Business Review

Federal Reserve Bank of Philadelphia

November • December 1994 ISSN 0007-7011

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The Impact of Geographic Deregulation on Small Banks

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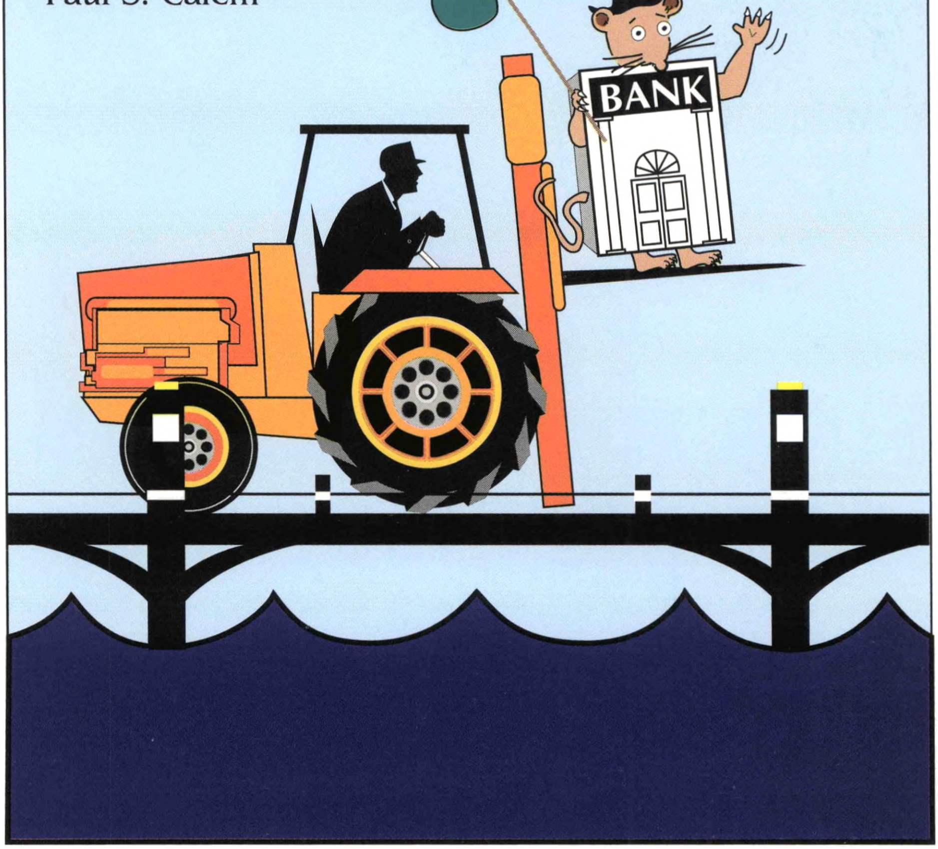

Business Review

The BUSINESS REVIEW is published by the Department of Research six times a year. It is edited by Sarah Burke. Artwork is designed and produced by Dianne Hallowell under the direction of Ronald B. Williams. The views expressed here are not necessarily those of this Reserve Bank or of the Federal Reserve System.

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Small Borrowers and the Survival of the Small Bank: Is Mouse Bank Mighty or Mickey?

*Leonard I. Nakamura**

Small banks—those having less than $1 billion in assets—account for 97 percent of all banks in the United States, but only about 33 percent of banking assets. These small banks are subject to many disadvantages compared with their bigger brethren, who can have more diversified portfolios, make larger loans, benefit from economies of scale in check processing and other automation technology, offer wider branch networks and more diverse services to their customers, and acquire capital more easily on public markets. As a consequence, it's often projected that small banks will disappear rapidly somewhere in the not-too-distant future.

That future in which larger banks monopolize the U.S. banking system has not arrived, and it appears little, if any, closer than in the past. While the number of small banks has fallen by 1000 or so in the past 30 years, there are still many of them (Table 1). Why haven't small banks disappeared as so many have predicted?

One reason is that small banks appear best able to lend to local small businesses (here "small" businesses are defined as businesses that have less than $10 million in annual receipts and borrow less than $3 million from all sources). This is because small banks have the

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TABLE 1

Number of Banks by Asset Size

(Size Categories Adjusted for Inflation, 1990 $)

Size	1960	1975	1990
less than $100 million	12031 (91%)	11809 (82%)	9247 (75%)
$100 million-1 billion	1040 (8%)	2327 (16%)	2710 (22%)
$1 billion-10 billion	136 (1%)	230 (2%)	326 (3%)
more than $10 billion	10 (0.1%)	17 (0.1%)	47 (0.4%)

Bank Assets Held by Banks of Different Sizes

(Size Categories Adjusted for Inflation, assets in billions 1990 $)

Size	1960	1975	1990
less than $100 million	269 (25%)	405 (19%)	359 (11%)
$100 million-1 billion	270 (25%)	570 (27%)	651 (21%)
$1 billion-10 billion	337 (31%)	621 (30%)	1037 (34%)
more than $10 billion	198 (19%)	490 (24%)	997 (33%)

Data in parentheses are percents of total for each year.
Source: Call Reports

ability to closely monitor these firms, and their tight organizational structures enable them to effectively use the resulting informational advantage.[1] Before we discuss that, however, we look at some of the reasons that small banks have to envy large banks. To do so, we investigate the daydreams and competitive concerns of Ms. M. Mouse, the chief executive officer of Mouse Bank in Cheeseburgh, PA, a bank with roughly $200 million in assets.

DO LARGE BANKS HAVE ALL THE ADVANTAGES?

First, Ms. Mouse longs to have a more diversified portfolio.[2] During the recession, Cheeseburgh's chief employer, Cheeseburgh Quarry, laid off a dozen workers and fell behind on its loan repayments, causing her many sleepless nights. If only Mouse Bank were a big

[1]Another reason small banks remain numerous is that in general banks have not yet been allowed to branch across state lines. Instead they can cross state lines only as bank holding companies by setting up separate banking subsidiaries. Moreover, as we shall see below, there are some reasons that bank holding companies might prefer small bank subsidiaries to remain independent even when laws permit the subsidiary to become a branch of the main bank. But even if we treat bank holding companies as a single banking organization rather than counting them as separate banks, there is little indication that small banks are rapidly disappearing. See, for example, Boyd and Graham (1991); and Paul Calem's article on geographic deregulation in this issue.

[2]Diamond (1984) argues that a fully diversified bank, with appropriate use of hedges, could be more or less risk free, even though the individual loans the bank makes are inherently risky. Diamond's theory, which assumes that risk in the bank portfolio is costly, implies that if diversification were the only relevant variable, banks would be as large as possible in order to diversify risk as much as possible. Laderman, Schmidt, and Zimmerman (1991) show that where branching is restricted, banks in rural areas specialize more heavily in agricultural loans and banks in urban areas specialize more heavily in nonagricultural loans, which suggests that branch locations geographically limit lending and portfolio diversification.

bank, she thinks, then when Cheeseburgh was in recession, other borrowers, say in Hong Kong or Atlanta, would be paying on time and keeping the bank's profits steady.

In addition, Mouse Bank's costs of handling a transaction are twice as large as Money Bank's. Tellers are encouraged to chat with customers to encourage good relations, and many customers still have passbook savings accounts, which means that the tellers have to go back and forth to the passbook stamping machine instead of being able to handle all transactions at their stations. Ms. Mouse knows it would be more technologically efficient to turn her check handling over to a big bank that could fully automate the process, but her customers expect a lot of personal service, which would not be practical if the checks were being handled automatically outside of the bank. For example, her good customers expect to be warned when their accounts are close to being overdrawn and to be able to expedite a transfer of funds when special circumstances arise.

The lack of more extensive automation also affects her costs of complying with regulations. If more of Mouse Bank were automated, it would be easier for her to comply with the myriad bank regulations. Her compliance expenditures are substantially greater as a share of assets than those of her larger competitors.[3]

She wishes she had more branches, too, because she knows that some of her neighbors bank with Everywhere Bank, the super-regional bank that has opened a branch in Cheeseburgh. Everywhere Bank offers branches statewide, which is useful to commuters and to businesses with multiple plants, offices, or stores. As Paul Calem's article on branch banking in the May/June 1993 issue of this Business Review points out, branch banks offer customers greater convenience. As a result, depositors are often willing to accept lower interest rates on their accounts at these banks.

She wishes she didn't have to keep her bank's capital level so high. Mouse Bank has $20 million in equity capital—the bank's original stock issue plus retained profits—for a 10 percent capital-asset ratio. Most of this money belongs to Ms. Mouse, her sister, and her Uncle Rodney, and she would prefer that her family's eggs weren't all in one basket. But she knows that when Cheeseburgh hits hard times, as it has recently, the high capital ratio keeps the bank from losing its best customers. Money Bank and Everywhere Bank have much lower capital ratios, but they can more readily raise additional funds by issuing stock or subordinated debt, since they are publicly traded companies monitored by Moody's and Standard and Poor's bond raters.[4] If worse came to worst, Money Bank and Everywhere Bank could force shareholders to add to the banks' capital by making rights offerings.[5] She couldn't do the same thing with Mouse Bank, since she knows that her family couldn't raise much extra cash.

[3]Thakor and Beltz (1993) present survey evidence that smaller banks pay relatively higher costs to comply with consumer protection regulations.

[4]It is well known that small banks have higher capital-asset ratios than large banks. See, for example, evidence in Boyd and Graham (1991). One reason for this is that obtaining new outside capital is more expensive for small banks should they have losses. For example, obtaining a bond rating, which enables a borrower to more easily get outside capital, involves a minimum cost of thousands of dollars above and beyond interest payments and fees. These payments and fees are proportionately less for a large bank than for a small bank. Thus, small banks like to have larger capital cushions against losses.

[5]Bank public debt issue is called subordinated debt because it has a lesser claim on bank assets than do checking and savings deposits. In a rights offering, shareholders are given the right to buy additional shares at a price below the market value. The rights offering results in a dilution of stock value, as old shares become worth less than they were. In general, all shareholders will exercise their rights, as any shareholder who doesn't will suffer the dilution without recompense.

Finally, if Mouse Bank were a bigger bank it could make larger loans. In general, commercial banks are not permitted to make loans to a single entity that represent more than 10 percent of capital. When Cheeseburgh Quarry wanted to borrow $4 million to invest in a new gravel loading system, Mouse Bank had to refer the loan to Money Bank, Mouse Bank's correspondent in Philadelphia, because making the loan would have meant exceeding Mouse Bank's $2 million ceiling on loans to a single borrower.[6] Loan limits exist, in part, to ensure that banks have diversified portfolios, and it may well be to Mouse Bank's advantage that it couldn't lend more to Cheeseburgh Quarry. But Mouse Bank remains limited in the choice of loans it can make on its own, compared to a larger bank, and may well be prevented from making some large loans that offer good returns and actually reduce risk.

One factor that does work in her favor is deposit insurance. Because of deposit insurance, depositors with less than $100,000 are fully insured. As a result, her depositors can be as confident about the safety of their deposits as the depositors at Money Bank and Everywhere Bank, despite the fact that more current information about the larger banks is available, since their credit standing is reviewed by bond rating services. Deposit insurance is crucial to her bank's existence.

A second advantage is that Mouse Bank pays less interest because its deposits are in checking and small savings accounts; Money Bank pays more interest because it funds loans with large time deposits in competition with nonbank financial institutions. Thus operating costs per dollar of deposit decrease with bank size, but total cost, including interest payments, is more or less flat, as lower operating costs at larger banks are offset by higher interest costs.

With deposit insurance and lower interest expense, and despite some disadvantages, Mouse Bank earns a higher return on assets, and just as high a return on equity, as do Money Bank and Everywhere Bank. So while Ms. Mouse is usually fairly modest about her own abilities, she often wonders whether she might do better than Money Bank and Everywhere Bank if she were running a larger bank.

Academic research suggests that she probably would not, for small banks are recurrently found to outperform large banks. The average bank with assets below $1 billion had superior returns compared with banks with assets above $1 billion (Table 2).

TABLE 2

Profitability of U.S. Banks

Return on Assets and Return on Equity (percent)

Size	Period 1980-83	1984-87	1988-90
less than $25 million	1.01 10.7	.86 9.0	n.a. n.a.
$25 million-100 million	1.07* 13.0*	1.02* 12.3	.72 8.2
$100 million-1 billion	.88 12.4	.98 13.9*	.82* 10.9*
more than $1 billion	.54 12.5	.69 8.8	.54 10.0

Data are taken from Boyd and Graham (1991).
*Best for this time period and profitability measure.

[6]In a correspondent banking relationship a larger bank performs a variety of services for a smaller bank, including payment, credit, and advisory, and the smaller bank maintains a deposit balance at the larger bank.

SMALL BANKS HAVE INFORMATION ADVANTAGES

Perhaps this profit advantage arises from the fact that small-bank presidents like Ms. Mouse know more about what is going on in their towns than anyone else—partly because customers seeking loans reveal a lot of information to the loan officers and partly because Mouse Bank is able to make effective use of this information and of the information inherent in checking and savings account activities of the bank's local customers. Consequently, Ms. Mouse knows who's saving money and who isn't and which businesses are making money and how much.[7] For example, when Loan Officer Katt at Mouse Bank hears a rumor that Harvest Drug may be in trouble, he can check Harvest Drug's checking account to see if Harvest Drug's sales receipts have fallen off. If so, Mr. Katt can set up informal or, if need be, formal meetings with the store's management to review the store's loans.

Looking at Harvest Drug's bank accounts not only allows Mr. Katt to quietly check up on how the business is doing, but it's also extremely useful in helping Mr. Katt get accurate information from Mr. Harvest. Mr. Harvest knows that Mr. Katt has access to a lot of confidential financial information, both about Mr. Harvest and about other businesses in the town and the surrounding area—so Mr. Harvest is always aware that Mr. Katt would easily catch any lie. A similar line of reasoning ensures that when Mr. Katt talks to Ms. Mouse about how his loan portfolio is doing, he is always frank—Ms. Mouse has a legendary knowledge of Cheeseburgh business. In turn, this allows Ms. Mouse to extend to her loan officers much greater freedom than large branch banks like Everywhere Bank and large money center banks like Money Bank can extend to theirs.[8]

Ms. Mouse knows that a nonbank lender would not have access to the kind of day-to-day information she and her officers can extract from checking and savings accounts. So she doesn't worry about direct competition from nonbanks.

She also doesn't worry about Money Bank, which has an extensive branch network in Philadelphia and its nearby suburbs, but does not have a branch in Cheeseburgh. It lends to large commercial borrowers. Because Money Bank lacks deposit relationships with Cheeseburgh businesses, Ms. Mouse knows that it can't evaluate them nearly as well as her bank can.

On the other hand, Everywhere Bank's branch in Cheeseburgh is very much on Ms. Mouse's mind. Everywhere Bank offers something Ms. Mouse can't: branches located across the state and affiliates outside the state. As a consequence, Mouse Bank has lost some customers Ms. Mouse would very much like to have: active business leaders who make use of Everywhere Bank's extensive branch network. Moreover, it seems likely to Ms. Mouse that sooner or later Everywhere Bank will be allowed to consolidate its regional banking system into a single bank with interstate branches.

But these advantages are offset by the way Everywhere Bank tends to make small loans. If a loan doesn't quite fall within their strict guidelines, the loan officer has to request an exception; and when an exception fails, the loan officer gets in very hot water. As a result, the Cheeseburgh branch of Everywhere Bank has only a small share of the town's loan business, and Ms. Mouse feels that Everywhere Bank does not seriously threaten her bread-and-butter small loan business.

[7]See Nakamura (1990) for evidence.

[8]Technically speaking, Mouse Bank is better at delegated monitoring than is a larger bank. In Diamond's theory (1984) banks possess "inside" (that is, nonpublic) information about lenders. To Diamond's theory we have to append a notion that monitoring of loan officers within the bank becomes more difficult as the bank becomes larger.

So when Ms. Mouse thinks about the wider scheme of things, she realizes that her bank has every reason to thrive. Mouse Bank earns a higher return on lending because Ms. Mouse has better information, and she has better information in part because she has access to confidential information from the checking accounts at her bank and in part because of her long history of lending in Cheeseburgh. Because Mouse Bank is so respected as the business leader in Cheeseburgh, new firms come to it for advice. As old customers retire and businesses grow large or fail, Mouse Bank continues to attract most of the new commercial accounts in Cheeseburgh, and thus keeps gaining access to new information about new businesses in the area.

While Ms. Mouse considers expanding into neighboring towns, she will satisfy her desire for wider horizons gradually in order to maintain the informational advantage she has built up in banking in Cheeseburgh and the surrounding area. From the perspective of the student of banking, Ms. Mouse is right to be cautious. (See *Small Bank Holding Companies: The Best of Both Worlds?*)

INFORMATION AND MONITORING: MODERN BANKING THEORY

Much recent work in the theory of banking focuses on how banks use information in lending. One theory focuses on the edge that banks have as lenders because they can look at borrowers' checking accounts (Nakamura 1990, 1993a,b). This information is most valuable with small commercial loans. The second stage of the argument is that large banks are not good at making small commercial loans because they lack the flexibility and good internal information flows found at smaller banks. Thus small banks do have a strength in small commercial lending, which offsets the various advantages that larger banks have.

A foundation stone of this theory is that borrowers do not always have the right incentives to repay loans (Nakamura, 1991). Any ongoing firm makes commitments to several parties: for example, lenders, landlords, customers, suppliers, and employees. When a firm gets into trouble and income dries up, the firm is forced to renege on its promises to at least some of these parties. Who gets paid will depend on the power any given party has to

Small Bank Holding Companies: The Best of Both Worlds?

Is there some way to combine the strengths of the small bank in lending with some of the advantages of size available to large banks, such as their ability to diversify, obtain capital, and automate? One approach would be to create a network of largely independent banks that were subsidiaries of a large bank holding company. Indeed, some bank holding companies have attained much of their growth by trying to provide as much independence in traditional bank lending as possible to the small banks that they have acquired, while gaining the capital funding advantages and other economies of scale associated with a large network of banks.[a] For example, some of these holding companies see informational gains to maintaining a local board of directors at small bank subsidiaries, gains that would be lost if the small banks were amalgamated as branches of one large bank, even though amalgamation would reduce administrative costs. Yet the holding company form implies some degree of loss of control for the small bank subsidiary. Decisions at headquarters, based on overall company strategic considerations, may contravene what would be preferred by the individual subsidiary. As a consequence most small banks have remained independent.

[a] See, for example, the Harvard Business School case entitled, "Banc One Corporation, 1989."

enforce payment.[9] Employees may leave a firm if wages are not paid promptly, for example. A supplier may stop supplying materials until previous shipments are paid for. A landlord may evict a tenant for failing to make lease payments. When a loan is guaranteed by collateral, the lender may be able to seize the collateral. Otherwise a lender's only real line of defense is to closely monitor the borrower and threaten to deny future loans or force bankruptcy, threats that are potent only as long as the borrower has some possibility of returning to a sound footing and so wants to avoid the consequences of having these threats carried out.

In *collateralized lending*, the borrower promises to give up a valuable asset if he or she defaults on loan payments. The classic examples of collateralized loans are mortgages and auto loans. If a borrower defaults, the lender can seize the house or auto and resell it. And because the lender has recourse to the collateral, the borrower has a strong incentive to repay the loan in full. As Jeffrey Lacker (1991) points out, for collateralized lending to work well, the property must be more valuable to the borrower than the amount borrowed. The collateral then becomes a way to enforce payment because the borrower loses more by giving up the collateral than by refusing to repay the loan.

In *monitored lending*, the lender must closely watch the borrower's financial condition. If it begins to deteriorate, the lender must step in actively and defend its own interest by threatening to refuse future loans or force bankruptcy. This means that the lender must be vigilant and must have access to as much information as possible about the financial condition of the borrower.

Monitored lending is what banks do better than nonbanks because banks are better able than other potential lenders to obtain information about the financial condition of borrowers. In collateralized lending, the lender must watch the value of the collateral, but generally the economic status of the borrower is of less concern. As a consequence, banks compete only with other banks for monitored lending, but they must compete with many nonbanks (like finance and mortgage companies) for collateralized lending.[10]

One reason why banks, large and small, may have an intrinsic advantage as monitoring lenders compared with other financial intermediaries is that the access to borrowers' transactions obtained through their checking accounts gives banks additional ability to monitor loans. This gives institutions legally permitted to issue checking accounts a unique edge. The direct deposit of paychecks into a bank account gives a bank a current record of employment and income.[11] The ongoing deposit history that banks have of the businesses they lend to gives them a unique ability to monitor sales.[12] Checking account information can be used to enforce covenants in a timely manner, and banks are better able to administer loan workouts outside of bankruptcy as a consequence.[13]

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[9]Sentiment, the degree of relationship and obligation felt by the parties, also may play a role. Unless a bank has an unusually close relationship with a borrower, parties with more regular contact with the borrower (employees, for example) are likely to have more powerful sentimental ties than loan officers.

[10]See Nakamura (1993b) for a further discussion of the difference between collateralized and monitored lending. Lacker (1990,1991) discusses collateralized lending and Diamond (1984) discusses monitored lending.

[11]Black (1975) proposed that when households borrow from banks, their checking accounts provide useful information in assessing the riskiness of loans to the households.

[12]Fama (1985) extended Black's argument to business lending.

[13]Nakamura (1990) presents evidence from bank loan manuals as well as theory.

Checking accounts should be of most value for monitoring small businesses.[14] The main checking account of a small single-location business provides readily accessible information that the lender can easily interpret. By contrast, large multilocation businesses in the United States typically use multiple accounts at a number of different banks.[15] As a result, no one bank has a clear view of the detailed activity of the multilocation business. Moreover, the complicated character of the financial transactions of a large business makes it very difficult for any lender to interpret all the information in its transactions.

In a related vein, when a small bank does business within a community of depositors who transact frequently with one another, checking and savings accounts can provide information about local economic conditions that may not be available in a timely fashion from any other source. This information is most valuable, again, in lending to small businesses with primarily local customers.

Not only do small banks have an informational advantage, their loan officers are able to make better use of such information than are loan officers at large banks. For example, loans at many large banks are reviewed using standardized, objective criteria that do not bring into consideration all the special information that may be available to a loan officer.[16] This objective review is necessary because, otherwise, loan officers at large banks may be tempted to abuse their lending powers. For example, a loan officer at a large bank might find it easier to conceal a loan that has gone bad because the large bank's senior management has much more in its purview and can't follow loans as closely. From the loan officer's perspective, taking steps against a troubled loan could be a double-edged sword. Doing so might save the loan, but it would also be an admission that the borrower has gotten into trouble and, perhaps, that the loan shouldn't have been made in the first place. This loan officer might be tempted to ignore the first signs of trouble with a loan and hope that nothing happens until the loan officer is transferred to a better position. Then, whoever takes over the loan may be unable to show that the loan was bad to begin with. This situation is less likely to happen at small banks because the senior management is closer to the loans and can more easily assign blame for loan losses.[17]

This theory suggests that large banks may cope with their decreased capacity for monitoring their loan officers by having each officer use more rigid criteria to make loans, on average. Large banks also appear to have their loan officers make fewer but larger loans on average. This may reflect differences in the ability to use information, as these larger loans are made to large borrowers about whom more public information is available, and the small number of loans is easier to supervise.[18]

[14]See Nakamura (1993a,b) for this viewpoint.

[15]A survey of large corporations in 1971 found that of 161 corporations, 59 had dealings with more than 100 banks and a majority had relationships with more than 50 (Conference Board, 1971). Only eight had relationships with fewer than 10 banks. Subsequent studies and anecdotal evidence confirm that these multiple relationships are ongoing. In recent Congressional testimony, for example, an Occidental Petroleum manager said that the company used 43 financial institutions in its banking business.

[16]Udell (1989) discusses the formal loan review as a means for monitoring loan officer performance.

[17]I make this argument in Nakamura (1993a,b). See McAfee and McMillan (1989) for a discussion of the difficulties that hierarchies encounter in monitoring. Mester (1991) applies this idea to mutual savings and loans.

[18]Data from the Federal Reserve's Functional Cost Analysis show that among small banks reporting in the survey, loan officers at larger banks handle fewer loans. Anecdotal evidence suggests that this finding applies as well to large banks.

In practice, large and small banks do tend to specialize in loans of different sizes as this theory suggests. In 1988, for example, banks with assets less than $1 billion made three-fourths of all bank loans smaller than $1 million, while banks with assets more than $1 billion made nine-tenths of all bank loans larger than $1 million (Table 3).

The fact that a small bank possesses special "inside" information about its loans gives it an advantage in making small loans. But sometimes its reliance on that information can be a drawback. Recent banking theory explores the negative side, too. It's easy for "outsiders" who lack this special information to become nervous about whether the loans are, in fact, going to be good and that makes the loans illiquid.[19] No one would buy small loans from a small bank that faced a temporary liquidity problem because the buyer couldn't tell for sure if the

[19]See Gorton and Haubrich (1991) for a discussion of the market for loan sales, which is mostly restricted to large loans made by large banks.

TABLE 3

Who Makes Large and Small Loans?

Distribution of Banks Making Loans for Each Loan Size (percent)

Bank Size* (Assets)	Loan Size*: Share of Small Loans Loans < $1 mil	Share of Large Loans Loans > $1 mil
less than $100 million	27	1
$100 to $300 million	26	3
$300 million to $1 billion	20	8
$1 to $3 billion	18	17
$3 to $10 billion	7	33
$10 to $30 billion	3	23
$30 billion +	1	15

*The table shows 1988 data to avoid distortions that might result from the 1989-90 downturn. The loan size to which a loan is assigned is the larger of the actual loan amount or the commitment of which the loan is a part. Totals may not add to 100 percent due to rounding.

Note: Loans are commercial and industrial loans greater than $1000. Includes advances of funds, takedowns under revolving credit agreements, notes written under credit lines, renewals, bank's portion of loan participation, commercial, industrial, construction, and land development loans. Excludes purchased loans, open-market paper, accounts receivable loans, loans made by international division of bank, and loans made to foreign businesses.

Source: Quarterly Terms of Bank Lending to Business, Federal Reserve Board.

loans were good ones. Large loans at large banks are less troubled by (but not free of) this problem because more public information is available about the borrowers. As a consequence, a rumor that a small bank is in trouble could easily be self-confirming, leading to a run on deposits that the bank could not meet because even the good loans the bank has made could be sold only at a substantial loss. That is why small banks typically have high capital-to-asset ratios and also why deposit insurance is particularly crucial for small banks: by assuring depositors that their money is safe, a high capital-to-asset ratio and deposit insurance relieve the small bank of the risk of failure caused by a bank run.

SMALL BANKS' EARNINGS COMPARED TO LARGE BANKS'

Even when banks specialize in the size of loans they seem best suited to make—that is, small banks making small loans and large banks, large ones—small banks appear to be doing better. The data show that banks with less than $1 billion in assets earn higher interest income per dollar of assets than larger banks (Table 4). This accords with evidence (in Table 2) that return on assets is higher for banks with asset size less than $1 billion than for banks with asset size more than $1 billion and that the same holds true for return on equity, although the evidence is less dramatic. Indeed, the evidence from return on assets is that banks with less than $100 million in assets had a greater return than banks with larger assets. However, the smallest banks—those with assets of less than $25 million—generally do not earn the highest net returns because their noninterest costs tend to be higher than those of larger banks.

Why don't large banks do as well at lending to large firms as small banks do at lending to small firms? One reason could be that small banks are better monitors than large banks, even for the loans large banks are best suited to make.

But another reason is that small banks have the advantage of less competition. Timothy Hannan (1991) provides evidence that small loans pay higher interest rates in concentrated banking markets, but the evidence on large loans is inconclusive. This suggests that greater returns are likely to be derived from small loans than from large loans. Many small banks, like Mouse Bank, have an informational advantage in their home markets that comes from their deposit business. Small banks need fear competition in small business lending only from other local banks, because only other local banks can offer deposit accounts to their customers. A bank with branches an hour's drive from Cheeseburgh is simply not a competitive threat to Mouse Bank because Cheeseburgh business owners are not willing to do their banking that far away.[20] By contrast, the deposit business of large banks, such as Money Bank and Everywhere Bank, does not give them as big of an advantage in lending. Money Bank's large business customers can go to banks headquartered in San Francisco or Chicago for loans. So small banks more often have market niches in which competition is limited, and as argued by Paul Calem in this issue, these market niches will probably survive interstate branching.

One concern is that small banks may be earning higher returns because they may be riskier than large banks. Since deposit insurance makes risk-taking cheaper, greater risk would result in higher returns to the bank's owners at the potential expense of higher losses to the deposit insurance fund.[21] But this doesn't

[20]Elliehausen and Wolken (1990) document that almost all small businesses obtain their checking services from a bank or thrift located within 12 miles of the firm.

[21]Until 1993, banks with riskier portfolios paid the same deposit insurance premiums as other banks. When this is true, much of the cost of the greater downside risk is absorbed by the deposit insurer, while the greater upside risk

TABLE 4

Interest Income as Percent of Assets

(Adjusted for Loan Losses and Taxes)
Size of Bank in Dollars

Date	Less Than 100 Million	100 Million to 1 BIllion	1 Billion to 10 Billion	Greater than 10 Billion
1984	9.52	9.43	8.88	9.12
1985	8.80	8.65	7.97	7.95
1986	7.81	7.60	7.00	6.85
1987	7.50	7.43	6.84	6.06
1988	7.74	7.76	7.47	7.62
1989	8.36	8.45	8.17	8.01
1990	8.31	8.26	7.76	8.09
1991	7.99	7.68	6.93	6.84
1992	7.09	6.53	5.88	5.69
1993	6.18	5.94	5.38	5.28
AVERAGE	7.93	7.77	7.23	7.15

Source: Call Reports

seem to be the case, since small banks fail no more often than large banks.[22]

Overall, the data suggest that small banks have less competition as lenders and are better able to use their knowledge to make profitable loans. One of the ongoing challenges for any thriving bank is to continue to provide quality service to small businesses as the bank increases in size.

The natural process of growth that any business undergoes is, for small banks, clearly double-edged. As a bank ages, its best customers also grow—and, in the process, become less profitable to the bank as their funding options expand. The growing bank must keep on its toes to continue to attract risky new borrowers who, troublesome as they are, may ultimately be its best hope for a profitable future.

benefits the bank's equity holders. Since the beginning of 1993, the riskier banks pay more for deposit insurance, but most analysts believe that the spread between the highest and lowest premium rate is too small, so that deposit insurance still provides an implicit subsidy to riskier banks.

[22]See Boyd and Runkle (1993).

CONCLUSION

As long as the deposit insurance system remains in place, it appears likely that small banks will play an important role in the U.S. economy. A central role of small banks is providing funds to small businesses. Small banks are able to efficiently provide funds to small businesses because they can use the information derived from checking accounts to monitor loans. Also, the small bank has short managerial lines of command and communication, which permits it to use information effectively.

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ANNOUNCEMENT:

Information and Screening in Real Estate Finance: A Special Issue of the *Journal of Real Estate Finance and Economics*

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The issue of racial discrimination in mortgage lending has recently received widespread publicity. A central paradox for researchers, policymakers, and the public is how such discrimination can persist when nationwide mortgage banking firms can readily enter local mortgage markets and when laws such as the Fair Housing Act and the Community Reinvestment Act have been written to prevent discrimination. On March 3-4, 1994, the Federal Reserve Bank of Philadelphia and the *Journal of Real Estate Finance and Economics* co-sponsored a research conference at the Bank on "Information and Screening in Real Estate Finance." Six research papers were presented and discussed, and five groups of investigators presented reports on current research.

The November 1994 issue of the *Journal of Real Estate Finance and Economics* includes an introduction to information issues in real estate finance by Leonard Nakamura and William Lang and the papers presented at the conference: "List Price Signaling and Buyer Behavior in the Housing Market," John Knight, C.F. Sirmans, and Geoffrey Turnbull; "Bias in Estimates of Discrimination and Default in Mortgage Lending: The Effects of Simultaneity and Self-Selection," Anthony Yezer, Robert Phillips, and Robert Trost; "Borrower and Neighborhood Racial and Income Characteristics and Financial Institution Mortgage Application Screening," Michael Schill and Susan Wachter; "Performance of Residential Mortgages in Low- and Moderate-Income Neighborhoods," Edwin Mills and Luan' Sende Lubuele; "Race, Redlining, and Residential Mortgage Loan Performance," James Berkovec, Glenn Canner, Stuart Gabriel, and Timothy Hannan; and "Wimp or Tough Guy: Sequential Default Risk and Signaling with Mortgages," Timothy Riddiough and Steve Wyatt.

The discussants at the conference, whose comments are also published in the issue, were Chester Spatt, Jan Brueckner, Loretta Mester, John Duca, Dennis Capozza, and Daniel Quan.

The Impact of Geographic Deregulation on Small Banks

*Paul S. Calem**

New, long-awaited federal legislation makes it permissible for banks to branch across state lines (effective June 1, 1997). Will nationwide interstate branching lead to the decline of small banks and ultimately reduce the availability of credit to small businesses and local communities? Recent trends affecting small banks suggest such a possibility. The number of banking organizations smaller than $1 billion in assets has been declining, a contraction that has been particularly pronounced in some states. These trends are worrisome because banking institutions in this size category originate a disproportionately large share of small business credit.

Legislative moves to grant interstate branching powers to banks have prompted such concerns because geographic deregulation has been a major impetus to industry consolidation. During the 1980s, many states relaxed in-state branching restrictions, and almost all states authorized out-of-state holding companies to acquire in-state bank subsidiaries, prompting numerous mergers and acquisitions. Prohibitions against acquisition or establishment of in-state branches by out-of-state banks were retained, however. Those favoring such restraints feared that their removal would prompt further contraction of the small bank sector and that this would harm small businesses and local communities.

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This article examines consolidation in the banking industry as it has affected small banks. Trends in the asset shares of small banking companies are investigated on a state-by-state basis, and the relationship of these trends to geographic deregulation is discussed. From these findings, inferences are drawn regarding the future of small banks when interstate branching becomes a reality.

A principal finding is that where in-state branching restrictions have been relaxed, the small bank sector generally has contracted. Relaxation of interstate restrictions thus far, however, has not had a significant impact on the small bank sector. These findings suggest that loosening interstate branching restrictions will not lead to further substantial contraction of the small bank sector. Removal of in-state branching restrictions had such an impact on small banks only because such restrictions had precluded many of these banks from achieving efficient size. Since most banks are now pretty close to efficient size or can choose among many potential merger partners or acquirers to achieve scale efficiencies, removal of interstate branching restrictions is unlikely to have a major impact in this regard. Rather, interstate branching activity will probably be driven by motives other than realizing scale efficiencies. If so, then allowing banks to branch interstate should not substantially affect the status of small banks.

CONCERNS REGARDING COMMUNITY BANKS AND INTERSTATE BRANCHING

Historically, the federal government and the states have regulated geographic expansion by banking organizations in the United States.[1] As recently as 1985, 22 states imposed substantial limitations on in-state bank branching. Table 1 lists these states and the nature of their branching restrictions (moderate or severe) as of January 1985. Seventeen of these states had repealed or significantly eased their branching restrictions by January 1991.[2] Table 1 also indicates any such changes in state branching laws during this period.

Since 1956, the Douglas Amendment to the Bank Holding Company Act has prohibited the interstate acquisition of any bank by a bank holding company, except where authorized by the acquired bank's home state. Until the 1980s, states did not provide such authorization, so that the Douglas Amendment precluded the formation of multistate bank holding companies.[3] During the 1980s, however, most states adopted legislation opening their borders to entry by out-of-state bank holding companies.[4] Almost all of this legislative activity occurred during 1985 through 1989. By January 30, 1991, all but four states (Hawaii, Kansas, North Dakota, and Montana) had adopted laws allowing entry by an out-of-state holding company.[5] Thirty-three of these states authorized entry on a nationwide basis, with the stipulation (in most cases) that the entering bank's home state have a reciprocal law; 13

[1]My primary source of information on state laws governing in-state branching and interstate banking is Amel (1993).

[2]Since January 1991, Illinois and New Mexico have eliminated branching restrictions; Colorado has authorized consolidation of holding company subsidiaries; and there has been further relaxation of branching restrictions in Arkansas.

[3]The Bank Holding Company Act provided "grandfathered" rights to 19 multistate holding companies that predated its passage, allowing them to maintain their interstate status. Over time, the number of grandfathered multistate holding companies decreased to seven. See Savage (1993) for additional discussion.

[4]The first state to open its borders to entry by out-of-state holding companies was Maine in 1978, followed by New York and Alaska in 1982.

[5]Kansas, Montana, and North Dakota have since adopted interstate banking laws.

TABLE 1

State Branching Restrictions

1985 and 1991

State	Restrictions: January 1985[a]	Status: January 1991
Arkansas	moderate	relaxed[b]
Colorado	severe	no significant change
Illinois	severe	relaxed[b]
Indiana	moderate	eliminated[c]
Iowa	moderate	no significant change
Kansas	severe	eliminated[c]
Kentucky	moderate	eliminated[c]
Louisiana	moderate	eliminated[c]
Minnesota	severe	no significant change
Mississippi	moderate	eliminated[c]
Missouri	moderate	eliminated[c]
Montana	severe	relaxed[b]
Nebraska	severe	relaxed[b]
New Mexico	moderate	no significant change
North Dakota	severe	no significant change
Ohio	moderate	eliminated[c]
Oklahoma	severe	eliminated[c]
Tennessee	moderate	eliminated[c]
Texas	severe	eliminated[c]
West Virginia	moderate	eliminated[c]
Wisconsin	moderate	eliminated[c]
Wyoming	severe	eliminated[c]

[a]A state's branching restrictions are classified as severe if more than five branches or "full service facilities" are prohibited. Absent such severe numerical limitations, a state's branching restrictions are classified as moderate if branching is restricted to city or town limits or to within a county or county plus contiguous counties.

Twelve states not listed in Table 1 imposed milder restrictions on bank branching as of January 1985. These include Alabama, Connecticut, Florida, Georgia, Massachusetts, and Virginia, each of which authorized branching statewide by merger or acquisition but restricted de novo branching (the establishment of a new branch); Pennsylvania, which permitted branching within a county plus contiguous and bicontiguous counties; Michigan, which allowed branching by merger or acquisition within a 25-mile radius of a bank's home office (effectively permitting branching into contiguous and bicontiguous counties); New York and Oregon, which prohibited branching into any town with population less than 50,000 in which the principal office of another bank is located; New Hampshire, which prohibited branching into any town with population less than 2500 where another bank is located; and Hawaii, which imposed liberal numerical ceilings on branching within Honolulu.

[b]Branching restrictions are characterized as having been relaxed in Arkansas, where county-wide branching replaced branching within city or town limits; in Illinois, where numerical limits were increased significantly; in Montana, which instituted statewide branching by merger subject to a proviso that grandfathered out-of-state bank holding companies could merge their existing subsidiaries but could not otherwise establish branches; and in Nebraska, which instituted statewide branching by merger subject to a proviso that no bank could operate more than five branches within its home city.

[c]Branching limitations are characterized as having been eliminated if either full statewide branching or statewide branching by merger or acquisition was introduced.

states plus the District of Columbia authorized entry on a regional reciprocal basis. The majority of states permitted the acquisition of existing banks but prohibited the establishment of de novo bank subsidiaries by out-of-state holding companies.

The passage of state laws authorizing interstate expansion by bank holding companies did not affect federal prohibitions against branching by banks across state lines. The McFadden Act, a federal law dating from 1927, ruled out interstate branching by national banks (banks that are chartered by the federal government as opposed to a state government). The Federal Reserve Act applied this constraint to state-chartered banks that are members of the Federal Reserve System.[6] Thus, into the 1990s, interstate branching restriction remained an important legal constraint on geographic expansion by banking organizations.

In each of the past three years, proposals to permit nationwide interstate branching have been floated in the U.S. Congress. Although these proposals have been controversial, a bill authorizing nationwide interstate branching finally was passed by the Congress in September 1994 (see *The Nation's New Interstate Banking Law*). President Clinton signed this bill into law on September 29.

Opponents of interstate branching had argued that geographic deregulation leads to fewer and larger banks and that this has an adverse impact on small business borrowers and local communities; see, for instance, various testimony in U.S. House of Representatives (1991, 1993). In support of this view, they point to declining numbers of small banks nationwide and cite evidence that larger banking organizations may be less willing to lend to small businesses and local communities.[7] One study commonly cited in this regard is Deborah Markley's examination of the availability of credit to small businesses in rural New England, reprinted in U.S. House of Representatives (1993).

Indeed, the number of U.S. banking companies smaller than $1 billion in assets (measured in 1992 dollars), including both independent banks in this size category and bank holding companies with total assets under $1 billion, decreased from 10,316 to 8550 between December 1986 and December 1992, according to a recent study released by the U.S. General Accounting Office (GAO). This consolidation was primarily the result of mergers and takeovers, not bank failures.[8] Opponents of interstate branching feared that it would hasten the pace of this consolidation.

Consolidation of the small bank sector is a matter of concern because smaller banks evidently focus more heavily on serving small

[6]Further, all but seven states generally prohibit the operation of in-state branches by out-of-state banks. The seven exceptions are Alaska, Massachusetts, Nevada, New York, North Carolina, Oregon, and Rhode Island. Nevada permits branching only into counties with population less than 100,000; the other six states require reciprocity. In effect, these laws authorize entry by state-chartered banks that are not members of the Federal Reserve System.

[7]Of course, this is not the only argument proffered by opponents of interstate branching. For example, they argue that larger banks pose greater risk to the deposit insurance system because they tend to be involved in riskier activities, that larger banks are more apt to be poorly managed or inefficient, and that banking is becoming less competitive as a result of the industry's consolidation. Consideration of these other issues is outside the scope of this article.

[8]See U.S. General Accounting Office (1993). According to Atkinson (1994), the number of banks with assets under $1 billion continued to decline through 1993. The numbers cited in Atkinson's article do not distinguish between independent small banks and small banks that are subsidiaries of larger holding companies.

[9]Various explanations can be offered for why small institutions are more oriented toward small business lending than larger organizations. For instance, Leonard Nakamura argues that hierarchical management structures at large banks make them inefficient originators of loans to small firms.

The Nation's New Interstate Banking Law

On September 13, 1994, the Senate approved H.R. 3841, the Riegle-Neal Interstate Banking and Branching Efficiency Act. The bill, which had been approved earlier by the House, was signed into law by the President on September 29.

One year after enactment, a bank holding company (BHC) will be able to acquire a bank in any state, so long as certain conditions are met. The BHC must be in a safe and sound condition (i.e., adequately capitalized and adequately managed), and its community reinvestment record must pass a review by the Federal Reserve Board. The transaction must not leave the applicant in control of more than 10 percent of nationwide deposits or 30 percent of deposits in the state. The bank to be acquired must meet any age requirement, up to five years, established under state law. There is an exemption from the concentration, community reinvestment, and age limits for acquisitions of failing or failed banks.

With regard to branching, the bill provides that beginning June 1, 1997, bank holding companies may consolidate their interstate banks into a branch network, and free-standing banks may branch interstate by merging with another bank across state lines. Such mergers would be subject to the safety and soundness, community reinvestment, concentration, and age requirements described above for BHC interstate transactions. States are allowed to "opt-out" of interstate branching by merger before June 1, 1997, and they can also authorize it earlier ("opt-in"). To allow de novo branching (i.e., branching other than by merger with an existing bank), states must specifically authorize it.

Interstate branches of national banks will be subject to the laws of the host state regarding consumer protection, intrastate branching, community reinvestment, and fair lending, unless the Comptroller of the Currency determines that federal law preempts such state laws or that they would have a discriminatory effect on national bank branches. Interstate branches of state-chartered banks are subject to all of the laws of the host state while also under the jurisdiction of the chartering state.

The new law contains some significant community reinvestment provisions. In particular, evaluations by federal regulators of an institution's community reinvestment performance must be conducted on a state-by-state basis for institutions with branches in more than one state. In addition, by June 1, 1997, federal regulators must prescribe regulations that prohibit out-of-state banks from using interstate branches "primarily for deposit production" rather than for helping to meet community credit needs.

Source: Congressional Liaison Office, Board of Governors of the Federal Reserve System.

businesses and local communities.[9] Leonard Nakamura (1993) documents that institutions smaller than $1 billion in assets originate a disproportionately large share of small business credit.[10] Similarly, Paul Bauer and Brian Cromwell document that small banks originate a disproportionately large share of credit to startup businesses.[11]

Proponents of interstate branching counter

[10]Analyzing data from the Federal Reserve's 1988 Survey of the Terms of Bank Lending to Business, Nakamura finds that small banks, with assets less than $1 billion, dominate the lending of amounts less than $1 million to individual commercial borrowers, and most of these small loans are made to small businesses. Moreover, the comparative advantage of lending to small borrowers appears to extend to banks as large as $3 billion in assets.

[11]Alan Greenspan recently provided a telling example of small banks' role in local communities: "During last year's floods, many banks in Iowa offered lowered loan rates and deferred payments. Indeed, business failures declined by a third in Iowa in 1993, despite the flood...Iowa bankers during this period also collected critical information for state and federal agencies and acted as a conduit to provide a great deal of needed information to their customers and communities" (Greenspan 1994, p. 7).

that its potential impact on availability of small business credit has been exaggerated. That is, small institutions will continue to occupy profitable niches, in large measure because of their special expertise in serving small businesses and local communities.[12] As Federal Reserve Chairman Alan Greenspan points out, "The basic product lines, as well as those evolving—mutual funds, security brokerage, and even insurance sales—small banks can and do offer. Plus, small banks can add to the product mix what larger banks cannot: personalized service, local market knowledge, and easy access to officers of the bank." Proponents also emphasize that merger and acquisition activity is governed by the Bank Merger Act and federal antitrust laws, which promote competition in banking and protect against concentration of financial resources. Preservation of local market competition helps to ensure access to financial services for consumers and small businesses.

In fact, a study by Donald Savage concludes that, on average, local banking markets have not become more concentrated over the past decade.[13] Moreover, although the total number of small banking companies has been declining nationwide, much of that decline may be tied to consolidation among very small institutions (up to $500 million in assets) seeking to strengthen their competitive standing vis-a-vis larger institutions. When a modest-sized institution is created out of the merger of two smaller institutions, small business lending probably continues unabated. For this reason, the share of banking assets held by small banking companies is a more meaningful indicator of availability of small business credit than the total number of small institutions. By the share measure, industry consolidation thus far has had an ambiguous impact on the status of small banks. At the national level, the share of total banking assets held by companies smaller than $1 billion in assets (measured in 1992 dollars), including both independent banks in this size category and bank holding companies with total assets under $1 billion, has remained constant at 21.5 percent between December 1986 and December 1992, according to the GAO study cited above. The share of assets held by small banking companies declined in some states but increased in others.[14]

For each state in the U.S., Table 2 indicates the share of state banking assets held by small institutions as of December 1986, the share as of December 1992, and the percentage change in share between those dates. The asset share of small banking organizations declined by at least 5 percent in just 18 states; these states are highlighted in Table 2. Thus, a simple extrapolation from current trends does not yield any obvious inferences regarding the likely impact of further geographic deregulation.

In an additional four states, the percentage decline in the share of assets held by small banking organizations was less than 5 percent during this period. It would not be appropriate

[12]See various testimony in U.S. House of Representatives (1991, 1992). For an excellent discussion of the factors favoring small bank viability, see Spong and Watkins (1985).

[13]Of course, the goal of bank merger regulation is not simply to preserve competition on average, but to prevent anticompetitive mergers or acquisitions in any market where such consolidation cannot be justified on the basis of cost-efficiency or other mitigating factors. This requires a case-by-case evaluation.

[14]Note that in positing a correspondence between a decline in the asset share of small banking companies and a decline in the availability of small business credit, one is, in effect, considering a "worst-case" scenario. That is, one is abstracting from the possibility that a small bank acquired by a medium-sized or large bank holding company may be operated as a separate subsidiary with a high degree of independence, so that the credit decisions and customer relationships of the acquired banks may be unaffected. Thus, a decline in the asset share of small banking companies may overstate the impact of consolidation.

TABLE 2

Shares of State Banking Assets Held by Organizations Smaller Than $1 Billion in Assets: 1986 and 1992

State	Share Dec. 1986	Share Dec. 1992	Percent Change	State	Share Dec. 1986	Share Dec. 1992	Percent Change
Alaska	60.6	28.2	-53.4	Montana*	63.3	82.6	30.6
Alabama	30.3	29.4	-3.1	Nebraska*	66.8	56.1	-16.0
Arkansas*	81.0	74.4	-8.0	New Hampshire	47.9	54.2	12.9
Arizona	0.5	11.0	4.5	New Jersey	14.2	13.5	-4.4
California	14.6	18.7	28.7	New Mexico	40.3	48.1	19.3
Colorado	36.3	41.5	14.3	Nevada	19.8	15.8	-20.5
Connecticut	15.6	16.7	6.7	New York	2.7	4.0	47.3
Delaware	3.0	7.7	-36.0	North Carolina	6.8	8.1	19.4
Florida	21.5	23.2	8.3	North Dakota	70.4	86.2	22.6
Georgia	24.9	26.2	5.5	Ohio*	19.5	17.6	-9.8
Hawaii	24.6	13.7	-44.5	Oklahoma*	73.4	75.2	2.4
Iowa	67.8	66.6	-1.8	Oregon	13.6	15.0	10.7
Idaho	24.6	21.8	-11.3	Pennsylvania	17.1	18.0	5.7
Illinois*	37.1	34.0	-8.5	Rhode Island	12.1	5.1	25.1
Indiana*	46.1	35.0	-24.0	South Carolina	23.9	31.2	30.5
Kansas*	86.0	81.0	-5.8	South Dakota	27.8	43.5	56.6
Kentucky*	59.5	53.0	-10.8	Tennessee*	38.2	33.8	-11.4
Louisiana*	54.6	52.0	-4.7	Texas*	33.6	41.8	24.3
Massachusetts	7.5	8.3	10.1	Utah	23.7	39.5	66.6
Maryland	17.4	20.5	17.7	Virginia	17.2	20.2	17.6
Maine	15.7	23.2	47.3	Vermont	79.0	51.2	-35.2
Michigan	16.6	17.0	2.6	Washington	15.7	17.0	8.1
Minnesota	33.3	39.4	18.3	West Virginia*	81.1	62.5	-22.9
Mississippi*	51.7	45.9	-11.3	Wisconsin*	45.4	39.3	-13.4
Missouri*	33.4	35.6	6.5	Wyoming*	80.4	75.4	-6.3

Source: United States General Accounting Office, except for Delaware figures, which were computed directly from Call Report data. Delaware's limited purpose banks were omitted from the computations because these banks are subject to restrictions on competition with in-state banks. The $1 billion size category is CPI adjusted; i.e., for the purpose of determining bank size in 1986, bank assets in 1986 are measured in 1992 dollars.

*States where branching restrictions were eliminated or relaxed between January 1985 and January 1991.

to interpret these small declines as signalling a trend. For instance, in New Jersey, the asset share of small banking companies declined during 1987 and 1988, but this decline was largely reversed between year-end 1988 and year-end 1992.

IMPACT OF GEOGRAPHIC DEREGULATION: A CLOSER LOOK

Having observed that the share of assets held by small banking organizations declined in some states but not in others, one may wonder how this pattern might be related to geographic deregulation. As we shall see, an analysis of this relationship may provide clues as to the likely impact of interstate branching on the small bank sector.

A joint examination of Tables 1 and 2 yields an important observation: there is a close correspondence between the states that experienced a substantial contraction of the small bank sector between December 1986 and December 1992 and the states that eliminated or substantially relaxed in-state branching restrictions between January 1985 and January 1991 (which are marked with an asterisk in Table 2).[15] In fact, the small bank sector contracted by 5 percent or more in 12 of the 17 states in which branching restrictions were eased (the exceptions were Louisiana, Missouri, Montana, Oklahoma, and Texas), while contracting by 5 percent or more in only six of the remaining 33 states. This comparison, which is summarized in Table 3, indicates a strong correlation between repeal or relaxation of a state's branching laws and a decline in the share of state assets held by small banking organizations.

Although five states did not experience such a contraction of the small bank sector following liberalization of branching laws, four of these exceptional cases are easily explained. In Montana, the reformed branching law directly favored the small bank sector because of a proviso that allowed grandfathered out-of-state holding companies to branch only by merging existing subsidiaries (see footnote b of Table 1). As of year-end 1992, these grandfathered holding companies were the only organizations present in Montana that exceeded $1 billion in assets. In Louisiana, Oklahoma, and Texas during the latter part of the 1980s, the banking industry was beset by problems tied to a weak regional economy.[16] In Texas, several large bank holding companies failed, and these failures were accompanied by a contraction and restructuring of the state banking industry that increased the share of state banking assets held by small banking companies.[17] In Louisiana and Oklahoma, eroding capital positions of the largest banking organizations precluded them from acquiring smaller banks following the elimination of these states' branching restrictions in 1988.[18]

[15]I restricted my attention to changes in state branching laws that occurred between January 1985 and January 1991 to allow for up to a two-year lag between the easing of branching restrictions and the effect on the small bank sector.

[16]For instance, over the three-year period 1987-1989, these three states experienced an extraordinarily high number of bank failures. Their 414 failures of FDIC-insured commercial banks and trust companies during this period accounted for 70 percent of all bank failures in the nation, representing failure rates far greater than in any other state except Alaska.

[17]Various small subsidiaries of large, failed organizations were spun off and merged into small banks. Total assets of FDIC-insured commercial banks and trust companies in Texas declined from $209 billion to $169 billion (unadjusted for inflation) between year-end 1985 and year-end 1990.

[18]The mean ratio of total equity capital to total assets of large banks (over $1 billion in assets) in Louisiana declined from 6.8 percent to 5.3 percent between year-end 1988 and year-end 1990; in Oklahoma over the same period, this ratio fell from 5.8 percent to 4.8 percent. In contrast, nationwide during this period, the mean ratio of total equity capital to total assets among large banks increased from 6.3 percent to 6.5 percent.

TABLE 3

Branching Law Reform and Changing Asset Shares of Small Banking Organizations

	Number of states that eased branching restrictions	Number of states with no change in branching laws	Total
States where asset share of small banking companies declined by more than 5%	12	6	18
States where asset share of small banking companies declined by less than 5% or increased	5	27	32
Total	17	33	

In contrast to relaxation of in-state branching restrictions, geographic deregulation via interstate banking legislation has not been correlated with changes in the status of small banking companies. This can be seen by focusing on the 33 states where there was no legislative activity related to in-state bank branching. As noted above, the small bank sector contracted by more than 5 percent in only six of these states: Alaska, Delaware, Hawaii, Idaho, Nevada, and Vermont. Clearly, interstate banking played no role in Hawaii, which has no interstate banking law. Neither was interstate banking a contributing factor in Vermont. There, the share of state deposits held by out-of-state holding companies was a minuscule 4.4 percent as recently as June 1993, reflecting ownership of a small Vermont bank by a small holding company (Arrow Financial Corporation, which is considerably smaller than $1 billion in assets) based in New York state.

The contraction of the small bank sector in Alaska, Delaware, Idaho, and Nevada, while directly related to interstate banking, was a consequence of exceptional circumstances. Banking in these four states, very small in population, is not representative of much of the nation. As of year-end 1986, each had only a few banks and hardly any that were larger than $1 billion in assets or that were subsidiaries of sizable holding companies based in those states. Delaware had three banking companies in that size category; Idaho, Nevada, and Alaska each had one.[19] Subsequently, these states figured into the regional expansion strategies of some very large organizations. Some of these expansion-minded companies then acquired banks smaller than $1 billion in assets because they had few or no alternatives.

[19]The GAO figures somewhat exaggerate the decline in the status of the small bank sector in Nevada, because Citibank Nevada, a credit card bank, was incorporated into the computations. Asset growth at Citibank Nevada was not supported by in-state deposits, and therefore this growth did not disadvantage the state's smaller banks.

Moreover, in Alaska, interstate banking was only a secondary factor contributing to the contraction of the small bank sector between year-end 1986 and year-end 1992. The primary factor was a weakened banking industry, battered by an economic slump brought on by depressed oil prices. One-third of the state's banks had failed or been rescued during 1985 and 1986, and an additional one-third failed during the period 1987 through 1990. Between year-end 1986 and year-end 1992, total banking assets in the state declined by one-quarter (from $6.4 billion to $4.7 billion in 1992 dollars). These woes contributed to the growth in the asset shares of subsidiaries of large out-of-state organizations, which absorbed some of the failing banks. Moreover, Alaska-based First National Bank of Anchorage grew (through absorption of failing banks) beyond the $1 billion threshold during this period, substantially augmenting the measured decline in the asset share of small banks.

In sum, reform of in-state branching restrictions has had a major impact on the status of small banks, triggering consolidation of small banking organizations into larger organizations. Relaxation of interstate restrictions thus far appears to have had only a marginal effect on the status of small banks. That is, in most states other than those that relaxed in-state branching restrictions, the share of assets held by small banking organizations has not declined, despite easing of restrictions on interstate expansion by bank holding companies.

IMPLICATIONS FOR INTERSTATE BRANCHING

What can one extrapolate from this experience, as regards the likely impact of allowing banks to branch interstate? Will nationwide interstate branching be analogous to the lifting of in-state branching restrictions, having a great impact on the status of small banking companies? Or will it primarily involve further consolidation among medium-size and large banks?

The Past: Impact of In-State Branching Restrictions. To attempt to answer these questions, we must first determine why states that relaxed branching restrictions typically experienced substantial declines in the asset shares of small banks. An important motive driving consolidation in these states was the potential for many small banks to be operated more efficiently as branches of other banks rather than as independent organizations. Under in-state branching restrictions, many small banks maintained an independent existence only because they were barred from being acquired and turned into branches. It would have been more efficient or would have better served customer needs for these banks to be branches of a larger bank.

In other words, in states where branching was restricted, banks were too numerous and too small from an efficiency perspective. Thus, when the legal restrictions were lifted, many small banks were sought out for acquisition and converted into branches of larger banks.

Various evidence supports this view. The empirical literature on scale efficiencies in banking, as reviewed and interpreted by David Humphrey, indicates that "branching, far from being an extra cost of customer convenience, actually lowers both bank and customer costs. Branching permits a banking firm to lower costs by producing services in more optimally sized offices rather than producing virtually all of the output at a single office, as occurs in [states with severe limitations on bank branching]."[20] Moreover, recent studies of scale efficiency in banking find that efficiency of banking organizations tends to increase with size (average cost per unit of assets tends to decline) up to at least $75 million in assets. Loretta Mester (1994) observes that studies of small

[20]The convenience value of branching to bank customers is further discussed in Calem (1993).

banks generally find that scale economies are exhausted somewhere between $75 million and $300 million in assets. Beyond this range, most studies find efficiency to be generally unrelated to size.[21] Thus, empirical evidence confirms that there were operating efficiencies to be achieved through the acquisition of small institutions by larger organizations in states where branching restrictions had been lifted.

De novo entry by large organizations into local markets may have been an additional factor affecting the status of small banks in states where branching restrictions had been repealed or relaxed. Large banks may have established de novo branches and successfully competed for market share from small banks, after branching restrictions were lifted.[22]

The Present: Can We Draw an Analogy? In sum, relaxation of in-state branching restrictions tended to bring about declines in the asset shares of small banks because these restrictions stood as an important barrier to entry (via acquisition or de novo) into local banking markets. We cannot extrapolate from this experience, however, to conclude that nationwide interstate branching will also have such an effect. Since major legal barriers to entry have already been relaxed, the remaining obstacle—interstate branching restrictions—is of secondary importance. Interstate branching restrictions are not analogous to in-state branching restrictions because interstate restrictions exist in a context of otherwise unrestricted entry into local banking markets.

Except in states where branching remains restricted, potential acquirers of small banks include multiple larger institutions. Thus, in general, small, independent banks no longer are artificially precluded from achieving scale efficiencies. Rather, as emphasized by Leonard Nakamura (1994), most small banks are rural banks or urban or suburban niche banks that are prospering as independent organizations. Similarly, there exist numerous potential de novo entrants into most local markets. Few small banks remain artificially protected from competition with larger organizations.

Why, then, are there still so many U.S. banks smaller than $100 million in assets (nearly 7800 as of year-end 1993, according to the FDIC), which various banking cost studies suggest are inefficiently small? The explanation is simple: even if the typical bank in this size category operates at a comparatively high cost per-unit-of-assets, this doesn't mean that the bank should be acquired by or merged into a larger bank. The bank's lending policies, management practices, or other aspects of its "organizational culture" may be appropriate for the particular community it serves but may be difficult to reconcile with those of potential acquirers or merger partners.[23] Further, increasing the number of potential acquirers by permitting interstate branching will not necessarily lead to acquisition of these banks.

Evidence from Pennsylvania supports this line of reasoning. Prior to 1982, Pennsylvania restricted bank branching to the county in which a bank's principal office was located and contiguous counties. In March 1982, this con-

[21]For example, Berger and Humphrey (1991) find that scale efficiencies are achieved up to $100 million in assets. A few studies, however, find further economies of scale at the upper end of the size distribution of banks; see Mester (1987) for a survey.

[22]Amel and Liang (1992) demonstrate that relaxation of state branching restrictions increased de novo entry into local markets via bank branching.

[23]Also, antitrust considerations may preclude particular mergers between small banks that are competitors in a concentrated rural market. Of course, much ongoing merger activity involves small banks merging with other small banks. Thus, when the appropriate opportunity arises, small banks do seek to achieve economies of scale through consolidation.

straint was relaxed to allow for branching within bicontiguous counties.[24] This easing of in-state branching restrictions was followed by a decline in the share of state banking assets held by small banks: between year-end 1982 and year-end 1986, the share of assets held by banking companies smaller than $1 billion in assets declined by about 40 percent.[25] In March 1990, Pennsylvania instituted full, statewide branching. This further easing of branching restrictions, however, had no impact on the status of the small bank sector; the share of assets held by small banking companies in Pennsylvania has been stable since year-end 1986. This record suggests that the initial easing of branching restrictions in 1982 enabled small banks to be absorbed into larger institutions in most instances where there were efficiencies that could be achieved through such consolidation. It seems reasonable to expect that, like statewide branching in 1990, nationwide interstate branching will have no more than a marginal impact on the status of the small bank sector in Pennsylvania.

The Future: Likely Patterns of Consolidation Under Interstate Branching. What, then, can we expect with regard to industry consolidation under interstate branching? In many cases, holding companies will simply consolidate existing subsidiaries to create unified branch networks. This would be done to enhance customer convenience and reduce costs, but it would not affect the share of assets held by small banking organizations as defined in this article.

In other cases, small banks may seek to merge with other small banks across state lines in order to achieve scale efficiencies. Only if the merged bank exceeds $1 billion in assets would this affect the asset share of the small bank sector as defined in this article. As noted above, however, most studies indicate that banks achieve scale efficiencies at a size well below $1 billion.

Otherwise, interstate branching activity will be driven by various familiar motives affecting banks of all sizes. Some banks may seek to diversify geographically as a risk-management strategy.[26] Others may seek to build or maintain a dominant share of regional banking assets, for perceived associated benefits such as name recognition.[27] Still others may seek to improve the managerial efficiency of the organization they acquire or to shed excess capacity.[28] Finally, some banks may expand geographically to better serve their customers'

[24]In other words, a bank could branch into counties contiguous to its headquarters' county and also into counties contiguous to these.

[25]The $1 billion threshold is measured in 1992 dollars.

[26]Liang and Rhoades (1988) and Lee (1993) present evidence that geographic diversification has tended to reduce financial risk by reducing earnings variability. Gilbert and Belongia (1988) and Lawrence and Klugman (1991) present evidence that rural bank subsidiaries of geographically diversified holding companies have greater opportunities to diversify risk than independent rural banks.

[27]Cornett and Tehranian (1992), examining mergers of large bank holding companies, found that mergers increased an institution's overall ability to attract deposits and loans. This finding is consistent with a regional-share rationale for expansion.

Boyd and Graham (1991) argue that the creation of superregionals through consolidation may have been motivated by the perceived benefit of being "too-big-to-fail" and by potential gains in market power from merging with competitors. Consolidation toward such ends can be discouraged by disabusing the industry of the notion that banks can grow "too-big-to-fail" (which the Federal Deposit Insurance Corporation Improvement Act of 1992 may have already accomplished) and by continuing the enforcement of antitrust laws in banking.

[28]In other words, well-managed banks may acquire less well-managed banks and institute improvements that reduce total operating costs. Such cost-savings should not be confused with reductions in average cost that result when two efficiently run banks merge to achieve economies of scale; see Mester (1994) for further discussion.

The extent to which merger and acquisition activity needs. Banks located in multistate metropolitan areas will have a particular incentive to respond in this way. Current patterns of consolidation in the industry suggest that such motives tend to yield combinations of large or medium-size banks with other sizable banks, or consolidations of small banks into banks that may still be categorized as small or modest in size. Hence, there is little reason to expect that under nationwide interstate branching, small banks will commonly be targeted for acquisition by medium-size and large banks.

Of course, we may continue to see frequent acquisitions of small banks by larger institutions in the few states where in-state branching restrictions have recently been lifted and adjustment is not yet complete.[29] These might include Colorado, Illinois, Minnesota, and New Mexico, where restrictions have been lifted only within the past three years, and Louisiana and Oklahoma, where consolidation subsequent to the lifting of branching restrictions may have been delayed due to financial difficulties affecting the regional banking industry. And even in states that have long permitted in-state branching we may see some acquisitions of small institutions by larger organizations trying to fill a gap in the larger institution's banking network or gain a foothold in a new market. Because interstate branching could reduce the cost of acquiring banks on an interstate basis, such "foothold acquisitions" may become marginally more common.

In addition, interstate consolidation may reduce risk by allowing greater diversification of a bank's deposit base and loan portfolio, especially in the case of a small, locally limited bank being acquired by a geographically diversified holding company. Because interstate branching could reduce the cost of acquiring banks on an interstate basis, such acquisitions also may become marginally more common.

There is also the possibility that small banks in some markets may face intensified competition because of benefits accruing to large institutions and their customers through interstate branching. Specifically, multistate holding companies may achieve cost savings by consolidating separate subsidiaries into branch networks, and bank customers may obtain convenience benefits from interstate branching.

Overall, however, the impact of interstate branching on small banks' asset shares can be expected to be minimal. "Foothold acquisitions" of small banks by larger institutions are relatively uncommon. Small banks have alternative means of diversifying risk (such as through asset sales) and appear able to successfully balance the various advantages and disadvantages of being locally limited. Most important, small banks have demonstrated their ability to prosper as independent organizations under competitive conditions by effectively serving market niches. Small banks have demonstrated such ability in California and in other large states where statewide branching has long been permitted.[30]

CONCLUSION

Geographic deregulation of the banking industry spurred industry consolidation during the 1980s, and in some states, consolidation has been accompanied by a decline in the share of assets held by small banking institutions. In

among large and medium-size banks has yielded such performance gains is a topic of current debate among banking researchers. See Rhoades (1993) for a survey.

[29]Since the new federal statute does not preempt states' intrastate branching laws, it should not substantially affect the share of assets held by small banks in states where instate branching remains substantially restricted, namely, in Arkansas, Iowa, Montana, Nebraska, and North Dakota.

[30]See Calem 1993. Rose (1992), in a study of the effects of interstate acquisitions, finds further evidence of the ability of small local institutions to compete effectively against larger, geographically diversified organizations.

most such cases, the decline in the asset share of small banking companies was tied to a relaxation of in-state branching restrictions. Relaxation of interstate restrictions thus far has had only a marginal effect on the status of small banks. That is, in most states other than those that relaxed in-state branching restrictions, the share of assets held by small banking organizations has not declined, despite easing of restrictions on interstate expansion by bank holding companies.

Congress recently removed the most important remaining legal constraint on geographic expansion by banking organizations: the general prohibition against interstate bank branching. Proposals to allow interstate branching had been controversial because geographic deregulation is perceived to have an adverse impact on the status of small banks. But one cannot extrapolate from the experience in states where in-state branching restrictions were eased to conclude that interstate branching would adversely affect the status of small banks. Removal of in-state branching restrictions had a substantial impact on small banks because such restrictions had precluded many of these banks from achieving efficient size. Since most banks are now close to efficient size or can choose among many potential merger partners or acquirers to achieve economies of scale, removal of interstate branching restrictions is unlikely to have a major impact in this regard.

Rather, interstate branching activity will probably be driven by motives other than realizing economies of scale. If so, allowing banks to branch interstate should not have a major, adverse impact on the status of small banks.

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