Interstate Banking, Bank Consolidation, and Bank Lending to Small Business

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ABSTRACT. Proponents and critics of interstate banking argue over the implications of nationwide banking for bank lending to small business. This study explores the patterns of (1) bank consolidation at the national level and (2) the share of domestic-bank commercial lending extended to small firms, specifically, small manufacturing firms, over the period 1976—90. The evidence indicates that despite the trend toward fewer banking organizations and increased aggregate bank concentration due largely to cross-state expansion by superregional banking organizations, no significant downtrend is observed in the share of domestic-bank credit extended to small manufacturing firms. Nor is there any discernible downtrend in banks' share of borrowing by small manufacturing firms. These results are consistent with the thesis that banking industry consolidation has *not* led to a reduction in the supply of bank credit to small firms, at least within the manufacturing sector.

One of the issues raised by the prospect of unrestricted interstate banking is whether the consolidation of the banking industry that would likely result from such a development would adversely affect the small business sector. Opponents of interstate banking argue in the affirmative, claiming that the growth of large nationwide banks, in concert with a decline in the number of small community banks,[1] would lead to a drain of funds from local markets to meet the borrowing needs of large banks' national and international customers. This, they argue, would reduce the supply and raise the cost of bank credit for small firms (Southern Finance Project, 1991).[2]

Proponents of interstate banking, on the other hand, maintain that neither economic theory nor empirical evidence from previous in-state bank expansion support such a gloomy forecast. Granted, interstate banking would probably lead to increased bank concentration at the national level as large banks assemble networks of offices through acquisitions of existing banks. However, it does not necessarily follow that banks acquired as branch offices of large banking firms would subsequently give less attention to the small business sector than they did as independent banks. Moreover, freer entry by existing banking organizations into additional local markets should increase local bank competition through de novo entry and added potential competition, leading to increased bank credit at lower prices for local businesses and consumers (U.S. Department of the Treasury, 1981, 1991; McCall and Savage, 1981). As evidence, proponents often point to the record of intrastate bank holding company expansion during the 1970s. While such expansion tended to increase statewide bank concentration, it generally resulted in lessened bank concentration at the local level as well as increased commercial and consumer lending by acquired banks.[3]

The fact that acquired banks generally have increased their commercial lending activity, however, does not necessarily imply increased bank credit for local firms. Rather, it could simply reflect greater loan participation activity on the part of such banks through their purchase of commercial loans made by other banks in their holding company organization, especially the lead bank. In that regard, Dunham (1986) reports evidence from a study of Massachusetts banks indicating that the commercial customers of nonlead bank subsidiaries of bank holding companies tend to be larger than those of independent banks. However, it is not clear if this result is based on a comparison of the lending behavior of affiliated banks and independent banks *of similar size*. To the extent that the affiliated banks were larger than their independent counterparts, then it should not

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be surprising to find the holding company subsidiaries dealing with generally larger firms. Also, in a study of the longer run effects of bank holding company affiliation on bank performance, Curry and Rose (1986) note that their results are consistent with a pattern of small affiliates' acquiring part of their business loan portfolio through loan participations with other banks in the holding company system. However, the authors provide no specific evidence of loan participation activity by affiliated banks.

This study explores (1) the pattern of bank consolidation at the national level from 1976—90 and (2) the share of domestic-bank commercial lending extended to small firms over the same period. We focus on aggregate bank consolidation because of the unique potential of interstate banking to concentrate banking resources at the national level and the possibility that such concentration could adversely affect the supply and cost of bank credit to the small business sector. Because of data constraints, we look at bank lending to small firms within the manufacturing sector only. Relevant data are reported in U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*, which presents aggregate financial statement information for each major industry sector but disaggregated data by size of firm only for manufacturing.

The next section looks at aggregate bank consolidation from 1976—90. That is followed by a discussion of the pattern of domestic-bank lending to small manufacturing firms since the mid-1970s. The last section is a summary and conclusion.

Aggregate bank consolidation

While unrestricted interstate banking has yet to be approved, limited cross-state banking has been evolving since the early 1980s (Amel and Jacowski, 1989; Savage, 1989; Shoenhair and Spong, 1990). One by one, the various states have relaxed their banking laws to permit some entry — now or at a specified future date — by out-of-state bank holding companies.[4] As a result, as of year-end 1990, 47 states and the District of Columbia have enacted legislation permitting some type of interstate bank expansion; approximately 200 multistate bank holding companies have completed over 600 cross-state bank transactions;[5] and 16 percent of domestic commercial bank assets are controlled by out-of-state banking organizations.[6] Moreover, in early 1991 the U.S. Department of the Treasury (1991) recommended greatly liberalized interstate branching for national banks. If enacted, such legislation would no doubt spur further cross-state bank expansion.

That the banking system has already begun to consolidate as a result of interstate (and intrastate) bank marriages is shown in Table I, which gives the number of commercial banks and banking organizations (independent banks plus multibank holding companies), annually, 1976—90.[7] (The disparity between the number of banks and banking organizations is due to the fact that when a bank is acquired as a subsidiary of a bank holding company, it ceases to be an independent banking firm although it retains its status as a chartered bank.) As shown, while the number of commercial

TABLE I
Insured commercial banks and banking organizations, 1976—90

		Banking organizations		
Year[a]	Commercial banks	Independent banks[b]	Multibank holding companies[c]	Total
1976	14,671	12,375	298	12,673
1977	14,707	12,406	306	12,712
1978	14,707	12,397	314	12,711
1979	14,708	12,447	329	12,776
1980	14,621	12,195	361	12,556
1981	14,532	11,925	407	12,332
1982	14,543	11,626	487	12,113
1983	14,558	11,280	616	11,896
1984	14,449	10,709	806	11,515
1985	14,367	10,386	869	11,255
1986	14,133	9,689	970	10,659
1987	13,634	9,241	985	10,226
1988	13,129	9,018	980	9,998
1989	12,727	8,774	971	9,745
1990	12,178	8,418	955	9,373

[a] Data as of year-end.
[b] Includes one-bank holding companies.
[c] Holding companies that are subsidiaries of other holding companies are eliminated.
Source: Board of Governors of the Federal Reserve System, *Annual Statistical Digest, 1970—79* and separate issues for 1980—1987, and data provided by Federal Reserve Board staff.

banks has fallen only modestly over the past fifteen years,[8] the number of banking organizations has declined significantly, from 12,673 to 9,373 (26.0 percent) between 1976 and 1990.[9] Moreover, virtually all of this decline has occurred since 1980.

Not only has the number of banking organizations dropped, but the distribution of banking resources has become increasingly concentrated at the national level. This is evidenced in Table II, which presents the size distribution of banking firms, based on domestic banking assets, in 1976 and 1990.[10] In order to abstract any changes in size distribution from an increase in total banking assets over this period, data for 1990 are presented in terms of assets deflated by the change in total domestic banking assets from 1976—90 (as suggested in Amel and Jacowski, 1989). As shown, while the size distribution of banking firms is still heavily weighted with small institutions, the distribution of domestic banking assets shifted sharply in favor of organizations in the $5—25 billion range, due primarily to the rapid growth of so-called superregional banking institutions during this period.[11] In fact, these organizations increased their share of total domestic banking assets by 22.2 percentage points over the 1976—90 period.[12] Moreover, fully 85 percent of this increase came from smaller banking firms (those with less than $5 billion in assets). The remainder came from the largest size class of organizations, which witnessed a drop in the number of firms from 4 to 2 over the study period as two of the largest banks in 1976 fell back to the next size class in 1990. The decline in the number of banks in the largest size class reflects slower growth by the largest banking organizations. These organizations generally have been less active in interstate bank expansion than their smaller, regional counterparts due to their own financial problems coupled with constraints imposed by regional interstate banking laws. As a result, while the share of total domestic banking assets held by the 100 largest organizations increased from 50.2 percent to 64.8 percent during 1977—90, the share held by the 10 largest institutions increased by less than one percentage point over this period.

Domestic-bank lending to small manufacturing firms

This section examines the pattern of total domestic-bank lending to small manufacturing firms (defined as those with less than $5 million in

TABLE II
Size distribution of bank organizations based on domestic banking assets, 1976 and 1990[a]

Organization asset size ($ millions)	1976			1990 Adjusted[b]		
	Number of organizations	Assets ($ billions)	Percent distribution of assets	Number of organizations	Assets ($ billions)	Percent distribution of assets
Less than 50	10,542	167.7	16.7%	8,027	125.9	12.5%
50—100	943	64.0	6.4	698	47.7	4.8
100—1,000	767	207.7	20.7	519	138.4	13.8
1,000—5,000	130	265.2	26.4	89	202.3	20.2
5,000—25,000	18	203.1	20.2	38	425.6	42.4
25,000+	4	96.0	9.6	2	63.8	6.4
Total[c]	12,404[d]	1,003.7	100.0	9,373	1,003.7	100.0

[a] Data for 1976 were taken from Amel and Jacowski (1989, table 3, p. 125). Data for 1990 were provided by Federal Reserve Board staff.

[b] Assets of each organization were deflated by the change in total domestic banking assets between 1976 and 1990. Organizations were then grouped by adjusted-asset size.

[c] Totals may not sum correctly due to rounding.

[d] Figure differs from that reported in Table I due primarily to variations in the number of independent banking organizations reported by different sources.

assets) over the period 1976—90.[13] As noted earlier, opponents of interstate banking commonly argue that the expected concentration of the banking industry resulting from full nationwide banking would lead to a reduction in the supply and an increase in the cost of bank credit for small firms. In that case, one should already see some decline in small firms' share of domestic-bank commercial lending, given the observed pattern of cross-state bank acquisitions and the attendant increase in aggregate bank concentration, all other things equal. On the other hand, recent reports by Freeman and Turner (1990) and Franzoni (1990) suggest increased bank interest in the small-business market in recent years as banks have encountered growing competition for larger corporate and consumer customers.

Tables III and IV present small firms' estimated share of short-term and total, respectively, domestic-bank lending to the manufacturing sector, annually, 1976—90. Since the raw data (columns A and B) are based on total (domestic and foreign) bank debt of manufacturing firms, we estimated domestic-bank debt of these firms (column D) by (1) multiplying the bank debt of all manufacturing firms (column B) times the percentage of domestic banking assets held by U.S. banks (column C), as reported in Houpt (1988, table 17, p. 25), and (2) making no adjustment to the bank debt of small manufacturing firms (column A). Implicit in this methodology are two assumptions. First, the percentage of total bank debt of the manufacturing sector extended by domestic (U.S.) banks can be approximated by the percentage of domestic

TABLE III
Short-term domestic-bank lending to small manufacturing firms, year-end, 1976—90[a]

Year[b]	(A) Short-term bank debt of small manufacturing firms[c]	(B) Short-term bank debt of all manufacturing firms[c]	(C) Percentage of domestic banking assets held by U.S. banks[d]	(D) Estimated short-term domestic-bank debt of all manufacturing firms (B × C)	(E) Small firms' estimated share of short-term domestic-bank lending to the manufacturing sector (A/D)
	($ millions)	($ millions)		($ millions)	
1976	4,952	17,588	0.941	16,550	0.299
1977	5,216	19,588	0.933	18,276	0.285
1978	5,848	22,196	0.916	20,332	0.288
1979	6,224	27,421	0.897	24,597	0.253
1980	6,277	31,215	0.865	27,001	0.232
1981	6,445	34,987	0.858	30,019	0.215
1982	6,959	32,366	0.847	27,414	0.254
1983	7,417	28,615	0.846	24,208	0.306
1984	7,448	36,942	0.837	30,920	0.241
1985	7,356	36,120	0.839	30,305	0.243
1986	6,004	39,853	0.825	32,879	0.183
1987	6,518	41,428	0.803	33,267	0.196
1988	6,207	45,561	0.794	36,175	0.172
1989	5,581	47,546	0.786	37,371	0.149
1990	5,968	53,273	0.785	41,819	0.143

[a] "Short-term" loans are those with an original maturity of one year or less. "Small" firms are defined as those with less than $5 million in assets.

[b] Except for 1990, data for each year are taken from data published one year hence in order to incorporate any revisions.

[c] Data are taken from U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*, fourth quarter issues, 1977—90. Prior to the fourth quarter of 1982, *QFR* was published by the Federal Trade Commission.

[d] Data are taken from Houpt (1988, table 17, p. 25).

TABLE IV
Total domestic-bank lending to small manufacturing firms, year-end, 1976—90[a]

Year[b]	(A) Total bank debt of small manufacturing firms[c]	(B) Total bank debt of all manufacturing firms[c]	(C) Percentage of domestic banking assets held by U.S. banks[d]	(D) Estimated total domestic-bank debt of all manufacturing firms (B × C)	(E) Small firms' estimated share of total domestic-bank lending to the manufacturing sector (A/D)
	($ millions)	($ millions)		($ millions)	
1976	11,485	53,502	0.941	50,345	0.228
1977	12,773	58,667	0.933	54,736	0.233
1978	14,427	66,867	0.916	61,250	0.236
1979	15,889	81,981	0.897	73,537	0.216
1980	16,882	96,154	0.865	83,173	0.203
1981	16,687	103,758	0.858	89,024	0.187
1982	18,312	114,855	0.847	97,282	0.188
1983	19,333	109,842	0.846	92,926	0.208
1984	21,667	139,837	0.837	117,044	0.185
1985	21,508	141,198	0.839	118,465	0.182
1986	17,970	158,707	0.825	130,933	0.137
1987	18,468	177,209	0.803	142,299	0.130
1988	19,685	224,675	0.794	178,392	0.110
1989	19,409	251,420	0.786	197,616	0.098
1990	18,160	265,826	0.785	208,673	0.087

[a] "Small" firms are defined as those with less than $5 million in assets.
[b] Except for 1990, data for each year are taken from data published one year hence in order to incorporate any revisions.
[c] Data are taken from U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*, fourth quarter issues, 1977—90. Prior to the fourth quarter of 1982, *QFR* was published by the Federal Trade Commission.
[d] Data are taken from Houpt (1988, table 17, p. 25).

banking assets held by U.S. banks, which seems reasonable considering that the reported bank debt of manufacturing firms is limited to the bank debt of the domestic operations of these firms. Second, little, if any, commercial bank lending by domestic offices of foreign banks has been extended to small firms, which is consistent with available evidence (Houpt, 1988; Neustadt, 1988; Kraus, 1990). As shown in column E, both tables indicate a significant downtrend in small firms' share of domestic-bank lending to the manufacturing sector. Specifically, Table III shows that small firms' share of short-term domestic-bank lending fell from nearly 30 percent to 14.3 percent from 1976—90, while Table IV indicates that small firms' share of total domestic-bank lending declined from nearly 23 percent to 8.7 percent.

Still, the data in Tables III and IV may be biased due in part to the arbitrary (and constant) definition of "small" firms as those with less than $5 million in assets. To the extent that inflation and intraindustry mergers have pushed upward the nominal size distribution of manufacturing companies, then one may reasonably expect to observe a decrease in the debt of small firms relative to that of their larger counterparts, owing to the declining proportion of manufacturing sector assets in "small" firms.[14] In addition, the recorded debt of small firms is biased downward after 1985 due to a 1986 change in the data base that excluded firms with less than $250,000 in assets.[15] To correct for these biases, we adjust the total assets of small (under-$5 million) firms every year to maintain a constant percentage (8.7 percent) of manufacturing sector assets in these firms, using 1976 as the base year. We then use the adjusted assets of these firms to estimate adjusted short-term and total bank debt of small manufacturing firms each

year, based on ratios of various debt items to total assets reported in the aggregate common-size balance sheet of the under-$5 million manufacturing organizations for the respective year.[16] Finally, we substitute the relevant adjusted bank debt of small firms into column A and recalculate column E of Tables III and IV. (Columns B, C, and D are unaffected.)

Tables V and VI present the adjusted data from our calculations. These tables correspond to Tables III and IV, respectively. In contrast to the data presented in those tables, however, data in Tables V and VI indicate no significant trend, most importantly no significant downtrend, in domestic-bank lending to small manufacturing firms over the 1976–90 period. This finding is consistent with the argument that banks have made no conscious effort to redirect lending away from small manufacturing firms in favor of their larger counterparts.

Some further evidence on this issue is seen in Table VII which presents banks' shares of short-term and total borrowing by small manufacturing firms, annually, 1976–90. Any significant reduction in the supply of bank credit to small manufacturing firms, other things equal, should be manifested in a decline in banks' share of borrowing by these firms as they substitute nonbank sources of funding for more expensive bank credit. As shown in Table VII, however, banks' share of both short-term and total borrowing by these firms has remained nearly constant over the study period. Certainly, there has been no downtrend in either data set.

TABLE V

Short-term domestic-bank lending to small manufacturing firms, *using adjusted data*, year-end, 1976–90[a]

Year[b]	(A) Short-term bank debt of small manufacturing firms[c]	(B) Short-term bank debt of all manufacturing firms[c]	(C) Percentage of domestic banking assets held by U.S. banks[d]	(D) Estimated short-term domestic-bank debt of all manufacturing firms (B × C)	(E) Small firms' estimated share of short-term domestic-bank lending to the manufacturing sector (A/D)
	($ millions)	($ millions)		($ millions)	
1976	4,952	17,588	0.941	16,550	0.299
1977	5,530	19,588	0.933	18,276	0.303
1978	6,353	22,196	0.916	20,332	0.312
1979	7,007	27,421	0.897	24,597	0.285
1980	7,629	31,215	0.865	27,001	0.283
1981	8,653	34,987	0.858	30,019	0.288
1982	9,024	32,366	0.847	27,414	0.329
1983	9,650	28,615	0.846	24,208	0.399
1984	10,226	36,942	0.837	30,920	0.331
1985	10,665	36,120	0.839	30,305	0.352
1986	10,797	39,853	0.825	32,879	0.328
1987	12,015	41,428	0.803	33,267	0.361
1988	12,713	45,561	0.794	36,175	0.351
1989	12,353	47,546	0.786	37,371	0.331
1990	14,025	53,273	0.785	41,819	0.335

[a] "Short-term" loans are those with an original maturity of one year or less. "Small" firms are defined as those with less than $5 million in assets.

[b] Except for 1990, data for each year are taken from data published one year hence in order to incorporate any revisions.

[c] Data are taken from U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*, fourth quarter issues, 1977–90. Prior to the fourth quarter of 1982, *QFR* was published by the Federal Trade Commission. Data in columns A and E are adjusted, as explained in the text.

[d] Data are taken from Houpt (1988, table 17, p. 25).

TABLE VI
Total domestic-bank lending to small manufacturing firms, *using adjusted data*, year-end, 1976—90[a]

Year[b]	(A) Total bank debt of small manufacturing firms[c]	(B) Total bank debt of all manufacturing firms[c]	(C) Percentage of domestic banking assets held by U.S. banks[d]	(D) Estimated total domestic-bank debt of all manufacturing firms (B × C)	(E) Small firms' estimated share of total domestic-bank lending to the manufacturing sector (A/D)
	($ millions)	($ millions)		($ millions)	
1976	11,485	53,502	0.941	50,345	0.228
1977	13,543	58,667	0.933	54,736	0.247
1978	15,673	66,867	0.916	61,250	0.256
1979	17,889	81,981	0.897	73,537	0.243
1980	20,517	96,154	0.865	83,173	0.247
1981	22,404	103,758	0.858	89,024	0.252
1982	23,747	114,855	0.847	97,282	0.244
1983	25,153	109,842	0.846	92,926	0.271
1984	29,749	139,837	0.837	117,044	0.254
1985	31,182	141,198	0.839	118,465	0.263
1986	32,316	158,707	0.825	130,933	0.247
1987	34,043	177,209	0.803	142,299	0.239
1988	40,318	224,675	0.794	178,392	0.226
1989	42,959	251,420	0.786	197,616	0.217
1990	42,676	265,826	0.785	208,673	0.205

[a] "Small" firms are defined as those with less than $5 million in assets.
[b] Except for 1990, data for each year are taken from data published one year hence in order to incorporate any revisions.
[c] Data are taken from U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*, fourth quarter issues, 1977—90. Prior to the fourth quarter of 1982, *QFR* was published by the Federal Trade Commission. Data in columns A and E are adjusted, as explained in the text.
[d] Data are taken from Houpt (1988, table 17, p. 25).

Summary and conclusion

While interstate banking is still in its infancy, the banking industry has already begun to consolidate, due largely to cross-state expansion by super-regional banking organizations. As a result, the number of banking organizations has declined and aggregate bank concentration has increased considerably since the mid-1970s. Most likely, this pattern will accelerate in the future as regional restrictions on bank expansion are lifted by the various states or overridden by federal interstate branching legislation.

Despite this consolidation, available evidence indicates no significant downtrend in small firms' share of domestic-bank credit extended to the manufacturing sector from 1976—90. Nor is there any discernible downtrend in banks' share of borrowing by small manufacturing firms over this period. These results are consistent with the thesis that banking industry consolidation has *not* led to a reduction in the supply of bank credit to small firms, at least within the manufacturing sector.

Two caveats should be noted, however. First, the analysis in this study does not allow for secular changes in small firms' demand for bank credit. Second, the study does not try to isolate any possible decrease in the supply of bank credit to small firms owing to bank consolidation from an offsetting increase in supply due to banks' turning to the small business market in response to increasing competition in other markets. Future research would do well to consider both of these possibilities.

TABLE VII
Commercial banks' share of borrowing by small manufacturing firms, year-end, 1976—90[a]

Year[b]	(A) Banks' share of short-term debt outstanding[c]	(B) Bank's share of total debt outstanding
1976	80.9%	58.6%
1977	79.2	59.0
1978	80.5	59.9
1979	79.6	59.0
1980	76.8	59.7
1981	78.7	58.2
1982	81.2	56.3
1983	80.3	59.2
1984	80.6	61.7
1985	79.7	61.0
1986	83.0	65.1
1987	83.2	60.8
1988	78.4	63.4
1989	80.3	63.0
1990	80.6	60.6

[a] "Small" firms are defined as those with less than $5 million in assets.
[b] Except for 1990, data for each year are taken from data published one year hence in order to incorporate any revisions.
[c] Short-term debt is defined as loans from banks and other short-term debt, including commercial paper, with an original maturity of 1 year or less. All other current liabilities, including trade accounts and trade notes payable, taxes payable, and the current portion of long-term debt, are excluded.
Source: U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*, fourth quarter issues, 1977—90. Prior to the fourth quarter of 1982, *QFR* was published by the Federal Trade Commission.

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Notes

[1] A recent joint study by Arthur Andersen & Co. and the Bank Administration Institute predicts that the number of community banks (defined as those with less than $1 billion in assets) will decrease by 25 percent over the 1990s (Kutler, 1991).
[2] The importance of this claim is seen in the fact that commercial banks have traditionally been recognized as the dominant supplier of nontrade credit to small firms (Rose, 1986; U.S. Small Business Administration, 1987). Moreover, recent survey evidence confirms the role of commercial banks, particularly local banks, as the major provider (among financial institutions) of credit services to small firms (Elliehausen and Wolken, 1990).
[3] For a review of the research literature (through early 1986) relating to the implications of interstate banking for small business finance, see Rose (1986). Other, more recent studies that examine various aspects of interstate banking relevant to the issues addressed in Rose (1986) include Goldberg and Hanweck (1988), Laderman and Pozdena (1991), Liang and Rhoades (1988), and Rose and Wolken (1990).
[4] In each case the states have amended their banking laws pursuant to Section 3(d) of the Bank Holding Company Act of 1956. That section (often referred to as the Douglas Amendment) proscribes bank acquisitions by out-of-state bank holding companies unless such acquisitions are specifically authorized by the state in which the target bank is located.
[5] The term "transaction" refers to the acquisition of one or more offices of a single banking firm within a given state by an out-of-state banking organization at a point in time.
[6] These data were provided by Federal Reserve Board staff and include transactions by seven interstate multibank holding companies grandfathered by the Bank Holding Company Act of 1956. In addition, a few transactions have been consummated pursuant to the Garn-St Germain Act of 1982, which allowed acquisitions of large failing banks by out-of-state banking organizations.
[7] Data presented in Boyd and Graham (1991, p. 3) indicate that while some of the observed consolidation trend can be attributed to the exit of failed banks, "much more it reflects the absorption of both ailing and healthy banks into branch offices of other banks." Such absorptions have included numerous interstate acquisitions (as noted in the text) as well as many intrastate unions facilitated by a general liberalization of state laws regarding in-state bank branching and bank holding company expansion. For further discussion, see Amel and Jacowski (1989) and Savage (1982).
[8] Until the mid-1980s, the annual number of newly organized (de novo) banks was sufficient to approximately offset the number of banks closed due to failure and merger (Amel and Jacowski, 1989).
[9] Interestingly, while the number of multibank holding companies steadily increased through 1987, it has since declined as a result of mergers and acquisitions as well as conversions of multibank systems to branch banking organizations where state law allows.
[10] The discussion and data presented in this paragraph represent an update of selected material presented in Amel and Jacowski (1989) for 1976—87.
[11] *American Banker* (September 27, 1988, p. 6) defines a superregional banking firm to include "any non-money center banking company that ranks among the nation's 10 largest plus any banking firm with $20 billion or more in total assets that has merged across state lines to establish a full commercial banking presence in another state."
[12] Based on the percentage of banking assets acquired

outside of their home state as a percent of total domestic banking assets in the home state, banking organizations from the following states have experienced the greatest out-of-state expansion, as of year-end 1988: North Carolina (97.5%), Virginia (40.0%), Massachusetts (32.1%), Minnesota (31.0%), Ohio (24.7%), New York (24.4%), California (24.1%), and Oregon (23.6%). Data are from Shoenhair and Spong (1990).

[13] Researchers commonly define "small" business in terms of asset size, annual sales, and number of employees. The *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations* presents manufacturing firm data for three size classes of what might be considered "small" firms — assets under $5 million, assets $5 million to $10 million, and assets $10 million to $25 million. We chose to examine the under-$5 million firms because they represent the smallest of "small" firms and thus would seem to be most vulnerable to any reduction in bank credit to the small business sector. Moreover, these firms account for nearly half of the total assets of manufacturing firms with assets under $25 million. Finally, the Federal Reserve Board and the U.S. Small Business Administration conducted a National Survey of Small Business Finances based on survey firms with fewer than 500 full-time equivalent employees at year-end 1987. Fully 95 percent of the respondent firms had total assets less than $5 million according to Federal Reserve Board staff. For information on the methodology and content of the survey, see Cox, Elliehausen, and Wolken (1989).

[14] From 1976—85, total manufacturing sector assets increased 118.7 percent compared to only a 52.7 percent rise in the assets of the under-$5 million firms. As a result, the proportion of manufacturing sector assets in firms of less than $5 million declined from 8.7 percent to 6.0 percent. (Comparable data after 1985 cannot be calculated due to a 1986 change in the data base which deleted firms with less than $250,000 in assets, as discussed in the text.)

[15] In fact, the changes to the data base were initiated in 1987 with adjustments made back to 1986 for data comparability. A comparison of the adjusted and unadjusted data for 1986 indicates a 22 percent decline in both total current liabilities and total liabilities of the under-$5 million firms owing to the exclusion of firms with less than $250,000 in assets.

[16] Implicit in this procedure is our assumption that the ratios of short-term and total bank debt to total assets of the under-$5 million manufacturing firms appropriately represent the corresponding ratios for small manufacturing firms throughout the study period, even in the later years when "small" firms should probably include most, if not all, of the firms from the second smallest size class (assets $5 million to 10 million) in addition to the under-$5 million firms. To verify this assumption we also estimated adjusted short-term and total bank debt of small manufacturing firms each year using a weighted average of ratios reported for the under-$5 million and the $5—10 million manufacturing organizations. The weights were constructed so that the importance of the $5—10 million organizations in the weighting process increased steadily from 1976 until they were fully recognized in 1990. The result of this weighting procedure was to increase the estimated short-term and total bank debt of small manufacturing firms in nearly every year. However, the increase was generally less than 5 percent and only in the later years of the study period did it reach as high as 12 percent and then only for short-term bank debt. Thus, it appears that our use of the ratios of short-term and total bank debt to total assets of the under-$5 million manufacturing firms to calculate the figures in column A of Tables V and VI does *not* significantly distort our estimates of small firms' share of domestic-bank lending to the manufacturing sector.

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