Chain banking in the District

Chain banking is a pervasive, but seldom studied form of banking organization. Resembling in some respects other forms of multi-office banking—such as holding company or branch banking—it is, however, largely unrestricted by current federal and state banking regulations. Although a bank involved in a chain banking situation reports individually to its primary bank regulatory authority, there is usually little publicized recognition of its affiliation with a chain.

Chain banking is usually defined as the control of two or more commercial banks by the same individual or group of individuals. Chain banking organizations made their first appearance in the United States in the late nineteenth century. Most of the early development took place in the northwestern and southern agricultural states that prohibited branch banking.[1] Chains of banks held together by the ownership of their common stock were a workable means of circumventing antibranching laws. In states that currently prohibit or limit multibank holding companies and branch banking, chain banking organizations provide a viable method of multi-office bank expansion.

The Bank Holding Company Act of 1956 (as amended) was designed explicitly to govern the expansion of ownership of banks by holding companies, taking into account various competitive, financial, and managerial aspects of bank holding company formations and acquisitions. When a multibank holding company proposes to acquire an additional bank, the competitive implications of the acquisition are examined by the Board of Governors of the Federal Reserve System. If the proposed acquisition is expected to produce adverse competitive effects, the Board may not approve the application unless the anticompetitive effects are clearly outweighed by convenience and needs con-

siderations. Yet the principals of a chain banking organization, because they do not constitute a "company" within the meaning of the Bank Holding Company Act, can acquire control of any bank without submitting an application to the Board, thus avoiding public scrutiny of the competitive, and other, implications of the acquisition.

The major problem in studying chain banking is the lack of published information identifying banks that are involved in chain relationships. The identification of chain banking organizations would allow proper analysis of market competition and place the potentially anticompetitive nature of chain banking in a better perspective. The difficulty of correct identification is compounded by the constant turnover of bank stock and the fact that changes in the ownership of bank stock are reported to different bank regulatory authorities. As a result of this identification problem, the effects on concentration reported in this article can be considered the minimum effect, and the actual impact of chain banking on bank competition within the Seventh Federal Reserve District is probably understated.

Methodology

The effect of chain banking on the structure of Seventh District banking has been examined from three different points of view. First, the extent of chain banking was examined within the entire Seventh District, then within each Seventh District state, and finally, in those states which required more detailed analysis, within local banking markets.

To examine changes in local market concentration, each state must first be divided into local banking markets. The complexity of delineating such areas in a rigorous and economically meaningful manner is, however, beyond the scope of this study. As an alternative, counties have been used as approximations of banking markets. Experience

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[1]Gaines T. Cartinhour, *Branch, Group and Chain Banking*, September, 1931, pp. 82 ff.

suggests that in many, although not all, cases the county serves as a reasonable proxy for the actual geographic market.

With proxy banking markets defined, the effects of chain banking on the structure of local banking markets can be determined. One important aspect of market structure is the degree to which resources or sales tend to be controlled by a small number of independent firms or organizations. According to economic theory, there is an inverse relationship between concentration levels and competition. That is, as a fewer number of independent banking organizations control the banking resources within a given market (an increase in the concentration level of banking resources), the intensity of competition between banks in the market declines, resulting in poorer market performance— i.e., higher prices and a lesser quantity or quality of bank services.

A number of quantifiable measures are used by market analysts to determine the degree of concentration within a defined market area. One of these is the concentration ratio, e.g., the share of total commercial bank deposits controlled by the five largest banking organizations in a market. This study utilizes a concentration measure known as the Herfindahl index, which takes into account the market shares of all firms in the defined area.[2] An increase in the Herfindahl index ("H" index) that is specifically the result of chain bank affiliations is defined herein as the "chain banking effect," an effect that reflects the ownership by a chain banking

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[2]The Herfindahl Index (H) is expressed by the formula:

$$H = \sum_{i=1}^{n} s_i^2$$

where n = number of banks in the market, and s_i = market share of the ith bank. The index attains the maximum value of 1.0 where a single firm operates in a market. The value declines with increases in the number of firms, increasing with rising inequality among any given number of firms, and vice versa. In a five-bank market example, H = $(.40)^2 + (.20)^2 + (.15)^2 + (.15)^2 + (.10)^2$ where the largest bank holds 40 percent of total market deposits, the second largest bank holds 20 percent, etc.; then H = .16 + .04 +.0225 + .0225 + .01 = .225.

organization of two or more otherwise independent banks in the same banking market.

Seventh District effects

This study uncovered 86 chain banking organizations operating in the Seventh District (see Table 1).[3] As of March 1, 1977, these 86 chains controlled 332 commercial banks, representing approximately $14 billion of commercial bank deposits (12.2 percent of the District's commercial banks and approximately 11.0 percent of commercial bank deposits in the District, respectively).[4] Of these 332 banks, 115 were members of the Federal Reserve System. The average deposit size of chain organizations was $162.4 million, while the median figure was somewhat lower at $72.9 million, indicating that most chains are relatively small. Across the District there were, on average, nearly four banks (3.9) in each of the 86 chains, and each of these banks had an average deposit size of $42.1 million.

State and local effects

In three of the five Seventh District states—Indiana, Michigan, and Wisconsin— chain banking organizations were found to have an insignificant effect on the competitive structure of commercial banking. In Iowa and Illinois the amount of commercial banking being conducted within chain organizations appears at first sight to be significant enough to warrant close attention and analysis. A primary determinant of the extent of chain banking activity in each Seventh District state appears to be existing state banking laws.

Michigan and Wisconsin allow branch banking and multibank holding companies, and the existence of chain banking organi-

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[3]For this study, chain banking relationships were defined as two or more commercial banks with at least one or more stockholders in common from among the top 20 in each bank, provided that the stockholder was a director, an officer, or an owner of 5 percent or more of the outstanding shares of stock in each bank.

[4]All deposit data are as of June 30, 1976.

zations in these two states is very limited. (See Table 1.) Michigan had four chains with average deposits of $310.3 million, and accounted for only 4.2 percent of Michigan's total commercial bank deposits. These four chains controlled only 3.6 percent of the total number of commercial banks in Michigan and increased the actual level of concentration of banking resources in only two of Michigan's 68 counties.[5]

Wisconsin's eight chain banking organizations have average deposits of $72.0 million and accounted for only 4.3 percent of Wisconsin's total commercial bank deposits. These eight Wisconsin chains controlled 25 commercial banks (5 percent of Wisconsin's commercial banks) and increased the actual level of concentration of banking resources in only five of Wisconsin's 46 counties.

The combined deposits of chain banking organizations in Michigan and Wisconsin constitute only 13.0 percent of all commercial bank deposits held by Seventh District chains, although the two states collectively hold ap-

[5]All county figures reported herein are only for the portion of the states within the Seventh Federal Reserve District.

proximately 34.0 percent of all Seventh District commercial bank deposits. The relative insignificance of chain banking in Michigan and Wisconsin seems attributable to the permissibility of multibank holding companies in these two states. The corporate tax incentives of the holding company form of organization appear substantial enough to place chain banking in a minor role.

Indiana does not allow multibank holding companies but does allow countywide branching. Only four chain banking organizations were identified in the state. They contained 12 banks that accounted for $2.7 billion in commercial bank deposits. Chain banking increased the concentration of banking resources in only one of Indiana's 68 counties. The average deposits of Indiana chains were $667.0 million, and the median deposit figure was $602.1 million; both figures were the largest for any District state. The membership of a few large commercial banks in chains tends to exaggerate the significance of chain banking in the state. While Indiana chains controlled 16.9 percent of the state's commercial bank deposits, they controlled only 3.8 percent of all commercial banks in In-

Table 1
Chain banking in the Seventh District
March 1, 1977

Seventh District states	Number of chains	Seventh District commercial bank deposits	Seventh District chain bank deposits	Seventh District commercial banks	Seventh District chain banks
		(billion dollars)	(million dollars)		
Illinois	40	56.0	8,233	942	197
Iowa	30	12.1	1,250	660	87
Wisconsin	8	13.5	576	502	25
Indiana	4	15.8	2,668	312	12
Michigan	4	29.8	1,241	308	11
Totals	86	127.2	13,968	2,724	332

Note: With the exception of Iowa, state data reflect only that portion of the state within the Seventh Federal Reserve District.

SOURCE: Report of Condition Data, June 30, 1976.

diana. Because an Indiana bank can legally concentrate its marketing effort and allocate its resources across a given county through an extensive branching network, it has less incentive to affiliate with other banks across (or within) counties.

Iowa had a total of 30 chain banking organizations that controlled 87 commercial banks and approximately $1.2 billion in commercial bank deposits. The average deposit size of Iowa chain banking organizations ($41.7 million) was the smallest of any District state.

The effects of chain banking upon banking structure in Iowa counties are shown in Table 2. The average Herfindahl index for all 99 counties in Iowa is .272 and the chain banking effect is .007, or 2.6 percent. The identification of chain banking organizations caused the H index to increase in only eight Iowa counties, seven of which are rural and one of which is urban.

Of Iowa's 99 counties, 52 were found to have experienced some chain banking activity. Most chain banks in Iowa operate in rural areas—43 of these 52 counties are rural counties. The average H ratio for these counties is

.255 and the average increase in concentration as a result of chain banking is 4.5 percent.

Seven of Iowa's 99 counties are either designated as Standard Metropolitan Statistical Areas (SMSAs) or are included in an SMSA, and 16 of them have populations greater than 40,000. Table 2 shows that the chain banking effect, on both of these subgroups, was zero. Clearly, the competitive effects of chain banking in Iowa are limited solely to rural areas.

Iowa appears to be unique among Seventh District states. Although Iowa is one of the three Seventh District states that permits multibank holding companies, the relative importance of chain banking (30 chains with 87 banks) appears to be somewhat greater than in Michigan and Wisconsin. Iowa chains were also the smallest in the District and were predominately found in rural counties, whereas Michigan, Wisconsin, and Illinois chain banks were confined to urban areas.

Illinois, with 40 chain banking organizations controlling 197 commercial banks, experienced the most pervasive chain banking of any of the Seventh District states. Roughly

Table 2
Average "H" indexes and chain banking effects: Iowa
March 1, 1977

Seventh District counties	(a) "H" indexes: all bank as if nonaffiliated	(b) "H" indexes: adjusted for chain affiliation	(c) b-a Chain banking effect	(d) $\frac{c}{a} \times 100$ Percentage change
99 counties total	.265	.272	.007	2.6
52 counties with chain activity	.244	.255	.011	4.5
47 counties without chain activity	.289	.289	—	—
7 SMSA counties	.206	.206	—	—
92 non-SMSA counties	.270	.277	.007	2.6
16 counties with 1970 population greater than 40,000	.217	.217	—	—
83 counties with 1970 population less than 40,000	.275	.282	.007	2.5

one-fifth of all Illinois banks and 14.6 percent ($8.2 billion) of total Illinois commercial bank deposits are controlled by chain banking organizations. Illinois banking chains also had the largest average number of banks (4.9) of any of the District states. Further, chain banking affiliations affected the H index in 17 Illinois counties, which is one more than the number of counties affected throughout the remainder of the Seventh District.

The effect of chain banking on the concentration of banking resources in Illinois has been significant. Thirty-three of 58 Illinois counties were found to contain chain banks. (See Table 3.) The average H index for these counties was .178, 6.0 percent higher than it would have been in the absence of chain banking. Average concentration in the 17 Illinois counties included in SMSA areas was increased 7.8 percent by chain banking. Lastly, the six largest counties in Illinois (those with populations greater than 246,000 persons as of the 1970 census) show the largest average percentage increase in concentration, 30.1 percent, when taking account of chain banking. These six counties, however, exhibit the lowest average effective concentration ratio

(H = .108) of any of the county subgroups in Illinois. Indeed, the average H index for these six counties would have to more than double before it equaled the average H index for those 25 counties in Illinois that have not experienced chain banking. Thus, while chain banking is a common and important phenomenon in Illinois banking, it has been centered in the least concentrated regions of the state, minimizing the potential anticompetitive impact of chain banking activity.

Why be concerned?

Despite the potential anticompetitive effects of chain banking organizations, they are allowed to operate outside the realm of regulatory jurisdiction. In constrast, bank holding companies are regulated by the provisions of the Bank Holding Company Act, as administered by the Federal Reserve System. Because the Board has taken a strong stand against horizontal (within market) acquisitions, the opportunities for bank holding companies to acquire competitors within their existing market(s) are severely limited.

Table 3
Average "H" indexes and chain banking effects: Illinois
March 1, 1977

Seventh District counties	(a) "H" indexes: all bank as if nonaffiliated	(b) "H" indexes: adjusted for chain affiliation	(c) b-a Chain banking effect	(d) $\frac{c}{a} \times 100$ Percentage change
58 counties total	.192	.198	.006	3.1
33 counties with chain activity	.168	.178	.010	6.0
25 counties without chain activity	.224	.224	—	—
17 SMSA counties	.128	.138	.010	7.8
41 non-SMSA counties	.219	.222	.003	1.4
6 counties with 1970 population greater than 246,000	.083	.108	.025	30.1
52 counties with 1970 population less than 246,000	.205	.208	.003	1.5

Chain banks, on the other hand, can focus their attention and concentrate their resources on one market and, as a result, can cause the real or effective level of concentration in that market to increase substantially. That this actually occurs is revealed by a comparison of the limited impact of chain banking on concentration in Iowa counties with the much greater impact in Illinois.[6] Chain banking arrangements in Illinois appear to be due, in part, to the fact that Illinois law does not allow multibank holding companies or provide for countywide or statewide branching.

Summary and conclusion

The number and type of chain banking arrangements uncovered within Seventh District states appear to be directly related to the particular circumstances of each state, especially existing state banking laws. Wisconsin and Michigan banking laws allow mul-

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[6]Averages often conceal more than they reveal about the population they were computed from. The average chain banking effect in Iowa is fairly small; however, in one banking district in Iowa, the chain banking effect is sufficiently large for the Board to have denied an application to form a one-bank holding company where the bank to be acquired was affiliated through common ownership with another significant competitor in its market area. See Board Order of May 11, 1977 denying the application by Mahaska Investment Company, Oskaloosa, Iowa, to become a bank holding company by acquiring Farmers Savings Bank, Fremont, Iowa.

tibank holding companies and limited branch banking; consequently, the absolute and relative importance of chain banking in these states appears to be rather insignificant. Indiana does not allow multibank holding companies; yet the absolute number of chains and chain banks in the state was low. This appears, in part, to be a result of Indiana's countywide branching law. Chain banking is a statewide phenomenon in Iowa and exists alongside multibank holding companies. However, Iowa chains were found predominantly in rural counties and the average size of Iowa chains was the smallest of any of the Seventh District states.

The majority of chain banking activity of the five District states was centered in Illinois, where chains appear to have a significant influence on the structure of local banking markets. Illinois, like Indiana, does not allow multibank holding companies to operate in the state but, unlike Indiana, is basically a unit-banking state. The widespread use of chain banking in Illinois appears to be a direct attempt to circumvent the Illinois laws prohibiting both multibank holding companies and (with minor exceptions) branching. Until these prohibitions are relaxed, the only means by which a banking organization can expand its sphere of influence in Illinois is through unregulated chain banking arrangements.

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