

THE IMPACT OF BANK CONSOLIDATION ON CRA BUSINESS LENDING

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Summary

The Community Reinvestment Act (CRA) of 1977 was intended to encourage insured depository institutions to meet the credit needs of the communities where they are chartered to accept deposits. The primary focus of CRA evaluations by bank regulatory agencies has traditionally been on the provision of home mortgage credit, in part because of the availability of data pursuant to the Home Mortgage Disclosure Act (HMDA – 1975). However, 1995 revisions to the CRA regulations re-emphasized and clarified the treatment of lending to small businesses and small farms. One goal of these revisions was to make CRA evaluations more reflective of actual outcomes rather than on bank lending policies and procedures (Canner, 1999). To this end, the revised CRA regulations require an annual reporting of geographic data on small business and farm lending by larger banking institutions (these data are referred to as the CRA data).

The 1995 CRA regulations raise important questions about how commercial banks and savings institutions, — hereafter referred to as “banks” — choose to serve their communities, particularly in light of the

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ongoing trend towards bank consolidation. Although concerns have been raised that bank mergers adversely affect small business credit availability, no one has specifically studied the types of small business lending likely to qualify for the purposes of CRA evaluations — such as loans to businesses in low- and moderate-income (LMI) neighborhoods. In this study, we use the relatively new CRA data to examine how bank merger activity has affected CRA business lending.

Since 1996, independent banks with assets of at least \$250 million and bank affiliates of holding companies that control at least \$1 billion in assets have been required to report data on the number and the dollar volume of small business and farm loans originated during the calendar year. By “small,” the CRA data refer to loans of less than \$1 million going to nonfarm businesses of any size (\$500,000 for loans to farms). The data also include detail on the small loans extended to “small” firms, referring to businesses having gross annual revenues of less than \$1 million. The CRA loan data are aggregates classified by the census tract location of the borrowing business or farm, and they include separate figures for nonfarm businesses and farms and for three size categories of small loans. Finally, since 1998, each bank also reports which census tracts are included in its service area for the purposes of CRA evaluations (its assessment area).

Using these data, we examine how bank merger activity is related to CRA business lending by the bank as a whole as well as how it affects a bank’s lending in the particular markets where it operates bank branches. The latter approach allows us to test whether merger-related effects differ for within-market versus out-of-market merger activity and for rural versus urban markets. The goal of this study is not to assess the costs or benefits of CRA for any particular constituency. Rather, our goal is to conduct a careful and rigorous analysis of the relatively new CRA data to see whether bank merger activity has been systematically related to CRA business lending during the late 1990s.

Our results indicate that banks experiencing merger activity — including banks that did not merge themselves, but were part of holding companies that acquired new banks — had systematically lower CRA business loan growth than banks experiencing no merger activity. These merger-related effects appear to be associated with a general decline in small business lending, rather than a shift away from LMI areas or very small businesses. At the local level, the evidence suggests that merger-related effects depend on how the merger activity affects the local market. For example, in Metropolitan Statistical Area (MSA) markets we find that negative merger-related effects are larger when the merger

activity is associated with an increase in the concentration of the local banking market. Here, we summarize this effort to quantify changes in CRA business lending and relate these changes to bank merger activity in multivariate statistical tests.

Background

A broad concern associated with the continuing bank consolidation trend is that the merging of banks into larger, more complex organizations may adversely affect the provision of basic banking services to the smaller customers that are more costly to serve. Small business lending has been advanced as a banking product likely to be affected by bank consolidation (Berger and Udell, 1996; Avery and Samolyk, 2000) because, traditionally this type of lending has been local in nature, often to firms with idiosyncratic credit needs and risks tied to the prospects of the local economy.

Researchers have identified two basic channels by which bank consolidation may adversely affect small business lending. First, there is the notion that small banks have a comparative advantage in meeting the less-standardized credit needs of small businesses, while large banks have a comparative advantage in providing standardized credit products such as home mortgages and credit cards. Hence, as banks grow to be larger, more complex organizations, they may shift away from small business lending to more standardized loan products or larger commercial customers. In addition, reduced competition in local markets is more likely to affect small business borrowers who have fewer alternatives to local banks.

The implications for CRA business lending follow from the general bank consolidation story in that the adverse consequences for small business credit availability are more likely to affect the more marginal small business customers — those that are the smallest or those having more modest economic prospects. Thus, a continuation of the bank consolidation trend could reduce the extent to which banks satisfy CRA regulations through their small business lending activities. On the other hand, because of CRA considerations, banks may be less likely to reduce their focus on small business customers that “count” in terms of CRA evaluations.¹

Numerous studies have examined how mergers and acquisitions affect a bank’s overall small business lending.² Most of these studies use bank-level small business loan data reported since 1993 in mid-year Reports of Condition and Income.³ They compare lending by “merg-

ing” banks to lending by “nonmerging” banks and test whether there are systematic differences associated with merger activity. The results of these studies depend on how changes in small business lending are measured, the time period studied, and how bank merger activity is defined.⁴ But the evidence broadly indicates negative merger-related effects associated with mergers involving larger banks or more concentrated markets; while acquisitions by smaller or more active small business lenders have been associated with more small business lending by the surviving banks. Prior to the fairly recent availability of the CRA data, it has been difficult to assess the implications of bank consolidation for CRA business lending, particularly lending to LMI neighborhoods. To our knowledge, no one yet used the CRA data to study this specific issue.⁵

Empirical Overview

Our empirical strategy follows much of the bank consolidation literature in analyzing small business lending at the bank level. We use multivariate regression analysis to test whether banks involved in mergers and acquisitions have systematically different CRA business loan growth than other institutions. In the taxonomy developed by Berger and Udell (1998), our study is “dynamic” in that we compare changes in CRA business lending over time by merging banks to lending by comparable institutions that were not involved in merger activity. Although our empirical strategy seems straightforward, the nature of the data collected and the inherent geographic dimension of the lending being studied pose formidable issues in the execution of a study of this type.

The most obvious limitation of the CRA data for any analysis of small business lending patterns is that only a subset of banks must report these data.⁶ It is difficult to study overall credit availability using the CRA small business loan data because many small banks do not report these data.⁷ The exemption of small banks from CRA-reporting affects the samples of banks that we study here since we cannot include banks for which we do not have complete CRA data for a given study period. Hence, our study samples exclude non CRA-reporting banks and new CRA reporters — those who reported at the end of a given study period but not at the beginning. More importantly, to accurately measure changes in CRA business lending by banks that have acquired other banks, we also must exclude CRA-reporting banks that acquired non CRA-reporting banks during a given study period.

Measuring CRA Business Lending

We study the growth of CRA business lending during two, two-year study periods (comparing 1998 loan originations to 1996 loan originations and 1999 loan originations to 1997 originations, respectively). We chose to use these two-year study intervals because we believe they are long enough for the effects of merger activity on lending to manifest themselves in the calendar-year CRA loan origination data. Of course, the relative newness of the CRA data limits the temporal scope of our study, and although our study periods overlap, we feel it is important to compare results for the two periods, particularly because of data integrity questions associated with any new data set.

We construct several measures of the types of small business lending (SBL) likely to count for the purposes of CRA evaluations. *Assessment Area SBL* includes small loans (less than \$1 million) to businesses located in the markets where the bank operates branches. *Assessment Area LMI SBL* includes small loans to businesses located in LMI neighborhoods in markets where the bank operates branches. And, *CRA-Type SBL* includes Assessment Area LMI SBL plus SBL to small firms (gross annual revenues of less than \$1 million) located in non LMI parts of a bank's deposit market. The latter two measures attempt to capture lending to the more "marginal" small business borrowers that, according to the bank consolidation story, are more likely to be adversely affected by merger activity.

We use the geographic detail in the CRA data and U.S. Census Bureau data to quantify these types of CRA business lending.⁸ We also examine two broader measures of small business lending to more fully interpret observed patterns in the CRA data: 1) a bank's *Total SBL*, both within and outside of its assessment area, and 2) a bank's *Total LMI-area SBL* (both within and outside of its assessment area). We use these measures to assess how observed changes in CRA business lending compare to changes in a bank's overall small business lending.

However, an issue important in any study of CRA business lending is how one deals with changes in a bank's assessment area over time in measuring changes in CRA-related lending over time. Banks change their assessment areas as they change the geographic markets they serve, and this can affect which of their small business loans "count" for the purposes of CRA evaluations. For example, if a bank expands its branching network to areas where it already makes small business loans, then there can be an increase in the bank's "reported" assessment area SBL simply because it has broadened its assessment area. On the

other hand, when a bank exits a market as a deposit-taker (as part of a divestiture or otherwise), the bank may continue to make small business loans to the area that will no longer count as CRA business lending if the market is dropped from its assessment area. It is important to point out that changes in a bank's assessment area may be associated with a bank merger, but nonmerging banks also change their geographic branching patterns over time.

In this study, we consider two types of Assessment Area (AA) loan growth measures. What we refer to as changes in "reported AA" lending simply compares what a bank (and any bank it acquires) reported as assessment area lending at the beginning of the period with the assessment area lending it reports two years later.⁹ Reported AA loan growth measures do not attempt to net out changes in lending associated with assessment area changes. However, one might want to net out loan growth associated with changes in a bank's assessment area markets, so as to study how merger activity affects lending to the markets served by a bank (or its acquisitions) at the beginning of the period. What we refer to as changes in "proforma AA" lending measure loan growth in the markets where a bank (or any bank that it subsequently acquired) operated deposit-taking branches at the beginning of the period.

Classifying Bank Merger Activity

Another issue, one that must be addressed in any bank consolidation study, is how to characterize bank merger activity. There are a range of legal changes in bank structure that are associated with increasing concentration of banking-sector assets, including consolidations of holding company affiliates, mergers of unaffiliated banks, and bank acquisitions by holding companies that do not involve a merger into a holding company affiliate. The important consideration for credit availability is simply that different types of mergers may have very different implications for the behavior of the surviving banks. For example, consolidations of holding company affiliates are sometimes thought to have little effect on bank behavior since the parties were already part of the same holding company.

In this study, we are examining CRA lending by individual banks, even if they are part of a holding company, because CRA ratings are assigned at the bank level. However, we take a broad perspective in defining bank merger activity. We consider merger activity at the bank level; but for holding company (HC) affiliates, we also identify if the parent HC is actively acquiring new banks, since broader structural

changes within a holding company may affect the behavior of affiliates, even if they do not merge. Hence our measure of *any merger activity* includes the following six distinct “types” of merger activity:

- 1) *Unaffiliated merger(s)*: The bank merges with at least one previously unaffiliated bank.
- 2) *Affiliate merger(s)/active HC*: The bank acquires only previously affiliated banks, but it is part of a HC that acquires at least one unaffiliated bank.
- 3) *Affiliate merger(s)/inactive HC*: The bank acquires only HC affiliates and the only merger activity within the parent HC involves the consolidation of affiliates.
- 4) *No merger/but new HC*: The bank does not merge with another bank, but it is acquired by a new HC (the HC is therefore active by our definition).
- 5) *No merger/but HC is active*: The bank is not involved in merger activity, but it is part of a holding company that acquired at least one unaffiliated bank.
- 6) *Inactive*: The bank is not involved in merger activity and its HC parent has not acquired any previously unaffiliated banks.

For each study sample, we classify the merger activity of each surviving bank during a two-year interval (year-end 1996 through year-end 1998 and year-end 1997 through year-end 1999, respectively). Inactive banks serve as the base group that we compare with “active” banks.

Table 1 reports the distributions of our bank-level study samples classified by the nature of their merger activity. Below, we summarize the results of multivariate regressions that relate CRABusiness loan growth to these types of bank merger activity.¹⁰ We ran all tests for study samples that included both savings institutions and commercial banks and for study samples including only commercial banks. All regressions are estimated using Ordinary Least Squares (OLS).

Bank-Level Tests

In the bank-level tests, we control for a bank’s characteristics and its financial conditions at the beginning of the period being studied. For

banks that acquire others during the study period, control variables are measured on a merger-adjusted basis where appropriate.

The panels in Table 2 report merger-related loan growth differentials measured for banks experiencing any type of merger activity. As indicated in this table, we find some evidence that merger activity is negatively associated with the growth of CRA business lending. At the bank-level, merger-related effects appear to be associated with an overall decline in small business lending, rather than a shift away from the types of lending likely to qualify for CRA purposes. To more fully understand the results for our broad definition of merger activity, we also estimated merger-related differentials for the specific types of merger activity.¹¹ These tests indicate negative loan growth differentials for merging banks as well as for banks that did not merge themselves but were part of holding companies involved in mergers. Finally, as indicated in Table 2, we find that the relationships between merger activity and CRA business lending for commercial banks are broadly consistent with those evident for samples that include both savings institutions and commercial banks.

We do advise caution, however, in focusing on the precise magnitude of estimated merger-related growth differentials. The manner in which one deals with extreme values of observed loan growth rates can affect the averages measured for different groups and hence the differentials across groups.

By-Bank/By-Market Tests

Bank-level tests may obscure differences in CRA business lending that are associated with the characteristics of, and conditions in, the particular markets where a bank operates. Here we summarize multivariate tests that examine how bank merger activity is related to CRA business loan growth in the particular markets that comprised a bank's assessment area at the beginning of the period.¹² These tests allow us to control for the characteristics of, and the conditions in, local markets where a bank operates (as well as the bank's characteristics and its condition) in measuring merger-related effects. The by-bank/by-market tests also allow us to study whether the effects of merger activity depend on whether it affects the concentration of the local banking market — that is, whether the merger activity is occurring within a given market versus whether it is out-of-market activity.¹³

For these tests, we constructed measures of CRA business lending for a given bank in each of its proforma AA markets, defined at the

beginning of a given study period. We use MSAs and rural counties to approximate urban and rural banking markets, respectively. Because related research suggests that merger-related effects can differ for urban and rural markets, we also split our by-bank/by-market samples into urban and rural subsamples. In testing for merger-related effects, we use the same bank-level merger classifications as in the bank-level tests. However, for each of the by-bank/by-market observations, we also classify a bank's merger activity by whether it increases the concentration of that particular banking market (within-market merger activity). Table 3 reports the distribution of our by-bank/by-market samples across these classifications of merger activity.

The panels in Table 4 report the coefficients measuring the average loan growth differentials associated with *any type of merger activity*, classified by whether it is *within-market* versus *out-of-market* merger activity. As this table indicates, we find evidence that banks experiencing merger activity had significantly lower CRA business loan growth in the markets where they (or their acquisitions) operated branches at the beginning of the period. We also find that merger-related effects depend on how the merger affects the concentration of the local banking market. In MSAs, we find significantly larger differentials associated with within-market merger activity than with out-of-market activity. Again, as Table 4 suggests, our results for commercial banks are broadly comparable to those obtained for all institutions.

Conclusion

To our knowledge, this paper is the first to use CRA data to explicitly examine how bank consolidation was related to CRA business lending during the late 1990s. As we discuss, the limited reporting of these data complicated this examination and represents an important caveat in interpreting the evidence presented here. Nonetheless, our bank-level multivariate tests yield some evidence that banks experiencing merger activity — including banks, not directly involved in a merger or an acquisition that are part of an active holding company — had systematically lower CRA-related loan growth than inactive banks. These merger-related effects, however, appear to be associated with an overall decline in small business lending, rather than a shift away from lending to LMI areas or very small businesses within a bank's service area. The evidence yielded by examining specific banking markets suggests that bank-level analyses can obscure merger-related effects associated with how merger activity affects the concentration of the local marketplace.

We do, however, advise caution in extrapolating the evidence presented in this study of CRA-filing institutions to all banks. In using the CRA data to study the effects of bank merger activity, we had to drop institutions from our study samples if they merged with non-CRA reporters (or if they themselves were not a CRA-reporter at the beginning of a given study period). Because non-CRA reporters are smaller banks, our study samples are not representative of all banks or all bank mergers. Since we had to exclude any bank that acquired a small non-CRA reporter, our results are less likely to characterize affects associated with mergers involving small banks.

Finally, this study does not imply that banks ignore, or take more lightly, CRA obligations in their post-merger environments. The next step in this research project is to examine whether the merger-related effects reported here may reflect a shift in CRA-related lending from business lending to home mortgage lending. Such a shift would be consistent with conjectures regarding bank scale and bank product mix.

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Table 1
Distribution of Banks by Type of Merger Activity
percent of sample

	1996-1998		1997-1999	
	All Institutions	Commercial Banks	All Institutions	Commercial Banks
Any Merger Activity	43.3	48.5	43.5	50.5
Merged With Unaffiliated Bank	4.3	4.2	4.3	4.2
Affiliate Merger; Active HC	2.7	3.3	1.3	1.6
Affiliate Merger; Inactive HC	1.3	1.7	1.4	1.7
No Merger; New HC	7.7	6.1	6.8	6.4
No Merger; But Active HC	27.3	33.2	29.7	36.5
No Merger Activity	56.7	51.5	56.5	49.5
Number of Observations	967	755	948	745

Table 2
Merger-Related Differentials in Bank-Level CRA Business Loan Growth

A. Commercial Banks and Savings Institutions

Dependent Variable:	1996-1998				1997-1999					
	SBL	LMI SBL	AA SBL	AA LMI SBL	CRA-Type SBL	SBL	LMI SBL	AA SBL	AA LMI SBL	CRA-Type SBL
Any Merger Activity	-0.164*** (0.053)	-0.143** (0.060)	-0.142** (0.060)	-0.151** (0.063)	-0.153** (0.060)	-0.144** (0.063)	-0.126* (0.071)	-0.111* (0.061)	-0.101 (0.066)	-0.104* (0.060)
Mean Dependent Variable	0.217	0.191	0.188	0.163	0.184	0.192	0.176	0.161	0.147	0.155
Adjusted R Squared	0.098	0.066	0.082	0.076	0.080	0.077	0.071	0.095	0.094	0.094

B. Commercial Banks Only

Dependent Variable:	1996-1998				1997-1999					
	SBL	LMI SBL	AA SBL	AA LMI SBL	CRA-Type SBL	SBL	LMI SBL	AA SBL	AA LMI SBL	CRA-Type SBL
Any Merger Activity	-0.117** (0.049)	-0.121** (0.056)	-0.109** (0.049)	-0.124** (0.057)	-0.117** (0.050)	-0.158*** (0.060)	-0.138* (0.073)	-0.114** (0.057)	-0.109* (0.066)	-0.112** (0.056)
Mean Dependent Variable	0.122	0.111	0.109	0.094	0.103	0.114	0.097	0.073	0.061	0.070
Adjusted R Squared	0.083	0.075	0.071	0.062	0.063	0.058	0.045	0.053	0.052	0.056

Notes: ***, **, *, Significant at the 1%, 5%, 10% level, respectively. Standard errors are in parentheses.

Table 3
Distribution of By-Bank/By-Market Observations by Type of Merger Activity
percent of sample

	1996-1998			1997-1999		
	All Institutions	Commercial Banks	MSAs	All Institutions	Commercial Banks	MSAs
	Non-MSA Counties	Non-MSA Counties	MSAs	Non-MSA Counties	Non-MSA Counties	MSAs
Out-of-Mkt. Merger Activity						
Out-of-Mkt; Unaffiliated Merger	67.9	70.7	45.3	69.9	73.2	51.2
Out-of-Mkt; Affiliate Merger, Active HC	23.4	25.2	14.1	16.3	17.5	10.4
Out-of-Mkt; Affiliate Merger, Inactive HC	10.4	11.3	3.6	2.5	2.8	1.9
Out-of-Mkt; No Merger But New HC	3.2	3.5	4.1	11.8	12.7	10.0
Out-of-Mkt; No Merger But Active HC	5.9	5.1	8.0	7.6	7.3	7.2
Out-of-Mkt; No Merger But Active HC	24.9	25.6	15.4	31.6	32.8	21.7
Within-Mkt Merger Activity						
Within-Mkt; Unaffiliated Merger	3.9	3.8	11.2	2.4	2.5	10.7
Within-Mkt; Affiliate Merger, Active HC	1.6	1.7	5.3	0.6	0.6	5.2
Within-Mkt; No Merger But New HC	0.3	0.3	0.9	0.0	0.0	0.4
Within-Mkt; No Merger But Active HC	0.5	0.5	2.0	1.0	1.1	1.5
Within-Mkt; No Merger But Active HC	1.5	1.3	3.0	0.8	0.8	3.6
Within-Mkt Merger Activity	28.2	25.5	43.5	27.7	24.3	38.1
Number of Observations	1629	1498	1683	1964	1812	1536

Table 4
Merger-Related Differentials in Local CRA Business Loan Growth
proforma assessment area markets

A. 1996-1998 Study Period

Dependent Variable:	Non-MSA Counties			MSAs		
	All SBL	LMI SBL	CRA-Type SBL	All SBL	LMI SBL	CRA-Type
All Institutions						
Out-of-Mkt Merger Activity	-0.156* (0.090)	-0.231** (0.097)	-0.131 (0.092)	-0.196*** (0.070)	-0.199*** (0.077)	-0.167** (0.073)
Within-Market Merger Activity	-0.273 (0.195)	-0.296 (0.211)	-0.278 (0.200)	-0.377*** (0.102)	-0.441*** (0.112)	-0.405*** (0.106)
Mean Dependent Variable	-0.373	-0.405	-0.396	-0.052	-0.090	-0.073
Adjusted R Squared	0.104	0.093	0.113	0.104	0.091	.100
Commercial Banks Only						
Out-of-Mkt Merger Activity	-0.219*** (0.092)	-0.272*** (0.099)	-0.180* (0.094)	-0.152** (0.071)	-0.156** (0.078)	-0.132* (0.075)
Within-Mkt Merger Activity	-0.250 (0.194)	-0.240 (0.210)	-0.250 (0.198)	-0.321*** (0.102)	-0.409*** (0.111)	-0.354*** (0.108)
Mean of Dependent Variable	-0.373	-0.407	-0.399	-0.107	-0.142	-0.137
Adjusted R Squared	0.125	0.111	0.134	0.106	0.091	0.096

Table 4 (continued)
Merger-Related Differentials in Local CRA Business Loan Growth
proforma assessment area markets

B. 1997-1999 Study Period

Dependent Variable: All Institutions	Non-MSA Counties			All SBL	MSAs LMI SBL	CRA-Type SBL
	All SBL	LMI SBL	CRA-Type SBL			
Out-of-Mkt Merger Activity	-0.155* (0.092)	-0.196** (0.098)	-0.149 (0.094)	-0.001 (0.078)	-0.027 (0.082)	-0.011 (0.078)
Within-Mkt Merger Activity	-1.722*** (0.242)	-1.750*** (0.257)	-1.725*** (0.246)	-0.716*** (0.119)	-0.711*** (0.126)	-0.708*** (0.119)
Mean Dependent Variable	-0.467	-0.499	-0.483	-0.183	-0.201	-0.180
Adjusted R Squared	0.135	0.132	0.137	0.117	0.104	0.115
Commercial Banks Only						
Out-of-Mkt Merger Activity	-0.170* (0.096)	-0.211** (0.104)	-0.164* (0.098)	-0.002 (0.081)	-0.053 (0.087)	-0.028 (0.081)
Within-Mkt Merger Activity	-1.761*** (0.246)	-1.788*** (0.265)	-1.766*** (0.250)	-0.884*** (0.126)	-0.884*** (0.135)	-0.882*** (0.126)
Mean Dependent Variable	-0.469	-0.505	-0.487	-0.238	-0.255	-0.234
Adjusted R Squared	0.155	0.146	0.158	0.126	0.108	0.125

Notes: ***, **, *. Significant at the 1 percent, 5 percent, 10 percent level, respectively. Standard errors are in parentheses.

Notes

- ¹ In both of these scenarios, there is also the potential for merging banks to shift the composition of CRA business lending from borrowers in LMI neighborhoods to small businesses in higher-income parts of their assessment area.
- ² For discussions of these studies, as well as related research about small business financing issues, see Berger, Demsetz, and Strahan (1999), Berger and Udell (1998), and Samolyk (1997).
- ³ Since 1993, commercial banks and savings institutions have been required to report mid-year data on the number and outstanding balances of their small loans to businesses and farms (on the June Reports of Condition and Income). These bank-level data do not include information about the location of the borrowers, but they do break down lending into loan size categories that are comparable to those reported in the CRA data on calendar-year loan originations. Small nonfarm business loans include loans of less than \$1 million and small farm loans include loans of less than \$500,000.
- ⁴ Bank-level small business lending studies have tended to examine changes in small business lending as a proportion of total bank assets (or total commercial loans). Studies of credit availability at the market level have tended to examine changes in the amount of small business lending (or loan growth rates). Examples include Peek and Rosengren (1998), Strahan and Weston (1998), Berger, Saunders, Scalise, and Udell (1998), and Avery and Samolyk (2000).
- ⁵ Canner (1999) examines the relationship between bank CRA nonfarm business lending patterns and neighborhood characteristics using data from the 1990 Census of Population and Housing on tract-level income and racial/ethnic composition and Dun & Bradstreet data on the geographic distribution of large and small businesses. It does not, however, investigate how factors, such as bank mergers, are related to changes in CRA business lending patterns over time. CRA business loan data has also been used to study the competitiveness of local banking markets and the importance of out-of-market lenders (see, for example, Cyrnak, 1998). But these studies generally do not explicitly test conjectures about the effects of mergers; nor do they focus on the types of business lending likely to count for the purpose of CRA evaluations.
- ⁶ Studies of small business credit availability generally face this problem, as bank regulatory agencies do not collect information from nonbank sources of small business financing, such as finance companies.
- ⁷ At the broader market level, bank deposit data have been used to estimate local small business lending by small banks that do not report the CRA data (see for example Cyrnak, 1998). These estimates have been used to analyze the competitive structure of local markets and how proposed bank mergers and acquisitions would affect market concentration. However, changes in the CRA reporting status of banks over time make it difficult to use these estimates to study changes in geographic lending patterns over time. When a nonreporting bank becomes a CRA reporter (through a merger, acquisition, or internal growth), it is difficult, if not impossible, to separate

out true changes in its local lending from changes due solely to the change in its CRA reporting status. Aside from problems posed by changes in the CRA reporting population, it is also unlikely that a bank's deposit-taking patterns are a good proxy for its lending activities at the submarket level. Deposit-based small business loan estimates of CRA lending would assume that a bank lends only to businesses in the same census tracts or zip codes where it operates branches.

- ⁸ Banks were not required to include information about their assessment areas in their CRA filings for 1996 and 1997. Hence, to measure CRA business lending, we approximate bank assessment areas using geographic Summary of Deposit (SOD) data on bank branch locations (and local deposits) reported by banks each year. Although banks were required to report their assessment areas after 1997, we must use our method of approximating bank assessment areas for the entire study period so that we are measuring CRA business lending consistently for a given sample period. We did validate the accuracy of using branching patterns to approximate bank assessment areas and found that the median share of a bank's small business lending accurately classified by this method is more than 95 percent. Nonetheless we still chose to exclude banks for which the bank branching data do not classify at least 70 percent of the bank's loans correctly (as either in-assessment area or out-of-assessment area loans).
- ⁹ Changes in "reported AA" loan growth measures include: 1) changes in AA lending to assessment area markets that remain in a bank's assessment area; 2) increases in AA lending associated with the addition of new assessment area markets and 3) decreases in AA lending as existing assessment area markets are dropped.
- ¹⁰ Here we discuss results for loan growth rates measured in dollars, however, we also analyzed comparable growth measures using the number of loan originations. For measures of CRA business lending, we compared results for "reported" CRA business loan growth with results for growth rates of CRA business lending within a bank's proforma assessment area. These comparisons will be summarized more fully in a forthcoming FDIC working paper.
- ¹¹ We estimated specifications that included a dummy variable for each of the five types of merger activity. The "types" of merger activity, described in Table 1, are defined to be mutually exclusive, so a single type can classify the merger activity experienced by a given bank.
- ¹² As Cynrak (1998) discusses, most bank SBLs are within-market, that is, banks tend to lend to borrowers in the markets where they operate their branches.
- ¹³ We classify merger activity as being within-market if it is associated with an increase in the banking organization's (referring to a holding company or an independent bank) share of the local deposit market as measured using Summary of Deposit data.

References

Avery, R.B., Bostic, R.W., Calem, P.S., and Canner, G.B., 1999, "Trends in Home Purchase Lending: Consolidation and the Community Reinvestment Act," *Federal Reserve Bulletin*, Vol. 85, pp. 81-102.

Avery, R.B., and Samolyk, K.A., 2000, "Bank Consolidation and the Provision of Banking Services: The Case of Small Commercial Loans," *Federal Deposit Insurance Corporation Working Paper*, No. 2000-01.

Berger, A.N., Demsetz, R., and Strahan, P.E., 1999, "The Consolidation of the Financial Services Industry: Causes, Consequences, and Implications for the Future," *Journal of Banking and Finance*, Vol. 23, pp. 135-194.

Berger, A.N., Saunders A., Scalise, J.M., and Udell, G.F., 1998, "The Effects of Bank Mergers and Acquisitions on Small Business Lending," *Journal of Financial Economics*, Vol. 50, pp. 187-229.

Berger, A.N., and Udell, G.F., 1998, "The Economics of Small Business Finance," *Journal of Banking and Finance*, Vol. 22, pp. 613-673.

Berger, A.N., and Udell, G.F., 1998, "Universal Banking and the Future of Small Business Lending," In Saunders, A., Walter, I. (Eds.), *Financial System Design: The Case for Universal Banking*, Burr Ridge, Irwin, Homewood, IL, pp. 559-627.

Canner, G.B., 1999, "Evaluation of CRA Data on Small Business Lending," *Proceedings of the Federal Reserve System Conference on Business Access to Capital and Credit*, pp. 53-84.

Cyrnak, A.W., 1998, "Bank Merger Policy and the New CRA Data," *Federal Reserve Bulletin*, Vol. 84, pp. 703-715.

Keeton, W.R., 1997, "The Effects of Mergers on Farm and Business Lending at Small Banks: New Evidence from Tenth District States," Working paper, Federal Reserve Bank of Kansas City.

Peek, J., and Rosengren, E.S., 1998, "Bank Consolidation and Small Business Lending: It's Not Just Size That Matters," *Journal of Banking and Finance*, Vol. 22, pp. 799-819.

Samolyk, K.A., 1997, "Small Business Credit Markets: Why Do We Know So Little About Them?" *FDIC Banking Review*, Vol. 10, No.2, pp. 14-32.

Strahan, P.E., and Weston, J., 1998, "Small Business Lending and the Changing Structure of the Banking Industry," *Journal of Banking and Finance*, Vol. 22, pp. 821-845.

Whalen, G., 1995, "Out-of-state Holding Company Affiliations and Small Business Lending," Office of the Comptroller of the Currency, Economic and Policy Analysis Working Paper, No. 95-4.