market price is for the day just prior to the announcement date. Heteroscedasticity-consistent standard errors are used in calculating the statistical significance of the coefficients. The statistical significance for the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

the regression both ways is that the relative market-to-book ratio of the acquirer and target may be highly correlated with the other measures of the relative efficiency of the acquirer and target, making it hard to disentangle the effects.

The most important result is that medium-sized and large banks were not willing to pay as high premiums for community bank targets as community banks were willing to pay. In the first regression, the coefficient on the dummy variable for whether the acquirer is a medium-sized bank is -17.7. Thus, controlling for the location and relative efficiency of the target and acquirer, the average merger premium that medium-sized banks were willing to pay for a community bank target was 17.7 percent-

age points less than the premium that community banks were willing to pay for such a target. Similarly, the average premium that large banks were willing to pay for a community bank target was 25.1 percentage points less than community banks were willing to pay. As indicated in the table, these differences are statistically significant. The results from the second regression are similar, although the estimated effect of the acquirer's size on the merger premium is not as large—9.1 percentage points for medium-sized acquirers and 18.9 percentage points for large acquirers. Overall, the results point to the conclusion that medium-sized and large banks were willing to pay substantially less than community banks to acquire community bank targets.

Turning to the control variables, some of the regression results are consistent with the view that potential merger gains are greater when the difference in efficiency between the acquirer and target is large. In both regressions, the coefficients on the ratio of the acquirer's inefficiency ratio to the target's inefficiency ratio are highly negative and statistically significant, implying that the merger premium is high when the acquirer's inefficiency ratio is low relative to that of the target. In the second regression, when the market-to-book ratio is also included, the coefficient on the ratio of the acquirer's market-to-book ratio to the target's market-to-book ratio is highly positive and statistically significant, suggesting that the merger premium is high when the market views the acquirer as being more efficient than the target. While the results for these two control variables are consistent with the efficiency hypothesis, the results for other variables such as the capital-asset ratio are not.¹⁶ Also, it is important to remember that the regressions in Table 5 are for acquisitions of community banks by banks of all sizes and not just acquisitions by other community banks. Thus, strictly speaking, the results cannot be used to answer the question posed in the previous section—whether community banks merged with each other to take advantage of differences in efficiency and management quality between the target and the acquirer.

Finally, the merger premium does not depend to a significant degree on whether the acquirer and the target are located in the same state. This result may reflect the fact that many of the acquisitions in the sample are by medium-sized and large banks, which may not care

as much as community bank acquirers about focusing the activities of the merging banks.

In summary, the results of this section suggest that community banks can create more value when they merge with each other than when they merge with larger banks. This result is consistent with the earlier finding that more than half of community banks acquired in mergers during 1990-2006 were acquired by other community banks rather than by larger banks.

V. CONCLUSIONS

The merger boom of 1990s and 2000s reduced both the number of community banks and their share of total banking assets. Some of these community banks disappeared through mergers with large banks. But many of the banks were taken over by other community banks, which were generally willing to pay higher premiums for the acquisitions than larger banks. Moreover, when community banks merged, the acquirers tended to be more efficient and better managed than the targets. This fact suggests that mergers among community banks have the potential to strengthen the community banking sector by creating more profitable and efficiently run organizations.

The evidence presented in this article does not reveal whether the community banks that merged with each other were able to realize the potential gains from the mergers. That question can be answered only by seeing how community banks performed after merging with each other. But two independent pieces of evidence suggest that the community banking sector remains strong. First, community banks have continued their commitment to small business lending, investing a much higher percentage of their assets in such loans than larger banks. Second, even though thousands of community banks have disappeared through mergers, many new banks have been chartered at the same time. The continued willingness of investors and entrepreneurs to start new banks, most of which begin very small, suggests that community banking is still a highly viable line of business.

ENDNOTES

¹For more information on the changing role of community banks in the U.S. banking system, including more information by state and region, see Federal Reserve Bank of Kansas City.

²Information on these mergers was obtained from SNL. Details about mergers between publicly traded banks are required to be reported to the Securities and Exchange Commission (SEC). In contrast, details about mergers of privately held banks are often not publicly available.

³FDIC data on sources of change in the number of banks (rather than banking organizations) indicate that there were more than 2,000 new banks chartered during 1990-2006. Some community banks also failed during the period, but the loss of banks through failures was far outweighed by new charters.

⁴See Board of Governors. Small business loans are defined in these data as commercial and industrial loans less than \$1 million in size.

⁵See Keeton for a discussion of why large banks tend to lend less than small banks to small businesses. With advances in credit-scoring techniques, some large banks have recently expanded their “micro” business lending (Berger and Frame). However, despite the growth in such lending, total small business loans remain a much smaller share of assets at large banks than at small banks.

⁶Recall that the data exclude mergers in which both banks are privately held. If such mergers were included, the percent of acquired community banks that were taken over by other community banks would be even larger.

⁷Some of the community banks that disappeared through mergers might have ended up being a part of large banks, even if they were first acquired by medium-sized banks. This could happen if the medium-sized acquirers were later taken over by large banks. During 1990-2006, more than 70 percent of acquisitions of medium-sized banks were by large banking organizations.

⁸For a discussion of the efficiency hypothesis as applied to mergers in general, see Jensen and Ruback. For discussions of the hypothesis as applied to banks, see Berger and Humphrey, and Hanweck and Spilloff.

⁹The number of mergers used varies among Charts 1 to 5 due to missing values for some of the characteristics. If the data on a particular characteristic was not available for either the target or the acquirer, the merger is excluded from the analysis.

¹⁰For the 1,978 mergers shown in Charts 1, the average difference between the ROE of acquirers and targets was 6.4 percentage points, which is significant at the 1 percent level.

¹¹For the 1,128 mergers shown in Chart 2, the average difference between the inefficiency ratios of targets and acquirers was 6.6 percentage points, which is significant at the 1 percent level.

¹²For the 1,371 mergers shown in Chart 3, the nonperforming asset ratio of targets was about double that of acquirers, and the average difference was 0.7

percentage points. For the 540 mergers shown in Chart 4, the average difference between the loss reserve ratios of targets and acquirers was 56.2 percentage points. Both differences are significant at the 1 percent level.

¹³For the 1,817 mergers shown in Chart 5, the average difference between the capital-asset ratio of targets and acquirers was 1.07 percentage points, which is significant at the 1 percent level.

¹⁴The data on in-state versus out-of-state mergers do not rule out that some community bank mergers were undertaken to diversify across different parts of the same state—for example, across rural areas and urban areas.

¹⁵The regressions were also estimated with year dummies, but the coefficients on the dummies were not statistically significant and the other results were unchanged. Another set of factors that could impact merger premiums but are not included in the analysis involve the target's corporate governance and potential conflict of interest between managers and shareholders (Brewer, Jackson, and Jagtiani).

¹⁶Less-capitalized community bank targets tended to receive larger merger premiums. Hannan and Pilloff discuss some of the reasons why acquirers might be more willing to acquire a poorly capitalized bank than a well-capitalized bank of the same size.

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