I. CRA Data on Small Business Lending

EVALUATION OF CRA DATA ON SMALL BUSINESS LENDING

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Concerns about the availability of credit to lower income and minority communities and individuals are longstanding. This paper assesses newly available information on the geographic distribution of small loans to nonfarm businesses extended in 1996 and 1997 by large commercial banks and savings associations. The reported data account for an estimated 45 percent of all loans extended to small businesses nationwide by all types of lending institutions.

Analysis of the data reveals that the distribution of small business loans across neighborhoods closely follows the distribution of businesses. After controlling for the number, size and types of businesses across neighborhoods, the data indicates that the relationship between small business lending and neighborhood racial and ethnic composition is complex. While the number of loans falls somewhat with increases in neighborhood racial composition, the dollar amount of lending increases. However, without information about the credit worthiness of the businesses located in each neighborhood, their varying credit needs and borrowing preferences and the different credit standards applied by lenders, it is not possible to fully explain the relationship between neighborhood racial or ethnic composition and small business lending.

Introduction

Concerns about the availability of credit to lower income and minority communities and individuals are longstanding. Such concerns have been addressed in varied ways, both by the public and private sectors. Regulation of lending institutions is one avenue followed by the public sector. In this regard, the Community Reinvestment Act (CRA) of 1977 specifically encourages commercial banks and savings associations (savings and loan associations and savings banks) to make their products and services available in all parts of their local communities, including low- and moderate-income areas.

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Aside from information about home lending and branch office locations, little has been known about the availability of other banking products and services in local communities.[1] However, the regulations that implement the CRA were revised substantially in 1995, and, as a consequence, information is now publicly available on the geographic distribution of small loans to businesses and farms and on community development loans originated or purchased during each calendar year. Because small businesses and small farms are more likely than larger ones to borrow small amounts, the CRA data on small loans are likely to provide a reasonable measure of the extension of credit to such businesses by commercial banks and savings associations.[2] Moreover, because the data include information on the location (census tract or block numbering area) of the businesses and farms receiving credit, the CRA data provide opportunities to gauge the flow of such credit to communities with differing socioeconomic and demographic characteristics.

This paper assesses a portion of the new CRA data; information on lending to *nonfarm* businesses. The analysis is intended to provide a descriptive overview of the new data and to identify some of the issues that arise in using the information. As both 1996 and 1997 data are available for analysis, assessment of both levels and year over year changes in lending are considered.[3] Given the focus of CRA, particular attention is paid to lending to businesses with offices in lower income and minority communities. Moreover, because of historic concerns about the availability of credit in central city communities, the analysis here distinguishes among areas by their degree of urbanization (either central city, suburban or rural location).

The paper begins with a discussion of the new lending reporting requirements. This is followed by a review of some of the strengths and limitations of the data. The empirical analysis that follows next shows the relationships between the number or dollar amount of business lending and census tracts grouped by relative income, location, and minority composition. In each case, the distributions of the number of businesses and of the population are shown to help place the lending data in some context. In order to better assess the relationship between neighborhood racial or ethnic status and lending to businesses, the results of a more comprehensive statistical analysis are also provided.

Beyond the CRA loan data, the analysis presented here draws on information from the 1990 Census of Population and Housing to describe the socioeconomic and demographic characteristics of each census tract. Although somewhat dated, the 1990 Census provides the most current source of census tract level data. In addition, information on the number, size (annual revenue), and types of firms located in each census tract in 1997 is obtained from data supplied by Dun and Bradstreet.

Overview of Results

The new CRA data on small business lending is quite comprehensive despite the relatively small proportion of all commercial banks and savings associations covered by the reporting requirements. In total, the reported lending accounts for about two-thirds of the credit provided to small businesses by all commercial banks and savings associations. Overall, it is estimated that such lending accounts for about 45 percent of the loans made to small businesses by all sources.

Analysis of the CRA data reveals that small business lending is heavily concentrated in central city and suburban areas, as are the bulk of the U.S. population and most small businesses. Measured by number of loans, central cities and suburban areas receive nearly the same volume of credit. Measured in loan dollars, however, central cities receive a somewhat larger share of the credit, perhaps because they include relatively more large firms. Disaggregating the data further finds that small business lending varies by neighborhood income in much the same way as do the number of businesses and residents. Some small differences between these distributions are found, however, particularly if the focus is on the number of small business loans rather than the dollar amount of such lending.

Compared to predominantly White neighborhoods, predominately minority neighborhoods are found to receive a somewhat smaller share of the business loans and loan dollars than might be expected based *solely* on the distribution of the number of businesses and population across areas. However, after accounting for other factors, such as the size and type of businesses located across neighborhoods, the analysis suggests that the relationship between small business lending and racial and ethnic neighborhood composition is more complex. In particular, while the number of small business loans tends to fall somewhat with increases in neighborhood minority composition, the amount of lending measured in loan dollars increases. Disaggregating the minority composition measure into its component parts finds that these patterns hold for each racial or ethnic group except Asians. For Asians, both the number and the dollar amount of lending falls with increases in the percentage of Asians in an area. This may reflect lower demand for credit among borrowers in Asian neighborhoods or may be due to other factors.

Origins of the New CRA Data Reporting Requirements on Small Business and Small Farm Lending

The CRA was enacted over two decades ago in response to the concern that some commercial banks and savings associations were thought to be accepting deposits from individuals and firms in central cities while

lending and investing them primarily elsewhere. These "disinvestment" activities, it was maintained, were contributing to the decline of many urban areas as evidenced by a deterioration in the quality of housing in these areas and a movement of jobs and population to surrounding communities.

In adopting the CRA, Congress reaffirmed the principle that commercial banks and savings associations have an obligation under their charters to serve the "convenience and needs" of their local communities by providing credit services to all segments of those communities. For purposes of enforcement, the supervisory agencies are directed to periodically assess the performance of institutions in this regard, to make available to the public written evaluations, including CRA performance ratings, and to consider an institution's record in acting on applications for deposit facilities, mergers, and acquisitions.

Historically, CRA performance evaluations focused on the processes used and efforts made by institutions to serve their local communities as well as on the results of those efforts. This approach to CRA assessments was heavily criticized, both by community organizations and lending institutions.[4]

The supervisory agencies revised the regulations that implement the CRA in May 1995 to make CRA assessments more performance-based, more objective, and less burdensome for covered institutions. The new regulations substitute three performance tests—lending, investment, and service—for the twelve assessment factors contained in the original regulation.[5]

In assessing compliance with the CRA, the three performance tests are evaluated in the context of information about the institution and its community, competitors, and peers. For example, CRA assessments consider the economic and demographic characteristics of an institution's local service area; lending, investment, and service opportunities in the local community; the institution's product offerings and business strategy; and its capacity and constraints.

Information Reported Under the CRA Regulations

The revised regulation requires commercial banks and savings associations defined as "large" under the regulation to collect and report data annually on the number and dollar amount of their originations and purchases of small loans to businesses and farms and any community development loans. Only independent institutions with total assets of $250 million or more and institutions of any size if owned by a holding company that has assets of $1 billion or more are subject to the new data reporting requirements.

For purposes of reporting, small loans to businesses and farms are grouped in two ways. First, loans are reported in three loan size

categories based on the original amount of the loan: $100,000 or less, $100,001 to $250,000, and more than $250,000. For businesses, the maximum loan size reported is $1 million; for farms, the maximum is $500,000. Second, these loans are categorized according to the geographic location (census tract or block numbering area) of the firms and farms receiving them. Unlike the business and farm loans, no geographic information is provided for community development loans; only the aggregate amount of lending by each institution is reported.

The data also include information on how many of the reported loans were extended to businesses and farms with annual revenues of $1 million or less. Such firms fall within generally accepted definitions of a small business, although somewhat larger firms are also often categorized as being a small business or small farm.[6] Finally, each reporting institution includes a list of the census tracts that constitute its local CRA assessment community. If an institution serves more than one local community, it will list separately the census tracts that constitute each of these communities.

Because the CRA data provide information on whether the firm receiving credit was small, it provides opportunities to conduct two types of analyses, those focused on small loans to businesses (potentially of any size) and loans just to small firms. Both types of analyses are potentially useful. Bank examiners, for example, consider both aspects of the data when evaluating the CRA performance of banking institutions. Unless otherwise noted, the analysis that follows here focuses on the entire set of loans, rather than on just the subset of loans made to firms with revenue under $1 million.

Cautions in Using the Data

The new CRA data on lending to small businesses provide opportunities to measure the flow of business credit across local communities; however, interpreting and drawing appropriate conclusions from this credit flow information poses many challenges. A number of features of the data, as well as the availability and timeliness of information needed to place the information in the proper context, greatly complicates assessment of the CRA data. This section highlights some of the issues that arise in interpreting the new information on small business lending.

The small business lending data reported under the CRA regulations are more limited in scope than similar data reported on home lending under the Home Mortgage Disclosure Act (HMDA). In particular, the CRA data include information only on loans originated or purchased, not on applications for credit that are turned down by the creditor or withdrawn by the customer. Unlike HMDA data, the CRA data do not include information about applicant income, gender, or

racial or ethnic background, although the CRA data do indicate whether a loan is extended to a small firm (revenues of $1 million or less). Finally, the CRA data are not reported application by application as HMDA data are, but rather aggregated into three loan size categories and then reported at the census tract level.

As noted, lending institutions are asked to report the geographic location of the small business (or small farm) receiving the loan. However, the borrower may use those funds to support business activities in other locations. Thus, assessment of the data may categorize a loan by the characteristics of the reported geography (typically a census tract) even though the funds are used to support the activities of a firm's offices in a location with different demographic and economic characteristics.

A related issue arises when the reporting institution does not use the street address of a business to identify the location of a firm. Ordinarily, this will occur when the only available address is a post office (P.O.) box number or rural route number. In these situations, the lender will report the census tract that corresponds to the P.O. box or rural number. This may create two problems for interpreting lending activity. First, the characteristics of the census tract where the P.O. box is located may differ from the characteristics of the firm's actual location. Second, the data may contain an inordinately high number of loans in census tracts with P.O. boxes. Some evidence of the latter possibility was found in research conducted by the Federal Reserve.[7]

Timeliness of the census data often used in conjunction with the CRA data to help place the information in some context also creates potential difficulties. Census tract boundaries and associated demographic information are based on the 1990 decennial census, which is the most recent broad-based information available about the characteristics of these geographic areas. The population characteristics of some census tracts have changed substantially since 1990 and the income and racial composition categorization for any given census tract may no longer be the most appropriate. Familiarity with intertemporal changes in local areas is necessary to ensure accurate assessment of the CRA data.

Perhaps more importantly, while the CRA data provide information on extensions of loans, they do not provide any indication of the local demand for business credit or factors influencing the supply of such credit in a given community. Both sides of the market determine the measured flow of business credit in any given community and changes in either demand or supply conditions can alter this flow.

Nationwide, based on tax filings in 1994, there were over twenty-two million nonfarm businesses, the vast majority of which are small.[8] These firms vary considerably with respect to many characteristics, including age, location, industry, product markets, and financial

condition. This diversity, along with differences in local economic conditions, means that the demand for small business loans will vary greatly across neighborhoods and regions. Moreover, the small business sector is ever changing, responding to market conditions which provide opportunities for growth in some segments while dampening opportunities in others. This dynamism suggests that the flow of credit to any community or geographic area can vary considerably from year to year as small businesses adjust and modify their demand for loans.

The volume of local lending will also reflect the influence of a number of supply-related factors, including the underwriting standards applied in a given community, the credit quality of local businesses, and the expected rate of return on such lending. Variation in lending activity across communities may arise from local differences in any of these factors. Moreover, when assessing the CRA data, it is important to keep in mind that commercial banks and savings associations generally do not fund start-up firms, but rather primarily businesses with some track record of performance.[9]

For each of these reasons, conclusions drawn from analyses using only the CRA data should be made with caution. Despite its limitations, however, the new small business lending data, when coupled with the information about the geographic locations that constitute each institution's local service area(s) make it possible to better assess the performance of institutions covered by the CRA.

Comprehensiveness of the Small Business Lending Data

As of year-end 1997, there were 9,136 insured commercial banks and 1,867 savings associations. Evidence from the Federal Reserve's 1987 and 1993 National Surveys of Small Business Finances suggests that such institutions account for about two-thirds of *all* the credit provided to small businesses.[10] However, the CRA data on small business and small farm lending include the lending activity of just the larger commercial banks and savings associations which represent only about 17 percent of all such institutions. Despite limited institutional coverage, CRA reporters account for a sizable fraction of the small business loans extended each year by all commercial banks and savings associations and consequently a significant portion of all small business credit.

To determine the comprehensiveness of the CRA data, a comparison was made between the business lending activity of institutions covered by the CRA data reporting requirements and that of all commercial banks and savings associations as reported on the Call Report and the Thrift Financial Reports. These reports include the outstanding amount of small loans to businesses for *all* commercial banks and savings associations.[11] The comparison shows that for 1997, CRA

reporters accounted for 68 percent of the number of small business loans and 66 percent of the dollar amount of such loans outstanding for all commercial banks and savings associations. These figures are both close to the proportions estimated for 1996. In combination, the Call Report and Thrift Financial Report data, along with estimates from the National Surveys of Small Business Finances, suggests that CRA reporters may account for about 45 percent of all small business lending.

Lending Institutions and Their Small Business Lending Activity

For both 1996 and 1997, 91 percent of the institutions covered by the CRA data reporting requirements reported extending at least some small business loans. For 1997, these institutions reported information on about 2.5 million small business loans totaling $159.4 billion (Table 1). Both figures were up about 5 percent from the previous year, owing in part to a strong economy. Acquisitions and mergers also likely explain some of the growth in reported lending, as larger covered institutions merged with smaller previously nonreporting institutions.

Small business lending is concentrated among the largest CRA reporters. For 1997, institutions with assets of $1 billion or more originated about three-quarters of the reported small business loans. This proportion is notably higher than in 1996 when the larger institutions accounted for about 60 percent of the number of loans. The change in the distribution of lending is less pronounced, however, when measured by the dollar amount of lending: larger institutions accounted for 70 percent of the dollar volume of small business loans in 1996 and 74 percent in 1997.

Credit Card Banks

CRA reporters differ widely in asset size, product offerings, and market specialization. The vast majority of institutions offer a range of products and services. A few reporters, however, are specialized institutions that have a narrow market niche. Among these are about a dozen institutions that specialize in credit card lending.

Although small in number, credit card banks account for a sizable proportion of the reported *number* of small business loans. In both 1996 and 1997, the credit card banks accounted for nearly 30 percent of the number of reported small business loans. Measured in dollars, however, their significance is greatly reduced. In both years, they accounted for only about 3 percent of the dollar amount of small business lending (data not shown in tables).

Further investigation finds that the small business lending activity of credit card banks is geographically quite widely dispersed. Credit card bank loans account for roughly equal proportions of the loans

originated across neighborhoods stratified by income and they are about equally divided between central city and suburban areas, although they account for a relatively smaller proportion of lending in rural areas (only about 16 percent of the total number of loans in such areas).

Size of Small Business Loans and Borrowers

As noted, under the CRA reporting requirements, small business loans are reported by census tract in three broad loan size categories. For both 1996 and 1997, the average small business loan equaled about $62,000 (derived from Table 2). Most small business loans were relatively small; about 87 percent of the number of loans in both 1996 and 1997 were for an amount equal to $100,000 or less. Only 6 percent were for an amount exceeding $250,000 (recall the maximum size of the reported loans is $1 million).

Although the CRA data reporting focuses on the extension of small loans to businesses, the data also include information on lending specifically to "small" firms (revenues of $1 million or less). For 1996, 56 percent of the small business loans, measured by number of loans, were extended to small firms. This proportion dropped to 50 percent in 1997. The decline is notably smaller, however, when measured by dollars. In 1996, the proportion of all small business loan dollars extended to small firms was 43 percent compared to 42 percent in 1997.

The Distribution of Small Business Lending

Small business lending is widely dispersed across the nation. In both 1996 and 1997, only a small percentage of census tracts received no small business credit from reporting institutions. For example, in 1997, only about 4 percent of all census tracts did not receive any small business loans. These census tracts included few businesses and some contained only government facilities or were parklands. For 1997, the average census tract received about 43 loans, totaling $2.67 million, and contained about 120 nonfarm firms. About three-quarters of these firms were either involved in retail trade or in business or professional services.

Small Business Lending by Degree of Urbanization, Neighborhood Income, and Minority Composition

The new CRA data provide opportunities to measure the annual flow of small business credit to neighborhoods and larger geographic agglomerations with differing demographic and economic characteristics. Although, as noted, the CRA data do not include information on all small business credit extended by commercial banks and savings

associations, they do represent a significant portion of such lending. Nonetheless, it should be kept in mind that small business credit is made available by a wide variety of other types of financial and nonfinancial firms, and that smaller commercial banks and savings associations, for which CRA data are not available, are likely to focus their lending activities in and around the local areas where they are based.

Lending by Degree of Urbanization

Because of the longstanding interest in, and concerns about, credit flows across metropolitan areas, it is useful to begin a geographic analysis of the CRA data by examining gross flows of small business credit by degree of urbanization (central city, suburban, or rural location).[12]

As discussed, the CRA data do not include measures of the demand for small business credit. Such demand is likely to vary considerably across geographies as population, income, and business activity are neither uniformly distributed nor constant over time. To place small business lending patterns in some context, the following analysis provides information on the distribution of both population and the number and size (measured by sales) of businesses across geographies.

Although information on the distribution of businesses across geographies provides valuable contextual information, like population figures, it has important limits. No specific information about the credit needs or creditworthiness of these firms is available. Moreover, an inability to borrow may prevent some potential businesses from starting operations. In that sense, the distribution of businesses across areas may itself be an outcome of the availability of credit in an earlier period.

Nationally, most (about 80 percent) of the population and nonfarm businesses are located in central city and suburban locations. In both 1996 and 1997, such areas received 81 percent of the reported number of small business loans, about equally divided between the two (Tables 3 and 4). Measured in dollar terms, central city areas received a somewhat larger share of the credit, perhaps reflecting the fact that central cities contain more large firms (firms with revenues greater than $1 million).[13] These broad national statistics do not suggest businesses in central city areas are underserved, but a firm conclusion in this regard, particularly one that holds across different metropolitan areas, requires considerably more analysis—an analysis which is beyond the scope of this paper.

Lending by Neighborhood Income

CRA performance evaluations include an analysis of the distribution of small business lending across census tracts grouped into four broad neighborhood income categories: low-income (census tracts in which the median family income is less than 50 percent of the median family

income of the broader area [either an MSA or nonmetropolitan portion of the state]); moderate-income (50 percent to 79 percent); middle-income (80 percent to 120 percent); and upper-income (more than 120 percent). In addition, concerns have been raised that small business credit may not be sufficiently available in central city areas. As a consequence, the analysis here considers how small business credit flows vary both by neighborhood income and by degree of urbanization.

From a national perspective, both the 1996 and 1997 CRA data find that small business lending varies by neighborhood income category in much the same way as do the number of businesses and residents (Tables 3 and 4). For example, in 1997, low-income areas contained an estimated 5.6 percent of the nonfarm businesses, and they received 4.6 percent of the number of small business loans and 5.4 percent of the small business loan dollars. In 1996, these neighborhoods accounted for 5.6 percent of the businesses and received 4.7 percent of the number and 5.6 percent of the dollar amount of small business loans.

Differences between the share of businesses and either the share of loans or loan dollars are larger for moderate-income neighborhoods. For 1997, moderate-income areas contained about 18.7 percent of the businesses and received 16 percent of both the number and dollar amount of small business loans. These shares were virtually unchanged from 1996. In contrast to the pattern for moderate-income areas, on average, upper-income neighborhoods received larger shares of small business loans and loan dollars than their share of businesses.

Compared to the home lending, small business lending is distributed much more evenly across neighborhood income categories. For example, in 1997, only 1.4 percent of the home purchase loans reported under HMDA were extended in low-income areas, and 11.0 percent in moderate-income areas. By comparison, low- and moderate-income areas together received about 21 percent of the small business loans in 1997.

Lending by Neighborhood Income and Degree of Urbanization

For both 1996 and 1997, the distribution of small business lending by CRA reporters across census tracts grouped jointly by income and degree of urbanization follows fairly closely the distribution of population and businesses across such areas. In lower-income areas, and to a lesser extent moderate-income areas, most of the businesses and population are in central city areas, as is most of the small business lending. For example, in 1997, 91 percent of the businesses in low-income areas were located in central city neighborhoods; such areas received the same proportion of all the business loans extended in low-income areas (derived from Table 4). In upper-income areas, the

suburbs contained about half of the businesses and they received nearly half of the small business loans and loan dollars.

The CRA data include lending to businesses of all sizes, but also indicate how much of this lending went to smaller firms. Both for 1996 and 1997, the CRA data indicate a smaller percentage of small business lending (measured either by number of loans or loan dollars) was made to smaller firms in low- and moderate-income areas than to smaller firms in moderate- or upper-income areas. For example, in 1997, 41 percent of small business loans and 34 percent of the loan dollars went to smaller firms in low-income areas. These proportions rise to about 50 percent and 44 percent in upper-income census tracts. These patterns of lending are consistent with the nature of the firms in lower- and upper-income areas, as relatively more of the businesses in the former are large.

Although the proportion of business loans extended to smaller firms is smaller in lower-than upper-income areas, the pattern does not differ by metropolitan area location. Both in central city and suburban neighborhoods, the proportion of loans extended to smaller firms is lower than in upper-income areas. Not surprisingly, in rural locations a relatively large proportion (over 60 percent) of the loans is extended to smaller firms regardless of neighborhood income classification.

To gain greater insight into small business lending activity, neighborhoods within income categories were subdivided by the number and size (measured by revenues) of business establishments in the area. The discussion here focuses primarily on central city areas although data for suburban and rural areas are also provided. Central city neighborhoods within each income category were characterized in one of four ways:

(1) high small firm concentration and high large firm concentration;

(2) high small firm concentration and low large firm concentration;

(3) low small firm concentration and low large firm concentration; and

(4) low small firm concentration and high large firm concentration.

Areas characterized as “high small firm concentration” neighborhoods were those in the top quartile in terms of numbers of small firms (sales under $1 million) for all central city areas in a particular income category. Similarly, areas characterized as “high large firm concentration” neighborhoods were those in the top quartile in terms of numbers of large firms (sales greater than or equal to $1 million) for all central city areas in a particular income category. Areas characterized as “low small (or large) firm concentration” neighborhoods were those in the bottom three quartiles in terms of number of small (or large) firms. By

this categorization, all neighborhoods within central cities are included in one of the four groupings.

Although accounting for only about 19 percent of all central city neighborhoods in 1997, those with "high" concentrations of both small and large businesses included nearly half of all businesses located in central cities nationwide (derived from Table 5). The specific share of businesses accounted for by these "business intensive" areas within central cities varies some with area income, accounting for a high of 56 percent of businesses in all low-income areas in central cities and a low of 45 percent of all firms in middle-income areas.

Not surprisingly, these business intensive areas received a relatively large share of all business loans in 1997. Together, business intensive neighborhoods in central cities received 52 percent of all the business loans in central city areas and 56 percent of all the loan dollars. As with the share of all businesses, the share of all loans in central cities received by firms in business intensive areas varies some with neighborhood income. Business intensive neighborhoods in low-income central city areas received nearly two-thirds of the loans (and loan dollars) extended in all low-income central city neighborhoods in 1997 but, as noted, these areas included only 56 percent of the businesses. In contrast, business intensive neighborhoods in high-income central city areas received about 50 percent of the loans and 54 percent of the loan dollars extended in all upper-income central city areas. These lending patterns likely reflect differences in the types of firms, rather than the size of firms, operating in these neighborhoods, as business intensive neighborhoods in both income categories had similar shares of large firms.

Consistent with the nature of the firms in their areas, central city neighborhoods with high concentrations of small businesses received a relatively larger share of the loans made to small firms. Neighborhoods with high concentrations of small firms included about 58 percent of all the small businesses in central cities and they received about 56 percent of all the loans made to small firms.

Lending by Neighborhood Minority Composition

Although the CRA data do not include information about the racial or ethnic status of the owners of businesses receiving credit, lending activity can be arrayed by the racial and ethnic composition of the residents of the census tracts receiving credit. Once again, to place this credit flow information in some context, the shares of population and businesses located in different neighborhood sociodemographic categories are shown (Tables 6 and 7). The analysis, although essentially descriptive in nature, provides an opportunity to identify possible gaps in the flow of credit and focus attention on potentially underserved neighborhoods.

Nationally, both the 1996 and 1997 CRA data find that small business lending varies across neighborhood racial and ethnic category in much the same manner as do the population and the number of businesses. However, compared to the loan distribution by neighborhood income, the distribution by neighborhood racial and ethnic composition is somewhat more skewed. In 1997, for instance, predominantly White neighborhoods (less than 10 percent minority population) included about 45.4 percent of the population and 45.3 percent of the businesses, and received 45.9 percent of the small business loans and 48.2 percent of the loan dollars. Neighborhoods that were predominantly minority (more than 80 percent minority population) included 8.9 percent of the population and 5.8 percent of the businesses and received 4.7 percent of the loans and 4.9 percent of the loan dollars.[14]

In both 1996 and 1997, relatively large proportions of loans and loan dollars extended in predominantly White neighborhoods were granted to smaller firms. A lower percentage of the loans and loan dollars went to smaller firms in predominantly minority neighborhoods. For example, in 1997, 53.4 percent of the business loans extended in predominantly White neighborhoods were made to small firms. In contrast, only 43.1 percent of the loans in predominantly minority neighborhoods were extended to small firms.

This pattern reflects, in part, differences in the distribution of nonfarm businesses by revenue size across neighborhoods stratified by racial and ethnic composition. Generally, neighborhoods with relatively large minority populations tend to have relatively fewer small firms and relatively more large firms, although the differences are not large. For example, in 1997, 89.2 percent of all the businesses in predominantly White neighborhoods had revenues under $1 million. By comparison, in predominantly minority neighborhoods, firms with revenues under $1 million accounted for 87.5 percent of the businesses. Differences are larger if the comparison is between predominantly White neighborhoods and neighborhoods that are more than 50 percent minority. In this broader category, 86.6 percent of the firms had revenues under $1 million.

The foregoing analysis examined simple bivariate relationships between small business lending and neighborhood racial and ethnic composition using the distribution of the number of nonfarm businesses across areas to place these patterns in some context. A series of multivariate statistical tests were conducted to further investigate the relationship between neighborhood racial and ethnic composition and small business lending. Such an analysis can help better identify and quantify relationships, although, even here, data limitations caution against drawing strong conclusions. In particular, the available data do not include information about the creditworthiness of the

businesses in each census tract, their varying credit needs and borrowing preferences, or the different credit standards applied by lenders to different types of business loan products and firms. Without such detailed information, it is not possible to fully explain any relationship found between neighborhood racial and ethnic composition and small business lending.

For the analysis, data from a Dun and Bradstreet file of nonfarm businesses by census tract for 1997 was combined with the CRA small business loan data and information from the 1990 Census of Population and Housing. The multivariate analysis estimated separately for each census tract the number or dollar amount of small business loans as a function of: (1) the number of nonfarm businesses by Standard Industrial Classification (SIC) category and revenue size; (2) the number of residents; (3) the relative median income of the resident households: and (4) the minority percent of the population.[15] Because economic conditions and the distribution of racial and ethnic populations vary significantly across regions of the country, a variable was included to represent each MSA and each non-metropolitan portion of each state in the country.

In order to gain greater insight into lending patterns, separate regressions also were estimated decomposing the census tract minority composition variable into its component parts. Specifically, the number and dollar amount of small business loans were estimated substituting for the percent minority, the percent Black, Hispanic, Asian, and American Indian, with the percent White, the excluded category.

The sample used in the multivariate analysis included data pertaining to 58,925 census tracts and block number areas.[16] After restriction to exclude agriculture and forestry-related firms, a total of 6.92 million nonfarm businesses were included in the analysis. Variable definitions, mean values and standard deviations for the dependent and main independent variables included in the multivariate analysis are shown in Table 8. Because of the large number of SIC/revenue combination values, only the seven broad SIC codes and the eight revenue size categories are shown. Likewise dummy variables for each MSA and the non-metropolitan portion of each state are not shown.

As shown in Table 8, census tracts vary considerably in their population and income characteristics. In 1990, the typical census tract included about 4,200 residents. On average, about one-quarter of these residents were minority.[17]

The number, size, and type of business firms also differs across census tracts. In the typical census tract most firms are relatively small and they tend to fall in one of three lines of business—retail trade, business, or professional services. Based on the Dun and Bradstreet data file, the average census tract included about 120 nonfarm businesses in 1997.

Table 9 displays the regression results for each estimation. Generally, the greater the number of nonfarm firms in a neighborhood, whether large or small, the greater the extension of small business credit, measured by either numbers of loans or loan dollars. Similarly, neighborhood population and the relative median family income of the neighborhood are both positively associated with both the number and dollar amount of small business lending.[18] This may indicate that in areas with relatively larger populations and income there are more firms that may borrow but are less likely to appear in the Dun and Bradstreet business file, for example, self-employed businesses. Areas with higher incomes and larger populations may also generate more business activity and a greater need for credit to support such activity.

The proportion of the census tract population that is minority is inversely related to the number, but not the dollar amount, of small business loans. A 10 percentage point increase in minority population percentage, on average, is associated with a decline of about one-half of a loan. This is equivalent to about a 1 percent change in lending in the average census tract. Measured in loan dollars, a 10 percentage point increase in minority population percentage is associated with an increase of about $20,000 in the amount of lending in an area. This is equivalent to about a 1 percent increase in lending for the average census tract.

Further analysis of the census data allows for a more detailed examination of the statistical relationship between neighborhood racial and ethnic composition and small business lending by disaggregating the broad minority population category into its component parts—percent nonhispanic White, Black, Hispanic, Asian, and American Indian. These regressions find that only the proportion of residents that are Asians in an area is consistently related to small business lending measured by both numbers of loans and loan dollars. Neighborhoods with larger proportions of Asians receive both fewer loans and a smaller dollar amount of small business lending. Neighborhoods with relatively high percentages of other racial or ethnic groups tend to receive fewer loans, but more loan dollars. The results for Asian neighborhoods may reflect lower demand for small business loans, as firms in Asian neighborhoods may either have less need for credit or may be more likely to have and rely on alternative sources of funds to support their business activity.

In order to evaluate the robustness of these observed relationships, census tracts were divided into six groups based on the number of firms and the population in the neighborhoods. For the groupings, census tracts were divided based on whether they were in the top, middle, or bottom third in terms of numbers of businesses and whether they had more or less than 2,000 residents. (Only about 13 percent of

the census tracts had a 1990 population under 2,000 residents.) Results of multivariate analysis indicate that the lending relationships found earlier are not consistently observed across the six groups of census tracts (data not shown in tables). The earlier results primarily reflect lending patterns in areas with larger populations and moderate or large numbers of businesses. The relationships for Asians appear most pronounced in areas with relatively modest or little business activity.

Concluding Thoughts

Inevitably, debate will arise about the causes of differences in the distribution of small business lending across neighborhoods. One perspective holds that observed patterns of lending reflect the outcome of competitive market forces where profit seeking institutions strive to meet the demands of creditworthy loan applicants. In this view, differences in the distribution of small business credit across neighborhoods are simply the consequence of differences in the demands for and the returns to small business lending across different areas.

Another view holds that differences in the distribution of lending result from some form of market failure, either due to discrimination or due to the presence of some negative externality.[19] In the former case, discrimination, whether prejudicial or information-based, may result, at least in the short run, in reduced credit availability in lower-income and minority communities. In the latter case, an inability to benefit fully from the acquisition of costly information or gain fully from the benefits of lending in an area may result in reduced lending in some neighborhoods.[20]

Regardless of one's view, it is clear that the CRA data on small business lending provide new opportunities both to measure credit flows across communities and to help evaluate the performance of institutions covered by the Act. Like other sources of information on lending, however, the new CRA data are limited, and information necessary to put the data in the proper context for purposes of evaluation is often difficult to obtain. For these reasons caution must be exercised in using and interpreting the data.

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TABLE 1

Small Loans to Businesses, 1996-97

Item	Year	
	1996	1997
Total business loans		
number	2,424,966	2,560,795
dollar (thousands of dollars)	149,718,193	159,401,302
Percent to small firms[1]		
by number	55.9	50.0
by dollars	43.1	42.1
Distribution of business loans by asset size of lender		
by number of loans (percent)		
less than 100	3.7	1.2
100 to 249	19.7	6.5
250 to 999	16.1	15.7
1,000 or more	60.6	76.6
Total	100	100
by amount of loans (percent)		
less than 100	1.6	1.4
100 to 249	5.7	3.5
250 to 999	22.4	20.9
1,000 or more	70.3	74.2
Total	100	100
Memo:		
Number of reporters		
commercial banks	1,583	1,421
savings associations	496	475
Total	2079	1896

1. Businesses with revenues of $1 million or less.

Source: For this and subsequent tables, the lending data are derived from information submitted to the FFIEC under the reporting requirements of the Community Reinvestment Act. Information on the characteristics of census tracts is from the 1990 Census of Population and Housing. Information on the number of businesses is from data obtained from the Office of the Comptroller of the Currency.

TABLE 2

Originations and Purchases of Small Loans to Businesses, by Size of Loan, 1996 and 1997

Type of borrower and loan	Size of loan (dollars)						All loans		MEMO Loans to firms with revenues of $1 million or less	
	100,000 or less		100,001 to 250,000		More than 250,000					
	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent
	Number of loans									
1996										
Business										
Originations	2,053,002	86.7	173,349	7.3	142,073	6.0	2,368,424	100	n.a.	n.a.
Purchases	52,658	93.1	1,898	3.4	1,986	3.5	56,542	100	n.a.	n.a.
Total	**2,105,660**	**86.8**	**175,247**	**7.2**	**144,059**	**5.9**	**2,424,966**	**100**	**1,356,217**	**55.9**
1997										
Business										
Originations	2,180,314	86.5	186,114	7.4	153,331	6.1	2,519,759	100	1,276,331	50.7
Purchases	37,500	91.4	1,773	4.3	1,763	4.3	41,036	100	4,624	11.3
Total	**2,217,814**	**86.6**	**187,887**	**7.3**	**155,094**	**6.1**	**2,560,795**	**100**	**1,280,955**	**50.0**
	Amount of loans (thousands of dollars)									
1996										
Business										
Originations	42,275,828	28.7	29,854,883	20.3	75,197,330	51.0	147,328,041	100	n.a.	n.a.
Purchases	1,018,567	42.6	308,183	12.9	1,063,402	44.5	2,390,152	100	n.a.	n.a.
Total	**43,294,395**	**28.9**	**30,163,066**	**20.1**	**76,260,732**	**50.9**	**149,718,193**	**100**	**64,503,863**	**43.1**
1997										
Business										
Originations	45,647,222	29.0	32,231,586	20.5	79,669,425	50.6	157,548,233	100	66,652,157	42.3
Purchases	620,409	33.5	296,943	16.0	935,717	50.5	1,853,069	100	380,268	20.5
Total	46,267,631	29.0	32,528,529	20.4	80,605,142	50.6	159,401,302	100	67,032,425	42.1

TABLE 3

Number and Amount of Small Loans to Businesses, Grouped by Neighborhood Characteristics and Distributed by Amount of Lending, 1996

Characteristic of neighborhood	MEMO Distribution of U.S. businesses and population (percent)		Number of loans: All			MEMO Number of loans to firms with revenues of $1 million or less		Amount of loans (thousands of dollars): All			MEMO Amount of loans to firms with revenues of $1 million or less	
	Businesses	Population	Total	Percent	MEMO Percent of small business loans	Total	Percent of small business loans	Total	Percent	MEMO Percent of small business loans	Thousands of dollars	Percent of small business loans
LOCATION												
Central city	41.1	37.0	955,609	100	39.6	495,739	51.8	63,563,627	100	43.3	25,375,326	39.9
Suburban	41.0	42.7	991,943	100	41.1	527,682	53.2	60,167,192	100	40.8	23,997,476	39.9
Rural	17.8	20.3	467,253	100	19.3	326,403	69.9	23,249,665	100	15.8	13,210,536	56.8
Total	**100**	**100**	**2,414,805**	**100**	**100**	**1,349,824**	**55.9**	**146,980,484**	**100**	**100**	**62,583,338**	**42.6**
AREA INCOME (percent)												
Low (less than 50)												
Central city	5.1	4.4	102,564	100	4.3	47,264	46.1	7,575,568	100	5.2	2,634,256	34.8
Suburban	0.4	0.4	7,155	100	0.3	3,382	47.3	429,503	100	0.3	155,088	36.1
Rural	0.1	0.2	3,379	100	0.1	2,311	68.4	158,946	100	0.1	96,465	60.7
Total	5.6	4.9	113,098	100	4.7	52,957	46.8	8,164,017	100	5.6	2,885,809	35.3
Moderate (50 to 79)												
Central city	10.7	9.8	217,879	100	9.0	106,775	49.0	14,561,199	100	9.9	5,435,456	37.3
Suburban	5.6	6.0	113,724	100	4.7	59,628	52.4	6,381,503	100	4.3	2,496,672	39.1
Rural	2.5	2.8	53,346	100	2.2	36,835	69.0	2,537,436	100	1.7	1,425,166	56.2
Total	18.8	18.5	384,949	100	15.9	203,238	52.8	23,480,138	100	16.0	9,357,294	39.9
Middle (80 to 119)												
Central city	15.0	14.7	344,200	100	14.3	184,450	53.6	21,912,377	100	14.9	9,114,360	41.6
Suburban	22.2	24.4	535,520	100	22.2	290,376	54.2	31,631,288	100	21.5	12,734,763	40.3
Rural	12.2	14.1	313,461	100	13.0	220,045	70.2	15,215,257	100	10.4	8,578,759	56.4
Total	49.4	53.2	1,193,181	100	49.4	694,871	58.2	68,758,922	100	46.8	30,427,882	44.3
Upper (120 or more)												
Central city	9.9	8.0	279,987	100	11.6	153,276	54.7	18,530,493	100	12.6	7,950,414	42.9
Suburban	12.8	12.0	334,552	100	13.9	173,831	52.0	21,633,230	100	14.7	8,588,377	39.7
Rural	3.0	3.3	96,734	100	4.0	65,990	69.3	5,318,300	100	3.6	3,099,475	58.3
Total	25.7	23.3	711,273	100	29.5	394,097	55.4	45,482,023	100	30.9	19,638,266	43.2
Income not reported												
Central city	0.4	0.1	10,979	100	0.4	3,974	36.2	983,990	100	0.7	240,840	24.5
Suburban	0.0	0.1	992	100	0.0	465	46.9	91,668	100	0.0	22,576	24.6
Rural	0.0	0.0	333	100	0.0	222	66.7	19,726	100	0.0	10,671	54.1
Total	0.4	0.2	12,304	100	0.5	4,661	37.9	1,095,384	100	0.7	274,087	25.0
Total	**100**	**100**	**2,414,805**	**100**	**100**	**1,349,824**	**55.9**	**146,980,484**	**100**	**100**	**62,583,338**	**42.6**
MEMO Number of businesses (millions)	8.1											
Population (millions)		252.2										

TABLE 4

Number and Amount of Small Loans to Businesses, Grouped by Neighborhood Characteristics and Distributed by Amount of Lending, 1997

Characteristic of neighborhood	MEMO Distribution of U.S. businesses and population (percent)		Number of loans: All			MEMO Number of loans to firms with revenues of $1 million or less		Amount of loans (thousands of dollars): All			MEMO Amount of loans to firms with revenues of $1 million or less	
	Businesses	Population	Total	Percent	MEMO Percent of small business loans	Total	Percent of small business loans	Total	Percent	MEMO Percent of small business loans	Thousands of dollars	Percent of small business loans
LOCATION												
Central city	41.2	37.0	1,025,218	100.0	40.0	475,011	46.3	68,647,261	100.0	43.1	27,162,384	39.6
Suburban	41.0	42.7	1,060,441	100.0	41.4	500,477	47.2	66,080,063	100.0	41.5	26,354,774	39.9
Rural	17.8	20.3	475,136	100.0	18.6	305,467	64.3	24,673,978	100.0	15.5	13,515,267	54.8
Total	100.0	100.0	2,560,795	100.0	100.0	1,280,955	50.0	159,401,302	100.0	100.0	67,032,425	42.1
AREA INCOME												
Low (less than 50)												
Central city	5.1	4.3	106,704	100.0	4.2	43,233	40.5	7,933,683	100.0	5.0	2,688,741	33.9
Suburban	0.4	0.4	7,704	100.0	0.3	3,111	40.4	473,434	100.0	0.3	156,045	33.0
Rural	0.1	0.2	3,016	100.0	0.1	1,858	61.6	152,251	100.0	0.1	84,149	55.3
Total	5.6	4.9	117,424	100.0	4.6	48,202	41.0	8,559,368	100.0	5.4	2,928,935	34.2
Moderate (50 to 79)												
Central city	10.6	9.8	232,018	100.0	9.1	100,189	43.2	15,667,133	100.0	9.8	5,597,082	35.7
Suburban	5.6	6.0	123,703	100.0	4.8	55,303	44.7	7,206,621	100.0	4.5	2,638,872	36.6
Rural	2.5	2.7	53,257	100.0	2.1	33,784	63.4	2,631,210	100.0	1.7	1,391,181	52.9
Total	18.7	18.5	408,978	100.0	16.0	189,276	46.3	25,504,964	100.0	16.0	9,627,135	37.7
Middle (80 to 119)												
Central city	15.0	14.8	371,604	100.0	14.5	177,125	47.7	23,687,217	100.0	14.9	9,659,118	40.8
Suburban	22.2	24.4	568,641	100.0	22.2	273,940	48.2	34,369,560	100.0	21.6	13,692,935	39.8
Rural	12.2	14.0	317,454	100.0	12.4	204,778	64.5	16,008,618	100.0	10.0	8,715,954	54.4
Total	49.5	53.2	1,257,699	100.0	49.1	655,843	52.1	74,065,395	100.0	46.5	32,068,007	43.3
Upper (120 or more)												
Central city	10.0	8.0	303,134	100.0	11.8	150,714	49.7	20,302,476	100.0	12.7	8,946,509	44.1
Suburban	12.8	12.0	359,050	100.0	14.0	167,722	46.7	23,928,685	100.0	15.0	9,839,064	41.1
Rural	3.0	3.3	101,037	100.0	3.9	64,818	64.2	5,860,267	100.0	3.7	3,312,654	56.5
Total	25.8	23.3	763,221	100.0	29.8	383,254	50.2	50,091,428	100.0	31.4	22,098,227	44.1
Income not reported												
Central city	0.4	0.1	11,758	100.0	0.5	3,750	31.9	1,056,752	100.0	0.7	270,934	25.6
Suburban	0.0	0.1	1,343	100.0	0.1	401	29.9	101,763	100.0	0.1	27,858	27.4
Rural	0.0	0.0	372	100.0	0.0	229	61.6	21,632	100.0	0.0	11,329	52.4
Total	0.5	0.2	13,473	100.0	0.5	4,380	32.5	1,180,147	100.0	0.7	310,121	26.3
Total	100.0	100.0	2,560,795	100.0	100.0	1,280,955	50.0	159,401,302	100.0	100.0	67,032,425	42.1
MEMO Number of businesses (millions)	8.9											
Population (millions)		252.2										

TABLE 5

Small Business Lending by Neighborhood Characteristic and Degree of Business Concentration, 1997

Characteristic of neighborhood and degree of business concentration	Distribution of census tracts	Distribution of businesses			Distribution of loans[1]		Distribution of loans to small firms[1]	
	By number	Small	Large	Total[1]	By number	By dollar	By number	By dollar
Area Income (percent)								
Low (less than 50)								
Central city								
Low small, low large firm	3.9	1.4	1.2	1.4	0.9	1.0	0.8	0.8
Low small, high large firm	0.4	0.2	0.6	0.3	0.3	0.5	0.2	0.3
High small, low large firm	0.4	0.4	0.3	0.4	0.3	0.2	0.2	0.2
High small, high large firm	1.1	2.6	4.1	2.7	2.7	3.3	2.2	2.7
Suburb	0.5	0.4	0.5	0.4	0.3	0.3	0.2	0.2
Rural	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**6.6**	**5.1**	**6.8**	**5.3**	**4.6**	**5.4**	**3.7**	**4.3**
Moderate (50-79)								
Central city								
Low small, low large firm	6.8	3.5	2.6	3.4	2.5	2.3	2.4	2.2
Low small, high large firm	0.8	0.7	1.6	0.8	0.9	1.2	0.7	0.9
High small, low large firm	0.8	1.2	0.6	1.1	0.8	0.6	0.8	0.6
High small, high large firm	1.8	4.6	7.2	4.9	4.9	5.7	4.0	4.6
Suburb	5.4	5.5	5.5	5.5	4.8	4.5	4.3	3.9
Rural	3.6	2.5	1.9	2.4	2.1	1.7	2.7	2.1
Total	**19.2**	**18.0**	**19.4**	**18.1**	**16.0**	**16.0**	**14.9**	**14.3**
Middle (80-119)								
Central city								
Low small, low large firm	9.2	5.6	3.5	5.4	4.9	4.2	5.2	4.8
Low small, high large firm	1.1	1.1	2.1	1.2	1.4	1.9	1.2	1.6
High small, low large firm	1.0	1.7	0.8	1.6	1.3	0.9	1.3	1.2
High small, high large firm	2.5	6.3	8.6	6.6	6.8	7.7	6.0	6.9
Suburb	20.8	23.2	21.9	23.1	22.3	21.7	21.5	20.5
Rural	15.8	12.5	9.3	12.1	12.4	10.1	16.1	13.1
Total	**50.4**	**50.4**	**46.2**	**50.0**	**49.1**	**46.5**	**51.3**	**48.1**
High (120 or more)								
Central city								
Low small, low large firm	5.2	3.5	2.1	3.4	4.2	3.9	4.7	5.1
Low small, high large firm	0.5	0.5	1.0	0.6	0.9	1.2	0.8	1.1
High small, low large firm	0.4	0.8	0.4	0.8	0.8	0.7	0.9	0.9
High small, high large firm	1.5	5.0	7.3	5.3	5.8	6.8	5.2	6.1
Suburb	9.9	13.1	13.5	13.2	14.1	15.0	13.1	14.7
Rural	3.2	3.1	2.4	3.0	4.0	3.7	5.1	5.0
Total	**20.7**	**26.0**	**26.7**	**26.3**	**29.8**	**31.3**	**29.8**	**32.9**
Income not reported								
Central city								
Low small, low large firm	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Low small, high large firm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High small, low large firm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High small, high large firm	0.2	0.3	0.9	0.4	0.4	0.6	0.3	0.4
Suburb	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rural	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**2.9**	**0.3**	**0.9**	**0.4**	**0.4**	**0.6**	**0.3**	**0.4**
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memo:								
Number	61,254	6,592,630	790,287	7,382,917	2,533,514		1,264,200	
Dollar						157,190,234		65,985,812

1. Some figures differ from totals shown in previous tables due to missing information.

TABLE 6

Number and Amount of Small Loans to Businesses by Census Tract Minority Percentage and Income, 1996

Percent minority and income	MEMO: Share of businesses	MEMO: Share of U.S. population (percent)	Small business: Number of loans: Total: Number	Total: Percent	Total: MEMO: Percent of characteristic total	MEMO: Loans to firms with revenues of $1 million or less: Number	Percent	Amount of loans (thousands of dollars): Total: Number	Total: Percent	Total: MEMO: Percent of characteristic total	MEMO: Loans to firms with revenues of $1 million or less: Number	Percent
Race												
(percent minority)												
Less than 10	44.3	45.4	1,141,138	100.0	47.3	657,659	57.6	71,180,981	100.0	48.4	32,002,030	45.0
10-50	40.0	35.6	922,274	100.0	38.2	509,943	55.3	53,664,922	100.0	36.5	22,351,170	41.6
50-80	9.1	8.3	193,913	100.0	8.0	102,177	52.7	11,743,104	100.0	8.0	4,484,027	38.2
80-100	6.0	8.9	110,498	100.0	4.6	54,490	49.3	7,011,784	100.0	4.8	2,462,228	35.1
Race not available	0.7	1.8	46,982	100.0	1.9	25,555	54.4	3,379,693	100.0	2.3	1,283,883	38.0
Total	**100.0**	**100.0**	**2,414,805**	**100.0**	**100.0**	**1,349,824**	**55.9**	**146,980,484**	**100.0**	**100.0**	**62,583,338**	**42.6**
Low income (less than 50%)												
Less than 10	0.2	0.1	6,084	100.0	0.3	2,988	49.1	421,057	100.0	0.3	174,281	41.4
10-50	1.3	0.7	30,293	100.0	1.3	14,450	47.7	2,313,225	100.0	1.6	879,371	38.0
50-80	1.7	0.9	34,900	100.0	1.4	16,323	46.8	2,465,687	100.0	1.7	853,747	34.6
80-100	2.3	3.2	41,132	100.0	1.7	18,909	46.0	2,887,747	100.0	2.0	958,757	33.2
Race not available	0.0	0.0	689	100.0	0.0	287	41.7	76,301	100.0	0.1	19,653	25.8
Total	**5.6**	**4.9**	**113,098**	**100.0**	**4.7**	**52,957**	**46.8**	**8,164,017**	**100.0**	**5.6**	**2,885,809**	**35.3**
Moderate income (50-79%)												
Less than 10	3.8	3.8	81,667	100.0	3.4	45,960	56.3	4,997,067	100.0	3.4	2,202,587	44.1
10-50	8.2	6.7	169,987	100.0	7.0	88,072	51.8	10,478,313	100.0	7.1	4,151,015	39.6
50-80	4.0	3.7	81,112	100.0	3.4	42,943	52.9	4,692,813	100.0	3.2	1,811,347	38.6
80-100	2.7	4.0	46,414	100.0	1.9	23,075	49.7	2,898,705	100.0	2.0	1,025,923	35.4
Race not available	0.1	0.4	5,769	100.0	0.2	3,188	55.3	413,240	100.0	0.3	166,422	40.3
Total	**18.8**	**18.5**	**384,949**	**100.0**	**15.9**	**203,238**	**52.8**	**23,480,138**	**100.0**	**16.0**	**9,357,294**	**39.9**
Middle income (80-119%)												
Less than 10	26.1	28.2	645,612	100.0	26.7	381,567	59.1	38,468,598	100.0	26.2	17,453,304	45.4
10-50	19.7	19.3	453,052	100.0	18.8	259,142	57.2	24,881,873	100.0	16.9	10,736,779	43.2
50-80	2.6	3.2	57,754	100.0	2.4	32,763	56.7	3,291,942	100.0	2.2	1,367,363	41.5
80-100	0.9	1.5	18,418	100.0	0.8	9,943	54.0	950,923	100.0	0.6	375,669	39.5
Race not available	0.2	1.0	18,345	100.0	0.8	11,456	62.4	1,165,586	100.0	0.8	494,767	42.4
Total	**49.4**	**53.2**	**1,193,181**	**100.0**	**49.4**	**694,871**	**58.2**	**68,758,922**	**100.0**	**46.8**	**30,427,882**	**44.3**
High income (greater than 120%)												
Less than 10	14.2	13.2	407,367	100.0	16.9	226,983	55.7	27,250,392	100.0	18.5	12,164,040	44.6
10-50	10.7	8.8	266,706	100.0	11.0	147,436	55.3	15,790,137	100.0	10.7	6,540,498	41.4
50-80	0.7	0.6	18,144	100.0	0.8	9,331	51.4	1,105,347	100.0	0.8	398,244	36.0
80-100	0.1	0.2	4,308	100.0	0.2	2,506	58.2	237,459	100.0	0.2	97,898	41.2
Race not available	0.1	0.4	14,748	100.0	0.6	7,841	53.2	1,098,688	100.0	0.7	437,586	39.8
Total	**25.7**	**23.3**	**711,273**	**100.0**	**29.5**	**394,097**	**55.4**	**45,482,023**	**100.0**	**30.9**	**19,638,266**	**43.2**

TABLE 6 (continued)

Percent minority and income	MEMO: Share of businesses	MEMO: Share of U.S. population (percent)	Small business: Number of loans: Total: Number	Total: Percent	Total: MEMO: Percent of characteristic total	MEMO: Loans to firms with revenues of $1 million or less: Number of loans: Number	Number of loans: Percent	Amount of loans (thousands of dollars): Total: Number	Total: Percent	Total: MEMO: Percent of characteristic total	MEMO: Loans to firms with revenues of $1 million or less: Number	Number: Percent
Income not reported												
Less than 10	0.0	0.0	408	100.0	0.0	161	39.5	43,867	100.0	0.0	7,818	17.8
10-50	0.1	0.1	2,236	100.0	0.1	843	37.7	201,374	100.0	0.1	43,507	21.6
50-80	0.1	0.0	2,003	100.0	0.1	817	40.8	187,315	100.0	0.1	53,326	28.5
80-100	0.0	0.0	226	100.0	0.0	57	25.2	36,950	100.0	0.0	3,981	10.8
Race not available	0.3	0.0	7,431	100.0	0.3	2,783	37.5	625,878	100.0	0.4	165,455	26.4
Total	**0.5**	**0.2**	**12,304**	**100.0**	**0.5**	**4,661**	**37.9**	**1,095,384**	**100.0**	**0.7**	**274,087**	**25.0**
Total	**100.0**	**100.0**	**2,414,805**	**100.0**	**100.0**	**1,349,824**	**55.9**	**146,980,484**	**100.0**	**100.0**	**62,583,338**	**42.6**
MEMO:												
Number of businesses (in millions)	8.1											
Population (in millions)		252.2										

TABLE 7

Number and Amount of Small Loans to Businesses by Census Tract Minority Percentage and Income, 1997

			Small business									
			Number of loans			MEMO:		Amount of loans (thousands of dollars)			MEMO:	
	MEMO:		Total			Loans to firms with revenues of $1 million or less		Total			Loans to firms with revenues of $1 million or less	
Percent minority and income	Share of businesses	Share of U.S. population (percent)	Number	Percent	MEMO: Percent of characteristic total	Number	Percent	Number	Percent	MEMO: Percent of characteristic total	Number	Percent
Race												
(percent minority)												
Less than 10	45.3	45.4	1,174,554	100.0	45.9	627,557	53.4	76,765,660	100.0	48.2	34,590,307	45.1
10-50	39.5	35.6	1,009,683	100.0	39.4	484,742	48.0	58,560,908	100.0	36.7	23,957,017	40.9
50-80	8.7	8.3	214,348	100.0	8.4	93,040	43.4	13,037,457	100.0	8.2	4,434,258	34.0
80-100	5.8	8.9	120,420	100.0	4.7	51,888	43.1	7,737,747	100.0	4.9	2,586,655	33.4
Race not available	0.6	1.8	41,790	100.0	1.6	23,728	56.8	3,299,530	100.0	2.1	1,464,188	44.4
Total	**100.0**	**100.0**	**2,560,795**	**100.0**	**100.0**	**1,280,955**	**50.0**	**159,401,302**	**100.0**	**100.0**	**67,032,425**	**42.1**
Low income (less than 50%)												
Less than 10	0.2	0.1	5,823	100.0	0.2	2,851	49.0	416,921	100.0	0.3	190,730	45.7
10-50	1.3	0.7	29,862	100.0	1.2	12,820	42.9	2,266,213	100.0	1.4	872,927	38.5
50-80	1.6	0.9	37,776	100.0	1.5	14,528	38.5	2,675,816	100.0	1.7	853,038	31.9
80-100	2.2	3.2	43,111	100.0	1.7	17,590	40.8	3,114,833	100.0	2.0	985,046	31.6
Race not available	0.0	0.0	852	100.0	0.0	413	48.5	85,585	100.0	0.1	27,194	31.8
Total	**5.3**	**4.9**	**117,424**	**100.0**	**4.6**	**48,202**	**41.0**	**8,559,368**	**100.0**	**5.4**	**2,928,935**	**34.2**
Moderate income (50-79%)												
Less than 10	3.8	3.8	81,501	100.0	3.2	42,965	52.7	5,251,184	100.0	3.3	2,269,957	43.2
10-50	8.0	6.7	180,251	100.0	7.0	81,373	45.1	11,263,781	100.0	7.1	4,240,013	37.6
50-80	3.8	3.7	89,357	100.0	3.5	39,533	44.2	5,314,242	100.0	3.3	1,845,627	34.7
80-100	2.6	4.0	52,208	100.0	2.0	22,205	42.5	3,205,453	100.0	2.0	1,070,657	33.4
Race not available	0.1	0.4	5,661	100.0	0.2	3,200	56.5	470,304	100.0	0.3	200,881	42.7
Total	**18.3**	**18.5**	**408,978**	**100.0**	**16.0**	**189,276**	**46.3**	**25,504,964**	**100.0**	**16.0**	**9,627,135**	**37.7**
Middle income (80-119%)												
Less than 10	26.7	26.1	659,101	100.0	25.7	359,813	54.6	40,876,644	100.0	25.6	18,336,032	44.9
10-50	19.6	19.7	495,902	100.0	19.4	246,057	49.6	27,272,631	100.0	17.1	11,434,935	41.9
50-80	2.5	2.6	64,984	100.0	2.5	29,566	45.5	3,614,759	100.0	2.3	1,292,647	35.8
80-100	0.9	0.9	20,054	100.0	0.8	9,535	47.5	1,085,937	100.0	0.7	407,427	37.5
Race not available	0.2	0.2	17,658	100.0	0.7	10,872	61.6	1,215,424	100.0	0.8	596,966	49.1
Total	**49.9**	**49.4**	**1,257,699**	**100.0**	**49.1**	**655,843**	**52.1**	**74,065,395**	**100.0**	**46.5**	**32,068,007**	**43.3**
High income (greater than 120%)												
Less than 10	14.6	14.2	422,689	100.0	16.5	220,220	52.1	29,739,356	100.0	18.7	13,669,827	46.0
10-50	10.6	10.7	301,409	100.0	11.8	143,661	47.7	17,536,208	100.0	11.0	7,349,255	41.9
50-80	0.7	0.7	19,983	100.0	0.8	8,591	43.0	1,232,580	100.0	0.8	385,621	31.3
80-100	0.1	0.1	4,816	100.0	0.2	2,497	51.8	303,296	100.0	0.2	117,893	38.9
Race not available	0.1	0.1	14,324	100.0	0.6	8,285	57.8	1,279,988	100.0	0.8	575,631	45.0
Total	**26.1**	**25.7**	**763,221**	**100.0**	**29.8**	**383,254**	**50.2**	**50,091,428**	**100.0**	**31.4**	**22,098,227**	**44.1**

TABLE 7 (continued)

	MEMO:		Small business									
			Number of loans			MEMO:		Amount of loans (thousands of dollars)			MEMO:	
			Total			Loans to firms with revenues of $1 million or less		Total			Loans to firms with revenues of $1 million or less	
Percent minority and income	Share of businesses	Share of U.S. population (percent)	Number	Percent	MEMO: Percent of characteristic total	Number	Percent	Number	Percent	MEMO: Percent of characteristic total	Number	Percent
Income not reported												
Less than 10	0.0	0.0	5,440	100.0	0.2	1,708	31.4	481,555	100.0	0.3	123,761	25.7
10-50	0.1	0.1	2,259	100.0	0.1	831	33.8	222,075	100.0	0.1	59,887	27.0
50-80	0.1	0.1	2,248	100.0	0.1	822	36.6	200,060	100.0	0.1	57,325	28.7
80-100	0.0	0.0	231	100.0	0.0	61	26.4	28,228	100.0	0.0	5,632	20.0
Race not available	0.2	0.3	3,295	100.0	0.1	958	29.1	248,229	100.0	0.2	63,516	25.6
Total	**0.4**	**0.5**	**13,473**	**100.0**	**0.5**	**4,380**	**32.5**	**1,180,147**	**100.0**	**0.7**	**310,121**	**26.3**
Total	**100.0**	**100.0**	**2,560,795**	**100.0**	**100.0**	**1,280,955**	**50.0**	**159,401,302**	**100.0**	**100.0**	**67,032,425**	**42.1**
MEMO:												
Number of businesses (in millions)	8.9											
Population (in millions)		252.2										

Note. For census tracts in metropolitan statistical areas (MSAs), percent is of MSA median.
For census tracts outside MSAs percent is of nonmetropolitan areas of state median.

TABLE 8

Description of Variables Used in Multiple Analysis (all variables are at the census tract level)

Variable Definitions		Mean	Standard Deviation
Dependent Variables :			
Loan #: number of loans		42.9	58.8
Loan$: amount of loans (000's)		2,670.4	4,884.8
Independent Variables:			
Minpop:	Percentage of population that is minority.	23.9	28.8
Black:	Percentage of population that is black.	12.8	23.8
Hisp.:	Percentage of population that is Hispanic	7.8	15.8
Asian:	Percentage of population that is Asian.	2.5	6.5
AmerInd.:	Percentage of population that is American Indian.	0.8	4.3
Pop:	Total Population	4,192	2,328
Income:	Relative Median family Income	99.3	38.2
REV1:	Number of firms with revenue less than 50,000	14.6	12.3
REV2:	Number of firms with revenue 50,000 - 99,999	22.9	21.2
REV3:	Number of firms with revenue 100,000 - 249,999	38.8	46.8
REV4:	Number of firms with revenue 250,000 - 499,999	17.9	24.3
REV5:	Number of firms with revenue 500,000 - 999,999	9.9	15.9
REV6:	Number of firms with revenue 1,000,000 - 4,999,999	9.8	19.7
REV7:	Number of firms with revenue 5,000,000 - 9,999,999	1.6	4.1
REV8:	Number of firms with revenue 10,000,000 or more	2.1	6.4
SIC1:	Number of firms in manufacturing	7.5	14.3
SIC2:	Number of firms in transportation	4.4	7.3
SIC3:	Number of firms in wholesale trade	8.8	20.8
SIC4:	Number of firms in retail trade	25.9	26.1
SIC5:	Number of firms in insurance and real estate	11.0	20.0
SIC6:	Number of firms in business services	29.4	30.8
SIC7:	Number of firms in professional services	30.5	46.9

Results of OLS Regression Analysis of Small Business Lending Across Neighborhoods with Varying Degrees of Racial and Ethnic Composition, 1997

Independent Variables[1]	Dependent Variables							
	Number of Loans		Dollar amount of loans (000's)		Number of loans		Dollar amount of loans (000's)	
	coefficient	t-statistic	coefficient	t-statistic	coefficient	t-statistic	coefficient	t-statistic
Intercept	-.146	.05	-604.51	2.56	-.261	.09	-639.91	2.71
Income	.087	22.38	10.12	29.29	.088	22.50	10.35	29.69
Pop.	.001	20.93	.057	9.67	.001	21.03	.055	9.37
Minpop	-4.821	8.14	203.00	3.84	–	–	–	–
AmerInd	–	–	–	–	-3.059	.99	188.99	.69
Asian	–	–	–	–	-15.883	5.94	-455.67	1.91
Black	–	–	–	–	-4.636	7.25	141.05	2.48
Hispanic	–	–	–	–	-4.322	3.87	562.11	5.65
R-Square	.77		.74		.77		.74	
Sample	58,924		58,924		58,924		58,924	

[1] Because of their large number, coefficients and t-statistics for the SIC/Revenue variables and MSA and nonmetropolitan area state variables are not shown.

Notes

[1] For background information on home lending see, Canner, Glenn B. and Dolores S. Smith. "Home Mortgage Disclosure Act: Expanded Data on Residential Lending," *Federal Reserve Bulletin*, 77, November 1991, pp. 859-881. Also see, Canner, Glenn B. and Wayne Passmore. "Home Purchase Lending in Low-Income Neighborhoods and to Low-Income Borrowers," Federal Reserve Bulletin, 81, February 1995, pp. 71-103. For an assessment of the availability of branch offices across neighborhoods see, Avery, Robert B., Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner. "Changes in the Distribution of Banking Offices," *Federal Reserve Bulletin*, 83, September 1997, pp. 707-725.

[2] Evidence on the relationship between firm size and amounts borrowed is found in data from the 1993 National Survey of Small Business Finances. Details about the survey can be found in, Cole, Rebel A., John D. Wolken, and R. Louise Woodburn. "Bank and Nonbank Competition for Small Business Credit: Evidence from the 1987 and 1993 National Surveys of Small Business Finances," *Federal Reserve Bulletin*, 82, November 1996, pp. 983-995.

[3] For an assessment of the 1996 CRA data see, Bostic, Raphael W. and Glenn B. Canner. "New Information on Lending to Small Businesses and Small Farms: The 1996 CRA Data," *Federal Reserve Bulletin*, 84, January 1998, pp. 1-21. For comments on this article see, Immergluck, Daniel. "Comments on New Information on Lending to Small Businesses and Farms: The 1996 CRA Data," Woodstock Institute, February 26, 1998. Also see, Minnesota Association of Community Organizations for Reform Now (ACORN). "There's No Business Like No Business," unpublished study, November 1997.

[4] For a discussion of the original regulation and concerns that led to the revised regulation, see Garwood, Griffith L. and Dolores S. Smith. "The Community Reinvestment Act: Evolution and Current Issues," *Federal Reserve Bulletin*, 79, April 1993, pp. 251-67.

[5] For a discussion of the new regulation and the regulatory alternatives considered before its adoption, see the Federal Reserve's press release on the new CRA regulations, April 24, 1995. Also see, Kane, Kevin T. "CRA's More Flexible Yardstick," *Mortgage Banking*, September 1997, pp. 54-60.

[6] According to the 1993 National Survey of Small Business Finances, sponsored by the Federal Reserve Board and the U.S. Small Business Administration, about 84 percent of all small businesses (defined as having fewer than 500 full-time employees) had annual revenues of less than $1 million in 1992.

[7] See, Bostic and Canner (1998).

[8] U.S. Government Printing Office. *The State of Small Business: A Report of the President*, Washington, D.C., 1996, Table 1.1, p. 36.

[9] Of course, many new firms rely on the owner's personal wealth and access to credit to fund their initial activities. Personal credit cards and home equity loans, both issued primarily by commercial banks and savings institutions, are two frequent sources of such credit.

[10] See, Cole, Rebel A., John D. Wolken, and R. Louise Woodburn. "Bank and Nonbank Competition for Small Business Credit: Evidence from the 1987 and 1993 National Surveys of Small Business Finances," *Federal Reserve Bulletin*, 82, November 1996, pp. 983-995. This estimate includes all types of loans reported

by small businesses when surveyed including some that may not be categorized as small business loans on the books of commercial banks and savings associations.

[11] Call Report and Thrift Financial Reports are the only source of data on the small business lending activity of both CRA reporters and those not required to report the data. Data on small business (as well as on small farm) lending are only available on the June Reports. The Call and Thrift Financial Reports differ from the new CRA data in that, while both follow the same definitions of the types of loans to report, the former provides a measure of the stock of credit, while the latter measures the annual flow of credit.

[12] Degree of urbanization is based on census delineations of the boundaries of metropolitan statistical areas (MSAs) for each year and the central cities that are the basis for each MSA. Suburban areas include those census tracts outside of central cities but within MSAs. Rural areas include census tracts outside of MSAs.

[13] Among firms with revenues greater than $1 million, roughly 45 percent are located in central cities, 41 percent in the suburbs, and 14 percent in rural locations.

[14] Compared to home lending, small business lending is distributed more evenly across neighborhood racial composition categories. For example, in 1997, 3.1 percent of the home purchase loans reported under HMDA were extended in predominantly minority communities and 51.0 percent in predominantly White communities. As noted, the former received about 5 percent of the small business loans, the latter about 46 percent of such loans.

[15] For the analysis, businesses in SIC classifications related to agriculture and forestry were excluded. The remaining 6.92 million nonfarm businesses were separated into 7 broad SIC classifications: (1) manufacturing; (2) transportation; (3) wholesale trade; (4) retail trade; (5) insurance and real estate; (6) business services; and (7) professional services. Similarly, each nonfarm business was classified by revenue into one of eight categories: (1) less than $49,999; (2) $50,000 to $99,999; (3) $100,000 to $249,999; (4) $250,000 to $499,999; (5) $500,000 to $999,999; (6) $1,000,000 to $4,999,999; (7) $5,000,000 to $9,999,999; and (8) $10,000,000 or more.

[16] About 3,200 census tracts were excluded from the analysis. For the most part, these census tracts only contained government facilities, were underwater, or contained only parkland. No small business loans were extended in these areas and they included fewer than 10,000 firms. In addition, census tracts in Puerto Rico were excluded from the analysis.

[17] For this analysis the racial and ethnic category termed "other" was included with Whites. This category is very small adding less than one-tenth of 1 percent to the overall minority category. Results of the statistical analysis are unaffected by this categorization.

[18] Because of their large number, estimated coefficients for the 56 SIC/Revenue size categories are not shown in table 9. However, the vast majority of these coefficients are positive and statistically significant in all regressions.

[19] A large number of studies of lending discrimination have been written. References to many of those focusing on home lending can be found in "Race and Default in Credit Markets: A Colloquy," *Cityscape*, 2:1, February 1996, U.S. Department of Housing and Urban Development; in Ladd, Helen F. "Evidence on Discrimination in Mortgage Lending," *Journal of Economic Perspectives*, 12:2, Spring 1998, pp. 41-62, and in a special issue of the *Journal of Financial Services*

Research, 11:1 and 2, February/April 1997. Studies of discrimination in small business finance are much fewer in number, examples include Timothy Bates, "Commercial Bank Financing of White and Black-Owned Small Business Start-Ups," *Quarterly Review of Economics and Business*, 31:1, Spring 1991, pp. 64-80; and Cavalluzzo, Ken and Linda Cavalluzzo. "Market Structure and Discrimination: The Case of Small Businesses," *Journal of Money, Credit, and Banking*, 30:4, November 1998, pp.771-792.

[20] For a fuller description of these alternative views see, Canner, Glenn B. and Wayne Passmore. "Home Purchase Lending in Low-Income Neighborhoods and to Low-Income Borrowers," *Federal Reserve Bulletin*, 81, February 1995, pp. 71-103.

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ACCESS TO CAPITAL: MILWAUKEE'S SMALL BUSINESS LENDING GAPS

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Under the federal Community Reinvestment Act, large commercial banks and thrift institutions were required to publicly disclose small business lending by geographic area beginning with lending activity for 1996. That information, to be disclosed on an annual basis, became available for the first time in 1997. Using Milwaukee, Wisconsin as a case study, this paper illustrates how these new data can be utilized to assess the allocation of small business loans throughout a local market. This study found that small business loans (defined as loans for less than $1 million) were highly concentrated in upper-income areas and were more concentrated in those communities than is the case nationwide. Such lending was also concentrated in White neighborhoods with Black and Hispanic communities receiving far fewer loans per population than was the case in White areas. Approximately half of all small business loans went to firms that were small businesses (defined as those firms with assets of less than $1 million). Finally, this study found substantial differences among area lenders in the distribution of their loans by neighborhood income level and by size of business. Policy recommendations are offered to improve the value of small business lending data that will be collected in the future.

Introduction

Small businesses, and particularly small minority-owned businesses in urban communities, often experience difficulty in obtaining small business loans. Recent evidence indicates that minority-owned firms receive fewer and smaller loans than White-owned firms with identical traits (Ando, 1988; Bates, 1989, 1997; Conta and Associates, 1990). Under the Community Reinvestment Act (CRA) depository institutions are required to affirmatively ascertain and be responsive to the credit needs of their entire service areas, including low- and moderate-income communities. New regulations promulgated in 1995 require large commercial banks and thrift institutions to report small business

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and small farm lending by geographic location to their regulators (12 C.F.R. §25.42(a); Marsico, 1996). Lending activity for the 1996 calendar year was reported to federal financial regulatory agencies, and in October 1997 small business and small farm lending data were released to the public for the first time by the Federal Financial Institutions Examination Council (FFIEC).

Researchers with the Federal Reserve Board conducted a preliminary nationwide analysis of the small business lending data and concluded that the distribution of loans and loan dollars in low-, moderate-, middle-, and upper-income areas reflected the distribution of the population and number of businesses in those areas (Bostic and Canner, 1998). But researchers with the Woodstock Institute responded that when loans-per-business were calculated there were substantial gaps between lending activity in low- and upper-income areas (Immergluck, 1998). In a study documenting such gaps in the Chicago metropolitan area, Woodstock researchers asserted the importance of examining individual markets as well as national trends (Immergluck and Mullen, 1997).

Researchers with the Federal Reserve Bank of Chicago (1998) published a preliminary analysis of small business lending in five midwestern communities (Chicago, Des Moines, Detroit, Indianapolis, and Milwaukee). Lending in these communities was compared to the nation. They found that the percentage of all loans and the ratio of loans-per-business were lower in low- and moderate-income tracts than in middle- and upper-income tracts in each geographic location, with the largest gaps occurring in Milwaukee. The *Milwaukee Journal Sentinel* found that among the 50 largest metropolitan areas in the nation, Milwaukee had the lowest proportion of small business loans going to low- and moderate-income areas (Norman, 1998).

This study provides a more detailed review of small business lending in Milwaukee and illustrates how this new data set can be utilized to assess small business lending in virtually any local market.

Data and Methodology

Under the new CRA rules issued in 1995, banks with assets totaling more than $250 million or affiliated with a holding company totaling more than $1 billion in assets are required to report small business and small farm loan information to their regulatory agency beginning with the 1996 calendar year. That information includes the number, dollar volume, and census tract of business loans for less than $1 million and farm loans up to $500,000. Lenders are also required to report lending activity to businesses and farms with annual revenues below $1 million, an approximation of lending to small businesses. In other words, not all small business loans go to small businesses.

Data made available by the FFIEC report aggregate lending (i.e. loans made by all lenders combined) by census tract by county. But individual lender disclosure reports do not provide data at the tract level. For individual lenders data are reported by aggregations of census tracts according to median family income levels of those tracts. The categories used in this analysis are the following: 1) low-income (median family income in the tract is less than 50 percent of the metropolitan area median family income); 2) moderate-income (50-79 percent); 3) middle-income (80-120 percent); and 4) upper-income (more than 120 percent).

This report examines small business loans in the four county Milwaukee Metropolitan Statistical Area (MSA). The four counties are Milwaukee, Ozaukee, Washington, and Waukesha. Small business loans are defined as those whose original amounts are $1 million or less and which were secured by nonfarm or nonresidential real estate. Generally this includes loans that meet the definition of "loans to small business" that are reported in Call Reports and Thrift Financial Reports (Federal Financial Institutions Examination Council, 1996).

Nationwide for 1996, 2,078 lenders reported 2,414,805 small business loans totaling $147 billion (See Table 1). Since smaller institutions are not covered by these reporting requirements, not all small business lending is included. But among depository institutions, these reports account for approximately two-thirds of all small business lending. These loans included originations and purchases with originations accounting for more than 98 percent of the total. A slight majority of these loans went to businesses with annual revenues below $1 million (Federal Financial Institutions Examination Council, 1997; Greenspan, 1998). In Milwaukee there were 15,181 small business loans totaling $1.5 billion, with originations accounting for more than 98 percent.

There are several limitations to these data. First, the location reported for the borrower may not be the same location that is supported with the borrowed funds. A business may have several locations and some or all of the borrowed funds may be invested in neighborhoods other than the one that is reported to the federal regulator as the main address of the organization. Most businesses, however, have only one location so the extent of misclassification is minimal. Second, in some cases the borrower reported post office addresses where correspondence is sent which can be different from where the business is actually located. This problem will be rectified in future reports where lenders will be asked to solicit a street address and then report the appropriate census tract (Federal Register, 1997). Third, no information is provided on credit demand. That is, unlike mortgage loans reported under the Home Mortgage Disclosure Act (HMDA), there is no information on the number or types of businesses that applied for

a loan. Consequently, there is no information on the disposition (e.g. approval or denial, reasons for denial) of applications for small business loans. Fourth, again unlike the HMDA data, there is no information on the race, gender, or income of those receiving business loans. Fifth, only loan originations and purchases made in 1996 are reported. Outstanding loans made in previous years are not included, so total lending activity in a given area by a particular institution may not be fully accounted for in these reports. Finally, business lending activity is reported by census tract. Once again unlike HMDA data, individual small business loan data are not reported. Given the limited information about the characteristics of borrowers and the nature of demand for small business loans, as well as the limited information on the disposition of the loan and the nature of the supply for such credit, it is important to cautiously interpret any reported differences in the distribution of small business loans (Bostic and Canner, 1998).

The following section examines aggregate small business loans and loan dollars by census tract income level for financial institutions doing business in the Milwaukee metropolitan area and compares those patterns to all reporting institutions nationwide. Loans and loan dollars to businesses with annual revenues of less than $1 million by tract income level are then presented. The ratio of loans and loan dollars per person and per business are also presented by tract income level. Business counts were generated by Dun and Bradstreet and provided by the Board of Governors of the Federal Reserve System. Aggregate lending activity on the part of financial institutions serving the Milwaukee area is then examined by racial composition of neighborhoods. Finally, comparative data are provided for each lender that made more than 100 business loans in Milwaukee. This sample includes 20 lenders which accounted for approximately 90 percent of all reported small business loans and loan dollars in the metropolitan area. Comparative information is presented on small business loans and loan dollars, as well as loans and loan dollars to businesses with revenues of less than $1 million by tract income level.

Findings

Four basic findings emerge from this analysis. First, lending activity in Milwaukee is concentrated in middle- and upper-income areas, and is more concentrated in such communities than is the case nationwide. Second, lending to small businesses (i.e. the proportion of all small business loans and loan dollars that went to firms with assets below $1 million) in Milwaukee is below nationwide levels, particularly in low-income areas. Third, small business lending and lending to small firms are concentrated in predominantly White communities with Black and Hispanic communities receiving relatively small shares of such loans

and loan dollars. And fourth, Milwaukee area lenders vary substantially in their distribution of small business loans by neighborhood income level.

Small Business Lending by Neighborhood Income Level

In Milwaukee, small business lending was concentrated among higher income census tracts. Upper-income tracts received over 37 percent of all loans and loan dollars (see Tables 1 and 2) but accounted for just 27.1 percent of the population (see Table 3) and 32.2 percent of all businesses (see Table 4). Low-income tracts received approximately 5.5 percent of all loans and loan dollars while accounting for 12.7 percent of the population and 8.8 percent of all businesses. Loans per 1000 persons ranged from 5 in low-income tracts to 15 in upper-income tracts while loans per 100 businesses varied from 20 to 37 in these two areas (see Figure 1 and Map 1). Loan dollars varied in a similar manner. Loan dollars per 1000 persons ranged from $449 in low-income areas to $1407 in upper-income areas. Loan dollars per 100 businesses reached $1950 in low-income tracts and $3561 in upper-income tracts. The lowest loan dollar per 100 businesses ratio, $1675, occurred in moderate-income tracts.

The percentage of small business loans in low-income tracts was actually higher in Milwaukee (5.5 percent) than nationwide (4.7 percent). This reflects the fact that the proportion of the total population and of all small businesses in low-income areas is substantially higher in Milwaukee than elsewhere. Low-income tracts accounted for 12.7 percent of the population in Milwaukee compared to 4.9 percent nationwide, and 8.8 percent of all businesses in Milwaukee compared to 5.6 percent nationwide. Consequently, loans per population and per number of businesses in low-income tracts were lower in Milwaukee than elsewhere. In low-income areas the number of loans per 1000 people was 5 in Milwaukee and 9 nationwide, while the number of loans per 100 businesses was 20 in Milwaukee and 25 nationwide (see Figure 2). Similar gaps were found in moderate-income areas. The number of loans per 1000 persons was 5 in Milwaukee and 8 nationwide, while the number of loans per 100 businesses was 20 in Milwaukee and 25 nationwide in moderate-income areas.

The percent of loan dollars in low-income areas was the same in Milwaukee and the nation—5.6 percent. Loan dollars per 1000 persons reached $449 in Milwaukee and $661 throughout the nation. But loan dollars per 100 businesses were slightly higher in Milwaukee ($1,950) compared to the nation generally ($1,800).

Conversely, lending activity in upper-income tracts was greater in Milwaukee than elsewhere. The proportion of all loans in such neighborhoods was 37.5 percent in Milwaukee compared to 29.5 percent nationwide. Loans per population and per business were also higher

in Milwaukee. And loan dollars were similarly distributed. In Milwaukee, the number of loans per 1000 persons in upper-income tracts was 15 compared to 12 nationwide, while loans per 100 businesses was 37 in Milwaukee and 34 nationwide. Loan dollars per 1000 persons was $1,407 in Milwaukee and $774 nationwide, while loan dollars per 100 businesses was $3,561 in Milwaukee and $2,185 nationwide.

Loans to Small Businesses

The share of small business lending going to small businesses (i.e. firms with assets of less than $1 million) was approximately the same in all areas except low-income tracts in Milwaukee. Approximately 54 percent of these loans and 38 percent of loan dollars went to small firms in moderate-, middle-, and upper-income areas compared to just 37.6 percent of loans and 26.4 percent of loan dollars in lower-income tracts (see Table 5).

The proportion of small business loans and loan dollars going to small businesses was substantially lower in Milwaukee than in the nation generally. In Milwaukee, 52.2 percent of all loans and 37.2 percent of loan dollars went to such businesses compared to 55.9 percent of loans and 42.6 percent of loan dollars nationwide (see Table 5 and Figure 3).

These differences are accounted for primarily by lending activity in low-income tracts. In moderate-, middle-, and upper-income tracts, the proportion of small business loans going to small businesses in Milwaukee was approximately the same as for the nation generally, though the proportion of loan dollars going to such firms was slightly lower in Milwaukee (see Table 5). But in lower-income tracts the differences were substantial. The proportion of loans going to small businesses was 37.6 percent in Milwaukee and 46.8 percent nationwide, while comparable figures for loan dollars are 26.4 percent and 35.3 percent (see Figure 3).

Lending Activity By Neighborhood Racial Composition in Milwaukee

Small business lending activity is concentrated in predominantly White communities with approximately 90 percent of loans and loan dollars going to firms in these areas. In the Milwaukee metropolitan area, Blacks account for 13.8 percent and Hispanics account for 3.4 percent of the total population according to the 1990 census. Approximately 2 percent of loans and loan dollars went to the area's predominantly Black neighborhoods and less than one percent went to Hispanic areas (see Table 7 and Figure 4). The number of loans per 1000 persons varied from a high of 13 in neighborhoods where the population was at least 90 percent White to a low of 2 in neighborhoods where the population was more than 70 percent Black. Loans per 1000 persons also varied from 11 in areas that were less than five percent Hispanic to 4

in areas that were more than 25 percent Hispanic (see Table 8, Figure 4 and Maps 2 and 3). Loan dollars varied similarly. That is, the number of loan dollars per 1000 persons decreased as the proportion of non-Whites in the population increased.

Lending activity per business by racial composition could not be calculated because the data on the number of small businesses were not available at the individual census tract level. This information was made available only by aggregate census tracts based on income level. That is, the number of businesses was provided in each of the following four categories (low-, moderate-, middle-, and upper-income) of census tracts. From the available data, it is impossible to determine the number of businesses in a group of census tracts characterized by their racial composition.

The proportion of loans to small businesses also decreased as the non-White population increased. The share of all small business loans that went to firms with assets of less than $1 million varied from a high of 53.0 percent in predominantly White areas to 42.2 percent in predominantly Black areas. The share of loans to small firms also varied from 52.5 percent in areas where the Hispanic population was less than five percent to 45.0 percent where Hispanics accounted for more than 25 percent of the population (see Table 9).

Variations Among Milwaukee Area Lenders

Perhaps more revealing than the differences between Milwaukee area lenders and those nationwide are the disparities among financial institutions within the Milwaukee metropolitan area. Just as some mortgage lenders have far surpassed their colleagues in levels of service provided to lower-income communities (Squires and O'Connor, 1998), business lending in these communities also varied dramatically among lenders.

While 5.5 percent of all loans went to low-income tracts, among the twenty institutions included in this sample, two of them made fewer than one percent of their small business loans in low-income areas and one of these lenders provided no loans in lower- or moderate-income areas. However, one lender did 14.0 percent of its lending while three others provided 9 percent or more of their loans in low-income areas (see Table 10). Whereas 5.6 percent of all loan dollars went to low-income areas, three lenders provided less than one percent of their small business loan dollars while one lender provided 14.4 percent of its loan dollars in these areas (see Table 11).

Approximately 37 percent of loans and loan dollars went to upper-income areas, but six lenders made more than 40 percent of their loans, while nine provided more than 40 percent of their loan dollars to borrowers in these neighborhoods. One lender made only

5.8 percent of its loans and 7.6 percent of its loan dollars in the upper-income tracts.

Loans to small businesses varied dramatically as well. Over half of all small business loans went to small firms. But two lenders made less than 1 percent of their small business loans to small firms while one made 85 percent of these loans to small firms, and in four other cases this number exceeded 75 percent. And while 37.2 percent of loan dollars went to small firms, loan dollars to such firms varied from zero to 86.8 percent (see Table 12).

Patterns varied by neighborhood income level as well. Of all loans made in lower-income tracts, four lenders provided no loans to small firms while four institutions made 75 percent or more of their loans and three provided more than 75 percent of their loan dollars to such businesses (see Tables 13 and 14). In upper-income areas, however, only one lender reported none of its loans to small businesses, while five made more than 75 percent of their loans and three provided more than 75 percent of their loan dollars to these firms.

As indicated earlier, data for individual lenders are available only by the four income levels reported above, while aggregate data for all lenders reporting loan activity in the Milwaukee area are available at the individual census tract level. Therefore, it is not possible to determine lending activity for an individual institution by racial composition of neighborhood. But lending by income level and lending to small firms varies substantially among lenders. Given the association between income and race, it is likely that lending patterns also vary substantially by the racial composition of neighborhoods as well. In Milwaukee, access to small business loans appears to be, at least in part, a function of the institution to which a borrower applies. Characteristics of those institutions, along with the creditworthiness of borrowers, likely affect the distribution of small business loans.

The Woodstock Institute recently found that banks with branch offices in low- or moderate-income areas make a greater proportion of their loans in those areas (Immergluck and Mullen, 1997). This appears to be the case in Milwaukee as well. Those lenders with branches located within economically distressed census tracts, referred to as the "Target Area" by the Comptroller of the City of Milwaukee (City of Milwaukee, 1996), made 6.6 percent of their loans in low-income tracts compared to 5.1 percent for lenders without a Target Area branch (see Table 15). Figures for loan dollars were 6.8 percent and 5.5 percent. But lenders without Target Area branches provided a slightly higher proportion of their loans and loan dollars to small firms.

More research on a range of lender characteristics would yield additional information on the factors influencing the allocation of small business loans. Size of lender, whether it is independently owned

or part of a regional or national holding company, working relationships with community organizations, and racial composition of the work force are just some of the factors that might affect the distribution of small business loans.

Preliminary Analysis of 1997 Lending

Not surprisingly, there was little change in overall lending patterns in 1997. In Milwaukee, small business lending was concentrated in middle- and upper-income areas, and that pattern emerged more strongly in Milwaukee than in the nation generally.

The number of loans increased in Milwaukee (15,181 to 16,340) and nationwide (2.4 million to 2.6 million) (see Tables 1 and 16). The proportion of loans in low- and moderate-income tracts increased slightly in Milwaukee (12.3 percent to 13.4 percent) but stayed virtually the same nationwide (20.6 percent) (see Tables 2 and 16). The share of loan dollars in low- and moderate-income areas remained virtually the same in both Milwaukee (11.6 percent and 11.9 percent) and in the U.S. generally (21.6 percent and 21.4 percent) (see Tables 2 and 16). Lending remained heavily concentrated in middle- and upper-income tracts. The number of businesses in low- and moderate-income areas in Milwaukee and in the U.S. declined while the number in upper-income areas increased, and loans per business increased slightly in Milwaukee and nationwide at all income levels. But the same pattern prevailed. Lending activity, in terms of loans and loan dollars, was much lower in low- and moderate-income areas and this disparity was greater in Milwaukee than in the U.S. generally (see Tables 4 and 16).

The share of small business loans going to firms with assets of less than $1 million dropped slightly in Milwaukee (52.2 percent to 50.1 percent) and nationwide (55.9 percent to 50.0 percent), but the share of loan dollars to such businesses remained virtually unchanged (see Tables 5 and 16). In Milwaukee, the proportion of loans going to small businesses declined at every income level as was the case with loan dollars except in moderate-income areas. However, these changes were small, reaching less than one percent in some cases. Nationwide the proportion of loans going to small businesses declined at each income level as did the number of dollars except in high-income tracts. Again, these changes were quite small (see Tables 5 and 16).

In fact, it would be surprising if substantial changes had occurred in just one year—no surprises were uncovered. Only future research can determine whether and when these patterns change.

Research and Policy Implications

In the Milwaukee metropolitan area, small business lending is concentrated in upper-income and predominantly White communities.

These patterns may reflect differences in demand, creditworthiness of borrowers, unfamiliarity on the part of potential borrowers and lenders about prevailing opportunities, unlawful discrimination, Milwaukee's low rate of minority business ownership and representation in corporate management compared to other metropolitan areas (Norman, 1998), and a range of other factors. But these are clearly not random fluctuations.

These findings also reveal substantial differences between Milwaukee area lenders and financial institutions nationwide in the distribution of loans and loan dollars by neighborhood income levels. Compared to their counterparts nationwide, Milwaukee area lenders provide a lower concentration of their lending activity in lower-income neighborhoods and among small businesses. This pattern may reflect differences in the industrial composition of the Milwaukee economy, variations in the demand for business credit, more conservative lending practices by Milwaukee area financial institutions, or some combination of these and other factors.

The findings also indicate widespread disparities among lenders in the distribution of small business loans throughout Milwaukee area neighborhoods. These patterns may reflect legitimate differences in marketing strategies among lenders, illegal discrimination against low-income areas and minority communities, business opportunities overlooked by some institutions, or a combination of these and other factors. The broad disparities suggest that something other than the quantity and quality of the demand for credit accounted for current lending patterns since all of these reporting institutions are serving the same metropolitan area.

Clearly, far more research is essential to fully understand the underlying causes and policy implications, if any, of these findings. But recent disclosure of small business lending provides additional insight into the lending behavior of financial institutions covered by the CRA. Three minor changes in current small business disclosure requirements would enhance the value of this information.

First, covered lenders should be required to report the number of applications for small business loans they receive along with the disposition of those applications. This would provide at least one measure of demand for such credit and further insight into the response of lenders to that demand.

Second, the Federal Reserve Board should act on a proposal it is currently considering that would allow lenders to solicit information on the race of small business loan applicants. Currently, requesting such information violates the Equal Credit Opportunity Act. The U.S. Departments of Justice and the Treasury, the Comptroller of the Currency, and the Office of Thrift Supervision support the proposed

regulatory changes which would facilitate collection of this information (Reno, 1988).

Anecdotal evidence suggests that minority-owned businesses have more difficulty accessing small business loans than majority-owned firms. While disclosure of this information alone would not confirm or deny the existence of unlawful discrimination, it would enhance our current understanding of racial disparities concerning access to small business loans. Many businesses, of course, are owned by more than one person. In those cases where there is multiple ownership, if more than 50 percent of the business is owned by members of a particular race, that would be the one which is reported. A multi-race option could also be utilized where no single group is controlling.

Such additional reporting could increase the chances that the identity of a particular business would be revealed. The FFIEC could establish a threshold for a minimum number of loans (e.g. at least three loans in a tract) that must be reported before the individual loan data would be revealed in order to preserve confidentiality where it might otherwise be breached.

Third, the FFIEC should release tract level data for individual lenders and make available tables that display lending activity by racial composition of tracts. While users could locate the racial composition of each tract and then aggregate them in order to examine the distribution of loans for all reporting institutions by neighborhood racial make-up, as we have done here, data currently available do not permit such analysis at the individual bank level. FFIEC should provide this information in a similar manner as mortgage lending is provided in HMDA reports. Selected aggregate HMDA reports display lending activity (e.g. applications, originations, etc.) in tracts that are less than 10 percent minority, those between 10 and 19 percent, 20 to 49 percent, 50 to 79 percent, and 80 to 100 percent. These reports are available for individual lenders and for all lenders combined by metropolitan area. Similar tables reporting business loan activity should be prepared and disseminated by FFIEC. Again, where confidentiality might be breached, the information could be suppressed.

The data examined in this study and called for in these recommendations, alone, would not be sufficient to confirm or deny the existence or prevalence of compliance or non-compliance with the CRA or other fair lending rules. Comparative analysis of individual loan files or paired testing by "mystery shoppers" posing as small business credit applicants would be required for that purpose. The patterns that are revealed, however, can provide guidance to regulators, lenders, and others concerned with problems and potential opportunities in small business lending. The information provided by the small business data can assist regulators in targeting and conducting their examinations, reveal potential trouble spots for

lenders, and identify missed opportunities for financial institutions and their community reinvestment partners. The minimally expanded reporting and disclosure recommended here can enhance the value of that guidance.

HMDA and CRA have changed the way many mortgage lenders do business and have increased the supply of funds for community reinvestment (Evanoff and Segal, 1996; Shlay and Goldberg, 1997; Squires, 1992). Hopefully, the new CRA regulations calling for disclosure of small business loans can extend those effects by nurturing an increase in the availability of small business loans in previously underserved communities.

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TABLE 1

Small Business Lending (Totals) by Neighborhood Income Level[1]
Milwaukee MSA and the U.S., 1996

	Total Loans	Total Dollars (000s)	Total Loans to Firms with Assets of Less than $1 Million	Total Dollars (000s) to Firms with Assets of Less than $1 Million
Low Income <50%				
Milwaukee	834	81,729	314	21,597
U.S.	113,098	8,164,017	52,957	2,885,809
Moderate Income 50-79%				
Milwaukee	1,037	87,757	568	34,073
U.S.	384,949	23,480,138	203,238	9,357,294
Middle Income 80-119%				
Milwaukee	7,597	743,557	3,969	275,912
U.S.	1,193,181	68,758,922	694,871	30,427,882
Upper Income =>120%				
Milwaukee	5,697	546,113	3,060	212,016
U.S.	711,273	45,482,023	394,097	19,638,266
Not Reported				
Milwaukee	16	3,004	8	578
U.S.	12,304	1,095,384	4,661	274,087
Total				
Milwaukee	15,181	1,462,160	7,919	544,176
U.S.	2,414,805	146,980,484	1,349,824	62,583,338

[1] Neighborhood income level based on Milwaukee MSA and U.S. median income, U.S. Census Bureau 1990

TABLE 2

Small Business Lending by Neighborhood Income Level
Milwaukee MSA and the U.S., 1996

	Percent of all Loans	Percent of all Loan Dollars
Low Income		
Milwaukee	5.5	5.6
U.S.	4.7	5.6
Moderate Income		
Milwaukee	6.8	6.0
U.S.	15.9	16
Middle Income		
Milwaukee	50.0	50.8
U.S.	49.4	46.8
Upper Income		
Milwaukee	37.5	37.3
U.S.	29.5	30.9
Income Not Reported		
Milwaukee	0.1	0.2
U.S.	0.5	0.7
Total		
Milwaukee	99.9 [1]	99.9 [1]
U.S.	100.0	100.0

[1] Percentage does not add up to 100% due to rounding

TABLE 3

Small Business Lending Per Person by Neighborhood Income Level
Milwaukee MSA and the U.S., 1996

	Population	Percent of Total Population	Number of Loans Per 1000 Persons	Loan Dollars Per 1000 Persons
Low Income				
Milwaukee	181,883	12.7	5	449
U.S.	12,358,000	4.9	9	661
Moderate Income				
Milwaukee	193,340	13.5	5	454
U.S.	46,657,000	18.5	8	503
Middle Income				
Milwaukee	667,381	46.6	11	515
U.S.	134,170,000	53.2	9	512
Upper Income				
Milwaukee	388,112	27.1	15	1,407
U.S.	58,736,000	23.2	12	774
Income Not Reported				
Milwaukee	1,432	0.1	11	2,098
U.S.	504,000	0.2	24	2,173
Total				
Milwaukee	1,432,148	100.0	11	1,020
U.S.	252,425,000	100.0	10	582

TABLE 4

Small Business Lending Per Business by Neighborhood Income Level
Milwaukee MSA and the U.S., 1996

	Number of Businesses	Percent of Total Businesses	Number of Loans Per 100 Businesses	Loan Dollars Per 100 Businesses
Low Income				
Milwaukee	4,191	8.8	20	1,950
U.S.	453,600	5.6	25	1,800
Moderate Income				
Milwaukee	5,239	11.0	20	1,675
U.S.	1,522,800	18.8	25	1,542
Middle Income				
Milwaukee	22,669	47.6	34	3,280
U.S.	4,001,400	49.4	30	1,718
Upper Income				
Milwaukee	15,335	32.2	37	3,561
U.S.	2,081,700	25.7	34	2,185
Income Not Reported				
Milwaukee	191	0.4	8	1,573
U.S.	32,400	0.4	38	3,381
Total				
Milwaukee	47,625	100.0	31.9	3,070
U.S.	8,091,900	99.9 [1]	29.8	1,816

[1] Percentage does not add up to 100 due to rounding

TABLE 5

Small Business Lending to Firms with Revenues of $1 Million or Less by Neighborhood Income Level Milwaukee MSA and the U.S., 1996

	Percent of all Loans to Firms with Assets of Less than $1 Million	Percent of all Loan Dollars to Firms With Assets of Less than $1 Million
Low Income		
Milwaukee	37.6	26.4
U.S.	46.8	35.3
Moderate Income		
Milwaukee	54.8	38.8
U.S.	52.8	39.9
Middle Income		
Milwaukee	52.2	37.1
U.S.	58.2	44.3
Upper Income		
Milwaukee	53.7	38.8
U.S.	55.4	43.2
Income Not Reported		
Milwaukee	50.0	19.2
U.S.	37.9	25.0
Total		
Milwaukee	52.2	37.2
U.S.	55.9	42.6

TABLE 6

Small Business Lending (Totals) by Neighborhood Racial Composition
Milwaukee MSA, 1996

	Total Loans	Total Dollars (000s)	Total Loans to to Firms with Assets of Less than $1 Million	Total Dollars (000s) to Firms with Assets of Less than $1 Million
<10% Black [1]	13,600	1,289,091	7,214	497,630
10-70% Black	1,256	143,934	268	39,082
>70% Black	325	29,135	137	7,464
Total	15,181	1,462,160	7,919	544,176
<5% Hispanic [1]	1,397	1,338,920	7,296	506,006
5-25% Hispanic	1,134	111,733	560	34,436
>25% Hispanic	140	11,507	63	3,734
Total	15,181	1,462,160	7,919	544,176

[1] There is minimal double counting on Tables 6-9 due to the fact that some individuals identify themselves as both Black and Hispanic to the Census Bureau

TABLE 7

Small Business Lending by Neighborhood Racial Composition
Milwaukee MSA, 1996

	Percent of all Loans	Percent of all Loan Dollars
<10% Black	89.6	88.2
10-70% Black	8.3	9.8
>70% Black	2.1	2.0
Total	100.0	100.0
<5% Hispanic	91.6	91.6
5-25% Hispanic	7.5	7.6
>25% Hispanic	0.9	0.8
Total	100.0	100.0

TABLE 8

Small Business Lending Per Person by Neighborhood Racial Composition
Milwaukee MSA, 1996

	Population	Number of Loans Per 1000 Persons	Loan Dollars Per 1000 Persons
<10% Black	1,081,231	13	1,192
10-70% Black	215,470	6	668
>70% Black	135,447	2	215
Total	1,432,148	11	1,020
<5% Hispanic	1,267,762	11	1,056
5-25% Hispanic	129,545	8	863
>25% Hispanic	34,841	4	330
Total	1,432,148	11	1,020

TABLE 9

Small Business Lending to Firms with Revenues of $1 Million or Less by Neighborhood Racial Composition Milwaukee MSA, 1996

	Percent of all Loans to Firms with Assets of Less than $1 Million	Percent of all Loan Dollars to Firms with Assets of Less than $1 Million
<10% Black	53.0	38.6
10-70% Black	45.2	27.2
>70% Black	42.2	25.6
<5% Hispanic	52.5	37.8
5-25% Hispanic	49.4	30.8
>25% Hispanic	45.0	32.4

TABLE 10

Small Business Lending (Loans) by Neighborhood Income Level—Individual Lenders

Milwaukee MSA, 1996

Lender	Total Loans	Lower % of Total [1]	Moderate % of Total	Middle % of Total	Upper % of Total	Unknown % of Total
Advantage Financial	320	5.9	14.1	46.3	33.8	0.0
American Express	1,369	5.3	9.2	43.3	42.0	0.1
Associated Bank, Milw.	944	7.7	4.4	36.5	51.1	0.2
Bank One, WI	1,580	6.8	3.6	60.0	29.5	0.0
Bank Wisconsin	334	9.0	0.0	81.1	9.9	0.0
First Bank	357	14.0	7.6	40.1	38.4	0.0
First Bank of South Dakota	219	5.0	8.7	46.6	39.7	0.0
Firstar Bank, Wisconsin	280	1.4	8.9	56.8	32.9	0.0
Firstar, Milwaukee	1,040	6.5	8.8	44.9	39.8	0.0
M&I Bank, Menomonee Falls	541	3.7	2.2	48.1	46.0	0.0
M&I First National Bank	618	0.0	0.0	94.2	5.8	0.0
M&I Lake Country	658	1.2	1.2	50.6	46.8	0.2
M&I Marshall & Ilsley	1,609	6.8	11.4	46.5	35.1	0.2
M&I Northern	1,098	4.4	6.3	42.2	47.2	0.0
Mountain West	1,032	8.1	8.3	48.4	35.0	0.1
Norwest Bank	233	9.4	11.2	42.1	36.9	0.4
Park Bank	492	9.3	10.0	45.1	35.0	0.6
Tri City National Bank	340	3.5	10.3	48.2	37.9	0.0
Waukesha State Bank	712	0.1	5.3	45.3	49.2	0.0
Wells Fargo Bank	176	5.1	11.9	45.5	36.4	1.1
Pct. of MSA Population		12.7	13.5	46.6	27.1	0.1
Pct. of Businesses		8.8	11.0	47.6	32.2	0.4

[1] The percentages in each of these columns refer to the percentage of total loans shown in the first column. For example, 5.9% of Advantage Financial's 320 small business loans were originated to businesses located in low income level neighborhoods.

TABLE 11

Small Business Lending (Loan Dollars) by Neighborhood Income Level—Individual Lenders
Milwaukee MSA, 1996

Lender	Total Dollars (000s)	Lower % of Total [1]	Moderate % of Total	Middle % of Total	Upper % of Total	Unknown % of Total
Advantage Financial	3,413	6.1	13.6	46.5	33.9	0.0
American Express	9,235	4.6	8.2	41.3	45.7	0.2
Associated Bank, Milw.	109,384	7.8	4.4	41.7	45.8	0.3
Bank One, WI	118,775	4.7	3.7	65.2	26.4	0.0
Bank Wisconsin	26,625	6.9	0.0	81.4	11.7	0.0
First Bank	74,188	14.4	4.7	46.1	34.8	0.0
First Bank of South Dakota	3,674	2.7	3.9	35.9	57.5	0.0
Firstar Bank, Wisconsin	40,348	1.3	7.1	56.7	34.9	0.0
Firstar, Milwaukee	123,657	8.1	7.0	40.6	44.3	0.0
M&I Bank, Menomonee Falls	64,024	4.0	2.3	48.4	45.3	0.0
M&I First National Bank	59,007	0.0	0.0	92.4	7.6	0.0
M&I Lake Country	57,832	0.6	1.7	52.7	44.8	0.2
M&I Marshall & Ilsley	238,950	7.8	9.6	47.1	34.5	0.9
M&I Northern	178,265	3.3	6.1	44.8	45.8	0.0
Mountain West	3,278	7.2	6.9	53.7	32.2	0.1
Norwest Bank	36,977	5.4	8.6	41.1	44.8	0.1
Park Bank	86,723	7.5	7.5	46.6	38.3	0.2
Tri City National Bank	18,593	2.4	10.0	57.2	30.4	0.0
Waukesha State Bank	31,625	0.1	4.5	41.1	54.4	0.0
Wells Fargo Bank	4,563	5.7	12.8	43.7	35.9	2.0
Pct. of MSA Population		12.7	13.5	46.6	27.1	0.1
Pct. of Businesses		8.8	11.0	47.6	32.2	0.4

[1] The percentages in each of these columns refer to the percentage of total loan dollars shown in the first column. For example, 6.1% of Advantage Financial's $3,413 small business loan dollars went to businesses in low income neighborhoods.

TABLE 12

Small Business Lending to Firms with Revenues of $1 Million or Less—Individual Lenders
Milwaukee MSA, 1996

Lender	Total Loans	Loans to Small Firms	Pct. Of Loans to Small Firms	Total Dollars (000s)	Dollars to Small Firms	Pct. Of Total Dollars to Small Firms
Advantage Financial	320	0	0.0	3,413	0	0.0
American Express	1,369	1,172	85.6	9,235	8,015	86.8
Associated Bank, Milw.	944	681	72.1	109,384	65,843	60.2
Bank One, WI	1,580	468	29.6	118,775	31,772	26.7
Bank Wisconsin	334	110	32.9	26,625	10,733	40.3
First Bank	357	45	12.6	74,188	5,713	7.7
First Bank of South Dakota	219	2	0.9	3,674	1,130	30.8
Firstar Bank, Wisconsin	280	178	63.6	40,348	19,944	49.4
Firstar, Milwaukee	1,040	659	63.4	123,657	57,872	46.8
M&I Bank, Menomonee Falls	541	327	60.4	64,024	23,585	36.8
M&I First National Bank	618	470	76.1	59,007	32,848	55.7
M&I Lake Country	658	518	78.7	57,832	38,531	66.6
M&I Marshall & Ilsley	1,609	998	62.0	238,950	77,198	32.3
M&I Northern	1,098	474	43.2	178,265	40,619	22.8
Mountain West	1,032	112	10.9	3,278	217	6.6
Norwest Bank	233	131	56.2	36,977	13,412	36.3
Park Bank	492	161	32.7	86,723	14,422	16.6
Tri City National Bank	340	266	78.2	18,593	13,832	74.4
Waukesha State Bank	712	554	77.8	31,625	23,521	74.4
Wells Fargo Bank	176	102	58.0	4,563	2,319	50.8

TABLE 13

Small Business Lending (Loans) to Firms with Revenues of $1 Million or Less by Neighborhood Income Level—Individual Lenders
Milwaukee MSA, 1996

Lender	Lower		Moderate		Middle		Upper		Unknown	
	Total Loans	% of Total [1]	Total Loans	% of Total	Total Loans	% of Total	Total Loans	% of Total	Total Loans	% of Total
Advantage Financial	19	0.0	45	0.0	148	0.0	108	0.0	0	0.0
American Express	73	82.2	126	90.5	593	85.0	575	85.6	2	100
Associated Bank, Milw.	73	54.8	42	61.9	345	67.2	482	79.0	2	100
Bank One, WI	108	15.7	58	29.3	948	38.2	466	15.5	0	0.0
Bank Wisconsin	30	0.0	0	0.0	271	31.0	33	78.8	0	0.0
First Bank	50	14.0	27	18.5	143	16.8	137	6.6	0	0.0
First Bank of South Dakota	11	0.0	19	0.0	102	0.0	87	2.3	0	0.0
Firstar Bank, Wisconsin	4	75.0	25	88.0	159	59.7	92	63.0	0	0.0
Firstar, Milwaukee	68	58.9	91	74.7	467	58.7	414	66.9	0	0.0
M&I Bank, Men. Falls	20	25.0	12	33.3	260	61.5	249	63.5	0	0.0
M&I First National Bank	0	0.0	0	0.0	582	76.5	36	69.4	0	0.0
M&I Lake Country	8	62.5	8	87.5	333	79.0	308	78.6	1	100.0
M&I Marshall & Ilsley	109	43.1	184	63.6	748	63.9	564	63.1	4	0.0
M&I Northern	48	52.1	69	43.5	463	39.5	518	45.6	0	0.0
Mountain West	84	6.0	86	8.1	500	11.8	361	11.4	1	0.0
Norwest Bank	22	45.5	26	80.8	98	53.1	86	54.7	1	100
Park Bank	46	32.6	49	26.5	222	36.0	172	30.2	3	33.3
Tri City National Bank	12	75.0	35	82.9	164	76.8	129	79.1	0	0.0
Waukesha State Bank	1	100.0	38	97.4	323	79.6	350	74.0	0	0.0
Wells Fargo Bank	9	55.6	21	52.4	80	58.8	64	59.4	2	50.0
Pct. of MSA Population	13		14		47		27		0.1	
Pct. of Businesses	8.8		11		48		32		0.4	

[1] The percentages for each neighborhood income level refer to the percentage of loans in the corresponding neighborhood. For example, 54.8% of Associated's 73 loans in lower income neighborhoods went to firms with revenues of $1 million or less.

TABLE 14

Small Business Lending (Loan Dollars) to Firms with Revenues of $1 Million or Less by Neighborhood Income Level—Individual Lenders
Milwaukee MSA, 1996

Lender	Lower		Moderate		Middle		Upper		Unknown	
	Total Dollars (000s)	% of Total[1]	Total Dollars (000s)	% of Total	Total Dollars (000s)	% of Total	Total Dollars (000s)	% of Total	Total Dollars (000s)	% of Total
Advantage Financial	207	0.0	463	0.0	1,586	0.0	1,157	0.0	0	0.0
American Express	426	81.2	758	90.1	3,815	85.9	4,216	87.5	20	100.0
Associated Bank, Milw.	8,529	47.5	4,768	43.3	45,656	57.4	50,114	66.2	317	100.0
Bank One, WI	5,624	7.1	4,395	29.0	77,454	29.7	31,302	22.7	0	0.0
Bank Wisconsin	1,835	0.0	0	0.0	21,672	41.8	3,118	53.5	0	0.0
First Bank	10,666	6.5	3,500	25.0	34,223	10.9	25,799	1.7	0	0.0
First Bank of South Dakota	99	0.0	143	0.0	1,319	0.0	2,113	53.5	0	0.0
Firstar Bank, Wisconsin	510	28.4	2,854	92.3	22,884	50.3	14,100	40.1	0	0.0
Firstar, Milwaukee	9,977	49.9	8,658	63.7	50,243	41.4	54,779	48.5	0	0.0
M&I Bank, Menomonee Falls	2,537	25.0	1,446	20.7	31,009	38.9	29,032	36.5	0	0.0
M&I First National Bank	0	0.0	0	0.0	54,542	56.3	4,465	47.8	0	0.0
M&I Lake Country	368	32.1	1,004	90.0	30,450	64.5	25,910	68.6	100	100.0
M&I Marshall & Ilsley	18,685	11.9	22,891	35.5	112,626	33.5	82,498	35.3	2,250	0.0
M&I Northern	5,827	16.5	10,929	25.8	79,907	22.5	81,602	23.1	0	0.0
Mountain West	235	5.1	227	4.4	1,759	6.9	1,055	6.9	2	0.0
Norwest Bank	2,008	42.6	3,170	34.2	15,210	37.6	16,564	34.6	25	100.0
Park Bank	6,499	25.1	6,462	11.4	40,381	17.6	33,180	14.8	201	28.4
Tri City National Bank	440	75.9	1,865	72.3	10,640	71.1	5,648	81.1	0	0.0
Waukesha State Bank	16	100.0	1,415	89.4	12,994	67.8	17,200	78.1	0	0.0
Wells Fargo Bank	258	38.0	586	33.4	1,992	51.5	1,638	57.4	89	66.3
Pct. of MSA Population	12.7		13.5		46.6		27.1		0.1	
Pct. of Businesses	8.8		11.0		47.6		32.2		0.4	

[1] The percentages for each neighborhood income level refers to the percentage of dollars in the corresponding neighborhood. For example, 47.5% of Associated's $8,529 in low income neighborhoods went to firms with revenues of $1 million or less.

TABLE 15

Small Business Lending by Branch Bank Location and by Neighborhood Income Level—Individual Lenders

Milwaukee MSA, 1996

	Target Area Branch Bank Location	% of Loans in Low Income Tracts	% of Dollars in Low Income Tracts	% of Loans to Firms with Revenues of $1 Million or Less	% of Dollars to Firms with Revenues of $1 Million or Less
Advantage Financial	No	5.9	6.1	0.0	0.0
American Express	No	5.3	4.6	85.6	86.8
Associated Bank, Milw.	No[1]	7.7	7.8	72.1	60.2
Bank One, WI	Yes	6.8	4.7	29.6	26.7
Bank Wisconsin	No	9.0	6.9	32.9	40.3
First Bank	No[1]	14.0	14.4	12.6	7.7
First Bank of South Dakota	No	5.0	2.7	0.9	30.8
Firstar Bank, Wisconsin	No	1.4	1.3	63.6	49.4
Firstar, Milwaukee	Yes	6.5	8.1	63.4	46.8
M&I Bank, Menomonee Falls	No	3.7	4.0	60.4	36.8
M&I First National Bank	No	0.0	0.0	76.1	55.7
M&I Lake Country	No	1.2	0.6	78.7	66.6
M&I Marshall & Ilsley	Yes	6.8	7.8	62.0	32.3
M&I Northern	No	4.4	3.3	43.2	22.8
Mountain West	No	8.1	7.2	10.9	6.6
Norwest Bank	Yes	9.4	5.4	56.2	36.3
Park Bank	No	9.3	7.5	32.7	16.6
Tri City National Bank	Yes	3.5	2.4	78.2	74.4
Waukesha State Bank	No	0.1	0.1	77.8	74.4
Wells Fargo Bank	No	5.1	5.7	58.0	50.8
Lenders with a TA Branch		6.6	6.8	53	36
Lenders with NO TA Branch		5.1	5.5	56	38

[1] This bank's only branch in the Target Area is in a downtown location which has few residential areas therefore this bank is coded as outside the Target Area.

TABLE 16

Selected Measures of Small Business Lending

Milwaukee MSA and the U.S., 1997

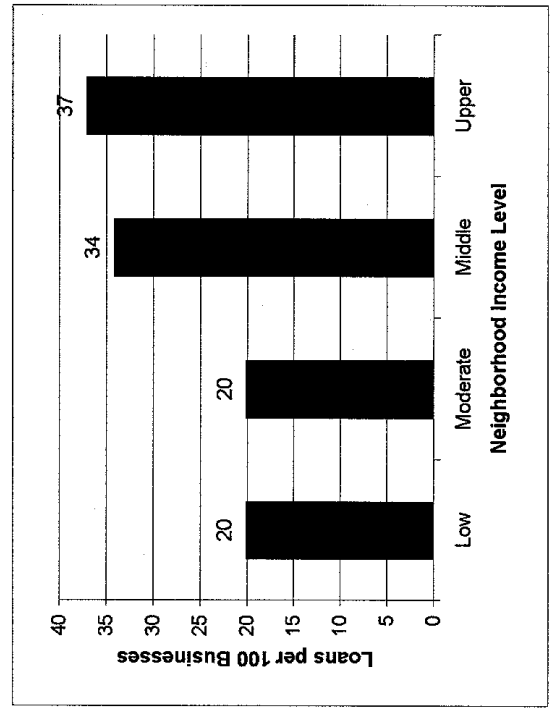
	Total Loans	Percent of Loans	Total Dollars (000s)	Percent of Dollars
Low Income				
Milwaukee	978	6.0	70,415	4.8
U.S.	117,424	4.6	8,559,368	5.4
Moderate Income				
Milwaukee	1,202	7.4	104,178	7.1
U.S.	408,978	16.0	25,504,964	16.0
Middle Income				
Milwaukee	7,728	47.3	703,415	48.0
U.S.	1,257,699	49.1	74,065,395	46.5
Upper Income				
Milwaukee	6,398	39.2	587,179	40.0
U.S.	763,221	29.8	50,091,428	31.4
Income Not Reported				
Milwaukee	34	0.2	1,824	0.1
U.S.	13,473	0.5	1,180,147	0.8
Total				
Milwaukee	16,340	100.1 [1]	1,467,011	100.0
U.S.	2,560,795	100.0	159,401,302	100.1 [1]

[1] Percentage does not add up to 100 due to rounding

TABLE 16 (CONTINUED)

	Number of Businesses	% of Total Businesses	# of Loans Per 100 Businesses	Loan Dollars Per 100 Businesses	% of Loans to Firms with Revenues of $1 Million or Less	% of Dollars to Firms with Revenues of $1 Million or Less
Low Income						
Milwaukee	3,905	8.3	25.0	1,803	32.6	22.8
U.S.	393,299	4.9	29.9	2,176	41.1	34.2
Moderate Income						
Milwaukee	4,987	10.6	24.1	2,089	52.8	39.3
U.S.	1,412,665	17.6	29.0	1,805	46.3	37.8
Middle Income						
Milwaukee	22,441	47.7	34.4	3,135	50.9	36.8
U.S.	4,077,465	50.8	30.8	1,816	52.2	43.3
Upper Income						
Milwaukee	15,526	33.0	41.2	3,782	51.6	36.8
U.S.	2,143,077	26.7	35.6	2,337	50.2	44.1
Income Not Reported						
Milwaukee	188	0.4	18.1	970	26.5	25.0
U.S.	NA [1]	NA	NA	NA	32.5	26.3
Total						
Milwaukee	47,047	34.7	34.7	3,118	50.1	36.3
U.S.	8,026,506	31.9	31.9	1,986	50.0	42.1

[1] Data unavailable



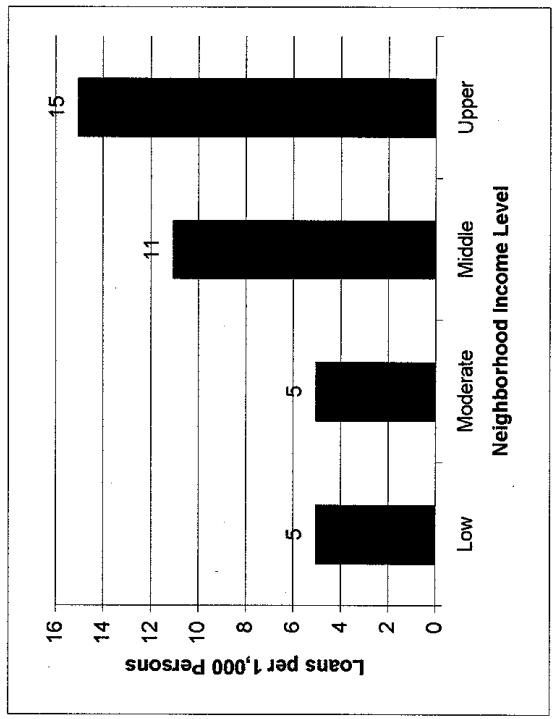
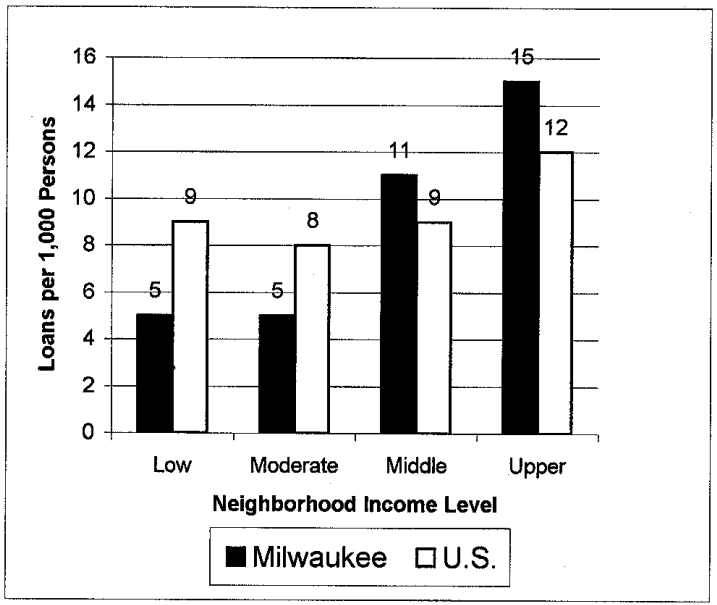


FIGURE 1
Small Business Lending
Milwaukee MSA, 1996

FIGURE 2

Small Business Lending

Milwaukee and the U.S., 1996



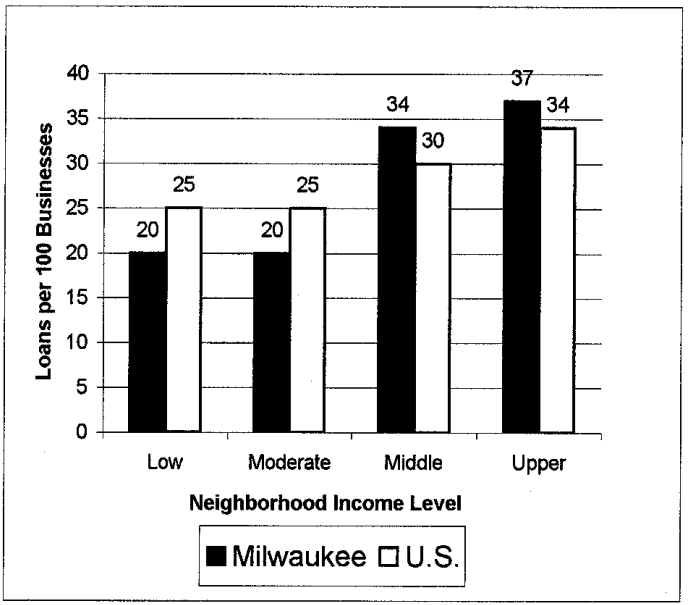


FIGURE 3

Small Business Lending to Firms with Revenues of $1 Million or Less by Neighborhood Income Level

Milwaukee MSA and the U.S., 1996

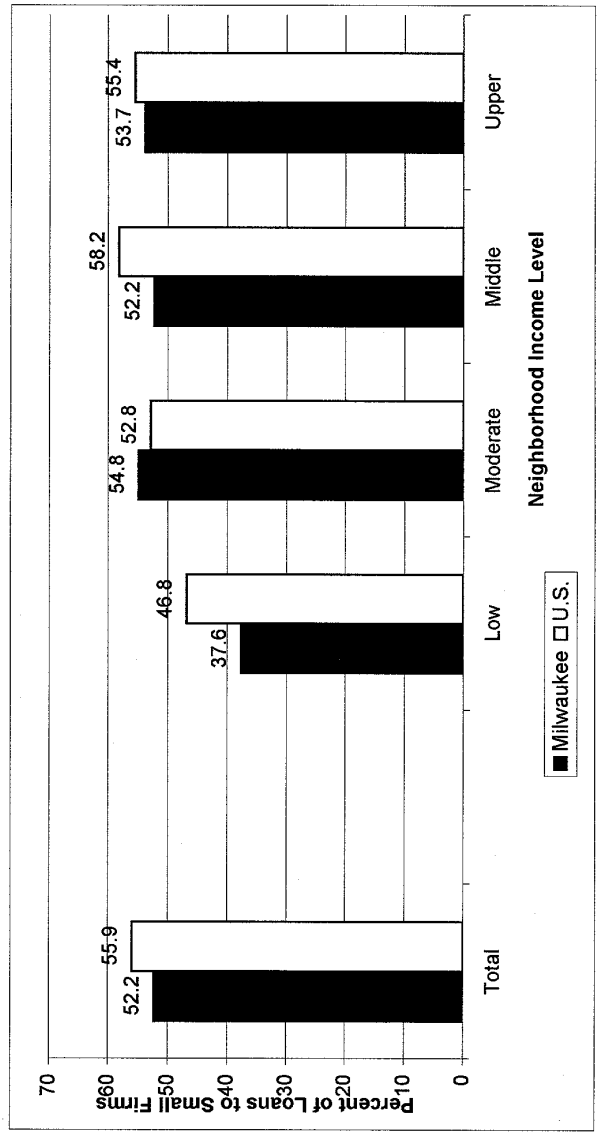
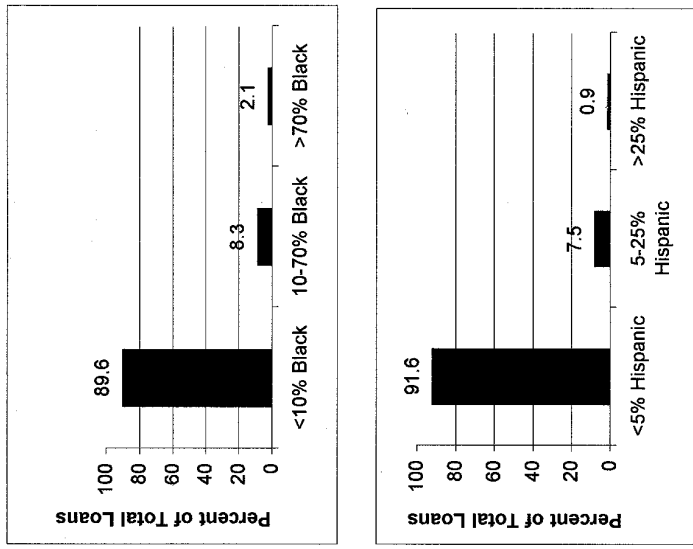


FIGURE 4
Small Business Lending by Neighborhood Racial Composition
Milwaukee MSA, 1996



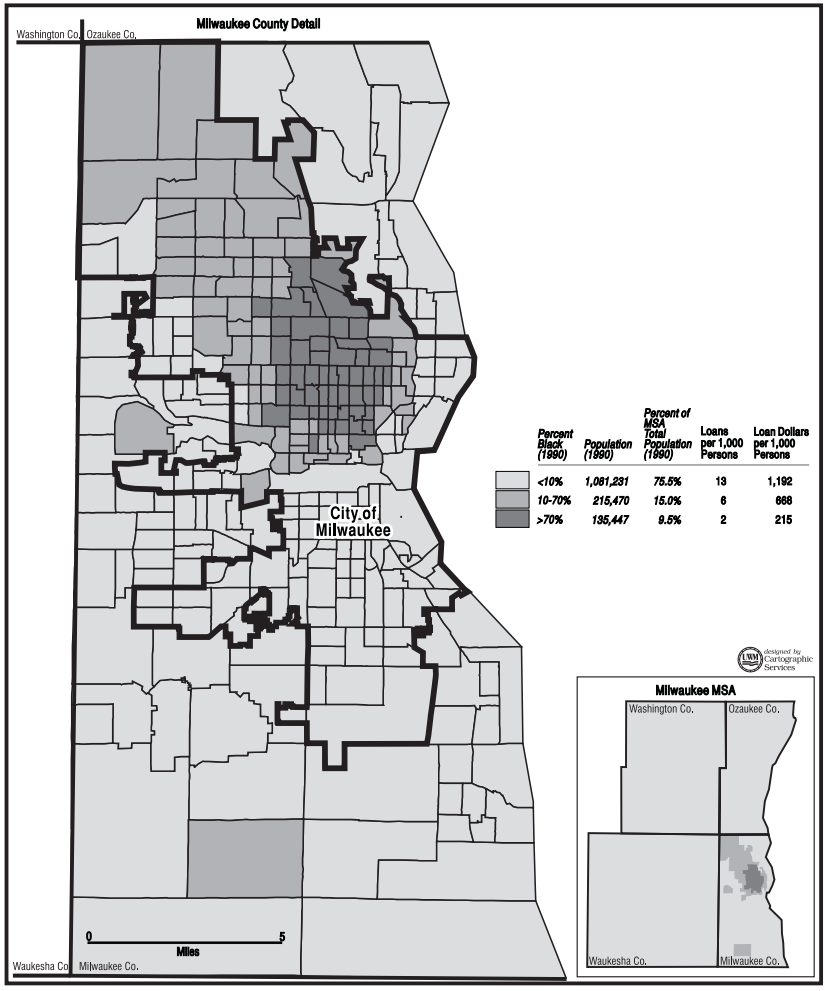
MAP 1

Small Business Lending by Neighborhood Income Level
Milwaukee MSA, 1996

MAP 2

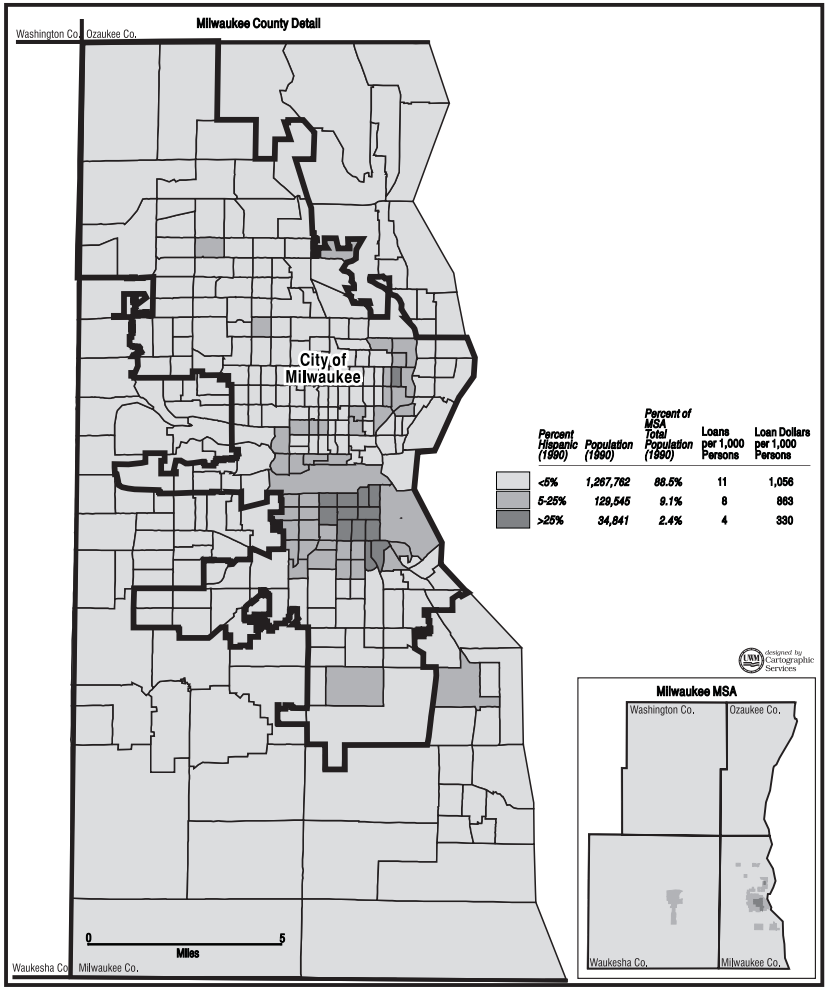
Small Business Lending by Black Population Concentration

Milwaukee MSA, 1996



MAP 3

Small Business Lending by Hispanic Population Concentration
Milwaukee MSA, 1996



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Intraurban Patterns of Small Business Lending: Findings from the New Community Reinvestment Act Data

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Discrimination and redlining in business lending have been cited as contributing to economic decline in lower-income neighborhoods. The Community Reinvestment Act covers access to small business as well as mortgage credit, but, until recently, bank regulators have not collected geographic data on business loans.

Using new data collected by regulators, this paper measures small business lending flows to different types of neighborhoods in the Chicago metropolitan area. While data limitations preclude a definitive finding of differential access to credit, lower-income and minority neighborhoods areas are found to receive fewer loans after accounting for firm density, firm size, and industrial mix. When combined with the literature on access to business credit, these findings support the notion of geographic and/or race-based discrimination in marketing or approving loans and places the burden on regulatory agencies to collect and disclose more detailed lending data for further investigation.

Introduction

Anemic or declining business development in low- or moderate-income neighborhoods continues to be of concern to policy makers and researchers (Bingham and Zhang, 1997; Porter, 1995; U.S. Department of Housing and Urban Development, 1995). One potential contributor to such problems is inadequate access to credit by small businesses in these areas. Bates (1989) shows that levels of both financial equity and debt are important to the viability of start-up firms, with the latter being more important to minority-owned than White-owned firms. Some have argued that lending discrimination and geographic redlining have constrained access to credit by firms in lower-income areas and by Black-owned businesses (Bates, 1993; Dymski, 1996).

This article is an abbreviated and simplified treatment of material covered in a forthcoming article in *Urban Affairs Review*, entitled "Intrametropolitan Patterns of Small Business Lending What Do the New Community Reinvestment Act Data Reveal?" (July, 1999).

As a response to concerns over redlining, the 1977 federal Community Reinvestment Act (CRA) and its attendant regulations require banks and thrifts to offer small business credit throughout their market areas and prohibit them from excluding low- and moderate-income sections of their larger market areas from their formal regulatory assessment areas (U.S. Department of the Treasury, 1995).[1] This paper examines new data made available under recent revisions to CRA regulations. These data, while not sufficient to confirm or deny racial or geographic discrimination in small business lending markets, describe, for the first time, patterns of small business lending across intrametropolitan space. They can be used to indicate whether bank lending flows are consistent with explanations of discrimination or redlining and whether the collection of more detailed loan data is warranted. Moreover, they can be used to model the general determinants of small business lending flows, providing important information for economic development and bank regulatory policy.

Until recently, bank examiners conducting CRA evaluations could analyze the geographic patterns only of residential mortgages because no geographic data on business loans were collected by regulators. Revisions to the CRA regulations, finalized in 1995, require all but the smallest banks to report small business lending volumes by census tract (U.S. Department of the Treasury, 1995).[2] The data were collected for the first time in 1996, and the 1996 figures were disclosed in late 1997. Unfortunately, the aggregate nature of the data and the lack of detailed information on applications and denials, firm size, industry, credit history, and race prevent direct conclusions regarding geographic or race-based lending discrimination.[3] At the same time, these new data are important, and like studies of early Home Mortgage Disclosure Act (HMDA) data, their analysis will determine the extent to which lending varies by neighborhood income and race. In the short run, studies of these data are likely to provide critical evidence in ongoing debates over whether bank regulations should be changed to provide for the collection and disclosure of more complete and disaggregated data, such as those collected on mortgages.

This paper seeks to identify the determinants of credit flow to small businesses with annual sales of less than $1 million. There are at least two reasons why these small firms may be most likely to suffer from differential credit access across urban space. First, Bates (1997) has shown that Black-owned start-up firms are able to leverage their initial equity investments at lower rates than White-owned firms. That is, controlling for other firm characteristics, Black start-ups receive smaller amounts of bank debt per dollar of owner equity than White-owned firms. Second, larger, more established firms are likely to be lower-risk and generate higher profit margins for the bank. Because discrimination is expected to be most important at the margin, a

lender's racial or geographic preferences are likely to affect their decisions more when dealing with smaller firms whose risk characteristics place them near the lender's risk tolerance threshold. Larger firms also tend to take out larger loans and consume more banking services, yielding higher profit margins for lenders. If their discrimination is pure, lenders might be adequately compensated for lending to "distasteful," but relatively large customers. If discrimination is statistical, higher expected revenues might enable lenders to absorb the costs necessary to induce them to assess the risks of individual borrowers.

The Redlining and Lending Discrimination Literature

The bulk of the literature on redlining and lending discrimination has concerned residential mortgage lending, with much of it using data collected under the Home Mortgage Disclosure Act and related regulations. The availability of HMDA data and the historic focus of CRA and fair lending regulations on mortgage activity has spurred substantial research on residential lending patterns (Munnell et al., 1992; Wienk, 1992; Kim and Squires, 1995). The empirical literature on mortgage redlining can be categorized into two basic types: those studies focusing on an outcome-based definition of redlining; and those focused on a process-based definition concerned with the approval or denial of formal applications (Yinger, 1995). Outcome-based studies of lending flows, which focus on lending rates to different types of neighborhoods, were the norm before 1990, when Home Mortgage Disclosure Act data began to include microdata on loan applications, rather than only census tract summaries of originations (Bradbury, Case, and Dunham, 1989; Hula, 1991; Shlay, 1988).

More recently, the mortgage access literature has focused on the approval or denial of formally submitted mortgage applications, in large part because the newer, publicly available HMDA data has repeatedly shown large disparities in approval rates by race, even after controlling for income. The bulk of this literature has focused on lending discrimination by race of applicant, and less on a process-based definition of redlining, where the effect of the geographic location on approval rates is examined. In a study that spurred much of the recent lending discrimination literature, Munnell et al. (1992) find significant evidence of discrimination in loan approvals, but no evidence of redlining in the approval process.

Yinger (1995) notes that the outcome-based studies often find evidence of redlining, or differential flows of credit when controlling for neighborhood characteristics. The outcome-based studies are more difficult to model, because they attempt to explain the results of a number of different current and historical processes, including the marketing and screening procedures of lenders and realtors,

anticipated discrimination by potential home buyers, and historical discrimination. The process-based studies, on the other hand, merely attempt to isolate discrimination or redlining in the approval of formal loan applications, which is only one part of the lending process. While these studies are easier to implement, the findings may be quite limited. If redlining occurs primarily through lenders not marketing their services in certain areas, for example, a process-based study finding no redlining in the approval process may be of limited relevance.

Determinants of Business Lending

Before attempting to develop a model of small business lending flows across urban space, some basic information on determinants of credit access is important. In a nongeographic, process-based study using data from the Federal Reserve Board's 1993 National Survey of Small Business Finances, Cole (1998) finds that newer and smaller firms are more likely to be turned down for loans than older and larger firms. The Federal Reserve Board's Survey of Small Business Finances shows that wholesalers and manufacturers account for a disproportionate amount of commercial bank loans to small corporations (Federal Reserve Board of Governors, 1997).

Using a survey of 1,300 firms, Ando (1988) finds that Black-owned firms are denied bank loans at significantly higher rates than White-owned firms. Similarly, from a survey of 448 firms in the Denver area, Ford et al. (1996) find that Black-owned firms are denied loans at 3.5 times the rate that White-owned firms are. After screening out firms not meeting minimum sales and net worth levels and three years of operating history, the denial rates for screened White firms are found to drop significantly, while denials rates for screened Black firms do not. Both of these studies are likely to suffer from selection bias, because firms rejected for bank loans and no longer in business are not included in the surveys. This bias suggests that the denial rate disparities in these studies may be underestimated.

In analyzing data from the Characteristics of Business Owners (CBO) database, Bates (1989, 1993) finds that banks make smaller loans to start-up firms located in minority areas than to firms in non-minority areas while controlling for financial equity, owner education, race, age, and experience. To compound the problem, he finds that minority-owned start-up firms in minority areas tend to have smaller educational and financial equity endowments than other firms, resulting in even smaller loan sizes. In a more recent study, Bates (1997) again finds that White-owned firms are able to attract larger amounts of debt than similarly situated Black-owned firms.

The Data

The data used here are collected by the Federal Financial Institutions Examination Council (FFIEC), a federal agency that coordinates common activities among the four federal banking regulators. Banks and thrifts with at least $250 million in assets, or owned by a bank holding company with at least $1 billion in assets, are required to report data aggregated by census tract on the number and dollar amount of loans to businesses, including subtotals by loan size (up to $100,000; $101,000—$250,000; $250,000—$1,000,000) and by annual sales of business ($1,000,000 or less; over $1,000,000).[4] The data reported to the FFIEC are not fully disclosed to the public. Aggregate levels for all reporting institutions are essentially fully disclosed, with a report providing aggregate number and dollar amount of lending for all census tracts where loans are made. Bank-specific reports, however, do not provide tract-by-tract data.[5]

The FFIEC data do not include all lending to small firms. The small banks and thrifts not required to report these data accounted for approximately 35 percent of the outstanding business loans of $1,000,000 or less reported on the balance sheets of banks and thrifts in June, 1996 (Bostic and Canner, 1998). Moreover, data from the 1993 National Survey of Small Business finances show that commercial banks accounted for 63 percent of outstanding loans, by dollar amount, to small nonfinancial corporations (Federal Reserve Board of Governors, 1997). Finance companies constituted another 18 percent, with other sources accounting for the rest.[6]

To identify differences in intrametropolitan business lending rates, I analyze loans to firms with sales under $1 million in the six-county Chicago metropolitan area from the 1996 FFIEC data. In the six-county Chicago area during 1996, banks and thrifts reported 24,182 loans to firms with annual sales of $1,000,000 or less in census tracts with nonzero residential populations.[7] Table I provides lending activity broken out by four neighborhood income categories for the Chicago area.[8] The table also breaks out the number of firms with sales of $1 million or less, as reported by Dun and Bradstreet, located in each type of tract in 1996. Also shown are loan-per-business rates in each of the four neighborhood income categories.

Table I shows that loan-per-firm rates are substantially higher in higher-income tracts than in lower-income tracts. The lending rate is 50 percent higher in upper-income tracts than in low-income tracts, and is 14 percent higher in middle-income tracts than in moderate-income tracts.

Dun and Bradstreet data are expected to undercount firms, especially smaller ones, those less likely to seek credit, or those operating primarily in the informal economy. It might be expected, therefore,

that firms in lower-income, and especially ethnic or immigrant, neighborhoods would be less likely than those in more affluent areas to be included in the Dun and Bradstreet data. If this is the case, then the differentials in loan-per-firm rates shown in Table I would underestimate the actual differentials.

Multivariate Analysis of Geographic Lending Patterns

Both the demand and supply of loans in a geographic area are likely to depend on some variables that are difficult to observe, such as the credit history or revenue trends of local firms. While unobserved variables and the aggregate form of the data preclude definitive conclusions about geographic or racial discrimination in marketing or approving loans, measuring intrametropolitan lending patterns while controlling for some important tract characteristics aids in the understanding of business financing. Moreover, such analysis helps to indicate the degree to which concern is warranted over access to business credit in lower-income areas and among minority-owned firms. In the near-term, this has important implications for regulatory policy regarding the collection of more detailed business loan data.

The new CRA data allow for the regression of neighborhood small business lending volumes on the business and resident demographics of the neighborhood. The dependent variable is the number of loans made to small firms (those with sales under $1,000,000) in a census tract during 1996. The data set was selected from the 1,738 census tracts with nonzero population in the six-county Chicago area. Because tracts with very few small firms might be expected to receive no small business loans, such tracts were excluded from the analysis. As shown in Table I, there were 0.151 loans made for each small business in the region. Thus, on average, one loan is expected for every 6.6 small firms. To ensure a reasonable, minimum number of small firms in every observation, 172 tracts with fewer than 13 small firms were excluded, leaving 1,566 observations.

Table II provides the results of an ordinary least squares estimation of business lending activity. The results of the regression indicate that all independent variables are significant at the 0.01 level, except for proportion manufacturing and proportion retail, which are significant at the 0.05 level. The signs of all coefficients are as expected. Other things equal, areas with relatively large businesses (firm size) are expected to receive more loans, which is consistent with Cole (1998). Tracts with more wholesalers and manufacturers, and with fewer retailers, are expected to see more lending, with proportion wholesale having the stronger effect.

Higher median incomes and lower proportions of minority residents also lead to higher numbers of small business loans. Other

things held constant, going from a low-income neighborhood with a 1989 median family income of $20,000 to an upper-income neighborhood with a median income of $60,000, for example, is expected to result in an increase of two small business loans. Given an average number of small business loans of 15.3, this is a significant effect. The effect of proportion Hispanic has a large effect on lending activity. Going from an all White to an equivalent all Hispanic neighborhood is expected to result in a decrease of 5.9 small business loans. Going from an all White to an all Black neighborhood is expected to result in a decrease of 2.7 loans. It should be pointed out, however, that the standard deviation of proportion Black (0.35) is significantly higher than that of proportion Hispanic (0.20), so that difference in standardized coefficients (not shown here) for these two variables are not as large as the difference in unstandardized coefficients.

In many large cities, sizable changes in neighborhood income are typically accompanied by significant racial change. Combining the effects of income and racial change show substantial effects on business lending volumes. Going from an all White tract with a 1989 median income of $60,000 to an otherwise similar all Hispanic tract with a median income of $20,000 is expected to result in a drop in the number of loans by 7.9 loans. Given a mean of 15.3 loans, this is a very large decrease. Similarly, an all Black neighborhood with an income of $20,000 is expected to see 4.7 fewer loans than a similarly situated all White tract with a median income of $60,000.

The results in Table II can be criticized for failing to account for the problem of spatial autocorrelation, which occurs when the regression residuals of a pair of nearby observations are more similar than those of more distant pairs and can result in biased coefficient estimates. I use a spatial lag model to account for spatial autocorrelation. This model accounts for the lending levels of other neighborhoods within a distance of approximately 7 miles and weights these neighboring observations by an inverse distance function, following the gravity model of spatial interaction.

The results of a two-stage least squares estimation of this model are given in Table III. For purposes of sensitivity analysis, two different specifications of the spatial lag function are estimated. The signs of all coefficients remain unchanged from the OLS results in Table II. Moreover, for variables including the number of firms, firm size, proportion manufacturing, and proportion wholesale, coefficient magnitudes are similar to the OLS results of Table II, and significance levels remain the same. Coefficient magnitudes for proportion retail, neighborhood income, proportion Black, and proportion Hispanic do decline significantly compared to Table II. Controlling for spatial lag correlation yields results in which proportion retail is no longer

significant, and the significance of proportion Black depends on the precise specification of the spatial lag variable.

The results in Table III do not suggest a reduced effect of location on lending activity. Rather, they merely indicate that race and income, alone, do not fully describe a neighborhood's locational predisposition for lending volume. A White neighborhood surrounded by many minority neighborhoods with low lending volume is expected to see lower lending activity than a White neighborhood surrounded by other White neighborhoods with high lending activity. This is consistent with the fact that bank branches, which tend to be located in middle- and upper-income areas, serve larger areas than single census tracts. Thus, the demographics of surrounding areas may be an important determinant of a neighborhood's lending level. To interpret the effects of neighborhood race and income then, the spatial lag variable must be held constant. Since most lower-income and minority neighborhoods are situated near other lower-income and minority neighborhoods, their spatial lag variables will tend to have relatively low values. Thus, the race, ethnicity and income coefficients in Table III are conservative measures of race and income effects because they measure only the independent impact of the neighborhood's demographics and not the effects of the demographics of nearby neighborhoods, which are now captured in the coefficient of the spatial lag variable.

Even after holding lending in surrounding areas constant, neighborhood income has a positive effect on small business lending. A $40,000 increase in the median family income of a neighborhood is expected to result in between 1.1 and 1.4 more loans in otherwise similar neighborhoods. At the mean of 15.3 loans, this represents a 7–10 percent increase in lending volume. Going from an all White to an equivalent all Black tract is expected to result in a decrease of 1–1.8 loans, approximately 7–12 percent at the mean, although the precise specification of the distance lag (k=2 vs. k=3) affects whether the result remains statistically significant. Finally, going from an all White to an equivalent all Hispanic tract is expected to result in a decrease of 3.7–4.6 loans, or a 24–30 percent reduction at the mean.

Again, changes in race and income tend to occur simultaneously across neighborhoods. Going from an all White tract with a $60,000 median income to an otherwise equivalent all Black tract with a $20,000 median income is expected to result in a decrease of 2.1–3.2 loans, equal to a 14–21 percent reduction at the mean of 15.3 loans, holding lending in surrounding areas constant. A similar comparison to an all Hispanic tract with a $20,000 median income would result in an expected decrease of 4.8–6 loans, or a 31–39 percent decrease at the mean.

The effect of proportion Hispanic on lending volume is particularly strong and of special concern. From a survey of mostly 235 small

firms in the predominantly Mexican-American neighborhood of Little Village in Chicago, Bond and Townsend (1996) conclude that firms in the survey, most of which are Hispanic-owned, were credit-constrained in their start-up financing. They suggest that bank loans may be too inflexible for such firms, although they do not provide strong evidence for this conclusion. They also find that the Hispanic firms that had applied for a loan experienced a rejection rate of at least 44 percent. Thus, it is not clear the extent to which low lending activity in such areas is due to cultural affinity issues, overt discrimination or redlining, or inappropriate credit vehicles. It seems likely, however, that cultural and language barriers between loan officers and business owners, especially recent immigrants, create barriers to credit. Research in mortgage lending provides some evidence of cultural affinity barriers, at least in the case of Black mortgage applicants. Kim and Squires (1995) find that thrifts with higher proportions of Black staff approve loans to Blacks at higher rates.

As with the denial rate studies reviewed above, the omission of loan applicants who are no longer in business, or were never able to start up, is a problem of selection bias, so that patterns of loans originated may underestimate any problems of poor access to credit. On the other hand, the inability to fully measure firm demand across space may suggest bias in the other direction.

Conclusions and Policy Implications

The new CRA data on small business loans provide, for the first time, a description of the flow of small business loans to different types of neighborhoods. While these data are not adequate to confirm the existence of lending discrimination, lower-income and minority areas suffer from lower lending rates than higher-income and White neighborhoods, after controlling for industrial mix, firm size, and firm population. The negative effect of the proportion of residents who are Hispanic on lending volume is particularly strong. More research is needed to explain the low lending levels in low-income, Black and, especially, Hispanic areas.

These findings have important implications for both CRA and fair lending policies. Under the revised CRA regulations, examiners are now expected to assess the geographic patterns of banks' small business as well as residential loans. The results above, and the available evidence on small business access to credit, suggest the need for regulators to take this charge seriously. Moreover, under the Equal Credit Opportunity Act, banks are prohibited from discriminating on the basis of race. The Department of Housing and Urban Development and the Department of Justice have investigated mortgage lenders for fair lending violations. Similar investigations, including the

use of matched-pair testing, could be used to identify lenders who discriminate in small business lending. Such investigations are made more difficult, however, by the lack of data on applications and the race of applicants, which would enable investigators to identify banks that are more likely to be guilty of discrimination.

Better data are needed that can be regularly examined to measure and explain business lending activity in lower-income and minority neighborhoods. Bank regulators should collect and disclose MDA-like microdata on small business loan applications, including details such as approvals, loan purpose, firm size, industry, and race of owner. While even HMDA-like data are unlikely, by themselves, to provide definitive evidence of discrimination, due to the inevitable omission of some relevant firm characteristics, they would provide much stronger suggestive evidence and could be used to spot potential violators of CRA and fair lending laws.

Daniel Immergluck, vice president at the Woodstock Institute, has authored more than a dozen publications for the Institute. In addition, he has published research and commentary articles in a wide range of journals, including Urban Studies, Economic Geography, Journal of Urban Affairs, and Economic Development Quarterly. Immergluck has a master's degree from the University of Michigan and a Ph.D. in urban planning and policy from the University of Illinois at Chicago.

TABLE I

Small Business Lending to Firms with Annual Sales of $1,000,0000 or Less by Income of Census Tract in 6-County Chicago Area, 1996

	Income Level of Census Tract				
	Low	Moderate	Middle	Upper	Total*
Number of loans to firm with <= $1,000,000 in sales	898	2,745	9,878	10,661	24,182
Number of firms with <=$1,000,000 in sales	8,347	20,645	65,160	65,776	159,928
Loans per firm	0.108	0.133	0.152	0.162	0.151

* Total does not include loans or firms in tracts with unknown income level

TABLE II

OLS and Heteroscedastic-Robust Results (Equation 1)

Dependent Variable Equals Number of Loans

Independent Variable	Coefficient	Standard Error OLS	Standard Error Heteroscedastic-Robust
Number of firms	0.1217	0.0018 ***	0.00721 ***
Firm size	8.9602	2.2200 ***	1.9895 ***
Proportion manufacturing	9.1053	3.8508 **	3.8722 **
Proportion wholesale	26.4533	4.8206 ***	4.8578 ***
Proportion retail	-4.1845	2.411 *	1.9739 **
Neighborhood income	5.118×10^{-5}	1.474×10^{-5} ***	1.554×10^{-5} ***
Proportion Black	-2.6679	0.7783 ***	0.7050 ***
Proportion Hispanic	-5.8537	1.3058 ***	1.1600 ***
Constant	-3.3638	1.3170 **	1.2481 ***

$R^2 = 0.8154$

N = 1,566

*** Significant at 0.01

** Significant at 0.05

* Significant at 0.10

TABLE III

Two-stage Least Squares Estimation of the Spatial Lag Model Using Inverse Distance Squared and Cubed Weighting

	Inverse Distance Squared (k=2)		Inverse Distance Cubed (k=3)	
Independent Variable	Coefficient	Std. Error	Coefficient	Std. Error
Spatially lagged number of firms	0.2245	0.0351***	0.1297	0.0301***
Number of firms	0.1224	0.0019***	0.1233	0.0019***
Firm size	9.0385	2.1299***	8.5440	2.1573***
Proportion manufacturing	8.9826	3.6951**	9.1574	3.7389**
Proportion wholesale	21.5413	4.6889***	24.0620	4.7133***
Proportion retail	-2.2109	2.3344	-2.8617	2.3614
Neighborhood income	2.283×10^{-5}	1.459×10^{-5}*	3.657×10^{-5}	1.47×10^{-5}**
Proportion Black	-1.0271	0.7896	-1.752	0.7850**
Proportion Hispanic	-3.7460	1.2955***	-4.593	1.3012***
Constant	-5.7379	1.3170***	-4.467	1.3042***
Goodness of Fit Measures [a]				
Pseudo R2	0.8248		0.8206	
Correlation Squared	0.8201		0.8177	

N = 1,566

*** Significant at 0.01

** Significant at 0.05

* Significant at 0.10

a. A traditional R^2 is not applicable to this instrumental variables approach (Anselin, 1988, 1995). The pseudo R^2 is equal to the ratio of the variance of predicted values of the dependent variable to the variance of the observed values of the dependent variable. Also shown is the square of the correlation between the predicted and observed values of the dependent variable. These are not directly comparable to the OLS R^2 in Table II.

Notes

[1] While lending discrimination is prohibited under the Equal Credit Opportunity Act, the CRA does not explicitly cover discrimination against individuals or minority groups, only the geographic patterns that might be caused in part by individual-based discrimination.

[2] All banks and thrifts with assets of at least $250,000 or whose parent holding company has assets of at least $1 billion dollars must report all business loans of $1,000,000 or less. Such loans are typically referred to as "small business loans" by bank regulators but are actually better described as small loans to businesses, since loans to businesses of any size are reported.

[3] Even the much more detailed Home Mortgage Disclosure Act data are not complete enough to discern discrimination in the loan approval process. Supplemental loan file data is needed for such work. At the same time, the HMDA data by themselves are much more powerful in suggesting potential discrimination than are the CRA business loan data.

[4] The FFIEC uses error checking algorithms to spot likely errors. Also, if borrowing firms only provide post office boxes, the tract of the post office is used as the location of the firm. The extent of this problem is not clear, because the number of loans for which post office locations were used is unknown. See Bostic and Canner (1998) for further discussion of data issues.

[5] Instead, bank-specific reports provide a distributional report for each county where a bank made loans during the year. These reports break lending volumes out into different neighborhood income ranges, such as low-, moderate-, middle- and upper-income. Finer breakdowns are provided for larger counties.

[6] Firms may also borrow from friends and family or through consumer credit cards. Business credit cards are included in the data.

[7] These figures actually include both loans originated and purchased by reporting institutions. Purchases are not broken out for loans to firms with sales of $1 million or less. However, more than 97 percent of all loans in the six county area are purchased, and this ratio is likely to be even higher in considering only loans to firms with sales of $1 million or less.

[8] Income categories follow CRA categories and are determined by whether the tract's median family income falls within 0-49% of metropolitan median family income (low-income); 50-79% (moderate-income); 80-119% (middle-income); or 120% or greater (upper-income) (U.S. Department of the Treasury, 1995).

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Studies Of CRA Data On Small Business Lending

Discussion Comments
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The papers in this section present estimates of simple single equation models that explain either the number or amount of business loans made in various census tracts by large depository institutions. The analogy between application of new CRA business lending data and HMDA data on mortgage lending is strong. Unfortunately, the papers fail to note the extensive literature which demonstrates that HMDA data on mortgage lending cannot be used to test for discrimination and that naive use of the data in simple statistical models tends to produce false positive indications of discrimination.

This comment argues that all of the problems inherent in the use of HMDA data to test for mortgage lending discrimination also apply to business lending. Furthermore, there are a host of additional problems, some of which are noted in the papers while others are ignored. The overall conclusion, ignored in the papers, is that implied statistical analysis of the data on business lending under the new CRA data requirements cannot demonstrate the presence or absence of discrimination. Proposals to supplement the business lending data, including demographic characteristics of the owner(s) and adding information on applications, will produce a data set whose only use is to produce false positive indications of lending discrimination.

Studies of CRA Data on Business Lending

The papers by Canner (1999), Squires and O'Connor (1999), and Immergluck (1999) use data on the geographic distribution of small loans to businesses reported by larger commercial banks and savings associations. All three papers report tabulations of the data by various categories, particularly according to the demographic characteristics of the census tract to which the loan is attributed. Finally, ordinary least squares regressions relate the volume, measured either as number or dollar amount, of lending to the number of businesses in the tract, as estimated from Dun and Bradstreet listings, and the income, population, and minority composition of each census tract. While all authors note that this level of analysis is not sufficient to prove anything about the presence or absence of discrimination in small business lending, Squires and O'Connor (1999) and Immergluck (1999) appear to suggest that proposed elaboration of the reporting requirements for

business loans would allow one to make inferences about the existence and extent of discrimination in lending.

The inspiration for use of new CRA ("new CRA") or proposed extensions of new CRA ("extended CRA") data to test for the presence or absence of discrimination in small business lending is motivated by an analogy with data on mortgage lending provided under the Home Mortgage Disclosure Act ("HMDA"). There appears to be an implicit assumption that HMDA can be used to test for discrimination in mortgage lending and that the models used in mortgage lending discrimination studies can be adapted to business lending. The first problem with this view is that the academic literature has overwhelmingly rejected the proposition that HMDA data provide a basis for testing for discrimination. The second problem is that business lending is far more complex than home mortgage lending and that approaches are inadequate for testing discrimination in home mortgage lending have no chance of succeeding in tests for discrimination in business lending. I will elaborate on both of these problems in the next two subsections.

Statistical Analysis of HMDA Data Produces False Positive Indications of Discrimination

HMDA data, even with the expanded coverage provided since 1995, cannot be used to test for the presence or to demonstrate the absence of discrimination in mortgage lending. Discrimination by lenders implies differential supply of credit based on the minority status of the applicant and/or the minority composition of the neighborhood in which the object property being financed is located. Testing for discrimination requires that the effects of mortgage applicant demand for credit be disentangled from the terms under which credit is supplied. There are many reasons why HMDA data are incapable of distinguishing differences in lending outcomes due to applicant demand differentials from those arising from possibly discriminatory supply differentials.

In reviewing numerous studies using HMDA data, Benston (1979, 1995) has identified two persistent problems that tend to produce false positive indications of discrimination. First is the failure to record a variety of information, particularly credit history and credit score, that plays a critical role in the lending process, which results in omitted variable bias in estimates of loan volume or loan denial frequency. Second is inability to distinguish effects due to applicants from the behavior of lenders. This second problem is particularly troublesome in models that estimate the probability of loan rejection, relating applicant characteristics and loan terms to a binary variable reflecting the probability that a loan is rejected. The problem with

such single-equation models of loan supply or applicant rejection is that they assume that loan terms, loan-to-value ratio, loan amount, monthly payment to income ratio, presence of cosigners, etc., are chosen without regard to their effect on the probability of rejection. This contrasts with the real world in which lenders routinely advise marginal applicants to adjust their loan request in order to lower the probability of rejection. Yezer, Phillips, and Trost (1994) have demonstrated that the use of single-equation models of loan rejection to test for discrimination, by ignoring the endogeneity of loan terms, tends to produce false positive indications of discrimination where none exists.

Overall, the experience with statistical testing for discrimination using HMDA data is discouraging. It has been used to estimate simple, single-equation models of mortgage supply or loan rejection that are biased in that they tend to produce false positive indications of lender discrimination where none exists. For those interested in advancing political goals which require a prior belief that lenders discriminate against minorities, such false positive results have proved extremely useful. As catalogued in Benston (1995), simple statistical testing has become accepted as evidence of discrimination by the media and much attention has been given to spurious results. The papers by Immergluck (1999) and Squires and O'Connor (1999) appear to regard this prior misuse of HMDA data as a positive contribution to bank regulation and to promise similar misapplication of the extended CRA business lending data in the future.

Statistical Analysis of CRA Business Loans is Even More Problematic Than HMDA Data

While the record of statistical testing for discrimination using HMDA data is discouraging to those interested in fair and unbiased tests, testing based on extended CRA business lending promises to have an even more problematic relation to the truth. The problems of omitted variable bias are even more important for business lending because: (1) collateral quality is far more difficult to appraise in business lending than it is for mortgages; (2) loan terms, including credit enhancements, are more complex for business loans; (3) creditworthiness may well include the owners as well as the business characteristics; and (4) lending is often based on an existing banking relationship with a history of its own. All four of these factors tend to exaggerate problems of omitted variable bias due to the inability to observe important characteristics of the transaction, and simultaneous equation bias arising from the endogeneity of the multiplicity of loan terms and credit enhancements. These were serious sources of biased estimates and false positive indications of discrimination in single equation statistical models of mortgage lending. The tendency to produce false positive

indications of discrimination in similar single equation models applied using either new or extended CRA data to models of business credit supply will be even larger.

Other factors complicate testing for discrimination in business lending. Some of these are noted in Canner (1999) but some are omitted. The precise effect of these complications on the outcome of tests such as those performed in the three papers should be determined after careful modeling of the lending process. Nevertheless, I have speculated on each complication along with its likely direction of bias in the listing below.

(1) Dun and Bradstreet listings do not provide an accurate count of small businesses, and this measurement problem is exaggerated when attempting to account for location by census tract. All three papers appear to accept these business totals without question.

(2) As noted by Canner (1999), one effect of lending discrimination may be to reduce the number of businesses. Thus discrimination could be unobserved because the businesses discriminated against would cease to exist.

(3) Business loans, particularly to small enterprises, may be associated with the residential address of the owner. This likely produces false positives by allocating too many loans to higher income, lower minority suburban locations.

(4) Business credit may be supplied through personal loans, mortgages, home equity loans, etc. To the extent that minority borrowers are less likely to qualify for such credit, this may tend to produce false negative indications of discrimination.

(5) There is an inverse relation between the term of business loans and the number and volume of loans recorded in the new or extended CRA data. To the extent that minority businesses rely on shorter term loans, this tends to produce false negative indications of discrimination.

(6) Businesses with multiple banking relations may borrow smaller amounts from several lenders. To the extent that minority firms have fewer banking relations, this would produce false positive indications of discrimination.

(7) Canner (1999) observes that survey evidence indicates that nonbank credit sources are very important for small firms. The extent of such competition likely varies substantially with location and its effect on testing could be profound but difficult to sign.

(8) One problem in securing small business credit is lack of documentation of payment capability. This gives rise to low documentation lending which banks generally avoid. The effect of this market on testing using new or extended CRA business loan data is uncertain. Given that some of the low documentation loan market may be motivated by tax evasion, it is not clear that aggressive entry by banks into this market is good social policy.

The listing of complicating factors provided above is not intended to be exhaustive. However, it does provide some indication that, in addition to problems of false positives based on omitted variables and simultaneous equations biases, statistical models using new or extended CRA business loan data cannot provide evidence on the existence and extent of discrimination in small business lending. While some of these issues are discussed in Canner (1999), the three papers give an overall impression that the problems can be overcome. Clearly, I believe the literature suggests that these problems are major and inherent in use of this data.

CRA Data on Business Lending Results in Contradictory Incentives for Lenders

Because statistical analysis of CRA data on business lending produces biased estimates of the existence and extent of discrimination, use of such data and analysis in the regulatory process creates distorted and contradictory incentives for lenders. Again, the analogy with models based on HMDA data is very strong. If lenders attempt to increase minority lending by aggressively seeking applications in the minority community, they will inevitably attract minority applicants with greater credit risk. Increased lending to minority borrowers may well please regulators. However, this institutional strategy will also result in greater minority rejection rates that, given the built-in biases in statistical tests for discrimination using CRA data, will result in the false appearance of substantial discrimination by the very lenders attempting to increase minority lending. Furthermore, there will be a tendency for higher risk minority loans to be priced higher and therefore, if the investigation extends to loan pricing, the institution will be in far greater peril with regulators and plaintiffs than if it had never begun the minority outreach program. Perhaps the classic example of this in the mortgage lending area was a depository institution that acquired a mortgage banking subsidiary in order to improve its CRA rating and was promptly accused of discriminatory pricing because of lending by that subsidiary in the minority community.

Unfortunately, the papers at this conference do not consider the problems that arise when inadequate CRA data, on mortgage or small business lending, are used by regulators or community groups to evaluate depository institutions. The potential for misuse and perverse incentives is substantial.

Conclusions from the Studies of CRA Business Lending Data

Given the substantial biases toward the production of false positive indications of discrimination in the CRA business lending data, the lack of significant indications of lower lending, particularly for loan amount, in high minority census tracts reported by Canner (1999) is surprising. Indeed even findings of an 18 percent reduction in number of loans in going from an all White tract with $60,000 median income to an all Black tract with a $20,000 median income reported in Immergluck (1999) is small given the obvious problems with omitted variable bias and simultaneity noted above. The magnitudes of differential lending, at least in numbers, reported by Squires and O'Conner (1999) are closest to my prior expectations of what one would get using a flawed data set and biased estimator.

The primary applications of the CRA business lending data are in the aid of political ends, not in the scientific search for discrimination in mortgage lending. If we are to go forward with the collection and dissemination of this data on a regular basis, there is one step that could be taken to "level the playing field" with regard to omitted variable bias. It is a simple matter to request credit reporting bureaus to create depersonalized credit histories and to average these reports by census tract. If the data were released with mean FICO scores (that is, credit scores), bankruptcy, and delinquency rates by census tract, this additional information would help to make up for obvious deficiencies in the current data.

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