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Consolidation and Competition in Second District Banking Markets

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The consolidation rate in the Federal Reserve's Second District banking markets generally outpaced the national average between 1989 and 1994. Nevertheless, these banking markets remain relatively unconcentrated, with midsized banks increasing their market share at the expense of large banks.

In August 1995, Chemical Banking Corporation and Chase Manhattan Corporation announced plans to merge. This merger—the largest in the history of U.S. banking—has created the nation's biggest banking institution. The announcement marked the high point in a year of an unusually large number of mega-mergers. In all, 15 percent of U.S. depository institutions with more than $10 billion in assets—institutions once considered almost untouchable because of their size—agreed to sell during 1995 (SNL Securities 1996). This current merger wave continues the trend toward bank consolidation initiated by branching deregulation and thrift failures in the 1980s.

Bank consolidation may be beneficial if larger banks are more efficient than smaller banks. Moreover, consolidation may create a more stable banking system by enabling banks to extend their branch networks over a wider geographic area and thus to reduce their dependence on any one sector of the economy. However, consolidation has its costs. In particular, it raises concerns about the competitiveness of banking markets. Highly concentrated banking markets—where a few large institutions dominate—are less likely to be competitive, and decreased competition pushes up the cost of banking services to customers.

How much has the banking industry consolidated recently and how has that consolidation affected competition in banking markets? In this edition of *Current Issues*, we examine recent consolidation trends among depository institutions (commercial banks and thrifts) in the Federal Reserve's Second District. Specifically, we look at changes in several measures of market concentration from 1989 to 1994 in the District's five largest banking markets: Albany, Buffalo, Metro New York–New Jersey, Rochester, and Syracuse.[1]

We find that measured concentration increased significantly after 1989, with the rate of consolidation in four markets outpacing the national average. This trend was driven not only by bank mergers but also by thrift failures and the withdrawal of several large New York City institutions from the upstate New York banking markets. Still, despite this dramatic trend, all of these markets except Buffalo remain less concentrated than the average urban market nationwide. Moreover, we find that midsized commercial banks are gaining market share at the expense of larger banks in most markets, suggesting that large banks are facing stiff competition.

The degree to which local deposits are concentrated in a few large banks is, to be sure, only one indicator of the competitiveness of markets. For example, this measure tells us little about the competition for corporate trust and other custodial services, which have national or statewide markets and can be provided by banks lacking extensive branch networks and deposit funds.

Nevertheless, statistical studies suggest that deposit concentration is a reliable proxy for competition in retail banking services such as checking and small business lending. For example, all else equal, banks in highly concentrated markets are found to offer lower interest rates on retail deposits than banks in less concentrated local markets (Berger and Hannan 1989). Thus, local market deposit concentration measures continue to be a useful index of banking competition.

Increased Concentration in the Second District

To determine the degree of concentration in a local banking market, we examine two measures of concentration. One measure is the number of depository institutions in a market, which simply conveys the number of choices available to consumers. Another, more informative measure is the Herfindahl-Hirschman Index (HHI), used by federal bank regulatory agencies and the Department of Justice to determine excessive market concentration (see box). The HHI reflects not only the number of depository institutions in a market but also their relative sizes. Higher values of this measure signify higher levels of concentration. In particular, under guidelines established by the Department of Justice to review mergers, HHIs over 1800 indicate markets that are "highly concentrated."

Both measures of market concentration—the number of depository institutions and the HHI—indicate that Second District banking markets became more concentrated between 1989 and 1994 (Table 1). The HHIs in the District increased substantially over these five years, rising at a faster rate than the national average in four markets, with Albany experiencing the largest increase in concentration: 61 percent. Despite these sizable increases in the HHI, in 1994 all markets except Buffalo remained less concentrated than the average national metropolitan statistical area (MSA), as indicated by the level of the HHI.

In each market except Syracuse, the number of commercial banks and thrifts declined between 1989 and 1994. Buffalo saw the largest decline in the number of depository institutions (19 percent) and the Metro New York–New Jersey market experienced the smallest reduction (3 percent). The overall reduced number of competitors likely contributed to the increase in concentration as measured by the HHI.

Factors Leading to Higher Concentration

We trace much of the increase in concentration to three specific events: thrift failures, commercial bank or thrift mergers, and the withdrawal of the money center banks from the upstate New York markets.[2]

The five markets experienced significant numbers of mergers and thrift failures during the period. Of the markets' 493 depository institutions in 1989, 55 (11.2 percent) were eliminated by mergers and 52 (10.5 percent) by thrift failures (Table 2, Panel A). If we

Antitrust Review: How the Federal Reserve Bank of New York Defines Banking Markets and Concentration

Under the provisions of the 1966 Bank Merger Act, the Federal Reserve Bank of New York reviews all proposed bank mergers and acquisitions for violations of antitrust regulations. The Bank is expected to identify mergers that would allow a few banks to dominate a market or, more specifically, to increase prices of products without facing competition.

For its antitrust review of mergers, the Bank requires a measure of market concentration. The first step in measuring the degree of concentration in banking markets is to identify the markets. The Bank has defined fifteen Second District banking markets. Typically, these markets include metropolitan statistical areas (MSAs) and surrounding counties that have substantial commuting interchanges with the MSAs. Areas with significant commuting interchanges are considered economically integrated.

For each of the markets identified, the Bank constructs a measure of market concentration. The standard measure used is the Herfindahl-Hirschman Index (HHI), which is determined by calculating the percentage of deposits held by each depository institution in a market, then squaring these numbers and summing the results. The HHI indicates the extent to which a few banks may dominate a market. It ranges from 0 to 10000, with the latter indicating a monopoly market. Conversely, when a market is highly fragmented, with each bank holding a very small share of total deposits, the HHI is close to zero.

Under the Justice Department's merger guidelines, mergers that result in an HHI at or above 1800 (equivalent to the presence of approximately six equal-sized banks) and increase the HHI by 200 points require further scrutiny. Nevertheless, mergers that fail the preliminary HHI screen are not necessarily denied approval by the Federal Reserve Bank of New York. Instead, regulators look to other competition-related factors that may not be reflected in the HHI screens, such as the potential entry into the market by other banks. Bank mergers that pass the HHI screen are presumed to raise no antitrust concerns.

Table 1
Changes in the Herfindahl-Hirschman Index and in the Number of Depository Institutions, 1989-94
Based on Commercial Bank and Thrift Deposits

Market	1989 HHI	1989 Number of Institutions	1994 HHI	1994 Number of Institutions	Percentage Change HHI	Percentage Change Number of Institutions
Albany	759	38	1223	34	61	-11
Buffalo	1565	21	2003	17	28	-19
Metro New York–New Jersey	459	374	536	363	17	-3
Rochester	1113	33	1159	29	4	-12
Syracuse	1270	27	1570	27	24	0
National average	1423	N.A.	1602	N.A.	13	N.A.

Source: Authors' calculations, based on data from the Federal Deposit Insurance Corporation's 1989 and 1994 *Summary of Deposits*.

Notes: The number of depository institutions is the number of commercial bank and thrift holding companies, independent commercial banks, and thrifts. When calculating the HHI, we give thrifts' deposits half as much weight as commercial banks' deposits because banks offer a wider range of services. The national average HHI is based on data at the metropolitan statistical area level.

use the number of depository institutions as the relevant measure of market concentration for individual markets, we see that thrift failures did more to increase concentration than mergers in Buffalo and Rochester, while mergers had a bigger impact in the other markets.

Of course, counting the number of institutions eliminated is only one way to measure the relative impact of mergers and thrift failures. To reach a clearer understanding of these effects, we also look at the size of failing and merged institutions. If failing thrifts were larger in size than merged institutions, failures most likely had a bigger impact on market concentration. Using the HHI, we see that thrift failures contributed more than mergers to increased concentration in Buffalo, Rochester, and Syracuse; mergers had a greater impact on the HHI in the Albany and Metro New York–New Jersey markets (Table 2, Panel A).

Withdrawals of New York City depository institutions from the upstate New York markets also reduced the number of competitors in these areas.[3] Several large institutions pulled out between 1989 and 1994, contributing to the increase in upstate market concentration. The 60 percent decline in the number of banking offices held by five select institutions in these markets is especially notable (Table 2, Panel B).[4] Bank of New York and Dime Savings completely withdrew from the upstate markets, and Chemical largely ended its operations in these markets.

Overall, thrift failures contributed as much as bank mergers to increased market concentration. The abnormally large number of thrift failures in the early part of the 1989-94 period suggests that the increase in concentration in the Second District markets observed over this period was unusually pronounced. Withdrawal of New York City institutions from upstate markets probably had the greatest impact on the Rochester and Syracuse areas, where some of these institutions had a significant market presence.

Concentration in Commercial Banking Markets

So far, we have treated thrifts comparably to commercial banks. The only concession to their differences has been to give thrifts' deposits less weight when calculating the overall HHI for depository institutions (see notes to Tables 1 and 2). However, important reasons exist for assessing trends in the commercial banking market apart from the thrift industry. For instance, because the commercial banking industry is much larger, trends there will tend to be more important for assessing competition in markets for retail deposits and lending. Moreover, we are concerned about competition for a wide variety of banking services, and commercial banks generally offer a fuller array of loan and deposit products than do thrifts.

When we examine only commercial banks, we see that consolidation over the 1989-94 period was in fact modest (Table 3). Here, the picture is very different from that given by Table 1, which presented trends among *all* depository institutions (commercial banks and thrifts). Although the total number of depository institutions decreased in all markets other than Syracuse, the number of *commercial banking* institutions actually increased in three markets (Rochester, Syracuse, and Metro New York–New Jersey). Similarly, although the HHI based on all depository institutions increased in the Buffalo and Rochester markets, the commercial-bank-only HHI decreased in these markets. The commercial-bank-only HHI increased only modestly in the Syracuse and Metro markets, in contrast to the steep increases for all depository institutions there. In Albany, the one exception, the commercial-bank-only HHI increased by 32 percent.[5]

Bank Competition: Second District and National Trends

Concentration may not have increased rapidly among commercial banks because midsized banks have maintained or even gained market share relative to the large banks in the five markets (Table 4). To reach this conclusion, we identified large and midsized banks on the basis of their deposit market shares in 1989, then tracked these institutions to find their market shares in 1994. Large banks in each market were defined as holding more than $500 million in deposits in that mar-

Table 2

Sources of Consolidation, 1989-94

Panel A: Thrift Failures and Mergers

Market	Number of Institutions	Decline in Number of Competitors Due to: Thrift Failures	Mergers	Percentage Increase in the HHI Due to: Thrift Failures	Mergers
Albany	38	1	4	1	32
Buffalo	21	4	1	62	0
Metro New York–New Jersey	374	41	46	3	33
Rochester	33	4	1	3	0
Syracuse	27	2	3	7	1

Panel B: Withdrawals of Select New York City Institutions from Upstate New York Banking Markets

Bank/Thrift	Number of Offices in Upstate New York: 1989	1994	Number of Upstate Markets in Which Institutions Operate: 1989	1994
Bank of New York	67	0	4	0
Chase Manhattan	81	70	4	3
Chemical/Manufacturers Hanover	39	6	4	4
Citicorp	46	24	4	2
Dime Savings	17	0	1	0

Source: Authors' calculations, based on data from the Federal Deposit Insurance Corporation's 1989 and 1994 *Summary of Deposits*.

Notes: The number of competitors equals the number of commercial bank and thrift holding companies, independent commercial banks, and thrifts. When calculating the HHI, we give thrifts' deposits half as much weight as commercial banks' deposits because banks offer a wider range of services. Upstate New York is defined as the four major markets: Albany, Buffalo, Rochester, and Syracuse.

This table includes only those failures and mergers that reduced the number of competitors. For example, failures or mergers in which the target institution was purchased by an out-of-market buyer entering the market as a result of the purchase are not counted since they do not reduce the number of competitors. Moreover, this table accounts for only those institutions that existed in 1989 but not in 1994. Thus, the table does not include failures, mergers, or withdrawals of institutions that entered and exited these markets in interim years.

The HHIs are only approximations of the actual effects of mergers and failures. We assessed these effects by redistributing the target institutions' market shares in 1989 to their acquirers and then recalculating the 1989 HHI for each market. This procedure effectively treats all structural changes as having occurred in 1989. Although this approach will not yield exactly the HHI effects of mergers and thrift failures, any measurement errors would not exaggerate or shrink the effects of mergers relative to the impact of thrift failures.

Table 3

Changes in the Herfindahl-Hirschman Index and in the Number of Commercial Banking Institutions, 1989-94

Based on Commercial Bank Deposits Only

Market	1989 HHI	1989 Number of Institutions	1994 HHI	1994 Number of Institutions	Percentage Change HHI	Percentage Change Number of Institutions
Albany	1358	20	1797	20	32	0
Buffalo	2494	14	2291	13	-8	-7
Metro New York–New Jersey	719	151	759	198	6	31
Rochester	1751	20	1448	21	-17	5
Syracuse	1879	14	1930	16	3	14
National average	1901	N.A.	1825	N.A.	-4	N.A.

Source: Authors' calculations, based on data from the Federal Deposit Insurance Corporation's 1989 and 1994 *Summary of Deposits*.

Notes: The number of institutions equals the number of bank holding companies and independent banks. The national average HHI is based on data at the metropolitan statistical area level.

ket in 1989, while midsized banks held deposits of between $100 million and $500 million.[6]

We found that large banks lost market share between 1989 and 1994 in all markets except Albany. In the Metro New York–New Jersey market, for example, their share of deposits declined from 95 to 82 percent. Midsized banks appear to have benefited from this decline, increasing their market share substantially in Buffalo, Rochester, and Metro New York–New Jersey. In Syracuse, where midsized banks lost ground, large banks also lost market share, suggesting that the smallest banks or new market entrants gained ground over this period. Large banks' decreasing market share suggests they faced healthy competition from smaller institutions, except in Albany.[7]

These trends contrast sharply with the national trend toward larger banks' expansion primarily at the expense of midsized banks. A study of nationwide banking by the Board of Governors of the Federal Reserve System (Amel 1996) concluded that between 1984 and 1994, large banks (deposits of more than $5 billion in 1984) gained market share at the expense of midsized banks ($500 million-$5 billion in deposits) and small banks (deposits of less than $500 million), with midsized banks losing more ground than small banks. This finding suggests a possible national trend toward a two-tier bank structure dominated by a small number of large banks and a large number of small banks—with midsized banks maintaining only a small presence.

Using the same definition of bank sizes as the Board study, we compared these national trends with changes in the Metro market (Table 5).[8] Nationally, midsized banks lost over a third of their market share between 1989 and 1994. Large banks appear to have benefited, since they increased their share by about 13 percent; small banks lost very little share. In the Metro market, however, midsized and small banks gained market share slightly at the expense of the largest banks.

These opposing trends may be explained by the fact that New York State allowed statewide branching in the 1970s while most states waited until the late 1980s to do so. We suspect that when restrictions on branching are lifted, midsized banks become the initial targets for acquisition. Once the first wave of acquisitions is over, the remaining midsized (and small) banks find market segments where they can compete. In the 1980s, banks nationwide were likely to be in the initial stage following deregulation, when midsized banks typically lose ground. The relatively mature Metro banking market, in contrast, was at the stage when the remaining midsized banks emerge as strong competitors.

Table 4
Changes in Market Shares of Large and Midsized Banks, 1989-94

	Percentage of Deposits at:			
	Large Banks		Midsized Banks	
Market	1989	1994	1989	1994
Albany	62	74	29	15
Buffalo	80	69	15	27
Metro New York–New Jersey	95	82	4	13
Rochester	89	66	10	15
Syracuse	90	57	5	0

Source: Authors' calculations, based on data from the Federal Deposit Insurance Corporation's 1989 and 1994 *Summary of Deposits*.

Notes: The 1994 deposit share figures are for the same institutions identified as large or midsized on the basis of their 1989 deposits. Banking institutions under common ownership are consolidated.

Table 5
Bank Consolidation Trends in the Second District Metro Market and the Nation, 1989-94

Bank Size by Deposits	Percentage Share of Metro Market Deposits 1989	1994	Percentage Share of National Deposits 1989	1994
More than $5 billion	73	69	53	60
$500 million-$5 billion	21	23	22	16
Less than $500 million	6	8	25	24

Sources: Amel (1996); authors' calculations, based on data from the Federal Deposit Insurance Corporation's 1989 and 1994 *Summary of Deposits*. Additional data also provided by Amel.

Notes: Banks under common ownership are consolidated. Size categories are defined in 1984 dollars. Although Amel tracks changes in banking nationwide from 1984 to 1994, this table compares national trends with Metro market trends only from 1989 to 1994 because Metro market data are available only for this period.

Conclusion

Our concentration measures suggest that Second District banking markets experienced a significant increase in market concentration between 1989 and 1994. Thrift failures appear to have played an important role in this process, increasing market concentration more than bank mergers did in three of the five markets examined. Merger activity, however, may drive consolidation in the future. One sign of such a shift is the spate of large mergers that occurred in the Second District in 1995. Although a lack of up-to-date data prevents us from exploring the 1995 developments in this article, preliminary data suggest that merger activity in 1995 increased the HHI in the Metro New York–New Jersey market substantially. Still, the market remains mostly unconcentrated, with an HHI of less than 1000.

The process of consolidation in Second District banking markets may have improved the efficiency of depository institutions, eliminated weaker banks, and created better diversified institutions. Although continued consolidation may raise fears of decreased banking competition, the growth of midsized banks' market share at the expense of large banks between 1989 and 1994 alleviates the concern that the District's markets will become excessively concentrated. Moreover, if electronic banking and similar technologies allowing banking over greater distances become more widespread, local market concentration will have less of an impact on competition because out-of-area banks will be able to compete more effectively with local banks.

Notes

1. These markets account for 97 percent of the District's transaction deposits. We focus on 1989-94 because 1994 is the most recent year for which deposit data are available and changes in banking market definitions make comparisons of pre- and post-1989 data difficult. Although the data in Tables 1-5 have not been adjusted for slight market redefinitions between 1989 and 1994, controlling for them does not change our conclusions qualitatively.

2. Failure is defined as insolvency and closure involving intervention by a banking regulator. Mergers of troubled institutions without regulatory intervention are considered mergers rather than failures.

3. New York City institutions withdrew from upstate New York markets by selling branches in these areas. Thus, these withdrawals are not counted in bank and thrift mergers in upstate markets.

4. The four banks listed were among the top five retail banks in the New York Metro market as of 1989; Dime Savings was the largest thrift in the Metro market.

5. The sharp increase is largely due to the expansion of a single institution, which increased its share of deposits significantly between 1989 and 1994.

6. Our definitions of bank size were based on the *local* deposit holdings of banks, not on bank-level deposit holdings. For example, although money center banks had total deposits far in excess of $500 million in 1989, they were not classified as large in some upstate markets if they did not have more than $500 million in deposits in those markets.

7. As an alternative exercise, we compared the market share of the top three market-share holders with that of the next three market-share holders in each market in 1989 and 1994. The gap between market shares of the top-tier and mid-tier banks is a standard indicator of concentration. During the 1989-94 period, the gap narrowed in Buffalo, Rochester, and Metro New York, indicating that midsized banks grew faster than the largest banks. (For the Metro New York market, we compared the largest fifteen banks with the next largest fifteen banks because of the substantially larger number of banks in this market.) For Syracuse, the gap widened but only moderately, while for Albany, the gap widened significantly, consistent with every other measure of concentration for this market.

8. We did not compare the national trends with changes in the upstate markets, because these markets have no banks with more than $5 billion in local deposits. Therefore, we could not reproduce the Board of Governors analysis for these markets.

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