
Changes in the Distribution of Banking Offices

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Over the past twenty years, major structural changes, including rapid consolidation among institutions, have altered the shape of the banking industry. Structural change has been driven by advances in technology, efforts to increase efficiency and reduce costs, the general performance of the economy, and the globalization of financial services markets. Deregulation of various aspects of banking, including a relaxation of regulatory restrictions on the ability of banking organizations to purchase other institutions and to establish branch offices, has also contributed significantly to the changes in banking structure.

Consolidation in the industry has resulted from mergers of previously independent institutions, the failure of a large number of commercial banks and savings associations (savings banks and savings and loan associations), and consolidation within bank holding companies. Industry analysts have advanced certain explanations for the drive to consolidate. In one view, consolidation is primarily a response to an oversupply of banking institutions and offices, or "overcapacity." Overcapacity has resulted from advances in technology, the easing of some regulatory restrictions, and inroads by nonbank financial institutions into traditional banking service markets. Another view is that some consolidation is motivated by strategic considerations and may, in some cases, have anticompetitive effects.

These structural changes may have influenced the distribution of banking offices, that is, their number and location.¹ This article explores the relationship between these changes and the distribution of offices between 1975 and 1995, particularly across neighborhoods grouped by the median income of residents and location (central city, suburban, or rural). The examination is restricted to "brick and mortar"

offices, which traditionally have been the most important delivery system that banking institutions use to provide products and services to households and business customers.² In these offices, customers can conduct a host of deposit, borrowing, and other financial transactions through tellers, loan officers, and other customer service representatives.

Although much discussion about the possible effects of structural changes in banking on branching activity has taken place, only limited information has been available for a systematic analysis of this issue. This analysis relies on a new, specially constructed database that combines information on banking office locations, mergers and consolidations, failures of commercial banks and savings associations, and neighborhood economic and demographic characteristics. The Federal Reserve's National Information Center database, supplemented with data supplied by the Office of Thrift Supervision, was used to track mergers, acquisitions, and failures over time. Information from the Census of Population and Housing for 1970, 1980, and 1990 and Bureau of the Census estimates for the intervening years were used to assign economic and demographic characteristics to the geographic area containing each banking office. Appendix A provides details on the construction of the database used in this article.

These structural and distributional changes have raised some public concerns. One concern is that consolidation will tend to reduce the number of banking offices and possibly the availability of services. Another is that banks and savings associations may be closing offices and reorienting their office networks to the benefit of more affluent customers at the expense of lower-income communities. Legislators and regulators have addressed these varied concerns through laws and regulations intended to help ensure that all segments of the public have access to banking services. The analysis in this article focuses on the structural and distributional changes in the banking industry in light of these concerns.

1. In this article the terms "bank," "banking institution," and "banking office" pertain to commercial banks and savings associations.

2. Other delivery systems include telephone banking networks, automated teller machines (ATMs), and software products for home-based personal computers.

GENERAL TRENDS IN DISTRIBUTION

According to the data, the number of banking institutions declined between 1975 and 1995. The number of banking institutions fell from about 18,600 to 12,200, a decline of 35 percent (table 1). The percentage decline was much larger for savings associations than for commercial banks—52 percent for savings associations compared with 30 percent for commercial banks—largely because of a relatively high rate of failure among savings associations in the late 1980s and early 1990s. Because commercial banks far outnumber savings associations, however, absolute declines were greater for commercial banks.

In contrast, during the same period the number of banking offices increased markedly. The total number of banking offices rose 29 percent—much of which was due to a 38 percent increase in the number of commercial bank offices. The number of savings association offices in 1995 was only 5 percent higher than the number in 1975.

Not only the number of banking institutions and offices but also the size distribution of institutions and office networks has changed substantially. From 1975 to 1995, the proportion of institutions operating a single office declined from 58 percent of all institutions to 40 percent, and the proportion of all offices they accounted for declined from 18 percent to 6 percent. Over the same period, the proportion of all banking institutions operating large office networks (more than fifty offices) increased from 0.5 percent of

all institutions to roughly 2 percent, while the proportion of offices they operated increased from 17 percent to 41 percent. As expected, a close association exists between the asset size of an institution and the number of offices it operates. From 1975 to 1995, large banking institutions (those with assets of more than \$1 billion in constant 1995 dollars) increased as a percentage of all banking institutions from less than 3 percent to about 5 percent, and the proportion of all banking offices operated by these institutions increased from 31 percent to 51 percent (table 2).

On net, the average number of offices per institution increased over this period from three to six (table 1, memo item). This finding understates somewhat the degree to which branching expanded among institutions with multiple offices (that is, excluding single-office institutions), for which the average number of offices per institution increased from six to ten. Even though in 1995 commercial banks outnumbered savings associations nearly five to one (table 1), savings associations had a disproportionate number of offices, in part because single-office institutions have been more common among commercial banks. Forty-two percent of commercial banks and 28 percent of savings associations operated only one office in 1995 (data not shown in table).

The overall institutional and branching developments over 1975–95 are the net result of two divergent trends. First, from 1975 to 1985 the total number of institutions fell slightly, and the number of banking offices increased dramatically. The number of

1. Distribution of commercial banks, savings associations, and banking offices, by number of banking offices, 1975–95

Percent except as noted

Item	All institutions					All banking offices				
	1975	1980	1985	1990	1995	1975	1980	1985	1990	1995
<i>Distribution of institutions and offices by number of offices operated</i>										
1	57.5	48.2	46.8	47.3	39.8	18.2	12.1	10.3	9.2	6.4
2–3	25.5	29.3	30.0	26.6	30.7	18.7	17.3	15.4	12.2	11.7
4–10	12.8	16.6	16.5	18.6	21.4	22.9	23.8	20.8	20.6	19.5
11–50	3.6	5.2	5.7	6.1	6.5	22.8	25.7	26.5	24.9	21.5
51 or more .....	.5	.7	1.1	1.4	1.7	17.4	21.1	26.9	33.0	40.9
Total	100	100	100	100	100	100	100	100	100	100
<i>Number of institutions and offices by type of institution</i>										
Commercial banks	14,318	14,379	14,377	12,370	10,089	43,482	51,509	56,020	56,129	59,895
Savings associations	4,300	4,352	3,492	3,167	2,080	15,429	22,962	25,141	23,897	16,161
Total	18,618	18,731	17,869	15,537	12,169	58,911	74,471	81,161	80,026	76,056
MEMO:										
<i>Average number of offices</i>										
All institutions .....	...	...	...	...	...	3.2	4.0	4.5	5.2	6.2
Excluding single-office institutions .....	...	...	...	...	...	6.0	6.7	7.7	8.9	9.7

SOURCE: Federal Reserve Board, National Information Center database; Federal Deposit Insurance Corporation, Summary of Deposits; and Office of Thrift Supervision, Branch Office Survey System.

offices increased 63 percent for savings associations and 29 percent for commercial banks. Second, in contrast, from 1985 to 1995, a marked contraction occurred in the industry: The number of institutions declined nearly 32 percent, and the number of offices declined about 6 percent. Although commercial banks and savings associations both recorded substantial declines in their numbers, their trends regarding the number of offices diverged. The number of savings association offices dropped precipitously—nearly to 1975 levels; in contrast, the number of commercial bank offices continued to increase, although at a much slower rate than that of the previous ten years.

2. Distribution of banking institutions and banking offices, by type of institution and asset size, 1975–95

Percent

Type of institution and size (assets in millions of dollars) ¹	1975	1980	1985	1990	1995
Institution distribution					
<i>Commercial banks</i>					
Less than 100	60.4	60.3	59.9	57.3	57.0
100 to 999	14.9	14.9	18.5	19.7	22.6
1,000 to 9,999	1.5	1.4	1.8	2.2	2.7
10,000 or more .....	.1	.2	.2	.4	.6
<i>Savings associations</i>					
Less than 100	11.9	11.1	8.0	8.6	7.8
100 to 999	9.9	10.7	9.6	9.8	8.0
1,000 to 9,999	1.2	1.4	1.9	1.9	1.2
10,000 or more .....	.0	.0	.1	.1	.1
Total	100	100	100	100	100
<i>All institutions</i>					
Less than 100	72.3	71.4	67.9	65.9	64.8
100 to 999	24.9	25.6	28.1	29.5	30.7
1,000 to 9,999	2.7	2.8	3.7	4.1	3.9
10,000 or more .....	.2	.2	.3	.5	.7
Total	100	100	100	100	100
Office distribution					
<i>Commercial banks</i>					
Less than 100	27.3	24.4	21.0	17.5	16.0
100 to 999	22.2	21.8	21.2	19.8	22.0
1,000 to 9,999	17.0	15.6	18.4	19.8	21.2
10,000 or more	7.3	7.4	8.3	13.0	19.5
<i>Savings associations</i>					
Less than 100	5.6	4.8	3.0	2.9	2.2
100 to 999	13.8	16.2	13.2	12.0	8.3
1,000 to 9,999	6.3	9.2	12.0	11.5	7.5
10,000 or more .....	.5	.7	2.9	3.5	3.2
Total	100	100	100	100	100
<i>All institutions</i>					
Less than 100	32.9	29.1	24.0	20.4	18.3
100 to 999	36.0	38.0	34.4	31.8	30.3
1,000 to 9,999	23.3	24.8	30.4	31.3	28.7
10,000 or more	7.8	8.1	11.2	16.5	22.7
Total	100	100	100	100	100

1. Measured in constant 1995 dollars.

SOURCE: Federal Reserve Board, National Information Center database; Federal Deposit Insurance Corporation, Summary of Deposits; and Office of Thrift Supervision, Branch Office Survey System.

Most banking offices—about 73 percent in 1995—were located in metropolitan areas, either in central cities or suburbs (table 3). While the overall percentage of offices in metropolitan areas remained fairly constant over 1975–95, suburban areas gained share and central cities lost share.

FACTORS INFLUENCING THE DISTRIBUTION OF BANKING OFFICES

The factors that influence banks’ decisions to expand or contract the number of offices they operate and where to locate these offices include office profitabil-

3. Distribution of banking offices and population by population growth rate and degree of urbanization, 1975–95

Percent

Population growth rate and degree of urbanization of ZIP code area	1975	1980	1985	1990	1995
<i>Population growth rate—all areas¹</i>					
Office distribution					
Low	45.9	44.4	42.1	41.5	41.9
Moderate	32.8	32.2	31.8	32.3	32.7
High	21.3	23.4	26.1	26.2	25.4
Total	100	100	100	100	100
<i>Urbanization</i>					
Population distribution					
Central city	42.9	42.0	41.8	41.5	40.9
Suburban	36.6	37.3	38.0	39.1	39.7
Rural	20.5	20.7	20.2	19.4	19.4
Total	100	100	100	100	100
Office distribution					
Central city	35.6	36.0	35.6	34.8	33.6
Suburban	35.8	36.5	37.2	39.1	39.0
Rural	28.6	27.4	27.2	26.1	27.4
Total	100	100	100	100	100
<i>Urbanization and population growth rate</i>					
Office distribution					
<i>Central city</i>					
Low	13.4	12.9	11.6	11.2	10.8
Moderate	11.0	10.9	10.4	10.4	10.3
High	11.2	12.3	13.6	13.2	12.5
<i>Suburban</i>					
Low	17.5	17.4	16.6	17.3	17.4
Moderate	10.5	10.4	10.6	11.2	11.2
High	7.9	8.8	10.0	10.6	10.4
<i>Rural</i>					
Low	14.9	14.2	13.9	13.0	13.7
Moderate	11.4	10.9	10.8	10.7	11.2
High	2.3	2.3	2.5	2.3	2.5
Total	100	100	100	100	100
MEMO:					
Number of offices	58,911	74,471	81,161	80,026	76,056

1. Growth rates for ZIP code areas are defined as follows: “Low” population growth is less than or equal to 11 percent in 1975–95 (lowest one-third); “moderate” growth is 12 to 32 percent (middle one-third); “high” growth is 33 percent or more (top one-third).

SOURCE: Federal Deposit Insurance Corporation, Summary of Deposits; Office of Thrift Supervision, Branch Office Survey System; and *Census of Population and Housing*, 1970, 1980, and 1990.

ity; risk diversification and strategic considerations; general economic and demographic trends, including population shifts and changing business patterns; technological developments; the regulatory environment; and mergers, acquisitions, and failures.

Office Profitability

The profitability of an office is a function of both the revenues the office generates and its operating costs. Revenues depend, in part, on the number and characteristics of customers that the office attracts or helps retain and the amount and type of deposits and loans that it generates. For many institutions, a basic function of offices is to attract relatively low-cost checking and savings account deposits that may be used to fund lending activity. The types and financial profiles of residents and businesses in the local community, along with the office's product mix and associated prices, will help determine its effectiveness in attracting and retaining depositors and other loan customers.

An important factor influencing decisions about office locations is demand from current or potential customers for convenient access to banking services. Thus, office profitability depends in part on such factors as traffic flow patterns and transportation routes in an area, the extent of nearby commercial and retail development, resident and employee population densities, and household preferences for offices as opposed to alternative delivery channels. Evidence from recent surveys sponsored by the Federal Reserve confirms that the locational convenience of banking offices is important both to households and to small business customers, for most customers prefer to conduct their banking activities close to their homes, places of work, or businesses.³ This evidence suggests that an analysis of changes in the number and location of banking offices is most appropriately conducted at the neighborhood level, as this analysis is.

In deciding where to locate its offices, a banking institution seeks to meet the needs of existing and potential customers in a cost-efficient manner. Banking cost studies have found economies of scale at the office level; that is, average total costs decline until office size (typically measured by total deposits) reaches some threshold at which the office is oper-

ating at its most efficient level. In other words, a minimum amount of business must be conducted at an office if it is to operate most efficiently. At an office where transactions are conducted relatively infrequently, the average cost of the services provided will be relatively high. Therefore, unless some individual customers who use the office also generate substantial revenues or low-cost checking and savings account deposits for the bank or there are long-run strategic considerations of the kind discussed below, the office will not be cost-effective to operate. Studies also find that banks that have been constrained by legal restrictions on branching can sometimes lower their overall average costs by opening new offices when the restrictions are eased. Thus, in certain circumstances branching may permit a bank to provide services in more optimally sized offices.⁴

Even if an office operates at its most efficient level, an alternative means for delivering banking services, such as an automated teller machine (ATM), may be more cost-effective. In such cases, that office will be viewed as less profitable. Over time, such offices will be either replaced by the more profitable alternative or closed, with their customers' accounts transferred to other nearby offices.

Risk Diversification and Strategic Considerations

The potential benefits of risk diversification may provide an incentive for banks to open new offices or acquire existing offices from other institutions. By operating a geographically dispersed network of offices, an institution may achieve greater diversification of its deposit base and loan portfolio and thereby reduce the risk of substantial deposit outflows and loan losses.⁵

Further, a bank may evaluate whether to open a new office (or close an existing one) within a strategic context; that is, competitive considerations may carry some weight in an assessment of the costs and benefits associated with a particular office. For example, in a fast-growing market, a bank might open more offices than it expects to be profitable in the short run to gain a competitive advantage in the long run.

4. David B. Humphrey, "Why Do Estimates of Bank Scale Economies Differ?" Federal Reserve Bank of Richmond, *Economic Review* (September/October 1991), pp. 38–50.

5. See, for example, J. Nellie Liang and Stephen A. Rhoades, "Geographic Diversification and Risk in Banking," *Journal of Economics and Business*, vol. 40 (1988), pp. 271–84.

3. Myron L. Kwast, Martha Starr-McCluer, and John D. Wolken, "Market Definition and the Analysis of Antitrust in Banking," *Antitrust Bulletin* (forthcoming).

Population Changes

Changes in population, income, and business activity can influence branching patterns. The establishment of new households and the movement of many existing households, for example, have resulted in the growth of numerous suburban and rural areas as well as population declines in some urban communities. Banking institutions may respond to these population changes by establishing new banking offices in areas experiencing growth or by closing and consolidating offices in areas of declining population.⁶

Technological Developments

Technological developments in the delivery of banking services may affect the number and location of bank offices in two ways. First, many consumers may find alternative delivery mechanisms more convenient and less costly for many transactions, thus reducing demand for certain office services. Second, technological developments, particularly the introduction and spread of ATMs, can affect the cost of operating an office, both absolutely and relative to alternative delivery mechanisms.⁷ For example, the average transaction conducted with a bank teller is estimated to cost more than three times that of a transaction at an ATM.⁸ Because they deliver more convenient and less costly services, ATMs proliferated from only a few thousand in 1975 to 123,000 in 1995.⁹ Most ATMs are in bank offices, where they substitute for more costly tellers and reduce the cost of operation. However, large numbers of ATMs (38,000, or 31 percent, in 1995) are off site, where they serve as substitutes for bank offices. Technological innovations continue to improve the delivery of banking services, with potential implications for future branching patterns.

6. An alternative potential response to increased demand for services is the establishment of a new, or *de novo*, bank. For an assessment of factors influencing *de novo* bank entry, see Dean F. Amel, "An Empirical Investigation of Potential Competition: Evidence from the Banking Industry," in Benton E. Gup, ed., *Bank Mergers: Current Issues and Perspectives* (Kluwer Academic Publishers, 1989), pp. 29–68.

7. See David B. Humphrey, "Delivering Deposit Services: Banks Versus Branches," Federal Reserve Bank of Richmond, *Economic Quarterly*, vol. 80 (Spring 1994), pp. 59–81.

8. See Drew Clark, "Branches' Persistence Rests with the Public," *American Banker* (December 4, 1996), p. 10a.

9. See "EFT Network Data Book," *Bank Network News*, vol. 15 (November 11, 1996), pp. 1–3.

Deregulation

Over the past two decades, the regulatory environment in banking has changed dramatically in the direction of deregulation. Three major aspects of deregulation between 1975 and 1995 are particularly pertinent for the analysis of bank branching behavior. First, the removal of federal limits on the interest rates that banks could pay depositors changed the focus of competition among banking organizations from the quality and extent of services to their price. Second, most states repealed or liberalized their laws restricting intrastate branching by commercial banks and savings associations. Third, banking organizations were largely freed from restrictions on interstate expansion by holding company acquisition or merger. The changes in the laws governing geographic expansion by banking organizations provided institutions with new opportunities to restructure and expand their banking office networks.

Deregulation of Interest Rates

Before the mid-1980s, commercial banks and savings associations were subject to federal regulatory restrictions on the payment of interest on checking and savings accounts. The inability of commercial banks and savings associations to pay market interest rates had several consequences for their branching activity. One was that competition for depositors' funds took the form of "quality" or "nonprice" rivalry—for example, offering additional offices. Another consequence was a periodic outflow of funds from banking institutions because depositors transferred funds to savings instruments that paid market rates. This outflow was particularly large in the late 1970s and early 1980s, when the gap between market interest rates and regulated deposit rates was widest. This large gap and the accompanying outflow increased the incentives for institutions to use banking offices to acquire checking and savings account deposits, which, when compared with alternative sources of funds, were relatively inexpensive.

The Congress acted in the early 1980s to remove interest rate ceilings on deposit accounts, and by 1986, banking institutions were almost entirely free of such restrictions.¹⁰ With deregulation of deposit

10. The Depository Institutions Deregulation and Monetary Control Act of 1980 authorized banks nationwide to offer NOW accounts and established the Depository Institutions Deregulation Committee to preside over the phaseout and ultimate elimination, by 1986, of regulatory interest rate ceilings on time and savings deposits. The Garn–St Germain Act of 1982 permitted depository institutions to

interest rates, the influence of nonprice competition on branching patterns has diminished.

Deregulation of Intrastate Bank Branching

Before 1975, intrastate restrictions on branching by commercial banks were commonplace. Commercial banks were allowed to branch statewide with few or no restrictions in only seventeen states (see box “Categorization of States by Changes in Intrastate Branching Laws”).¹¹ However, intrastate branching by sav-

offer an account that is “equivalent to and competitive with money market mutual funds” and made introducing money market deposit accounts possible for banks.

A few legal restrictions on bank deposit accounts remain. For instance, banks are still unable to pay interest on demand deposits (regular checking accounts), and only noncommercial customers are eligible for NOW accounts.

11. Individual state banking laws established branching rules for state-chartered banks. The McFadden Act of 1927 subjected nationally chartered banks to the branching laws of the state in which they were located.

ings institutions was not restricted to the extent it was for commercial banks.

Since then, mainly during the 1980s, restrictions on intrastate branching have been removed or relaxed substantially in all states. In some states the elimination of branching restrictions occurred in stages whereas in others restrictions were removed at one time. In states that relaxed intrastate branching restrictions, many banks opened new offices in local markets from which they had previously been excluded.¹² Thus, one would expect the lifting of intrastate branching restrictions to have resulted in an increase in the number of banking offices.¹³ How-

12. See Dean F. Amel and J. Nellie Liang, “The Relationship between Entry into Banking Markets and Changes in Legal Restrictions on Entry,” *Antitrust Bulletin*, vol. 37 (Fall 1992), pp. 631–49.

13. Comparisons across states find less extensive branch coverage (for example, in the total number of banking offices per capita) in states that restrict bank branching. See Douglas D. Evanoff, “Branch Banking and Service Accessibility,” *Journal of Money, Credit, and Banking*, vol. 20 (May 1988), pp. 191–202.

Categorization of States by Changes in Intrastate Branching Laws

To facilitate analysis of the effects of changes in intrastate branching laws on bank office patterns over 1975–95, states and the District of Columbia are classified into five groups. These classifications are based on the degree to which intrastate branching by commercial banks was restricted under state laws as of January 1, 1975, and on the extent to which these laws were subsequently relaxed.

Categorization of States by Changes in Intrastate Branching Laws

Categorization by changes in state branching restrictions	States
Full statewide branching, 1975–92	Alaska, Arizona, California, Delaware, District of Columbia, Hawaii, Idaho, Maine, Maryland, Nevada, North Carolina, Rhode Island, South Carolina, South Dakota, Vermont, Virginia, and Washington
Severe restrictions 1975–92	Iowa
Severe restrictions in 1975; elimination by 1992	Florida, Indiana, Kansas, Louisiana, New Hampshire, Texas, West Virginia, and Wisconsin
Severe restrictions in 1975; significant relaxation by 1992	Colorado, Illinois, Kentucky, Minnesota, Montana, Nebraska, North Dakota, Oklahoma, and Wyoming
Moderate restrictions in 1975; elimination or significant relaxation by 1992	Alabama, Arkansas, Connecticut, Georgia, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Tennessee, and Utah

SOURCE: Dean F. Amel, “State Laws Affecting the Geographic Expansion of Commercial Banks,” Board of Governors of the Federal Reserve System, Division of Research and Statistics, staff memorandum, September 1993.

States that had few or no restrictions on intrastate branching throughout 1975–92 are placed in the full statewide branching category.¹ States where, as of 1975, banks were subject to a limit of five or fewer offices (in some cases, only one) are categorized as having had severe restrictions. These states are further subdivided into those where branching restrictions were completely eliminated by year-end 1992; those where the restrictions were substantially relaxed by year-end 1992; and those where no significant change occurred.²

The final grouping consists of states where branching laws were moderately restrictive as of 1975. Most of these states limited branching to a single county, to contiguous counties, or to locations within a specified distance from the home office. Several imposed a form of “home office protection law,” prohibiting banks from branching into a municipality with a population below a specified threshold and where the principal office of another institution was located. In all these states, branching restrictions were either completely eliminated or significantly eased by year-end 1992.

1. Three of these states placed mild restrictions on bank branching as of 1975. Hawaii imposed some restrictions on the number of offices in Honolulu; Virginia and Washington allowed statewide branching by merger or acquisition but restricted de novo branching to the county in which the bank’s principal office was located. All three states eliminated these branching restrictions by 1987.

2. Among those states in which severe branching restrictions were significantly relaxed (but not eliminated) by year-end 1992, only Illinois had lifted its remaining restrictions by year-end 1995. Iowa alone retained severe restrictions on bank branching through 1992, although it allowed small increases in the numerical limits on bank branching during the period.

ever, isolating the effects of intrastate branching deregulation from other significant developments affecting bank branching behavior is difficult.

Deregulation of Interstate Banking

Until the late 1970s, no state permitted out-of-state commercial banking organizations to operate in-state banking subsidiaries. State barriers to interstate banking began to fall in 1978, when Maine relaxed restrictions on entry by out-of-state holding companies. During the 1980s and early 1990s, every state except Hawaii followed suit by allowing some degree of interstate banking. Until recently, commercial banking organizations could expand office networks across state lines only through holding company acquisitions (see box “The Riegle–Neal Act of 1994”).

The Riegle–Neal Act of 1994

The Douglas Amendment to the federal Bank Holding Company Act of 1956 restricted the ownership of banking subsidiaries by bank holding companies to only the state in which the holding companies were headquartered unless other states expressly permitted their entry or they were grandfathered. Passage of the Riegle–Neal Interstate Banking and Branching Efficiency Act in 1994 effectively repealed the Douglas Amendment by allowing a bank holding company to acquire a bank in any state provided that certain conditions were met, including compliance with the Community Reinvestment Act (CRA). However, states may still prohibit out-of-state banks from establishing new (de novo) banks within their borders, and most states maintain such restrictions.

Besides the historical restriction on interstate expansion by bank holding companies, federal and state laws generally prevented individual commercial banks from branching across state lines. The Riegle–Neal Act effectively eliminated these restrictions for commercial banks. As of June 1, 1997, the act allows bank holding companies to consolidate their interstate banks into an office network and “independent” banks (those not owned by a bank holding company) to branch interstate by merging with another bank across state lines.¹ However, the establishment of de novo offices within a state by an out-of-state bank is allowed only where specifically authorized by state law, and most states do not permit it.

1. Only banks satisfying certain conditions, such as not exceeding limits on statewide deposit shares, may acquire branches across state lines under the Riegle–Neal Act. The law allowed states to “opt out” of the Riegle–Neal liberalization and to continue prohibitions against interstate branching. Only two states, Montana and Texas, chose to do so.

Historically, savings associations and their parent organizations had been subject to similar restrictions on interstate expansion. In 1986, however, the Federal Home Loan Bank Board relaxed many of the restrictions on interstate acquisition of savings associations, particularly when failing institutions were involved. In 1992, the Office of Thrift Supervision, successor agency to the Federal Home Loan Bank Board, granted savings associations full interstate branching privileges.

The effects of relaxing restrictions on interstate banking on the distribution of banking offices are uncertain. To date, most expansion by banking organizations across state boundaries has involved acquisitions or mergers rather than de novo entry, and the effects of such transactions can vary depending on the circumstances. For example, acquisition of an inefficiently run bank by an out-of-state banking organization, when the inefficiencies are related to the size or scope of the acquired bank’s office network, could result in either the closing of inefficient offices or, with an undersized network, the opening of new offices. In contrast, one would not expect the acquisition of an efficiently run institution to lead to changes in the number and location of the acquired bank’s offices.

The Community Reinvestment Act

The Community Reinvestment Act of 1977 (CRA) encourages commercial banks and savings associations to help meet the credit needs of the communities in which they are chartered, consistent with safe and sound banking practices. In evaluating compliance with the CRA, regulators have always considered an institution’s record of opening and closing offices.¹⁴ To achieve a good CRA compliance record, an institution may open or retain offices in lower-income communities. Moreover, a strong office presence in lower-income communities may not only help an institution avoid costly CRA-related protests of applications for mergers and acquisitions but also create opportunities for new and profitable business relationships. To further enhance their records of serving their local communities, many banks and savings associations have entered into agreements with community organizations. These agreements sometimes involve pledges to retain existing

14. For additional details, see Griffith L. Garwood and Dolores S. Smith, “The Community Reinvestment Act: Evolution and Current Issues,” *Federal Reserve Bulletin*, vol. 79 (April 1993), pp. 251–67.

offices or to establish new offices in lower-income neighborhoods.¹⁵

Current CRA regulations, introduced in 1995, establish three performance-based measures of compliance, including a service test that focuses on the availability and effectiveness of an institution's system for delivering retail banking services.¹⁶ The service test is the performance measure that is most relevant to the effect of the CRA on bank branching activity. This test considers the geographic distribution and the range of services provided by an institution's offices, along with its record of opening and closing offices (see box "The Service Test"). The regulatory focus on office locations reflects the view that convenient access to full-service offices within a community is an important factor determining the availability of credit and other banking services.¹⁷

Industry Consolidation and Competition

Generally, mergers, acquisitions, and failures are believed to reduce the number of banking offices, although there are differing views as to the underlying causes. One view is that consolidation in the banking industry has been necessary to increase efficiency. In this view, changes in demographics, technology, regulation, and other factors had resulted in overcapacity, necessitating structural and distributional changes within the industry. At the same time, concerns have been expressed that consolidation may have reduced competition and led to an excessive decline in the provision of banking services, including unwarranted reductions in the number of banking offices.

Mergers and acquisitions have been transforming the structure of the banking industry.¹⁸ In many cases, these mergers have involved direct competitors in the same local banking markets. Mergers and acquisitions often result in changes in the number and

The Service Test

When evaluating performance of a banking institution under the service test, regulators consider the following factors:

1. The current distribution of the institution's branch offices among low-, moderate-, middle-, and upper-income areas of its community
2. The record of opening and closing branches, particularly those located in low- or moderate-income areas or serving low- or moderate-income individuals
3. The availability and effectiveness of alternative systems for delivering retail banking services (for example, ATMs)
4. The range of services provided across the institution's community and the degree that these services are tailored to the specific needs of the different segments of the community.

The CRA regulations emphasize that alternative systems for delivering retail banking services, such as ATMs, will be considered only to the extent that they are effective alternatives for providing services to low- and moderate-income areas and individuals. The regulations do not require an institution to expand its branch network or to operate unprofitable branches nor do they require that an institution's branches and other service delivery systems be accessible to every part of its local community. At the same time, however, they indicate that the institution's delivery system should not exhibit conspicuous gaps in accessibility unless such gaps can be reasonably justified.

geographic distribution of the combined institution's offices. When institutions serving the same geographic market merge, a reorganization of the combined office networks typically occurs, with formerly competing offices being combined and customer accounts transferred to the surviving offices. In addition, mergers may provide a convenient opportunity for management to reassess the effectiveness of the entire office network, and such an evaluation may lead to changes in the network's geographic configuration.

The large number of failures of commercial banks and savings associations also contributed to industry consolidation over the past two decades. Between 1984 and 1994, nearly 1,300 commercial banks and more than 1,100 savings associations failed—levels of failure not seen since the Great Depression. Many of these failed banks and savings institutions were acquired by healthy organizations or were reopened by investors entering the banking business. In some cases, offices of failed banks and savings institutions

15. Alex Schwartz, *Banks and Community Development: The Implementation of Community Reinvestment Act Agreements* (New York: Community Development Research Center, New School of Social Research, June 1997).

16. See Federal Reserve press release, "Community Reinvestment Act Regulations," April 24, 1995.

17. Additional consumer protection regulation pertaining to branch closings comes from section 228 of the Federal Deposit Insurance Corporation Improvement Act of 1991. This law requires banking institutions to notify bank customers and the appropriate regulatory agency in advance of branch closings and to adopt a policy statement regarding branch closings. As part of each CRA examination, regulators consider the institution's compliance with this law.

18. For details, see Stephen A. Rhoades, "Bank Mergers and Industrywide Structure, 1980-94," Staff Study 169 (Board of Governors of the Federal Reserve System, 1996).

were closed and the deposits transferred to a healthy organization. Overall, we expect failures to lead to a reduction in the number of banking offices.

Even though many commercial banks and savings associations failed during this period, a large number of new institutions were established. Between 1984 and 1994, nearly 2,100 new commercial banks were chartered, resulting in at least that number of new banking offices.¹⁹

Commercial banks and savings associations have also faced increased competitive pressures from both nonbanking financial institutions and from banking institutions that previously faced legal barriers to entering local banking markets. The implications of increased competition for branching are uncertain. On the one hand, increased competitive pressures may force banking organizations to cut costs by streamlining their branch structures. On the other hand, the convenience and services offered by an extensive office network may help solidify customer relationships and differentiate a bank from its competitors, particularly from nonbanking institutions; thus banking organizations may have an incentive to maintain or even expand office networks.

CHANGES IN THE DISTRIBUTION OF BANKING OFFICES

Using the new database, we examine the relationship between the broad trends in bank office patterns between 1975 and 1995 and changes in the economic and regulatory environments. In evaluating these relationships, we recognize that changes in the economic and regulatory environment evolved simultaneously and that their direct effects on branching decisions may have been complementary or conflicting. In this analysis, with the exception of population growth, we do not explicitly control for the interactions among these factors. When appropriate, we separate out the effects of population growth by focusing on trends in the number of banking offices per capita.²⁰

Finally, for some of the discussion that follows, banking offices are grouped according to features of the economic or regulatory environment, and then changes in the shares of banking offices across these groupings are reported. Despite observations that the

share of total banking offices has declined for some categories between 1975 and 1995, the absolute number of banking offices has generally increased in all categories.

Population Changes and Bank Office Patterns

The growth of and movements in population may help explain some of the broad patterns that we have identified, because population growth and growth in the number of banking offices are positively related. Overall, those areas with low population growth rates between 1975 and 1995 saw their share of all banking offices decline about 4 percentage points (table 3). In comparison, areas with high population growth saw their share of all banking offices increase about 4 percentage points.

Grouping offices by location—central city or suburban parts of metropolitan areas or rural parts of states—also reveals a strong relation between population growth and the number of offices. Between 1975 and 1995, both population share and the share of all banking offices increased in suburban areas about 3 percentage points. In contrast, central city and rural areas experienced a decline both in their share of population and in their share of all banking offices. Thus, the data suggest that population shifts into suburban areas were a strong catalyst for office expansion.

Looking within central city, suburban, and rural areas, there is a consistent relationship between rates of population growth and changes in office shares. Areas with high population growth experienced the largest growth in offices. Population growth, however, does not appear to fully explain patterns of office growth. For example, high-growth suburban areas experienced a substantially larger increase in office share than either central city or rural high-growth areas.

In terms of the divergent trends discussed earlier, the general pattern of high growth in the number of offices from 1975 to 1985 followed by a contraction from 1985 to 1995 appears in every geographic category (not shown in table). Even in suburban areas, whose overall share of banking offices increased, the number of offices declined between 1985 and 1995.

Effects of Easing Intrastate Branching Restrictions

To examine the effect of changes in intrastate branching restrictions on changes in the number of banking

19. See Federal Deposit Insurance Corporation, *Statistics on Banking: A Statistical History of the United States Banking Industry, Historical 1934–1994* (Washington: FDIC, 1995).

20. The population-adjusted results presented here show the number of banking offices per 10,000 persons. In the exposition, some population-adjusted results are alternately characterized as “offices per capita.”

offices, states were grouped by the degree to which branching was initially restricted and subsequently liberalized between 1975 and 1992. Year-end 1992 was selected as the end date for categorizing changes in the laws that might have influenced changes in office patterns through 1995 because banks' response to changes in branching restrictions takes some time. (See the box "Categorization of States by Changes in Intrastate Branching Laws.")

As expected, the lifting of intrastate branching restrictions appears to be related to an increase in the number of banking offices. States beginning the period with severe restrictions that were subsequently eased or eliminated increased their share of all U.S. banking offices between 1975 and 1995 (table 4). Most notably, states that went from having severe restrictions to full statewide branching by 1992 increased their share of all banking offices from 16.1 percent in 1975 to 19.8 percent in 1995—a 59 percent increase in the number of offices.

Separating the effect of population growth on the number of banking offices in a state from the effect of changes in bank branching laws involves focusing on the population-adjusted number of offices. Overall, between 1975 and 1995, the number of banking offices per 10,000 U.S. residents increased about 10 percent, from 3.06 to 3.38. The largest increases occurred in states that either eliminated or substantially relaxed severe branching restrictions, while the number decreased between 1975 and 1995 in states that already had full statewide branching as of 1975. Thus, on the surface, deregulation appears to be associated with an increase in the number of branches per capita.

However, deregulation of intrastate bank branching does not appear to provide an explanation for the differences in trends during the two ten-year periods. The general trend of a rapid expansion followed by a contraction holds for all states, regardless of how branching restrictions changed. The contraction was most severe in states that had statewide branching throughout and least severe in states that began with severe restrictions and later relaxed them.

Banking Industry Consolidation and Bank Office Patterns

In this section we examine the relationship between changes in industry consolidation since 1975 and changes in the number and location of banking offices. The analysis begins with the calculation—for the five-year periods starting with the years 1975, 1980, 1985, and 1990—of the percentage of offices in three categories: those acquired by another institution; those acquired by another institution with an office in the same ZIP code; and those belonging to an institution that failed or that merged into a firm that then failed. In computing the first two measures we excluded all offices belonging to an institution that failed (or merged into a firm that failed) during the five-year period. Thus these measures pertain only to mergers among nonfailing firms. Also excluded are consolidations of institutions that were already part of the same holding company.²¹

21. This definition of merger also excludes consolidations among bank holding companies in which the banks were not merged.

4. Distribution of banking offices by stringency of intrastate branching laws and changes in the laws, 1975–95¹

Branching laws and changes, 1975–92	Banking offices (Percent except as noted)					Banking offices per 10,000 residents (Number)				
	1975	1980	1985	1990	1995	1975	1980	1985	1990	1995
<i>No change</i>										
Full statewide branching throughout	26.4	25.9	26.3	26.3	25.0	3.03	3.47	3.52	3.15	2.66
Severe restrictions throughout	2.1	2.0	1.8	1.6	1.7	4.76	5.71	5.78	5.12	4.97
<i>Change</i>										
Severe restrictions to full statewide branching	16.1	17.3	19.5	19.4	19.8	2.41	3.01	3.41	3.17	2.86
Severe to relaxed restrictions	11.1	12.0	11.6	10.8	12.0	2.51	3.26	3.35	3.05	3.08
Moderate restrictions to full statewide branching or relaxed restrictions	44.3	42.8	40.8	41.9	41.4	2.84	3.41	3.49	3.45	3.13
Total	100	100	100	100	100	...	...	...	...	...
MEMO:										
Number of offices	58,911	74,471	81,161	80,026	76,056	...	...	...	...	...
National average .....	...	...	...	...	...	3.06	3.51	3.71	3.58	3.38

1. States are grouped by stringency of the intrastate geographic restrictions they placed on branching over the 1975–92 period. See box "Categorization of States by Changes in Intrastate Branching Laws."

SOURCE: Federal Deposit Insurance Corporation, Summary of Deposits; Office of Thrift Supervision, Branch Office Survey System; and *Census of Population and Housing*, 1970, 1980, and 1990.

Consolidation Patterns

Over 1975–95, commercial banks and savings associations had very different experiences with mergers, acquisitions, and failures. The percentage of commercial bank offices that were acquired by another institution increased from 2 percent in 1975–80 to 6 percent in 1980–85 and then remained fairly stable over the subsequent periods (table 5). Most of these offices were not acquired by an institution already operating an office in the same ZIP code area, but the proportion of offices involved in such transfers has increased over time. The proportion of commercial bank offices involved in failures was initially less than 1 percent, but it increased some over 1975–85 and then remained constant.²²

Much larger percentages of savings association offices than of commercial bank offices were acquired by another institution, and after 1985, extraordinarily large percentages failed. For instance, during the five-year period beginning in 1990, nearly 15 percent of savings association offices were acquired by another institution (compared with 6 percent for commercial bank offices), and 26 percent were involved in a failure (compared with 3 percent for commercial bank offices). The proportion of savings association offices involved in failures was quite low during the late 1970s and early 1980s, as was the case for commercial banks.

Effects of Consolidation on Bank Office Patterns

To determine whether consolidation has been associated with a reduction in offices, we identify those ZIP code areas likely to have experienced consolidation—areas with high rates of merger activity. We also examine trends in the number of offices in areas where there were mergers between institutions operating offices in the same ZIP code. We expect that these areas are most likely to show the effects of consolidation.

The rate of merger and acquisition activity and the numbers of failures within ZIP code areas were calculated for the two major periods: 1975–85 and 1985–95. We restricted our analysis to mergers that did not involve failed institutions because mergers involving failed institutions were often motivated by special circumstances. The effects of failures were examined separately.

22. The high failure rate for the 1990–95 period is the consequence of very high numbers of failures in the early portion of this period. Few institutions failed between 1993 and 1995.

5. Banking offices that were merged into another institution or were involved in a failure, in five-year periods, 1975–94

Percent

Type of institution and disposition of office over next five years	Initial year of five-year period			
	1975	1980	1985	1990
<i>Commercial banks</i>				
Acquired by another institution ¹	2.3	6.2	5.2	5.8
Acquired by firm with office				
in same ZIP code ¹ .....	.2	1.2	1.5	2.0
Failed or merged into a firm that failed ....	.2	.8	2.9	2.9
<i>Savings associations</i>				
Acquired by another institution ¹	7.1	22.5	7.8	14.6
Acquired by firm with office				
in same ZIP code ¹ .....	.4	2.7	.8	3.8
Failed or merged into a firm that failed ....	.0	1.8	21.5	26.0
<i>All institutions</i>				
Acquired by another institution ¹	3.6	11.2	6.0	8.4
Acquired by firm with office				
in same ZIP code ¹ .....	.2	1.6	1.3	2.5
Failed or merged into a firm that failed ....	.2	1.1	8.6	9.8

1. Excludes offices belonging to an institution that failed during the succeeding five-year period and offices acquired by an institution that is part of the same holding company.

SOURCE: Federal Reserve Board, National Information Center database; Federal Deposit Insurance Corporation, Summary of Deposits; and Office of Thrift Supervision, *Goings and Gainings* and Branch Office Survey System.

The rate of merger activity is represented by the percentage of banking offices in a ZIP code area that were involved in mergers and acquisitions. Those ZIP code areas in which more (or fewer) than 10 percent of all banking offices were acquired by another institution during 1975–85 or 1985–95 were classified as having a “high” (“low”) rate of merger activity for the period. Analogous classifications were based on the proportion of offices acquired by another institution with an office in the same ZIP code area. For failures, any area that included at least one office of a bank that failed in a period was classified as “high” for that period; areas with no failures were classified as “low” for that period.

For virtually all merger and failure classifications, the number of banking offices per 10,000 residents increased between 1975 and 1985 and then declined, a finding consistent with the broad trends observed previously (table 6). However, a closer look reveals important differences between commercial banks and savings associations.

For commercial banks, merger, acquisition, and failure activity appears to be generally unrelated to branching patterns. Numbers of offices per capita are nearly the same across merger and failure categories in any given year. Further, in nearly every merger and failure category, the number of offices increases continually over time, and the number of offices per capita increases from 1975 to 1985 and then declines. The only exception to this is that the number of offices per capita in any year is higher in ZIP code

areas with high proportions of offices acquired by another institution operating an office in the same ZIP code area in both periods.

For savings associations, unlike commercial banks, the number of offices per capita appears to be related to the level of merger and failure activity within ZIP code areas. For example, in 1975 the number of offices per capita in ZIP code areas with high levels of merger activity in both 1975–85 and 1985–95 was more than four times that in areas with low merger activity during both decades. Moreover, particularly after 1985, changes in both the number of offices and

the per capita number of offices appear to differ across ZIP code areas with different rates of mergers and failures. For example, areas with low merger activity show no change in the number of offices per capita from 1985 to 1995; in contrast, those with persistently high merger activity or with persistently high levels of failure show sharp declines from 1985 to 1995.

When commercial banks and savings associations are combined, some relationship is apparent between merger and failure activity and both the per capita number of banking offices and changes in the per

6. Distribution of banking offices in ZIP code areas by rates of merger and acquisition or failure, 1975–95

Number

Rates of merger and acquisition or failure, by type of institution, 1975–95 ¹	Banking offices					Banking offices per 10,000 residents				
	1975	1980	1985	1990	1995	1975	1980	1985	1990	1995
<i>Commercial banks</i>										
Merger and acquisition rate ²										
Low 1975–85, Low 1985–95	11,245	13,120	13,963	14,120	14,951	2.00	2.21	2.25	2.16	2.15
High 1975–85, Low 1985–95	3,397	3,893	3,994	3,884	4,013	2.23	2.49	2.52	2.38	2.37
Low 1975–85, High 1985–95	4,002	4,808	5,214	5,209	5,769	2.07	2.34	2.42	2.28	2.37
High 1975–85, High 1985–95	2,971	3,452	3,652	3,787	4,168	2.14	2.39	2.45	2.42	2.54
With institutions in same ZIP code ²										
Low 1975–85, Low 1985–95	18,658	21,787	23,137	23,342	25,056	2.03	2.26	2.30	2.20	2.23
High 1975–85, Low 1985–95	702	766	754	744	773	2.40	2.64	2.63	2.61	2.69
Low 1975–85, High 1985–95	1,929	2,341	2,514	2,493	2,657	2.17	2.51	2.60	2.43	2.46
High 1975–85, High 1985–95	326	379	418	421	415	3.01	3.41	3.73	3.62	3.47
Failure rate										
High 1975–85, Low 1985–95	568	652	645	605	658	2.36	2.59	2.52	2.32	2.44
Low 1975–85, High 1985–95	19,307	23,377	26,226	26,354	28,251	1.99	2.29	2.43	2.32	2.37
High 1975–85, High 1985–95	1,992	2,207	2,326	2,170	2,085	2.80	3.05	3.12	2.84	2.67
<i>Savings associations</i>										
Merger and acquisition rate ²										
Low 1975–85, Low 1985–95	1,245	2,120	2,186	2,625	2,423	.22	.36	.35	.40	.35
High 1975–85, Low 1985–95	1,111	1,376	1,299	1,367	1,219	.73	.88	.82	.84	.72
Low 1975–85, High 1985–95	1,074	1,697	1,893	1,907	1,438	.55	.83	.88	.83	.59
High 1975–85, High 1985–95	1,380	1,790	1,821	1,782	1,239	.99	1.24	1.22	1.14	.75
With institutions in same ZIP code ²										
Low 1975–85, Low 1985–95	3,672	5,446	5,603	6,116	5,179	.40	.56	.56	.58	.46
High 1975–85, Low 1985–95	225	280	265	274	216	.77	.96	.93	.96	.75
Low 1975–85, High 1985–95	758	1,070	1,148	1,111	801	.85	1.15	1.19	1.08	.74
High 1975–85, High 1985–95	155	187	183	180	123	1.43	1.68	1.63	1.55	1.03
Failure rate										
High 1975–85, Low 1985–95	149	221	214	213	151	.62	.88	.84	.82	.56
Low 1975–85, High 1985–95	9,426	14,307	16,339	14,763	8,869	.97	1.40	1.51	1.30	.74
High 1975–85, High 1985–95	1,044	1,451	1,389	1,240	822	1.47	2.01	1.86	1.62	1.05
<i>All</i>										
Merger and acquisition rate ²										
Low 1975–85, Low 1985–95	12,490	15,240	16,149	16,745	17,374	2.22	2.57	2.60	2.56	2.50
High 1975–85, Low 1985–95	4,508	5,269	5,293	5,251	5,232	2.96	3.38	3.34	3.22	3.09
Low 1975–85, High 1985–95	5,076	6,505	7,107	7,116	7,207	2.62	3.17	3.30	3.12	2.96
High 1975–85, High 1985–95	4,351	5,242	5,473	5,569	5,407	3.14	3.63	3.67	3.56	3.29
With institutions in same ZIP code ²										
Low 1975–85, Low 1985–95	22,330	27,233	28,740	29,458	30,235	2.43	2.82	2.85	2.78	2.69
High 1975–85, Low 1985–95	927	1,046	1,019	1,018	989	3.16	3.60	3.56	3.58	3.44
Low 1975–85, High 1985–95	2,687	3,411	3,662	3,604	3,458	3.02	3.66	3.78	3.51	3.20
High 1975–85, High 1985–95	481	566	601	601	538	4.44	5.09	5.36	5.17	4.50
Failure rate										
High 1975–85, Low 1985–95	717	873	859	818	809	2.98	3.47	3.36	3.14	3.00
Low 1975–85, High 1985–95	28,733	37,684	42,565	41,117	37,120	2.96	3.69	3.94	3.63	3.11
High 1975–85, High 1985–95	3,036	3,658	3,715	3,410	2,907	4.26	5.06	4.98	4.46	3.72

1. ZIP codes where more (or fewer) than 10 percent of all banking offices were acquired by another institution during the 1975–85 or 1985–95 periods were classified as having a “high” (“low”) merger rate for the subperiod. A similar classification was made based on the proportion of offices acquired by another institution with an office in the same ZIP code. ZIP codes containing one or more offices of an institution that failed during the 1975–85 or 1985–95 periods were classified as “high” for the subperiod. ZIP codes containing no offices of a failed institution were classified as “low.”

2. Excludes ZIP codes where offices of institutions that failed during the 1975–95 period were located.

SOURCE: Federal Reserve Board, National Information Center database; Federal Deposit Insurance Corporation, Summary of Deposits; Office of Thrift Supervision, *Goings and Gainings* and Branch Office Survey System; and *Census of Population and Housing*, 1970, 1980, and 1990.

capita number over time. In particular, a higher level of merger activity in either the 1975–85 period or the 1985–95 period or in both or an incidence of failure tends to be associated with a larger decline in the number of offices per capita between 1985 and 1995. This evidence, coupled with the disproportionate occurrence of mergers, acquisitions, and failures in ZIP code areas that had higher numbers of banking offices per capita, provides support for the hypothesis that the reduction in banking offices was a response to excess capacity in banking. Thus, the contraction over 1985–95 in the number of offices per capita may have been a response to inefficiencies that arose during the earlier period, which was one of significant expansion. However, this evidence is also consistent with the notion that the level of service has been reduced as a result of reduced competition. A definitive conclusion regarding the competitive effects of mergers, acquisitions, and failures cannot be reached, though, without a detailed, market-level analysis.

Because little relationship was observed between merger, acquisition, and failure activity and patterns of commercial bank branching, the net effect of these factors on savings association patterns drives the pattern for all institutions. This finding does not necessarily mean, however, that commercial bank branching has been unaffected by mergers, acquisitions, or failures. For instance, even though many commercial banks failed during this period, many others purchased savings association offices, and these purchases may have offset what would otherwise have been an overall decline in the number of commercial bank offices due to failures.

CHANGES IN THE DISTRIBUTION OF BANKING OFFICES BY NEIGHBORHOOD CHARACTERISTICS

Banking regulation, particularly the CRA, encourages commercial banks and savings associations to make their products and services available throughout all segments of their community. Concerns have been raised that, despite the CRA, a disproportionate number of banking offices have been closed in lower-income neighborhoods in recent years. To date, however, no systematic analysis has examined the distribution of banking offices across neighborhoods stratified by their urbanization and income characteristics and the way this distribution has changed over time.

To analyze changes in the distribution of banking offices across neighborhoods (defined by ZIP code

boundaries) with differing characteristics, neighborhoods are first classified by their relative median household income (see box, “Categorization of Neighborhoods by Relative Household Median Income”). The analysis excludes areas that are heavily commercial or that have too few residents to permit classification by income; these areas are referred to here as business districts (see appendix A for details).

The analysis is subject to several limitations. First, although we use the number of offices in a ZIP code area as a proxy for the availability of banking services in a neighborhood, people often have convenient access to banking offices outside their immediate neighborhoods, such as those near places of employment. Second, although we attempted to separate out business districts, some of the remaining ZIP code areas may still be heavily commercial, and, as a result, may have a relatively large number of banking offices. Finally, this study cannot quantify the level of services offered at a branch or how it may have changed over time.

Changes by Neighborhood Income

In 1995, the majority of banking offices were located in middle-income neighborhoods, with relatively few in low-income neighborhoods. Low-income neighborhoods were the only areas in which the number of banking offices declined (by 21 percent) between

Categorization of Neighborhoods by Relative Household Median Income

To assess the potential relationship between CRA and bank office patterns, it is useful to group ZIP code areas according to their relative income levels. Doing so conforms to the classification standards in the current CRA regulation.¹ ZIP codes are grouped according to the median household income in the ZIP code as a percentage of the median household income in its metropolitan statistical area (MSA) or in the nonmetropolitan portion of the state if the ZIP code is not located in an MSA. Categories are shown in the table below.

1. Note, however, that the CRA regulation defines a neighborhood as a census tract or block numbering area.

Income category	Percentage of area median	Number of ZIP codes in category in 1995
Low	Less than 50	523
Moderate	50–80	3,940
Middle	80–120	12,386
High	More than 120	4,080

7. Distribution of commercial bank and savings association offices grouped by relative income of ZIP code area, 1975–95

Characteristic of ZIP code area ¹	Banking offices					Banking offices per 10,000 residents				
	1975	1980	1985	1990	1995	1975	1980	1985	1990	1995
<i>Commercial banks</i>										
Income (percent)										
More than 120	6,389	8,163	9,485	10,609	11,975	2.19	2.37	2.51	2.57	2.60
80 to 120	23,444	27,957	30,349	30,362	32,802	2.62	2.79	2.95	2.88	2.95
50 to 80	8,258	9,451	9,917	9,333	9,504	2.53	2.77	2.93	2.87	2.89
50 or less	1,587	1,699	1,687	1,473	1,404	2.82	3.07	3.18	2.92	2.90
<i>Savings associations</i>										
Income (percent)										
More than 120	2,862	4,690	5,319	5,322	3,671	.60	.90	.94	.87	.58
80 to 120	8,334	12,633	13,934	13,397	9,195	.51	.77	.82	.75	.51
50 to 80	2,980	4,044	4,329	3,837	2,509	.50	.74	.80	.69	.46
50 or less	577	689	643	536	315	.80	.97	.96	.83	.49
<i>All</i>										
Income (percent)										
More than 120	9,251	12,853	14,804	15,931	15,646	2.79	3.27	3.45	3.44	3.18
80 to 120	31,778	40,590	44,283	43,759	41,997	3.13	3.56	3.76	3.63	3.46
50 to 80	11,238	13,495	14,246	13,170	12,013	3.03	3.51	3.73	3.56	3.36
50 or less	2,164	2,388	2,330	2,009	1,719	3.62	4.04	4.14	3.75	3.39

NOTE. In this and the tables that follow, ZIP code characteristics are based on the 1995 estimates.

1. Income is the median 1995 household income of ZIP code residents as a percentage of median 1995 household income of metropolitan statistical area (MSA) for ZIP codes in metropolitan areas or as a percentage of median 1995 household income of nonmetropolitan areas for ZIP codes outside MSAs.

Excludes business district ZIP codes, those with only a small number of residents, and those for which income data are not available.

SOURCE. Federal Reserve Board, National Information Center database; Federal Deposit Insurance Corporation, Summary of Deposits; Office of Thrift Supervision, Branch Office Survey System; and *Census of Population and Housing*, 1970, 1980, and 1990.

1975 and 1995. Despite a net increase in the overall number of offices over the entire twenty-year period, the number declined between 1985 and 1995 in all neighborhoods except those in the high-income category. In low- and moderate-income areas taken together the reduction in the number of banking offices was relatively large—nearly two-thirds of the total decline in offices (excluding offices in business districts) occurred in these areas, which had only about one-fifth of all banking offices in 1985.

However, to better understand the relationship between changes in the number of banking offices and neighborhood income, population changes must be considered. For example, in addition to losing offices, low-income areas also experienced significant reductions in population; as a consequence, the number of offices per capita declined only 6.4 percent. Indeed, from 1975 to 1995, the number of banking offices per capita converged across all income categories of neighborhoods. In 1975, low-

8. Distribution of banking offices grouped by relative income of ZIP code area and degree of urbanization, 1975–95

Characteristic of ZIP code area ¹	Banking offices					Banking offices per 10,000 residents				
	1975	1980	1985	1990	1995	1975	1980	1985	1990	1995
<i>Area income (percent)</i>										
More than 120										
Central city	2,169	3,284	3,961	4,229	4,198	1.43	2.07	2.35	2.35	2.22
Suburban	5,323	7,350	8,362	9,253	8,967	3.02	3.55	3.70	3.80	3.42
Rural	1,759	2,219	2,481	2,449	2,481	3.43	3.70	3.87	3.71	3.52
80 to 120										
Central city	9,112	12,324	13,429	13,330	12,482	1.79	2.33	2.44	2.33	2.12
Suburban	12,052	15,285	16,867	17,287	16,387	3.04	3.45	3.62	3.46	3.19
Rural	10,614	12,981	13,987	13,142	13,128	3.73	4.13	4.40	4.26	4.18
50 to 80										
Central city	5,748	6,805	7,023	6,337	5,587	2.18	2.58	2.66	2.39	2.08
Suburban	3,042	3,714	4,028	3,873	3,479	2.97	3.44	3.63	3.41	3.07
Rural	2,448	2,976	3,195	2,960	2,947	3.64	4.19	4.52	4.44	4.39
50 or less										
Central city	2,002	2,200	2,137	1,830	1,537	3.96	4.46	4.55	4.00	3.46
Suburban	79	91	92	88	86	2.61	2.81	2.82	2.67	2.63
Rural	83	97	101	91	96	2.89	3.13	3.30	3.30	3.42

1. See note 1 to table 7.

SOURCE. Federal Deposit Insurance Corporation, Summary of Deposits; Office of Thrift Supervision, Branch Office Survey System; and *Census of Population and Housing*, 1970, 1980, and 1990.

income neighborhoods had the largest number of offices per capita; by 1995, there was relatively little difference across income categories (table 7). A similar pattern of convergence holds for both commercial banks and savings associations.

Changes by Neighborhood Income and Degree of Urbanization

Bank office patterns in relation to neighborhood income are different across central city, suburban, and rural areas. For example, among central city ZIP code areas, those with the lowest incomes have the most banking offices per capita; among suburban ZIP code areas, those with the highest incomes have the most banking offices per capita (table 8). Further, from 1975 to 1995 the number of banking offices increased in all neighborhood income categories within suburban and rural areas. In contrast, among central city areas, only high- and middle-income neighborhoods experienced an increase in the number of banking offices.

The convergence across neighborhood income categories in the number of offices per capita over 1975–95 reflects increases in most neighborhood income categories, a relatively large decline in low-income central city areas, which in 1975 had had the highest number of offices per capita, and a more modest decline in moderate-income central city neighborhoods. Several explanations for the declines are possible. For example, low- and moderate-income areas may have been disproportionately affected by

mergers, acquisitions, and failures. A second possibility is that these areas include relatively high concentrations of businesses and that the high levels of branching and the subsequent sharp decline were concentrated in these business areas.

Branching Patterns in Low- and Moderate-Income Areas

Another potential explanation for the decline in the number of banking offices in low- and moderate-income areas is that these areas became poorer over time and that as a result banks found offices in these areas less profitable. To examine this proposition, low- and moderate-income ZIP code areas in 1995 were sorted according to their relative income in 1975, allowing us to identify those areas for which relative income increased, decreased, or remained constant.

The data do not show a consistent relationship between changes in neighborhood income and changes in the number of banking offices. Contrary to expectations, areas with low relative incomes in 1975 that had become moderate-income areas by 1995 experienced a reduction both in the number of offices, from 414 to 349, and in offices per capita, from 4.34 to 4.06 (table 9). Further, although the number of offices fell in areas that went from high-, middle-, or moderate-income categories to the low-income category in 1995, the number of offices per capita increased. The strongest effect was observed among ZIP code areas that had low incomes in both

9. Distribution of banking offices in low-income ZIP code areas, by change in relative income and owner-occupancy rate, 1975–95

Number

Characteristic of ZIP code area ¹	Banking offices					Banking offices per 10,000 residents				
	1975	1980	1985	1990	1995	1975	1980	1985	1990	1995
<i>Area income in 1995 (percent)</i>										
<i>50 to 80 percent</i>										
Change										
More than 80 in 1975	5,981	7,344	7,822	7,174	6,654	3.09	3.61	3.86	3.68	3.51
50 to 80 in 1975	4,843	5,727	5,984	5,591	5,010	2.86	3.30	3.48	3.30	3.09
50 or less in 1975	414	424	440	405	349	4.34	4.72	4.91	4.81	4.06
<i>50 percent or less</i>										
Change										
More than 50 in 1975	990	1,129	1,094	955	869	2.65	3.00	3.08	2.94	2.84
50 or less in 1975	1,174	1,259	1,236	1,054	850	5.28	5.80	5.95	5.14	4.34
Owner occupancy (percent)										
More than 33 all areas	553	622	584	503	489	2.07	2.31	2.38	2.29	2.35
33 or less all areas	1,611	1,766	1,746	1,506	1,230	5.27	5.88	6.02	5.30	4.50
More than 33 central city	406	453	409	342	323	1.17	1.40	1.36	1.20	1.21
33 or less central city	1,596	1,747	1,728	1,488	1,214	5.38	6.02	6.17	5.43	4.60

1. See note 1 to table 7.

SOURCE. Federal Deposit Insurance Corporation, Summary of Deposits; Office of Thrift Supervision, Branch Office Survey System; and *Census of Population and Housing*, 1970, 1980, and 1990.

1975 and 1995; the number of offices in these persistently low-income areas declined about 28 percent and by nearly one office per 10,000 residents.

Areas that were classified as low-income in both 1975 and 1995, however, still had the largest number of banking offices per capita among all low-income neighborhoods, which is consistent with the premise that at least some of these neighborhoods contain a relatively large number of businesses. To better identify ZIP code areas with relatively high concentrations of businesses, low-income areas were sorted according to the proportion of households in owner-occupied units in 1995. This procedure was based on an assumption that residential areas in close proximity to business districts are likely to have a relatively low proportion of owner-occupied housing. ZIP code areas were identified as having either more or less than the median percentage of owner-occupied housing units for all low-income ZIP code areas, which is 33 percent.

When these areas are differentiated, two distinct patterns emerge. As expected, low-income areas with a low proportion of owner-occupied units had a much larger number of banking offices per capita, and low-income areas with a high proportion of owner-occupied units had a low number. This finding is consistent with the conjecture that some low-income ZIP code areas include business districts, which have more banking offices than more residential areas and more banking offices per capita than middle- and upper-income areas.

Moreover, while the number of offices per capita has declined in low-income areas with low rates of owner occupancy, it has increased slightly in low-income areas with higher rates of owner occupancy. Thus, nearly all of the general decline in the number of banking offices in low-income areas reflects declines in areas with low rates of owner occupancy.

The patterns related to owner occupancy are even more pronounced when the analysis is restricted to low-income areas in central cities. Within central cities, low-income areas with a high proportion of owner-occupied housing have a very low number of banking offices per capita (about one office per 10,000 residents), and that number has remained relatively constant over the twenty-year period.²³

23. Surveys find that residents of low-income areas use nonbank providers of banking services relatively often. However, users of these services rarely cite a lack of convenient bank offices as a reason for using these nonbank institutions. See Arthur B. Kennickell, Martha Starr-McCluer, and Annika E. Sunden, "Family Finances in the U.S.: Recent Evidence from the Survey of Consumer Finances," *Federal Reserve Bulletin*, vol. 83 (January 1997), pp. 1–24; and John P. Caskey, *Lower Income Americans, Higher Cost Financial Services* (Madison, Wisconsin: Filene Research Institute, 1997).

However, in central city low-income areas with a low proportion of owner-occupied housing, the number of banking offices per capita is relatively large, and it has declined in recent years.

The Effects of Mergers, Acquisitions, and Failures on Banking Office Patterns in Low-Income Areas

A final conjecture we examine is whether the effects of mergers, acquisitions, and failures differed in low- and moderate-income areas from those in middle- and upper-income areas. To investigate this proposition, ZIP code areas were sorted according to whether they were low- or moderate-income and then further segmented by merger, acquisition, and failure activity during 1985–95, using the definitions discussed previously. The evidence from this analysis indicates that mergers generally did not have a differential effect on lower income areas (table 10). Among ZIP code areas with high levels of merger activity, the number of offices per capita and trends in the number of offices per capita are similar across neighborhood income classifications. However, if the mergers were only among institutions in the same ZIP code area, some differences are apparent. In this case, the number of offices per capita in low- and moderate-income neighborhoods (those with income of less than 80 percent of the area median) was higher than in other areas in 1975, but over the twenty-year period, the numbers converged primarily because of a decline in low- and moderate-income areas. Grouping ZIP code areas by incidence of failure yields a similar pattern.

CONCLUSIONS

Historically, most banking services have been delivered through banking offices. Recent changes in the structure of the banking industry are believed to have had an important influence on the number and location of banking offices, with potential implications for the availability and accessibility of banking products and services.

Between 1975 and 1995, the number of banking institutions declined sharply, and the number of banking offices increased nearly 29 percent. However, this twenty-year period embodies two different trends. In the first decade, the overall number of banking offices expanded significantly, even as the number of institutions declined slightly. In the second decade, the number of institutions fell sharply while the number of banking offices contracted modestly. In both

10. Distribution of banking offices, by merger or failure rate and relative income of ZIP code area, 1975–95

Merger and failure rate and income, by ZIP code area ¹	Banking offices					Banking offices per 10,000 residents				
	1975	1980	1985	1990	1995	1975	1980	1985	1990	1995
<i>High merger rate areas</i> ²										
More than 80 percent	7,096	9,073	9,794	10,096	10,207	3.70	4.29	4.50	4.30	4.10
80 percent or less	1,891	2,187	2,240	2,078	1,945	3.67	4.21	4.46	4.25	3.97
<i>High merger rate in ZIP</i> ²										
More than 80 percent	2,280	2,994	3,235	3,280	3,172	3.71	4.50	4.68	4.38	3.96
80 percent or less	775	857	888	798	719	4.68	4.98	5.42	4.81	3.96
<i>High failure rate areas</i> ²										
More than 80 percent	22,081	29,772	33,875	33,417	30,615	3.59	4.42	4.82	4.48	3.95
80 percent or less	7,830	9,408	10,075	9,065	7,749	3.96	4.71	5.08	4.53	3.89
<i>All areas</i>										
More than 80 percent	41,029	53,443	59,087	59,690	57,643	3.05	3.49	3.69	3.58	3.39
80 percent or less	13,402	15,883	16,576	15,179	13,732	3.10	3.57	3.78	3.58	3.36

1. See note 1 to table 7.

2. ZIP codes where more (or fewer) than 10 percent of all banking offices were acquired by another institution during the 1985–95 period were classified as having a “high” (“low”) merger rate. A similar classification was made based on the proportion of offices acquired by another institution with an office in the same ZIP code. For failure rates, ZIP codes containing one or more offices

of an institution that failed during the 1985–95 period were classified as “high;” ZIP codes containing no offices of a failed institution were classified as “low.”

SOURCE: Federal Reserve Board, National Information Center database; Federal Deposit Insurance Corporation, Summary of Deposits; Office of Thrift Supervision, *Goings and Gainings* and Branch Office Survey System; and *Census of Population and Housing*, 1970, 1980, and 1990.

decades the experiences of commercial banks and savings associations differed markedly, particularly from 1985 to 1995, when the number of savings association offices plummeted while the number of commercial bank offices increased somewhat.

These broad trends in the number and location of banking offices have been associated with changes in various factors, including population shifts, branching deregulation, and mergers, acquisitions, and failures. Population growth and relaxation of legal restrictions on branching are positively associated with increased branching activity over the twenty years. Areas that experienced the highest rates of population growth increased their share of banking offices, whereas those with the lowest growth experienced a decline of similar magnitude. Also, the largest increases in the number of offices per capita occurred in states that either eliminated or substantially eased legal restrictions on branching during the period.

Mergers, acquisitions, and failures were associated with the decline in the absolute number and per capita number of banking offices between 1985 and 1995. Overall patterns appear to be primarily a result of the net effect of mergers, acquisitions, and failures of savings associations. Moreover, mergers, acquisitions, and failures have taken place disproportionately in ZIP code areas that had higher numbers of banking offices per capita. On the whole, this evidence is consistent with the view that consolidation has been a response to excess capacity. Competition may also play a role, but a more detailed market-by-market analysis is required to draw firm conclusions.

While this evidence provides plausible explanations for the contractions observed in banking between 1985 and 1995, none of it appears to explain the steep increase in banking offices during 1975–85. Perhaps the most significant factor during the 1975–85 period was the effect of nonprice competition among banking institutions. Legal restrictions on the interest rates that institutions could pay on deposit accounts, along with the high interest rates in the late 1970s and early 1980s, provided strong incentives for institutions to compete on the basis of convenience and service rather than price, which may have induced the establishment of many new offices.

We also examined the relationship between neighborhood income and the number and changes over time in the number of banking offices. There has been a steady convergence over the 1975–95 period in the number of banking offices per capita across neighborhood income categories, so that as of 1995, the numbers for all income categories were roughly equal. The convergence reflects initially large numbers of offices per capita in low-income areas relative to other areas, declines in the number of offices per capita in these same areas, and increases in the number per capita in other areas.

The data indicate that there are two types of low-income areas, particularly in central cities. One type includes a small proportion of owner-occupied units and a relatively large number of banking offices per capita, which suggests that these areas may have relatively high concentrations of businesses. The second type of low-income area has a high proportion of owner-occupied housing and few banking offices per capita, although this number has remained fairly

steady over the twenty-year period. Nearly all the overall decline in the number of banking offices in low-income areas occurred in the first category.

On balance, there is little evidence to suggest that mergers in general have more strongly affected the number of banking offices in low- and moderate-income areas than in other areas. However, mergers involving institutions operating offices in the same ZIP code area have been associated with a relatively larger decline in the number of offices per 10,000 residents in low- and moderate-income areas, though these areas also had higher levels of banking offices than other areas at the beginning of the twenty-year sample period.

Finally, the broad distributional patterns of bank offices found in this analysis do not necessarily describe the circumstances in any given neighborhood or local market. Moreover, the effects of changes in office locations must be interpreted in light of local conditions. Indeed, the regulatory agencies that enforce the nation's antitrust laws and the CRA consider much more information at a far greater level of detail than is presented in this article.

APPENDIX: CONSTRUCTION OF THE DATABASE

The basic data on office location were compiled as follows. Addresses of bank offices were extracted

from the annual Summary of Deposits filings required of all U.S. commercial banks and Branch Office Survey System filings required of all savings associations for the years 1975, 1980, 1985, 1990, and 1995. These addresses were reported as of June 30 for each year except for savings and loan associations that reported as of September 30 in 1975 and 1980. The office list includes all locations qualifying as separate institution offices under federal guidelines but excludes some "drive-ins" and most standalone ATMs.²⁴ Reporting institutions include all federally insured commercial banks, savings and loan associations, cooperative banks, and mutual savings banks, as defined by the Federal Reserve Board's National Information Center database. The office totals reported in this article will differ slightly from those reported elsewhere because of different agency definitions of federally insured institutions and because of some limited data cleaning required for the analysis. Some offices were removed that were double-reported to different agencies, and some offices were added for a few institutions that did not submit a Summary of Deposits or Branch Office Survey System filing.

24. Supermarket offices are included under this definition if they are staffed by bank personnel. While proliferating recently, these types of offices were relatively rare before 1995.

A.1. Number and characteristics of ZIP code areas by relative income of ZIP code and degree of urbanization, 1995

Characteristic of ZIP code area ¹	Number of ZIP code areas	Average population	Average number of offices	Distribution of offices in ZIP code areas		
				No offices	One to three offices	More than three offices
<i>Area income (percent)²</i>						
<i>More than 120</i>						
Central city	928	17,256	4.52	34.9	22.6	42.5
Suburban	1,818	15,993	4.93	7.1	43.7	49.2
Rural	1,334	5,581	1.86	29.1	57.0	13.9
<i>80 to 120</i>						
Central city	2,292	22,539	5.45	28.7	18.7	52.6
Suburban	4,296	13,633	3.81	11.1	52.0	36.9
Rural	5,798	5,955	2.26	21.9	59.0	19.1
<i>50 to 80</i>						
Central city	1,157	25,750	4.83	19.4	31.1	49.5
Suburban	1,068	13,058	3.26	15.7	52.0	32.3
Rural	1,715	4,317	1.72	24.0	63.9	12.1
<i>50 or less</i>						
Central city	365	21,191	4.21	18.9	41.6	39.5
Suburban	37	11,054	2.32	18.9	64.9	16.2
Rural	121	3,384	.79	44.6	52.9	2.5
<i>Business district</i>						
Central city	296	...	5.88	24.3	33.8	41.9
Suburban	682	...	1.10	17.9	79.0	3.1
Rural	2,310	...	.95	13.6	86.1	.3
Total	24,217	12,278	3.14	19.4	52.5	28.1

1. ZIP code characteristics are based on the 1995 estimates.

2. Income is median 1995 household income of ZIP code residents as a percentage of median 1995 household income of metropolitan statistical area (MSA) for ZIP codes in metropolitan areas or as a percentage of median 1995 household income of nonmetropolitan areas for ZIP codes outside MSAs. Busi-

ness district ZIP codes include those with a small number of residents, those in central business districts, or those for which income data are not available.

SOURCE: Federal Deposit Insurance Corporation, Summary of Deposits; Office of Thrift Supervision, Branch Office Survey System; and *Census of Population and Housing*, 1970, 1980, and 1990.

Banking offices were geographically classified using the 1993 U.S. Postal Service five-digit ZIP code corresponding to their address. In some cases where ZIP code boundaries changed, the 1993 ZIP code differed from the original one reported by the institution. In other instances institutions reported discontinued, mailbox, or erroneous ZIP codes, which were corrected. The decision to use 1993 ZIP codes was made in order to define a geographic taxonomy that was fixed over the entire sample period.

Data were aggregated to the ZIP code level for several reasons. First, it is comparatively easy to classify addresses by ZIP code with a high degree of accuracy. Second, ZIP code areas are large enough (an average of 20,000 residents apiece in urban areas) to encompass both residential areas and the business areas that serve them, which is not the case for census tracts, for example. Although census tracts are designed to be economically and demographically homogenous, they are relatively small (between 4,000 and 5,000 people) in large metropolitan areas. Many census tracts contain no bank offices yet are near business districts that provide ready and easy access to banking services. One disadvantage of using ZIP codes is that they were set up for the convenience of the Postal Service and their ground transportation system, not for statistical analysis. ZIP

code boundaries do not necessarily correspond to natural socioeconomic divisions and in many cases cut across city or county lines.

Economic and demographic variables for ZIP codes used in the analysis are based on projections from the Decennial Census for 1980 and 1990. CACI Inc. provided data for both censuses using 1993 ZIP code definitions, which are consistent with the bank office data. Additional information was obtained from the Bureau of the Census for 1970. This information, combined with annual Bureau of the Census county-level income and population estimates, was used to estimate economic and demographic information for the ZIP codes for the non-census years (1975, 1985, and 1995) used in the study.

Economic and demographic data were either not available or deemed inappropriate for some nonresidential ZIP codes. These included central business districts in urban areas and some very small rural areas. These ZIP codes were included in some of the analysis, but were excluded from the analysis related to economic and demographic characteristics. See table A.1 for a brief description of the data sample, including the breakdown of ZIP codes by location and median household income. Average population and the distribution of banking offices is reported for each category. □