THE BANK MERGER ENVIRONMENT & ITS EFFECT ON COMMERCIAL & INDUSTRIAL REAL ESTATE MARKETS

by Thomas O. Stanley, John P. Lajaunie & Craig Roger

The advent of a substantial number of intrastate and interstate bank mergers and acquisitions has led to a large volume of research that has questioned the potential economic and political implications of these events [1,3,7,8,9,10,11,13,19,24]. The vast majority of this research has focused on two issues: (1) the potential anti-competitive effects; or (2) the potential cost differentials that are likely to exist in a post-event environment [12,15,16,17,18,20,21,25,26,27]. Most of this research has tested for the likelihood of significant differences in the level of interest rates paid on bank deposits, or the availability of total loanable funds in a banking market before and after a merger or acquisition event. In general, this research has suggested that the likelihood of differentials in interest rates on loans or deposits would indicate a competitive advantage for a merger partner relative to its local counterparts. Any sustained differential would therefore suggest that bank mergers or acquisitions affect the competitiveness of the local post-event bank environment.

All of the studies have concluded that no "local effects" are evident in the data and therefore mergers and acquisitions do not create any anti-competitive elements.[1] Furthermore, it is argued that because banking products are generally homogenous and substitute sources of funding are readily available, future mergers or acquisitions are unlikely to create an anti-competitive environment [4].

However, when the focus of the research is shifted from the deposit-side of the balance sheet to the asset-side of the balance sheet, and the

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post-event effects in the discrete lending environment are tested, *i.e.* the commercial and industrial real estate markets, the agricultural production lending market, etc., rather than the availability of total loanable funds, the findings of "no local effects" may no longer be valid. Furthermore, the assumptions of homogeneity and substitutability do not appear to be supported since, for example, the risk, earnings, and maturities, etc., of a residential real estate loan are not comparable to a loan to a small business for an expansion.

The data and analysis in this study demonstrate that "local effects" do exist when the discrete lending categories are analyzed. The results of the analysis demonstrate many instances where significant concentrations and market dominance in post-acquisition environments exist [5,14,22,23].

In addition, Besanko points out that the lack of monopoly pricing elements, (in this case higher interest rates charged), is not necessarily indicative of the level of competition in the market. Instead, the existence of a lack of inter-firm competition may be evident in the operational characteristics of the market [4]. In the market for commercial and industrial real estate lending, the lack of competition can lead to a situation where very few banks are setting virtually all of the policies and standards for a very large group of borrowers. For example, the parent organization's loan committee would likely set credit analysis procedures, credit scoring requirements, collateral requirements, repayment schedules, etc., for all operating units. Since extensive intrastate merger activity could result in a situation where a substantial number of previously independent banks are now governed by a single, more standardized lending policy, the potential is increased for commercial and industrial real estate borrowers to be penalized or even excluded.

PURPOSE OF THE STUDY

The purpose of the study was to demonstrate the extent to which a discrete category of lending; *i.e.*, commercial and industrial real estate lending, can become very concentrated in a very few banks in local banking markets as a result of inter- and intrastate bank mergers and acquisitions. The study results show that in some states these concentrations are so significant in the post-event environment, that there is virtually no competition among banks in the market for commercial and industrial real estate lending.

FRAMEWORK OF THE STUDY

The study period 1982 to 1999 was chosen because

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it encompassed a vast number of bank mergers and acquisitions and is consistent with the 1982 Justice Department Merger Guidelines. These revised guidelines provided for a more lenient regulatory environment with respect to approval of merger and acquisition activity. In addition, this time period allows the use of the most complete FDIC and Federal Reserve Bank data relative to bank merger and acquisition activity including the year-end FDIC *Call and Income Reports* and the *Federal Reserve Bank Holding Company Acquisition and Merger Data Report*.

Specifically, the Department of Justice has for many years published formal guidelines that identify structural changes resulting from mergers that are likely to cause the department to challenge a merger. Since 1982, the department has based its merger guidelines on the Herfindahl-Hirschman Index of Concentration (HHI). This measure, which is also used by the bank regulatory agencies, is calculated by squaring the market share of each firm competing in a defined geographic banking market and then summing the squares. The HHI can range from zero in a market having an infinite number of firms to 10,000 in a market having just one firm (with 100 percent market share).

The HHI is a particularly useful tool for bank merger analysis because it accounts for the presence of every competitor in a market and provides a measure of the structural effect of a merger of any firms in a market. In addition, the squaring of the market shares gives greater weight to firms that have large market shares. This weighting of the largest competitors in a market is consistent with the economic theories that predict weak competition in markets in which a few competitors hold a large combined market share [14].

This study used all commercial banks in the 50 United States over the period 1982 to 1999. Each bank's total assets, total loans, total deposits, and total commercial and industrial real estate loans

were obtained from the FDIC year-end Call and Income Report data [8]. A Herfindahl-Hirschman Index number was calculated for each of these balance sheet variables on a state-by-state basis for each study year [14,22,23]. The HHI therefore provides a summary measure of market concentration that reflects the proportion of the total assets, deposits, or loans, etc., accounted for by each firm serving the market [25]. The HHI is calculated in the following manner:

$$C = \sum_{i=1}^{N} A_i^2$$

Where A_i^2 represents the percentage of the market-area deposits or assets controlled by the i'th bank in the market. For presentation purposes, C is divided by 10,000 in order to demonstrate the percentage of the market controlled by the largest banks. The number of equivalent firms is then calculated by dividing one by the percentage of the market controlled by the largest banks.[2] The Justice Department defines bank markets where C exceeds 1800 as a highly concentrated market [14,22]. This translates to a decimal of .1800 as a highly concentrated market with a numbers-equivalent threshold of 5.556 banking units [23].

DATA & ANALYSIS

Table 1 presents the total number of dollars of bank loans classified as commercial and industrial real estate loans by year for selected states and U.S. totals. *Tables 2 through 7* present the HHI and the numbers-equivalent calculations for six representative states.[3] Each table, by state, contains the variables: year, the number of banks as of year-end, the HHI for total assets, the HHI for total loans, the HHI for total deposits, the HHI for commercial and industrial real estate, and the numbers-equivalent for the number of banking units based on the HHI for commercial and industrial real estate loans.

In order to assess the degree of concentration in a post-merger market environment for commercial and industrial real estate lending, an analysis of the HHI for commercial and industrial real estate loans and the numbers-equivalent of units on a state-by-state basis provided the most insight. For example, *Tables 2 and 3* depict the post-merger commercial and industrial real estate lending environment of two states, Pennsylvania and Texas, with very large commercial and industrial bases. Note that in Pennsylvania, the number of banks declined from 349 to 193 and in Texas from 1601 to 753 over the study period. In both of these states as the number of operating banking units has fallen, the numbers-equivalent columns, column 8, in both *Tables 2 and 3*, indicate that the number of active bank lending participants in the commercial and industrial real estate market has also fallen, indicating an increased pattern of concentration in both of these markets. Yet the HHI figures and the numbers-equivalent figures indicate the commercial and industrial real estate environment remained relatively broad-based, and dispersed across a large number of banks with no Pennsylvania bank controlling more than 9 percent and no Texas bank controlling more than 5 percent of the commercial and industrial real estate market within the state.

However, *Tables 4 and 5* present the data and analysis for Arizona and Rhode Island over the same study period and depict a substantially different environment for commercial and industrial real estate lending. For example, Arizona is one of only five states over the study period that maintained a relatively stable number of operating banking units with the number of banks ranging from a high of 54 in 1986 to a low of 34 in 1994 and 1995. Yet even with a minimum of 34 operating units in the state, the results in *Table 4* indicate substantial market dominance in every study category in virtually every year where the index number exceeds 0.1800. Of special significance to this study is the fact that the concentration index for commercial and industrial real estate lending and the resulting numbers-equivalent of active market participants, columns 7 and 8 of *Table 4*, indicate that the concentration ratios exceeded the Justice Department guidelines in every year of the study.

In *Table 5*, representing the commercial and industrial real estate lending market in Rhode Island, the pattern of a very highly concentrated market is also depicted with columns 7 and 8 indicating figures exceeding the Justice Department Guidelines in 17 of the 18 years. What is also significant is that while the commercial and industrial real estate lending markets are highly concentrated in both states throughout the study period, the high level of market dominance in total lending, (column 5), and total deposits, (column 6), does not occur except for the year 1998.

Furthermore, *Tables 4 and 5* indicate that significant concentrations existed in the commercial and industrial real estate lending markets prior to the start of the extensive merger and acquisition activity in both Arizona and Rhode Island. More importantly, nine states plus the District of Columbia demonstrated

Table 1

Total U.S. and Select States
Commercial Industrial Real Estate Loans (000's)

YR	U.S. Total CIRE	Pennsylvania	Texas	Arizona	Rhode Island	Alabama	Minnesota
82	161,032,989	7,177,926	14,524,405	1,371,864	1,604,061	1,224,349	1,942,114
83	181,118,288	7,149,654	21,563,028	1,674,492	1,762,950	1,374,502	2,255,716
84	204,125,548	7,674,400	28,900,032	2,552,032	1,094,271	1,672,023	2,558,200
85	239,005,705	8,496,803	31,927,231	3,894,096	1,511,362	2,020,844	2,823,289
86	292,526,751	11,921,934	33,139,871	4,854,203	1,870,212	2,582,640	3,217,335
87	344,943,896	14,775,218	30,509,439	5,196,848	2,410,385	3,297,911	3,439,478
88	382,224,001	16,945,233	21,510,419	5,110,277	3,060,963	3,897,545	3,701,496
89	419,389,105	19,163,270	17,660,170	4,288,423	2,933,831	4,374,428	3,976,741
90	429,769,828	20,463,331	14,160,968	3,258,902	2,508,146	4,708,617	4,062,235
91	413,974,954	19,849,752	13,545,420	2,612,837	2,328,415	5,151,777	4,099,029
92	394,297,052	19,140,263	14,039,712	2,370,129	1,968,210	5,752,188	4,155,823
93	392,868,109	19,334,006	15,016,674	2,599,520	2,083,029	6,414,167	4,298,600
94	408,912,887	18,048,008	17,333,647	3,086,039	2,117,908	7,328,256	4,949,062
95	432,572,226	18,315,130	20,557,379	3,844,313	2,095,988	8,427,774	5,698,826
96	460,043,067	26,017,435	21,215,870	4,440,130	971,364	10,258,710	6,418,664
97	499,714,408	27,834,216	23,685,718	4,146,140	6,406,833	19,446,126	15,946,282
98	551,155,986	20,837,189	23,036,909	4,796,424	5,906,462	28,977,550	17,166,979
99	640,547,638	22,457,675	27,318,926	5,629,508	6,252,672	39,051,011	21,064,278

concentration measures exceeding the Department of Justice guidelines prior to the adoption and implementation of the 1982 merger and acquisition concentration guidelines. Similar data for all 50 states shows that 17 demonstrated significant concentrations in the market for commercial and industrial real estate lending at some point during the study period. Of these states, eight states had at least one year where there were approximately three or less competitors effectively lending in the commercial and industrial real estate markets.

Tables 6 and 7 provide the results for the lending environment for commercial and industrial real estate in the states of Alabama and Minnesota during the study period. These results show a shift from a highly diverse, broad-based lending environment to one that is highly concentrated within the state during the study period.

Both states demonstrated the relationship between intrastate bank mergers and increased concentrations in the commercial and industrial real estate lending markets. For example, *Table 6*, column 3 shows the decline in the number of operating banks in the state of Alabama which parallels the decline in the numbers-equivalent of active commercial real estate market participants, *Table 6*, column 8. This pattern of increased intrastate concentrations is also evident in *Table 7* for the state of Minnesota.

An additional aspect of the data is the ability to evaluate the HHI and numbers-equivalent with respect to the Federal Reserve Merger and Acquisition report. For example, *Table 6*, column 3, shows a decline of three operating units from year-end 1986 to year-end 1987. Yet the actual number of intrastate mergers in Alabama during this period was 11. Likewise from year-end 1987 to year-end 1988, the

Tables 2 & 3

Table 2

Pennsylvania
Commercial Industrial Real Estate Loans

STATE	YR	n	HHI_2170	HHI_2122	HHI_2200	HHI_CIRE	num_equiv
PA	82	349	0.0353	0.0376	0.0234	0.0172	58.26
PA	83	341	0.0324	0.0372	0.0207	0.0228	43.83
PA	84	326	0.0379	0.0452	0.0247	0.0340	29.43
PA	85	312	0.0386	0.0435	0.0236	0.0380	26.29
PA	86	300	0.0356	0.0428	0.0266	0.0378	26.44
PA	87	295	0.0324	0.0341	0.0259	0.0319	31.35
PA	88	293	0.0323	0.0332	0.0254	0.0280	35.78
PA	89	299	0.0351	0.0349	0.0269	0.0273	36.57
PA	90	301	0.0369	0.0362	0.0308	0.0280	35.67
PA	91	290	0.0488	0.0482	0.0427	0.0309	32.31
PA	92	281	0.0512	0.0490	0.0458	0.0315	31.70
PA	93	261	0.0750	0.0726	0.0585	0.0398	25.12
PA	94	245	0.0933	0.0898	0.0682	0.0480	20.82
PA	95	224	0.0928	0.0958	0.0751	0.0484	20.65
PA	96	218	0.1082	0.1121	0.0977	0.0841	11.89
PA	97	212	0.1155	0.1301	0.1005	0.0806	12.41
PA	98	197	0.1521	**0.1831**	0.1260	0.0794	12.60
PA	99	193	0.1412	0.1618	0.1168	0.0634	15.78

Table 3

Texas
Commercial Industrial Real Estate Loans

STATE	YR	n	HHI_2170	HHI_2122	HHI_2200	HHI_CIRE	num_equiv
TX	82	1601	0.0161	0.0192	0.0109	0.0237	42.11
TX	83	1733	0.0151	0.0185	0.0087	0.0233	42.94
TX	84	1853	0.0142	0.0180	0.0080	0.0224	44.58
TX	85	1936	0.0135	0.0166	0.0075	0.0196	51.02
TX	86	1971	0.0117	0.0159	0.0060	0.0210	47.59
TX	87	1766	0.0166	0.0230	0.0077	0.0306	32.73
TX	88	1492	0.0308	0.0278	0.0263	0.0259	38.60
TX	89	1313	0.0475	0.0395	0.0394	0.0308	32.48
TX	90	1183	0.0477	0.0446	0.0447	0.0218	45.91
TX	91	1121	0.0465	0.0471	0.0452	0.0237	42.23
TX	92	1089	0.0525	0.0706	0.0468	0.0305	32.75
TX	93	1011	0.0627	0.0855	0.0530	0.0427	23.44
TX	94	980	0.0591	0.0857	0.0471	0.0343	29.17
TX	95	935	0.0670	0.0973	0.0444	0.0419	23.86
TX	96	878	0.0536	0.0587	0.0497	0.0254	39.33
TX	97	838	0.0786	0.0733	0.0695	0.0244	40.95
TX	98	797	0.0393	0.0507	0.0386	0.0212	47.10
TX	99	753	0.0462	0.0554	0.0404	0.0265	37.72

number of operating units declined from 225 to 221. However, the actual number of bank mergers in this period was 12. The resolution of these apparent discrepancies is embodied in the FDIC Call and Income Reports where new bank formations in the state account for the year-to-year differences.

Furthermore, the FDIC data indicates whether a bank is engaging in a specific lending market, in this case, the commercial and industrial real estate market. The results of these comparisons are also directly consistent with the variation displayed in the numbers-equivalent in column 8 of the tables.

Tables 4 & 5

Table 4

Arizona
Commercial Industrial Real Estate Loans

STATE	YR	n	HHI_2170	HHI_2122	HHI_2200	HHI_CIRE	num_equiv
AZ	82	39	**0.2829**	**0.2766**	**0.2708**	0.1913	**5.23**
AZ	83	47	**0.2741**	**0.2634**	**0.2670**	0.1944	**5.14**
AZ	84	46	**0.2585**	**0.2550**	**0.2575**	0.2102	**4.76**
AZ	85	52	**0.2505**	**0.2473**	**0.2469**	0.2425	**4.12**
AZ	86	54	**0.2338**	**0.2323**	**0.2419**	0.2318	**4.31**
AZ	87	49	**0.2253**	**0.2200**	**0.2394**	0.2194	**4.56**
AZ	88	47	**0.2333**	**0.2229**	**0.2394**	0.2270	**4.41**
AZ	89	43	**0.2303**	**0.2347**	**0.2367**	0.2320	**4.31**
AZ	90	38	**0.1802**	0.1777	**0.1932**	0.2173	**4.60**
AZ	91	39	0.1703	0.1668	**0.1894**	0.2258	**4.43**
AZ	92	38	**0.1943**	**0.2055**	**0.2179**	0.2132	**4.69**
AZ	93	37	**0.1942**	**0.2081**	**0.2171**	0.2367	**4.23**
AZ	94	34	0.1777	**0.1901**	**0.2246**	0.2396	**4.17**
AZ	95	34	0.1586	0.1638	**0.2070**	0.2695	**3.71**
AZ	96	36	**0.1815**	**0.1906**	**0.2622**	0.3608	**2.77**
AZ	97	41	**0.2116**	**0.2233**	**0.3266**	0.3438	**2.91**
AZ	98	43	**0.2862**	**0.3122**	**0.3371**	0.3389	**2.95**
AZ	99	45	**0.3092**	**0.3089**	**0.3396**	0.3194	**3.13**

Table 5

Rhode Island
Commercial Industrial Real Estate Loans

STATE	YR	n	HHI_2170	HHI_2122	HHI_2200	HHI_CIRE	num_equiv
RI	80	17	0.0289	0.0296	0.0219	**0.1914**	**5.23**
RI	81	18	0.0334	0.0341	0.0232	**0.2062**	**4.85**
RI	82	18	0.0353	0.0376	0.0234	**0.2201**	**4.54**
RI	83	18	0.0324	0.0372	0.0207	**0.1968**	**5.08**
RI	84	13	0.0379	0.0452	0.0247	**0.2743**	**3.65**
RI	85	16	0.0386	0.0435	0.0236	**0.2271**	**4.40**
RI	86	15	0.0356	0.0428	0.0266	**0.2586**	**3.87**
RI	87	12	0.0324	0.0341	0.0259	**0.2621**	**3.82**
RI	88	12	0.0323	0.0332	0.0254	**0.2061**	**4.85**
RI	89	13	0.0351	0.0349	0.0269	**0.2082**	**4.80**
RI	90	11	0.0369	0.0362	0.0308	**0.2214**	**4.52**
RI	91	13	0.0488	0.0482	0.0427	**0.2096**	**4.77**
RI	92	12	0.0512	0.0490	0.0458	**0.3173**	**3.15**
RI	93	10	0.0750	0.0726	0.0585	**0.3280**	**3.05**
RI	94	9	0.0933	0.0898	0.0682	**0.2855**	**3.50**
RI	95	8	0.0928	0.0958	0.0751	**0.3070**	**3.26**
RI	96	8	0.1082	0.1121	0.0977	0.0588	16.99
RI	97	9	0.1155	0.1301	0.1005	**0.7181**	**1.39**
RI	98	7	0.1521	**0.1831**	0.1260	**0.7226**	**1.38**
RI	99	6	0.1412	0.1618	0.1168	**0.7153**	**1.40**

In Minnesota, *Table 7*, column 3, shows the number of banks declining over the study period from 762 in 1982 to 497 in 1999. As is the case in Alabama, the decline in the numbers-equivalent of active market participants, column 8, parallels the decline in the number of banks with the year-to-year variations resulting from new banks being created and entering the lucrative commercial and

Tables 6 & 7

Table 6

Alabama
Commercial Industrial Real Estate Loans

STATE	YR	n	HHI_2170	HHI_2122	HHI_2200	HHI_CIRE	num_equiv
AL	82	294	0.0382	0.0346	0.0318	0.0395	25.33
AL	83	273	0.0533	0.0575	0.0442	0.0521	19.19
AL	84	269	0.0561	0.0694	0.0465	0.0680	14.71
AL	85	240	0.0743	0.0912	0.0628	0.0890	11.24
AL	86	228	0.0863	0.1035	0.0776	0.0966	10.35
AL	87	225	0.0858	0.0993	0.0770	0.1057	9.46
AL	88	221	0.0945	0.1059	0.0876	0.1077	9.29
AL	89	221	0.0917	0.1055	0.0844	0.1072	9.33
AL	90	220	0.0901	0.1027	0.0847	0.1026	9.75
AL	91	219	0.0913	0.1006	0.0840	0.0949	10.54
AL	92	217	0.0901	0.1042	0.0825	0.0961	10.40
AL	93	214	0.0885	0.1035	0.0817	0.0908	11.02
AL	94	208	0.0932	0.1058	0.0852	0.0936	10.68
AL	95	186	0.1196	0.1318	0.1045	0.1644	6.08
AL	96	183	0.1219	0.1323	0.1026	**0.1815**	**5.51**
AL	97	175	0.1701	**0.1806**	0.1513	**0.2484**	**4.03**
AL	98	160	**0.1818**	**0.1904**	0.1739	**0.2273**	**4.40**
AL	99	156	**0.1890**	**0.1927**	0.1735	**0.2121**	**4.71**

Table 7

Minnesota
Commercial Industrial Real Estate Loans

STATE	YR	n	HHI_2170	HHI_2122	HHI_2200	HHI_CIRE	num_equiv
MN	82	762	0.0387	0.0357	0.0228	0.0344	29.04
MN	83	754	0.0415	0.0398	0.0238	0.0362	27.64
MN	84	739	0.0474	0.0470	0.0275	0.0320	31.21
MN	85	736	0.0507	0.0530	0.0296	0.0440	22.70
MN	86	733	0.0564	0.0582	0.0291	0.0418	23.93
MN	87	704	0.1016	0.1076	0.0643	0.0736	13.58
MN	88	653	0.1006	0.1278	0.0751	0.0727	13.76
MN	89	637	0.0892	0.1166	0.0680	0.0691	14.46
MN	90	626	0.0866	0.1089	0.0687	0.0661	15.13
MN	91	608	0.0795	0.1070	0.0639	0.0600	16.67
MN	92	593	0.0974	0.1297	0.0656	0.0445	22.47
MN	93	573	0.1254	0.1555	0.0972	0.0520	19.22
MN	94	563	0.1189	0.1304	0.0780	0.0538	18.60
MN	95	525	0.1242	0.1323	0.0780	0.0636	15.73
MN	96	520	0.1137	0.1228	0.0790	0.0681	14.68
MN	97	520	**0.2890**	**0.3330**	**0.2757**	**0.4012**	**2.49**
MN	98	514	**0.2688**	**0.3147**	**0.2585**	**0.3893**	**2.57**
MN	99	497	**0.2841**	**0.3257**	**0.2729**	**0.4223**	**2.37**

industrial real estate market [2]. Invariably, these banks become attractive acquisition targets and create a situation where the commercial and industrial real estate lending market becomes further consolidated.

However, there is an additional aspect to the 1997 through 1999 data for both Alabama and Minnesota. In 1994, the Interstate Banking Efficiency Act was passed allowing bank holding companies to engage in interstate banking acquisitions starting

June 1, 1997. In 1997, Alabama banks acquired 38 billion dollars in assets through 25 interstate bank mergers and acquisitions. Of this, $20 billion were in commercial and industrial real estate loans. Twenty-three of the 25 mergers and acquisitions were carried out by only three banks. Since these dollars are reported in the chartering state for the flagship bank, this means that a block of approximately $20 billion in commercial and industrial real estate loans has been further consolidated and is administered by only four Alabama banks by the end of 1997.

In 1998, 62 interstate mergers and acquisitions were completed by four banks. Of this, 51 were carried out by only two banks. This moved $39 billion of bank assets and $10 billion of commercial and industrial real estate loans under the control of four Alabama banks. In 1999, four major interstate acquisitions resulted in the addition of $37 billion in total banking assets and $11 billion of commercial and industrial real estate loans controlled by approximately four Alabama banks.

In Minnesota, although the acquisition strategy was somewhat different, the results are very similar to the Alabama experience. For example, in Alabama in 1997, 25 interstate acquisitions occurred resulting in an addition of $38 billion in total bank assets coming under the administrative control of the Alabama parent bank. In Minnesota, only 12 interstate acquisitions occurred in 1997. However, these 12 acquisitions brought over $60 billion in total bank assets under the administrative control of several Minnesota banks including $9.5 billion of commercial and industrial real estate loans. The 1998 and 1999 data shows only four more interstate acquisitions with $26 billion being added in total assets and $5 billion in commercial and industrial real estate loans.

In addition, both states continued a consolidation of in-state banking assets: in Alabama, nine intrastate mergers in 1997 and eight intrastate mergers in 1998; in Minnesota, 26 intrastate mergers in 1997 through 1999. Furthermore, the FDIC Call and Income reports support the conclusion that both the intrastate and interstate acquisitions tended to target banks with very similar loan portfolio compositions [6]. This is directly consistent with the decline in the numbers-equivalent of active market participants in commercial and industrial real estate lending in both Alabama and Minnesota.

SUMMARY AND CONCLUSIONS

If the focus of the research proposition: "it is likely that intrastate bank mergers and acquisitions have the potential to create an anticompetitive lending market" is shifted to the asset-side of the bank's balance sheet and the post-event effects in discrete lending sectors are analyzed in specific geographic banking markets, (*i.e.*, commercial and industrial real estate lending), the findings of "no local effects" does not appear to hold. Furthermore, the assumptions of homogeneity and substitutability are no longer plausible. With regard to the assumption of substitutability among or between bank loans, this does not appear realistic given the different risk-return profiles. The differences in collateral requirements and the difference in the multitude of economic factors would suggest that no other type of loan could be a viable substitute for commercial and industrial real estate loans. Second, while the assumption of substitutability from different sources of capital in the commercial and industrial real estate lending market is reasonable for large investors, it is likely that commercial banks are still the major suppliers of funds for land sales for medium and small investors.

While prior research has focused primarily on deposit effects and loan pricing, analysis of the empirical results over the 18-year study period in this article support the conclusion that significant concentration effects either have been in existence prior to or have resulted from the intrastate and interstate merger and acquisition activity. The effect of this extensive consolidation and subsequent concentration of capital sources within the sector is that relatively few entities will now be in a position to set policies and standards for loan terms and conditions, approval criteria, and other economic factors irrespective of the loan pricing which is likely to be a function of the general economic environment and the individual customer relationship [27]. The effects of this consolidation and the resulting standardization of the lending criteria have the potential for excluding some previously acceptable commercial and industrial real estate borrowers and may have the tendency to exacerbate problems in the local business environment when other economic difficulties arise.

While not within the scope of the research question addressed in this study, in those commercial and industrial lending markets where only one or two banks have been the major acquisition leader(s), an additional problem may arise as the result of the magnitude of the market share inequality between the leader(s) and the remaining lenders [16,23,25]. This inequality of market share further magnifies

the ability of larger entities to demonstrate a position of market dominance in setting policies, lending standards, and approval criteria. This assumption of increased market dominance is testable and appears to be supported by the data and analysis where numerous intrastate and interstate mergers and acquisitions were reported in the study as the result of the expansion activity of only one or two banks.[REI]

FOOTNOTES

1. For a detailed argument that disputes the research that suggests that no anticompetitive cost effects will evolve in a post-merger environment, see Dymski, Gary A., *The Bank Merger Wave: The Economic Causes and Social Consequences of Financial Consolidation*, published by M.E. Sharp Inc., June 1999.
2. The numbers-equivalent of firms is an important measure of bank concentration because it allows the reader to compare the percent of the market controlled by the largest banks relative to the number of banks in the state.
3. Tables for all 50 states are available, upon request, by e-mailing: ECFI-TOS@Nicholls.edu

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