

BANK INFRASTRUCTURE AND SMALL BUSINESS FUNDING

IN LOW- AND MODERATE-INCOME NEIGHBORHOODS IN DETROIT



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COMMUNITY DEVELOPMENT AND POLICY STUDIES
FEDERAL RESERVE BANK OF CHICAGO
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CONTENTS

- 1. WHY A STUDY OF DETROIT BUSINESSES AND BANK INFRASTRUCTURE?** *Page 1*

This section discusses the motivation behind this project and explains our approach to evaluating changes in the financial infrastructure and the potential impact on lending to small businesses in Detroit and the surrounding counties.

- 2. THE CONTEXT FOR SMALL BUSINESSES IN DETROIT AND THE SURROUNDING COUNTIES** *Page 4*

This section uses available data to provide an overview of the contextual framework in which small businesses operate in the Detroit area. We draw on aggregate local (census tract) and MSA and/or county level information to supplement information learned from conversations with community business experts as to how the location context presents a challenge and, in some instances, a comparative advantage to their businesses.

- 3. THE CHANGING BANK LANDSCAPE: ARE LMIs DISPROPORTIONATELY AFFECTED?** *Page 13*

This section focuses on an analysis of location of financial institutions and changing banking structure. It looks at neighborhood differences by various characteristics, including income and racial composition. It includes an analysis of determinants of bank physical/geographic access (measured in various ways) and an assessment of the extent to which there are differences in access to banks in low- to moderate-income and minority neighborhoods.

- 4. BANK LENDING TO BUSINESSES IN NEIGHBORHOODS IN DETROIT** *Page 28*

This section examines lending to businesses across different neighborhoods. It includes an analysis of determinants of small business lending, including an assessment of the extent to which the location of financial institutions influences business lending in distinct neighborhoods.

- 5. MAKING THE CONNECTION: WHAT BANKS CAN DO** *Page 36*

This section highlights examples of ongoing efforts that are taking place in Detroit to promote small business financing and discusses the potential role that financial institutions could play in leveraging resources for small businesses in low- and moderate-income neighborhoods.

- 6. NOTES AND REFERENCES** *Page 42*

1. WHY A STUDY OF DETROIT BUSINESSES AND BANK INFRASTRUCTURE?

“If southeast Michigan is going to move to a more innovative economy, we must restore the structures and resources necessary for a robust entrepreneurial eco-system.”

The New Economy Initiative for South East Michigan¹

The Federal Reserve System’s Community Affairs Offices hosted more than 40 meetings in 2010 as part of an initiative titled, “Addressing the Financing Needs of Small Businesses.” The goal was to gather information and perspectives to help the Federal Reserve and other stakeholders address the immediate and intermediate credit needs of small businesses. Through this initiative, the Federal Reserve sought to deepen its understanding of the dynamics of the supply of and demand for small business credit, to identify specific credit gaps, and to learn about promising practices and suggestions for improvement. This study follows up on the effort to address the financing needs of small businesses in vulnerable communities, with a focus on the banking infrastructure and access to small business credit in Detroit.

Small businesses have long been recognized as critical to economic growth and job creation. More than 99 percent of American businesses employ 500 or fewer employees, and together these companies employ half of the private sector work force and create two out of every three new jobs. They account for about 60 percent of gross job creation. Historically, they have created more jobs than larger firms at the start of economic recoveries (CBO, 2012).

Small businesses development is also critical to low- and moderate-income neighborhood redevelopment. Amenities such as restaurants, grocery stores, and clothing stores make neighborhoods more attractive places to live; retail and business establishments are fundamental to neighborhood economic health. In addition, the literature finds that small firms tend to fill underserved niches in the labor markets that often have higher rates of unemployment. Compared with large firms, small firms employ a higher percentage of individuals with a high school degree or less, teens and people age 65 and older, and disabled workers (FDIC 2011).

Access to credit is important for small businesses. Almost 60 percent of small firms use a credit line or business loan each year (Federal Reserve Board, 2012). Credit is essential to insure individuals against liquidity shocks. It prevents unnecessary liquidation of illiquid assets by individuals, including real estate, and, for banking institutions, it channels savings from unproductive liquid assets toward productive

businesses (Bencivenga and Smith, 1991). This investment leads to increased wealth, local tax revenue, and, thereby, to neighborhood development (Galor and Zeira, 1993; Wolfensohn and Bourguignon, 2004).

INTRODUCTION

Detroit is one of the most economically distressed cities in the nation. Many organizations – academic, philanthropic, corporations, and others – are working in various ways to bring renewed economic vitality to the Detroit metro area. An important aspect of this work is small business development. Some areas of Detroit, notably the downtown area, are beginning to see a degree of growth in local commerce and trade, but where a business is located in Detroit matters in terms of accessing resources, particularly credit, and reaching customers.

This study explores how and to what extent changes in the financial infrastructure (i.e., the location of banks, bank size, the locus of credit decisions, and market concentration) have led to locational differences in access to financial services and credit for small businesses in the city of Detroit and surrounding counties.

Perhaps nowhere is the need for small business development and community revitalization more pronounced than in the city of Detroit. Detroit has a declining population, high levels of unemployment, low home values, and declining per capita income and household wealth. From the riots of the 1960s to the near-collapse of the auto manufacturing industry in 2008, the city’s fortunes have tended to rise and fall with alternating mass hires and layoffs by large companies. Under the traditional vision of economic development in Detroit, little attention has historically been given to small business development outside of industries supplying the auto sector.

In recent years, a groundswell of interest on the part of locally based institutions has emerged to expand the economic vision of the region to embrace a more diverse business environment. There are new resources and initiatives aimed at small business development and community revitalization in Detroit. Civic institutions and policymakers view a diverse industry base as an important piece of the city’s economic development plan. Foundations, universities, corporations, and nonprofits have begun to pursue an array of activities to attract and promote businesses in the inner city. These institutions have undertaken extensive studies to identify the neighborhoods of the city where existing assets should be leveraged and new investments should be targeted. They have made a long-term commitment to promoting a culture of entrepreneurship, as well as forming cross-institutional partnerships to reengineer and reimagine Detroit.

These efforts aim squarely at a more diversified small business/industry base, but also bring into focus the need

Chart 1.1. Population density

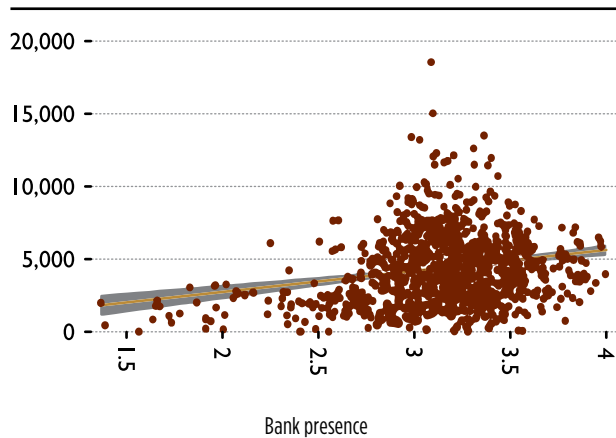


Chart 1.2. Household income (natural log)

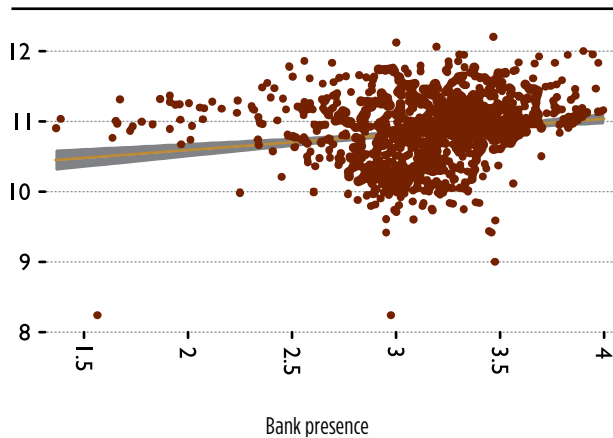


Chart 1.3. Vacancy rate

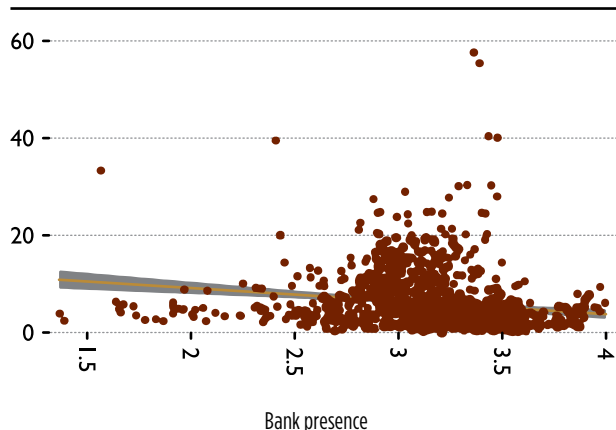
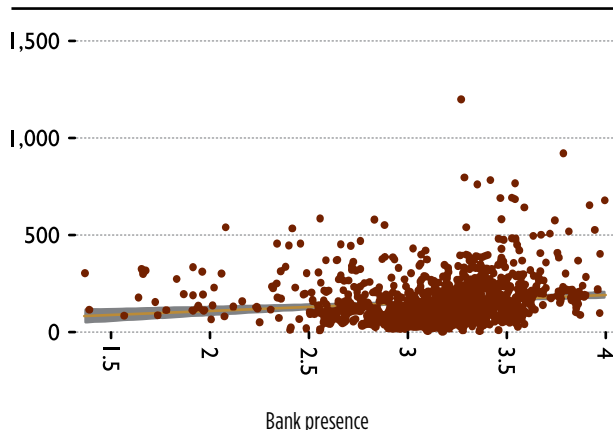


Chart 1.4. Number of businesses



Note: These charts represent linear relationships between population per square mile, natural log of median household income, vacancy rates and number of businesses, and bank presence measured as the density of bank branches within five miles of the centroid of census tracts in the city of Detroit and surrounding counties.

Sources: Authors' calculations based on U.S. Census, Dun & Bradstreet, and Maptitude.

for bank and private sector financial participation. While many in the Detroit small business community agree that philanthropic organizations, nonprofits, and corporations are active in promoting neighborhood redevelopment, they note that large financial institutions have played less visible roles in supporting small businesses and fostering an entrepreneurial culture. Most banks doing business in Detroit have received satisfactory or outstanding ratings in their Community Reinvestment Act (CRA) performance evaluations.³ However, many of the studies on socioeconomic trends in the Detroit area from research and policy organizations have not included bank location or lending trends, so little has been uncovered about the presence of financial institutions and financing or banking opportunities for residents, businesses, and neighborhoods. One exception is the considerable attention paid to bank failures and takeovers and some settlements of lawsuits alleging discrimination,⁴ but little applied research has documented the degree and the scope of changes to the financial services industry, especially in specific

communities in Detroit (Berger, Saunders et al, 1998). This study helps fill this gap.

Neighborhoods with more access to banks and financial services tend to be neighborhoods where more people want to live—they have more population and more businesses. They generally have higher incomes, higher housing values, and fewer vacancies (see charts 1.1–1.4). While it is not determined whether having more banks cause these socially desirable outcomes, it is clear that the extent of financial access is an important indicator of well-being in the community. Thus, it is not surprising that there is much concern expressed in the media and among consumer advocate groups regarding bank closings in low- and moderate-income (LMI) and more vulnerable communities.

Our approach to evaluating the potential impact on small businesses of changes in financial infrastructure across the business cycle is to explore how bank branch location, access to bank branches, and small business lending are

distributed across neighborhoods in the city of Detroit and surrounding three counties. Local location patterns of financial institutions are likely to capture structural conditions that confront small businesses seeking credit. Such conditions may include the level of competition between banks and the terms and quality of services that small businesses receive. If low- and moderate-income areas of the city face a disproportionate absence of financial institutions as a result of bank closings, the availability and the competitiveness of credit for small businesses in these neighborhoods may be reduced (e.g., Schwartz, 2011; Silver and Pradhan, 2012). In addition, community banks have traditionally been viewed as having informational advantages and stronger incentives to support local business and entrepreneurial activities in LMI communities (Hylton, 2000). But many, if not most, of the historically local community banks in the Detroit area have gone out of business or been acquired by large banks. Our analysis of the change in the banking infrastructure explores one key facet of how current economic conditions affect small businesses in distressed minority communities in a once vibrant, industrial city. We hope that this research will also draw financial institutions more closely into the conversation about neighborhood revitalization.

The study is organized as follows: In the next section, we use available data to highlight particular issues and constraints related to the business climate in the city of Detroit. As part of this discussion, we report information learned from conversations with community business experts and focus groups of business owners.⁵

In section 3, we address our main research question regarding the banking infrastructure and changing financial services across neighborhoods in the city of Detroit and surrounding counties. We provide a brief discussion of the connection between financial institutions' location and business credit. We then conduct a detailed analysis of changing banking infrastructure across neighborhoods in Detroit. Of particular interest is whether LMI and minority neighborhoods have disproportionately less access to bank offices (measured along several dimensions).

In section 4, we analyze lending to small businesses. We assess the determinants of lending, including the extent to which bank location influences lending to small businesses in different neighborhoods.

The final section incorporates the perspectives that experts have shared in a series of meetings and discussions that the Community Development and Policy Studies division has sponsored since 2012. We highlight different ways institutions in the community are currently connecting to leverage resources for small businesses. We include suggestions for how the community could bring in additional resources for small business finance, for example, by enhancing the interaction between banks and other business development organizations.

2. THE CONTEXT FOR SMALL BUSINESSES IN DETROIT AND THE SURROUNDING COUNTIES

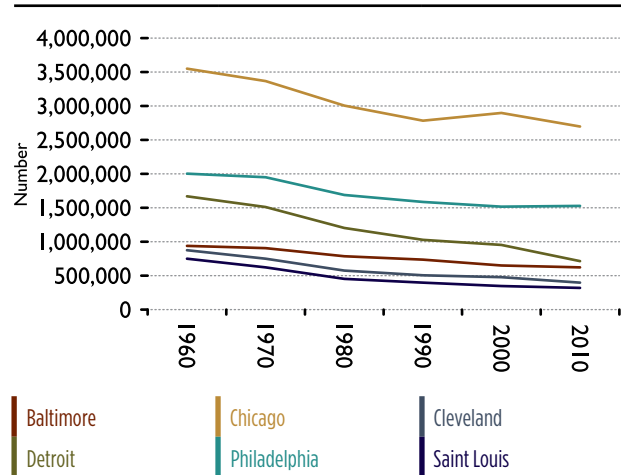
SUMMARY

This section provides an overview of the context in which small businesses operate in the Detroit area. In the absence of business-level micro data on the experiences of small business owners in the metro area, we rely on available aggregate local (census tract) and MSA and/or county-level information, as well as accounts from listening sessions with business owners. The small business climate in Detroit is one of contrasts. From one standpoint, population loss and job cuts during the late 2000s served to compound longstanding problems of outmigration, high unemployment, and relatively low incomes. These trends suggest shrinking markets for small businesses within the city limits. From another standpoint, population growth and investments in select urban neighborhoods suggest opportunities for small business growth based on particular neighborhood characteristics and assets (see box 2.1). Business start-ups in the city of Detroit increased during the 2000s, and the total number of small businesses (with revenues below \$1 million and no employees) increased in both low- and moderate-income (LMI), as well as middle- and upper-income (non-LMI) neighborhoods. The growth in the number of small businesses in the Detroit area suggests they are a potential source of economic diversification and revitalization in some communities.

POPULATION SHIFTS

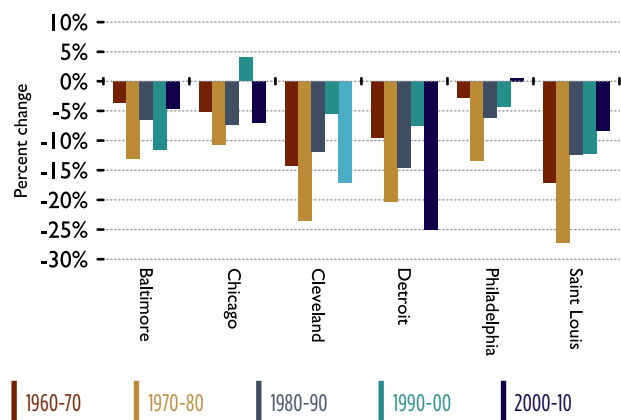
The population of Detroit city was about 715,000 in 2010, 25 percent lower than in 2000 and 40 percent lower than in 1980, according to the U.S. Census. The city was the 11th largest in the U.S., a drop from 7th largest in 1990. The phenomenon of population decline is not unique to the city of Detroit. Other traditionally industrial cities, such as Philadelphia, Cleveland, Baltimore, St. Louis, and Chicago,

Chart 2.1. Population in selected large cities



Source: Authors' calculations based on data from U.S. Census.

Chart 2.2. Percent change in population in selected large cities



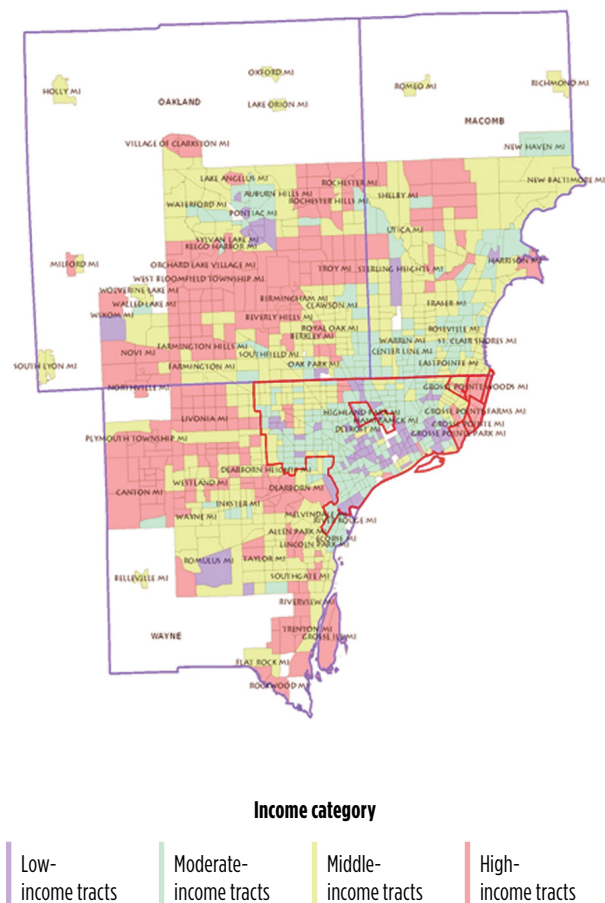
Source: Authors' calculations based on data from U.S. Census.

have also experienced significant population loss, ranging from an average of 5 to 15 percent during the past 50 years (charts 2.1 and 2.2). The loss of manufacturing jobs left many of these cities with fewer employment opportunities, a decreased tax base, and greater fiscal constraints, creating a weakened economic climate that has fueled migration away from the urban core. The loss of population in turn

BOX 2.1. RE-DENSIFICATION OF DETROIT NEIGHBORHOODS

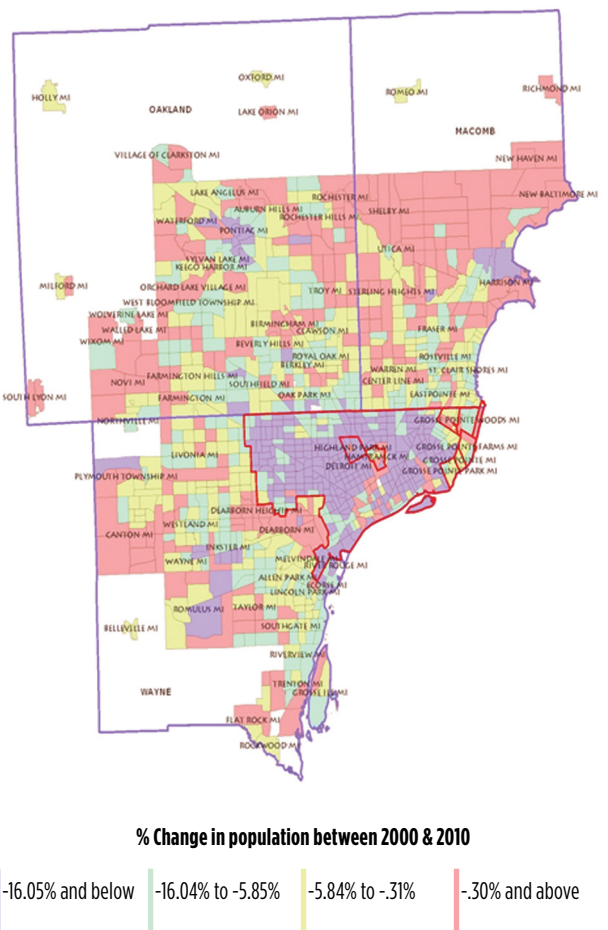
Much of the investment from foundations and corporations in the city of Detroit has been targeted to the Midtown neighborhood, singled out for its artistic, medical, educational, and cultural institutions. Projects have ranged from real-estate development, to business incubators, to programs that give incentives to large institutions to purchase products and services from local companies. The *Buy Detroit* and *Live Midtown* programs provide financial incentives for residents to relocate to Midtown and for anchor institutions to procure supplies from local businesses. The Midtown incentive program exhausted its \$1.2 million allocation to bring in 90 new families and, according to anecdotal evidence, has attracted young adults to open businesses in this neighborhood. The project focuses on re-densifying areas in and near Midtown and Downtown, including Eastern Market, Lafayette Park, Woodbridge, and Corktown.

Figure 2.1. The city of Detroit and surrounding counties, by census tract income



Sources: Authors' calculations based on data from U.S. Department of Housing and Urban Development (HUD), U.S. Census, and Maptitude.

Figure 2.2. Population changes in the city of Detroit and surrounding counties, 2000-2010



Sources: Authors' calculations based on data from U.S. Census and Maptitude.

has led to a reduced demand for housing and a reduction in local tax revenue.

Concurrently, many of these cities, including Detroit, have seen a renewed interest in downtown living in recent years. The number of families living downtown in cities like Cleveland, Chicago, and Philadelphia has actually increased in the past decade (Birch, 2005).¹ In Detroit, some location-specific population gains have been tied to corporate and philanthropic incentives to encourage people to rent or buy property in the city. New construction and the conversion of obsolete commercial buildings have been part of the strategic plans for re-densification of targeted neighborhoods.

Thus, population trends and location dynamics have varied considerably across Detroit neighborhoods. Between 2000 and 2010, the population in LMI neighborhoods in the city decreased by more than 30 percent.² The overwhelming majority of census tracts in Detroit (73 percent) were low to moderate-income, according to 2005 estimates (see

figures 2.1 and 2.2). Hence many neighborhoods have been depleted of both taxpayers to cover the costs of city services and a critical mass of buyers to support neighborhood-based businesses. In 2010, there were about eight people per square acre across the 89,000 acres (139 square miles) of the city's footprint, compared with about 19 people per square acre in the 1960s. In middle- and upper-income areas, population also fell, but by a smaller amount—an average of 13 percent³ (see charts 2.3 and 2.4). Indeed, some neighborhoods in the city actually have experienced population gains over the past decade, in some instances growing more than 30 percent (see Figure 2.3). These areas include specific neighborhoods in the Downtown and Midtown areas.

Similar patterns of population growth and decline are seen in non-LMI versus LMI neighborhoods in the counties surrounding the city of Detroit. Between 1994 and 2010, the population of middle- and upper-income neighborhoods grew by 6 percent (although by a more modest 2 percent from 2000 and 2010), while that in LMI

Chart 2.3. Trends in population in the city of Detroit

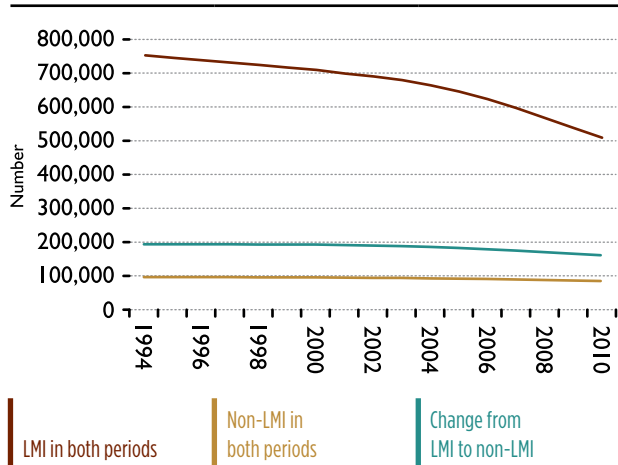
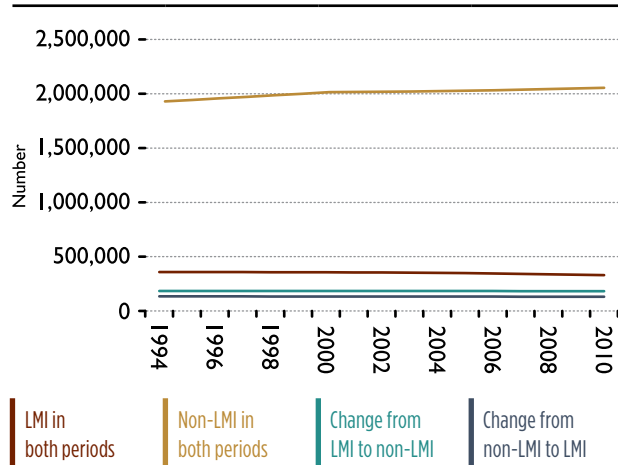


Chart 2.4. Trends in population in surrounding counties



Sources: Authors' calculations based on data from U.S. Census Bureau; population interpolations based on Southeast Michigan Council of Governments (SEMCOG) estimates.

neighborhoods decreased by 7 percent over the period.⁴ However, in the urban populated areas of the surrounding counties of Wayne, Macomb, and Oakland, 80 percent of census tracts were middle to upper-income.

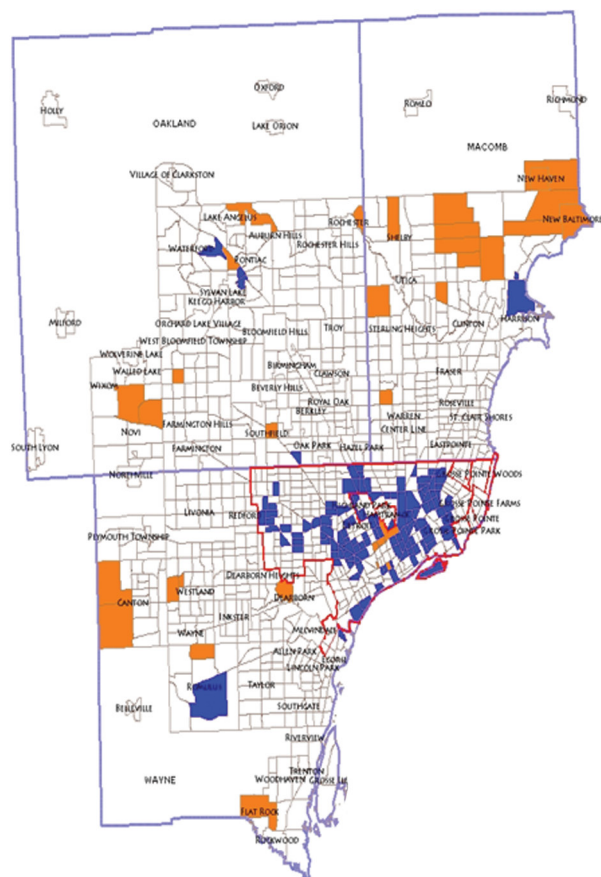
These diverging trends have coincided with a more robust business climate in the surrounding counties. Indeed, Detroit business owners who participated in listening sessions report that city dwellers routinely do their shopping outside of the city limits.

JOB LOSSES AND DECLINES IN EMPLOYMENT AND INCOME

The health of the small business climate in the Detroit area has for decades been linked to the overall well-being of the automotive industry. While the city and surrounding counties have shown more variation in population trends, both experienced job losses in the 2000s, particularly during the 2008 recession. Due to the restructuring of the domestic auto industry, the region has lost jobs every year since 2001.⁵

In each county in the MSA, there was a 14 to 26 percent drop in jobs between 2000 and 2010.⁶ The city shed more than 70,000 jobs during the 2000s, though half of this occurred in the first part of the decade. Wayne County shed jobs in every major industry category, with the exception of health care.⁷ The situation was similar in Oakland and Macomb counties, with health care the only common area to add jobs. Educational services in Oakland and food services in Macomb also added jobs over the period. Across the MSA, the number of jobs in the vehicle manufacturing sector declined by almost 60 percent (38,000 jobs). Vehicle parts saw an almost 55 percent (60,000) decline (see charts 2.5 and 2.6). By 2010, 12 percent of the MSA's work force was employed in manufacturing, down from 20 percent in 2000. By the end of 2011, health sector employment in the

Figure 2.3. Large changes in population in the city of Detroit and surrounding counties



Large changes in population between 2000 & 2010

Population loss of over 30% Population gain of over 30%

Sources: U.S. Census Bureau and Maptitude.

Chart 2.5. Jobless rate in the city of Detroit, the Detroit MSA, and the United States

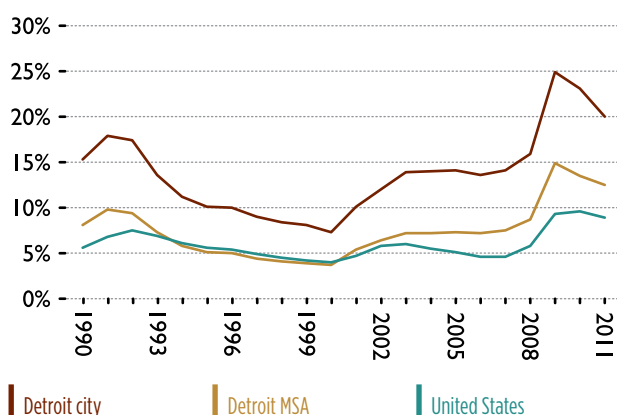
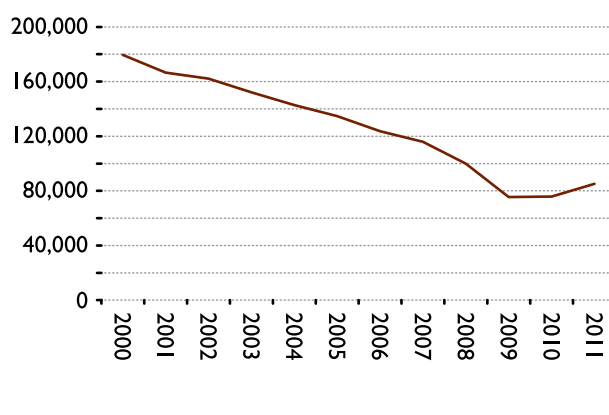


Chart 2.6. Number of transportation equipment manufacturing jobs, Detroit MSA



Source: Jobless rate and employment data available at Michigan Department of Technology, Management and Budget, at <http://milmli.org/cgi/dataanalysis/>.

MSA exceeded employment in vehicle manufacturing by more than 170,000 jobs.

From 2000 to 2010, the city had the highest unemployment rate among the 50 largest cities in the U.S. By mid-2011, about 20 percent of Detroit's labor force was unemployed. With the exodus of people who had the means to leave, real per capita income among the residents of Detroit fell by 15 percent between 2003 and 2009 to \$14,000. The poverty rate of individuals in the city climbed from 30 to 36 percent, while the poverty rate of individuals in the surrounding counties (Oakland and Macomb) was closer to 10 percent

during this period. The loss of population and income resulted in an excess supply of residential units in Detroit city and an almost 90 percent drop in the average price of residential homes between 2003 and 2011. Declining incomes and a fall in property values have likely made it more difficult for many area residents to accumulate the funds to start or operate a business, in as much as personal finances and home equity (often used as collateral) tend to be determining factors for a broad range of businesses.⁸

BOX 2.2. DOING BUSINESS IN DETROIT: THE PERSPECTIVE OF LOCAL BUSINESS EXPERTS

Many participants in listening sessions held by Chicago Fed analysts shared the perspective that it is more difficult to run a small business in Detroit than in the surrounding communities, even as the city has taken steps to address some of the issues.

Issues that were raised by business owners in Detroit included the following:

- The process of renewing fees, permits, and licenses often requires an in-person application, given antiquated administrative systems in city government.
- The requirements of keeping up with licenses include having to pay duplicate fees for similar purposes, such as paying separate fees for each sign mounted at a business site and paying additional fees for city inspectors to come and inspect these signs.
- Many employees at both retail and manufacturing establishments do not have the customer service skills to interact with the public.
- Theft at stores and public safety in neighborhoods are constant threats.

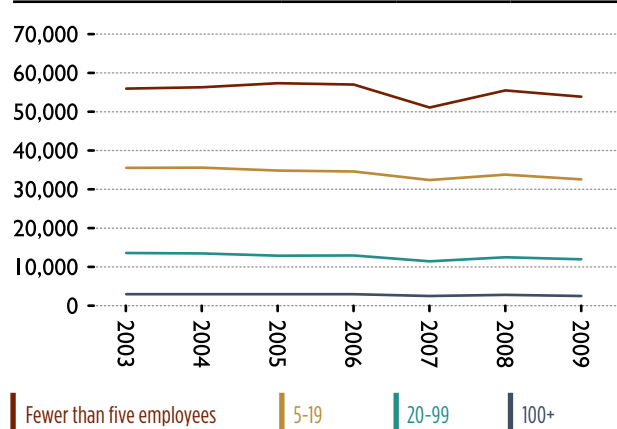
On the other hand, participants in focus groups noted that the entrepreneurial environment has improved considerably since the late 2000s:

- There has been a rebound in the auto supply sector, and many of the remaining companies have diversified into other products.
- Ethnic businesses are thriving in immigrant communities, where many employees of these businesses live and shop.
- In Southwest Detroit, business owners formed a Business Improvement District to maintain the commercial corridor.
- Franchise businesses face less competition inside the city than outside, leading to opportunities for expansion.
- Real estate is inexpensive.
- Major infrastructure projects are on the drawing board, including the New International Trade Crossing between Detroit and Canada, and the Woodward Light Rail line.

Chart 2.7. Number of non-employer businesses, Detroit MSA



Chart 2.8. Number of employer businesses, Detroit MSA



Non-employer

Fewer than five employees

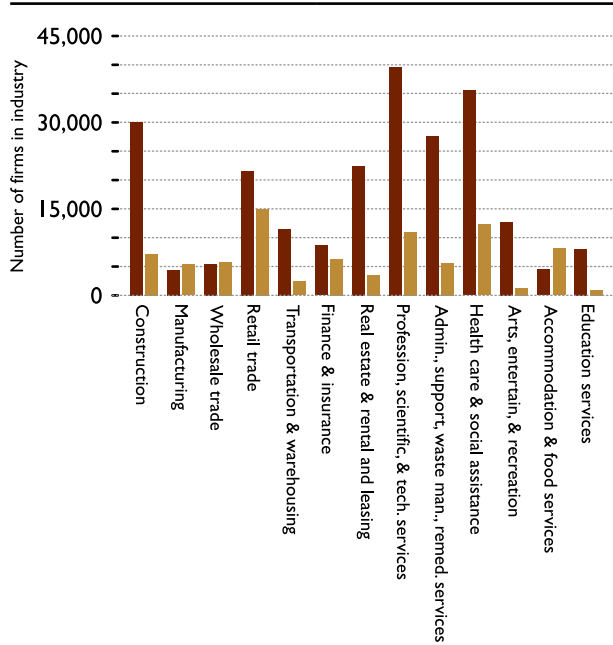
5-19

20-99

100+

Sources: U.S. Census Bureau Non-Employer Statistics, <http://www.census.gov/econ/nonemployer/index.html>; U.S. Census Bureau County Business Patterns, <http://www.census.gov/econ/cbp/>.

Chart 2.9. Non-employer and employer businesses, Detroit MSA 2009



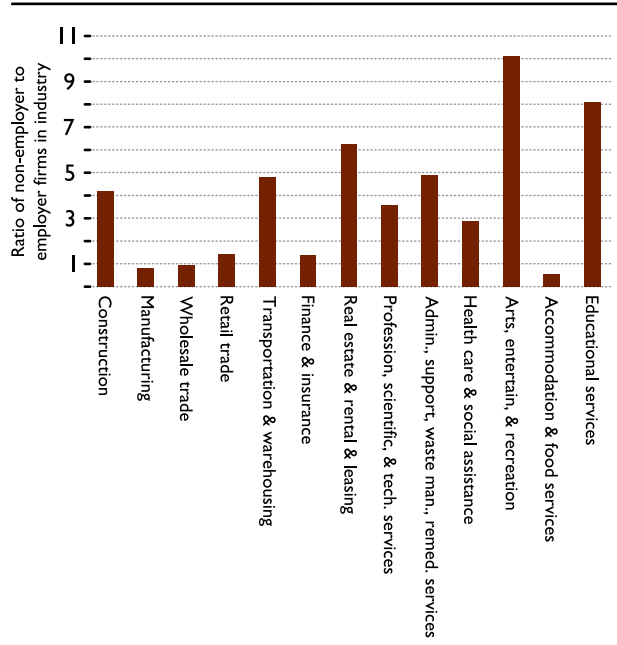
Non-employer firms

Employer firms

Industry

Source: Authors' calculations based on data from U.S. Census Bureau Non-Employer Statistics, <http://www.census.gov/econ/nonemployer/index.html>, and U.S. Census Bureau County Business Patterns, <http://www.census.gov/econ/cbp/>.

Chart 2.10. Ratio of non-employer to employer businesses, Detroit MSA 2009



INCREASE IN SMALL BUSINESS ESTABLISHMENTS

Despite the difficult economic climate, the overall number of small businesses in the Detroit metropolitan area rose during the 2000s, although the trends diverged for businesses with and without employees. As data from the U.S. Census show, the number of businesses with employees decreased during the 2000s, consistent with the loss of jobs in the MSA. There were 10,000 fewer employers in the Detroit MSA in 2010 than in 2000, a decline of

about 10 percent. The decline in establishments that employed hundreds of people fell at an even higher rate. There were about 160 fewer establishments with more than 250 employees in the MSA in 2009 than in 2003—a drop of 20 percent. By way of comparison, there was a 1 percent decline in businesses with more than 250 employees in the U.S. during this period. Small establishments with fewer than five employees experienced a contraction as well (see charts 2.7 and 2.8).

Chart 2.11. Receipts of non-employer firms, Wayne County (000s)



Chart 2.12. Receipts per non-employer firms, Wayne County



Receipts non-employer

Receipts per non-employer business

Source: Authors' calculations based on data from U.S. Census Bureau Non-Employer Statistics, <http://www.census.gov/econ/nonemployer/index.html>.

Table 2.1. Business distribution and growth by revenue class in LMI and non-LMI neighborhoods, 2003-2010

	Distribution, average over 2003-2010				Growth, average over 2003-2010			
	More than \$1 million	\$500,001 - \$1 million	\$50,001 - \$500,000	\$50,000 or less	More than \$1 million	\$500,001 - \$1 million	\$50,001 - \$500,000	\$50,000 or less
	percent of total				percent change			
City of Detroit	7.9	6.6	59.5	22.2	-12.5	31.5	154.6	62
Non-LMI	7.2	5.9	62.6	22.5	-9.9	14.5	163.9	87.3
LMI	7.8	7.3	58.2	19.8	-11.7	35.3	145.4	51.6
Status changed from LMI to non-LMI	4.4	4.1	61.3	26.4	-19.8	35.5	183.4	78.7
Surrounding counties	10.6	7.9	62.9	15.8	-14.6	22.9	146.6	44.3
Non-LMI	8.4	9.3	56.5	15.8	-14.8	22.9	151.3	45.5
LMI	13.7	7.7	64.3	15.5	-14.0	22.2	121.7	36.6
Status changed from LMI to non-LMI	9.9	7.4	61.4	17.1	-13.9	33.0	138.7	29.2
Status changed from non-LMI to LMI	13.5	8.9	57.9	15.1	-15.8	15.7	135.6	59.5

Note: Small businesses are defined as those with 500 employees or less, including those with no employees. Categories may not add up to 100 percent because they do not include businesses for which revenue is missing. The census tract income designation is based on HUD data for 2000 and 2005. In the city of Detroit, 53 census tracts changed from LMI status in 2000 to non-LMI in 2005.

Sources: Authors' calculations based on data from Dun & Bradstreet and HUD.

By contrast, the number of establishments without employees in the Detroit MSA expanded during the 2000s. Non-employer firms are unincorporated businesses that have no paid employees and are subject to federal income tax. Sole proprietorships cover the full spectrum of industries but are particularly prevalent in the construction, professional services, and educational services sectors (see charts 2.9 and 2.10). These businesses constituted, on average, more than 70 percent of all businesses in Detroit from 2003 to 2009.⁹

According to data from the U.S. Census Bureau, these businesses increased by 17 percent in the Detroit MSA between 2003 and 2009; in Wayne County, where Detroit

city is located, the number of non-employee firms increased by more than 35 percent between those years, although data on declining sales receipts suggest that non-employee firms faced additional challenges during the recent recession (see charts 2.11 and 2.12). This growth outpaced the moderate expansion in population in the three-county area during the 2000s. In the MSA, there were about 4.3 businesses per 100 people in 2003, compared with about 6.4 such businesses per 100 people in 2009. In Wayne County, there were, on a yearly average, 5.4 such businesses over the same period. These per capita rates were commensurate with those in the state of Michigan (6.4 percent) and in the U.S. (6.9 percent) in 2009.

Chart 2.13. City of Detroit, number of small businesses, non-LMI neighborhoods

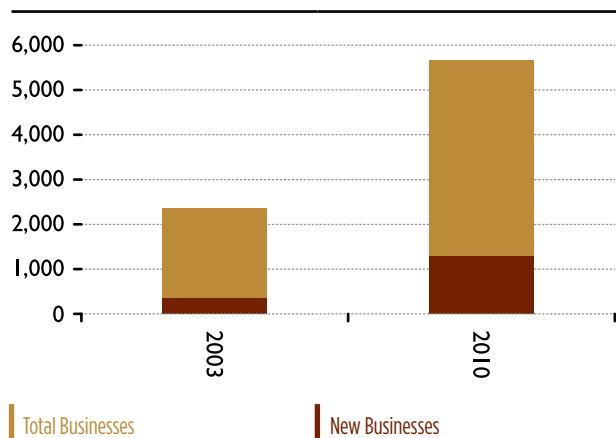
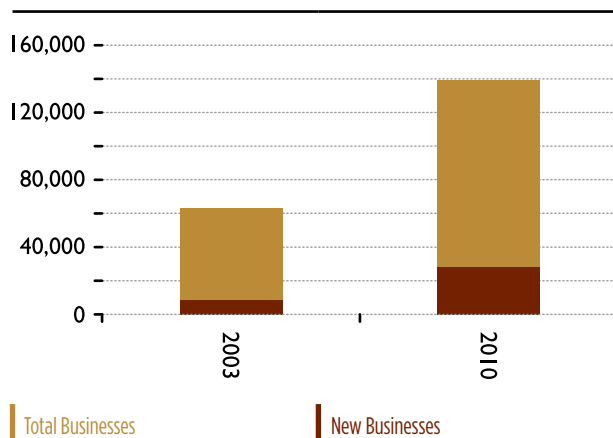
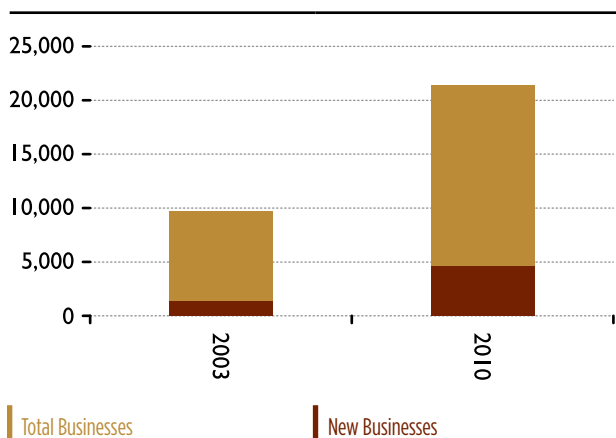


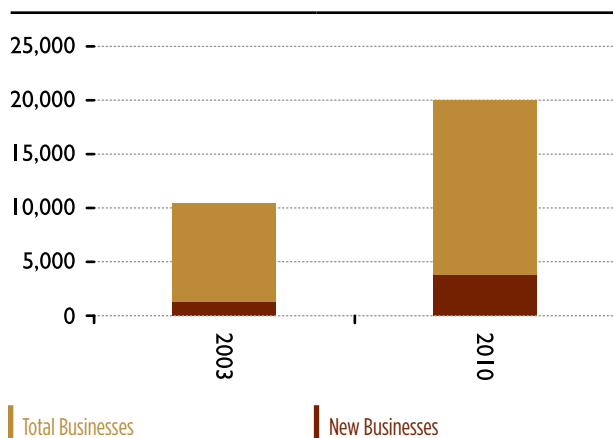
Chart 2.14. Surrounding counties, number of small businesses, non-LMI neighborhoods



LMI neighborhoods



LMI neighborhoods



Note: New businesses are defined as those that were 0 to 4 years old as of 2003 and 2010. LMI and non-LMI neighborhood income status refers to only those census tracts that did not change income status over the period.

Sources: Authors' calculations based on data from Dun & Bradstreet and HUD.

SMALL BUSINESS ESTABLISHMENTS ACROSS NEIGHBORHOODS

An analysis of establishment data from Dun & Bradstreet provides additional evidence of small business growth in Detroit during the 2000s (see table 2.1). The number of businesses with revenue of \$1 million or less with fewer than 500 employees, including those with no employees, more than doubled in 2010 compared with 2003.¹⁰ The growth was fueled by businesses with revenues between \$50,000 and \$500,000, which more than doubled over the 2003 to 2010 period and represented the only revenue category to have sustained increases even during the 2007 recession. In addition, according to the Dun & Bradstreet data, more than 28 percent of small businesses in the city of Detroit were less than five years old as of 2010. In the three surrounding counties, about 23 percent of the businesses in 2010 were also new ventures that had started within the previous five years.

As table 2.1 shows, establishment growth occurred in both lower- and higher-income areas of the city and surrounding counties. To be sure, businesses located in LMI areas were more vulnerable during the 2008 recession. The number of establishments with revenues of \$1 million or less fell by 5 percent in LMI areas between 2008 and 2010, compared with a 7 percent increase in establishments in middle- and upper-income areas, or in areas that had been LMI in 2000 but non-LMI as of 2005 (not shown in the table). On the other hand, the number of small business establishments grew between 2000 and 2010 in both LMI and non-LMI census tracts, in both the city of Detroit and in the surrounding counties. In the LMI tracts of the city, 27 percent of businesses were less than five years old (i.e., began operations after 2005) (not shown on charts). In the non-LMI tracts, 30 percent of the businesses were less than five years old. In census tracts that changed income status from LMI to non-LMI in the city, 32 percent of the businesses were new (see charts 2.13 and 2.14).

Table 2.2. Business by census tract income category, 2003-2010

	Number of businesses	Number of businesses per sq mile	Number of businesses per 1,000 people	Businesses per square mile	Businesses per 1,000 people
	average			annual growth rate	
City of Detroit	22,180	154	26	8.8	11.9
Non-LMI	3,507	258	41	9.2	10.6
LMI	14,290	141	24	8.3	12.2
Status changed from LMI to non-LMI	4,072	163	24	10.2	12.4
Surrounding counties	111,186	112	41	8.4	8.4
Non-LMI	86,989	113	43	8.6	8.4
LMI	13,127	112	38	7.6	8.5
Status changed from LMI to non-LMI	5,534	91	30	7.3	7.4
Status changed from non-LMI to LMI	5,422	157	41	8.3	8.6

Sources: Authors' calculations based on data from Dun & Bradstreet and HUD.

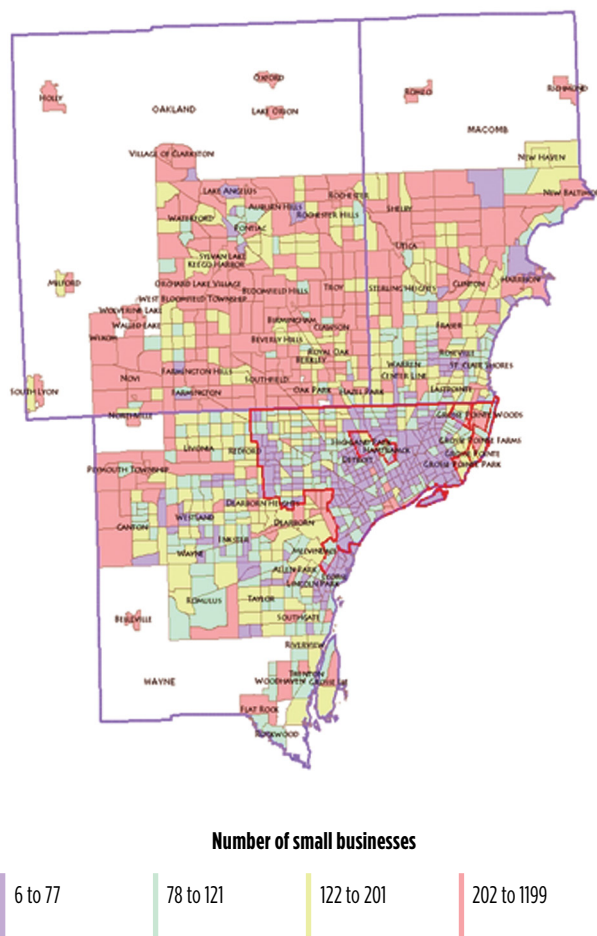
Given establishment growth in both LMI and non-LMI census tracts, perhaps the more important geographic distinction between establishments reported in this data relates to the concentration of those businesses in different neighborhoods. The largely lower-income tracts in the city tended to have fewer small businesses (i.e., fewer businesses with less than 500 employees) than tracts in the surrounding counties, even adjusting for population count (see figure 2.4).

There were, on average, 41 businesses per 1,000 people in non-LMI neighborhoods in the city between 2003 and 2010. LMI neighborhoods in the city, by contrast, had an average of 24 businesses per 1,000 people. The surrounding three counties had 41 businesses per 1,000 people. In LMI neighborhoods, the number was 38 businesses per 1,000 people; and in non-LMI neighborhoods, the number was 43 businesses per 1,000 people (see table 2.2). The dispersion of small businesses across a much larger terrain of LMI census tracts in the city of Detroit translated to a lower number of businesses per square mile in LMI areas than in middle- and upper-income areas of the city.

SUMMARY AND IMPLICATIONS

Declining employment and population have created a negative cycle in terms of the climate for small business development in the city of Detroit. As jobs have diminished, so has the city's population. The decline in population has further impacted the local economy through reduced demand for products and services. The impact of these losses has been a reduction in neighborhood assets such as vibrant commercial corridors, as well as a decline in the quality of city services and local infrastructure, which in turn help keep and attract small businesses. Lower incomes and the erosion of home values have created an additional hurdle for people looking to self-finance or seek credit for businesses in Detroit. High crime rates, beleaguered

Figure 2.4. Number of small businesses in the city of Detroit and surrounding counties



Sources: Authors' calculations based on data from Dun & Bradstreet and Maptitude.

education systems, abandoned industrial buildings, and vacant homes have been lasting challenges.

Despite these challenges, the fact that some neighborhoods in both the city and surrounding towns have gained residents underscores the variation in potential for small business development within Detroit city. Detroit neighborhoods, like those in the counties surrounding the city, differ substantially in terms of what makes them more or less attractive to investment and capital. Proximity to an international border, the location of universities, viable schools, a recoverable housing market, and crime-prevention efforts are just some of the attributes that have determined where the private and public sectors have put resources into business investment.

While LMI neighborhoods are still more vulnerable than higher-income neighborhoods, the growth of small businesses in both LMI and non-LMI areas over a difficult decade suggests there is some basis for shifting the community revitalization mindset away from a single (auto) industry toward greater support for small business as a diversification strategy. The fact that both the total number of businesses and the number of new ventures increased between 2003 and 2010 gives evidence of some dynamism in business formation and survival across neighborhoods in the urban area.

3. THE CHANGING BANK LANDSCAPE: ARE LMIs DISPROPORTIONATELY AFFECTED?

SUMMARY

The objective of this section is to analyze trends in the “banking infrastructure” in the city of Detroit and surrounding counties. Our goal is to capture the changing characteristics of banks in the area, such as their size and ownership structure, where deposits are held, and the spatial distribution and concentration of bank branches. We find that the locus of ownership and control has changed almost entirely in the past 15 years from in-market institutions (headquartered in the Detroit MSA) to out-of-market institutions in both Detroit and in the surrounding counties.

We also find that the low- and moderate-income census tracts in the city of Detroit have a lower branch per capita rate than those in the surrounding counties, although all census tracts in Detroit are within the range of distance for potential relationship lending.¹ In addition, we find that market size as indicated by population density, location characteristics including the commercial character or business density in a neighborhood, housing characteristics, and other demand-related indicators independently explain differences in the degree or intensity of bank presence in proximity to a neighborhood. This is consistent with previous research on branch location decisions across metropolitan areas, which found that branching activities tend to be centered around markets that are more economically vibrant (Spieker, 2004).

Finally, through a gap analysis, we find that LMI neighborhoods and black neighborhoods in the city of Detroit remain *relatively underbanked* compared with other urban areas in surrounding counties. This suggests that there are potentially untapped financial services market opportunities in the city of Detroit.

BANKING INFRASTRUCTURE

National trends in the number of banks and bank branches. Changes in the regulatory (and financial) environment affecting the U.S. financial sector have created conditions that have led to a large decline in the number of banks (see box 3.1). The decline has affected mostly smaller local or community banks, while the number of branches of large banks has increased. Moreover, the increases in large bank branches have occurred at a higher rate in middle to upper income communities, while LMI communities have seen either slower growth or, in some instances, have experienced a decline in the number of branches.

Between 1994 and 2010, the number of banking institutions at the national level declined by 24 percent. Our analysis of banks and branches is carried out for the period starting 1994, the year when the passage of the Riegle–Neal Interstate Banking and Branching Efficiency Act ushered in increases in branching throughout the country. The decline involved mostly small banks. Small banks (less than \$1 billion in assets) declined by 29 percent, while large banks (more than \$1 billion in assets) increased by 9 percent (see charts 3.1 and 3.2.) The number of bank branches belonging to large banking institutions increased by 32 percent from 1994 to 2010. The expansion of bank branches varied by neighborhood income (see charts 3.3 and 3.4). For middle- and upper-income census tracts, large bank branches more than doubled in number between 1994 and 2010 at an annual rate of 4 percent. The changes were more subdued in LMI neighborhoods, where

BOX 3.1 OVERVIEW OF REGULATORY EFFECT ON THE NUMBER OF BANK BRANCHES

Prior to the 1970s, the consumer depository services market was dominated by commercial banks, but federal and state regulations limited the types of products they could offer, the prices they could charge, and the geographic areas in which they could operate. Individual states required banks to have a single branch, and interstate banking was prohibited. In the 1970s, states gradually began to remove regulatory restrictions. In 1975, for example, states introduced laws allowing out-of-state bank holding companies to acquire in-state banks. Starting in 1981, price restrictions on depository services were gradually lifted and, by 1986, they were virtually eliminated. Thrifts, credit union, money market funds, and finance companies could actively compete for any type of consumer depository account.

The Riegle–Neal Interstate Banking and Branching Efficiency Act was passed in 1994, allowing nationwide (inter-state) branching as of June 1997 and permitting states to opt in earlier than this deadline. This set off a wave of mergers and acquisitions, which caused the number of commercial banks to decrease dramatically in many states.

Most of the losses occurred among small local banks, while the number of bank branches of large multi-holding institutions increased over time. Since The Riegle–Neal Act allowed for interstate acquisitions as well as branching, it led to greater concentration and, as such, more branches per given bank. This may have prompted other non-merging banks to also respond by increasing their number of branches within the local market as a way to compete (Ho and Ishii, 2011).

Chart 3.1. Number of U.S. banks by size of institution

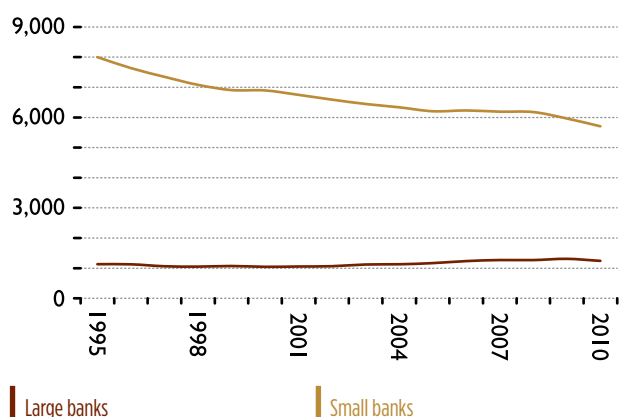


Chart 3.2. Number of U.S. bank branches by size of institution

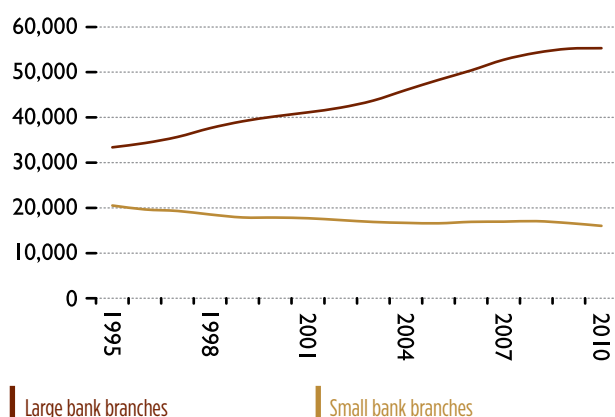


Chart 3.3. Number of U.S. large bank branches by neighborhood income

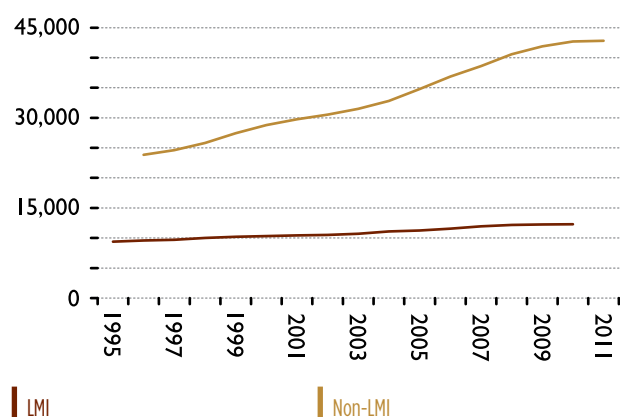
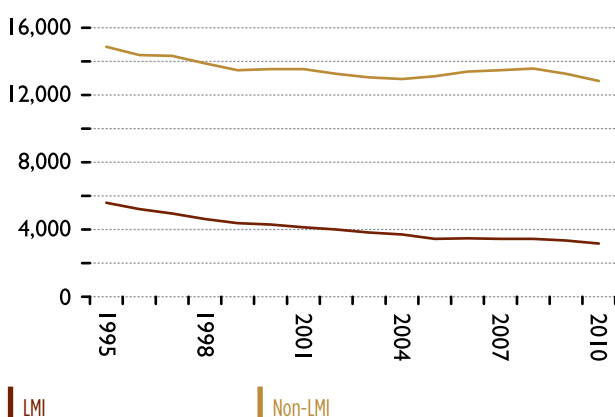


Chart 3.4. Number of U.S. small bank branches by neighborhood income



Note: Large banks are defined as those with \$1 billion or more in assets. Small banks are defined as those with less than \$1 billion in assets.

Source: Authors' calculations based on Federal Deposit Insurance Corporation (FDIC) Summary of Deposits, <http://www2.fdic.gov/sod/>.

branches of large banking institutions increased at an annual rate of 2 percent. Branches of small banks shrank in both LMI and non-LMI neighborhoods.

Observers have offered various explanations for this discrepancy at the national level. It is possible that a more competitive environment reduced bank profit margins and caused banks to close marginal offices that were more likely to be in low-income neighborhoods. Likewise, banks might have shifted their business toward more affluent consumers who purchase many products. If financial institutions prefer to lend to their depository services customers, then consumers priced out of the depository market may have been rationed out of the loan market as well. Surveys have consistently shown that minorities, more so than whites of the same income level, tend to be less likely to use financial institutions for loans (Avery and Buynack, 1981). There is little agreement as to whether this is the result of differential demand, clear financial reasons

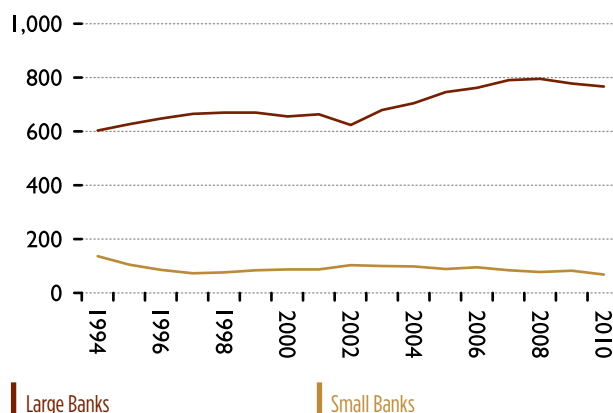
such as the cost of using the formal sector, shortcomings from the supply side, or discrimination.

Trends in the number of banks and bank branches in Detroit and the surrounding counties. In the city of Detroit, unlike in the nation, banks of all sizes decreased. From 139 branches in 1994, the city's number of bank branches had shrunk to 107 by 2010, a decline of 23 percent. Small bank branches declined by 61 percent between 1994 and 2010 (an annual decrease of 3 percent over the period), and branches of large banks decreased by 19 percent between these years (an annual decline of 1.1 percent over the period). In contrast, the counties surrounding Detroit experienced a decline in small bank branches but increases in the number of branches of large institutions (see charts 3.5 and 3.6). Between 1994 and 2010, the number of small bank branches in the suburbs decreased by 50 percent (an annual decrease rate of 1.4 over the period), while the

Chart 3.5. Number of bank branches by size of bank, city of Detroit



Chart 3.6. Number of bank branches by size of bank, surrounding counties



Note: The city of Detroit's surrounding counties are Macomb, Oakland, and Wayne.

Source: Authors' calculations based on data from Federal Deposit Insurance Corporation (FDIC), Summary of Deposits, <http://www2.fdic.gov/sod/>.

Chart 3.7. Change in bank branches in selected cities, 1994-2010

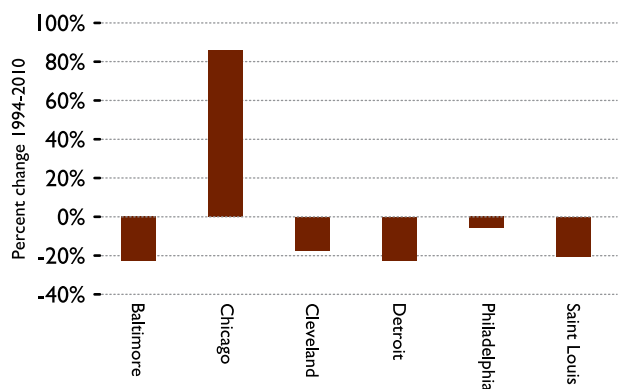
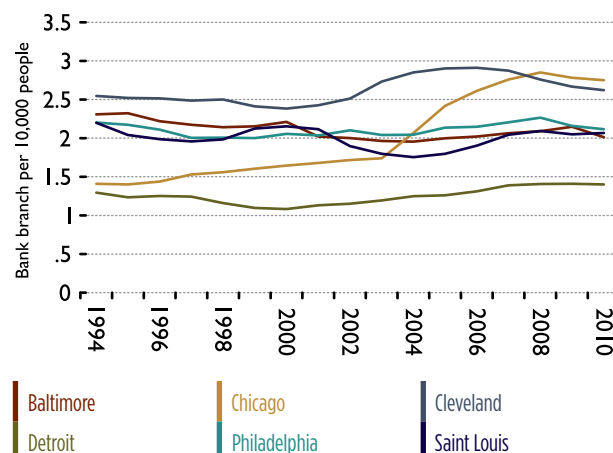


Chart 3.8. Bank branch per capita in selected cities



Note: Linear interpolations were used to fill in values between census years for all cities, including Detroit. As such, the series indicated here for Detroit may be different from versions in the text that use the SEMCOG interpolation.

Sources: Authors' calculations based on data from the Federal Deposit Insurance Corporation (FDIC) Summary of Deposits, <http://www2.fdic.gov/sod/>; U.S. Census Bureau, Decennial Census, Short Form (for 2000 and 2010 population point values) and population estimates from the Southeast Michigan Council of Governments (for interpolations).

number of large bank branches increased by 27 percent (an annual rate of 2 percent over the period).

The city of Detroit was not alone among industrial cities with declining populations that lost banks and branches. Branches contracted by 23 percent in Baltimore and by 20 percent in St. Louis. They fell by 17 percent in Cleveland and by 6 percent in Philadelphia. In contrast, Chicago saw an 80 percent surge in the number of bank branches between 1994 and 2010 (see chart 3.7). However, the number of banks per person in Detroit was comparatively much lower than in the other cities, even after adjusting for population. On average between 1994 and 2010, the city of Detroit had 1.3 bank branches per 10,000 people. With

the decline in population in the city between 2000 and 2010s, bank branches per capita actually increased mildly after 2000. Baltimore, Cleveland, and St. Louis had on average two bank branches per 10,000 people (see chart 3.8). In 2004, the average number of bank branches per 10,000 people in the largest MSAs in the nation was 2.7 (Smith, 2005).

Unlike in the city of Detroit, where relatively little branch opening or closing activity occurred over the period (consistent with the relatively low number of bank branch per capita at the start of the period), bank branch openings and closings became an integral part of the financial landscape in the surrounding counties, with, on average, 20

Chart 3.9. Number of bank branch openings and closings, surrounding counties

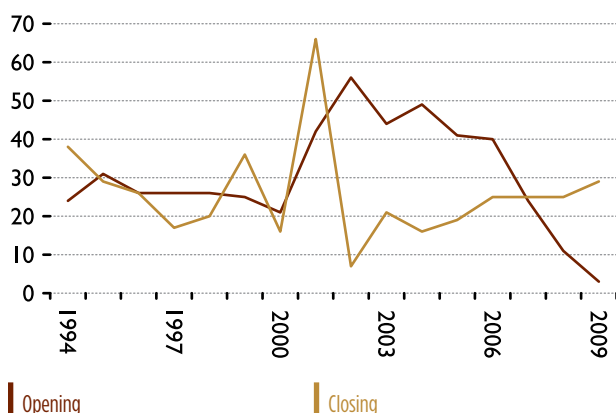
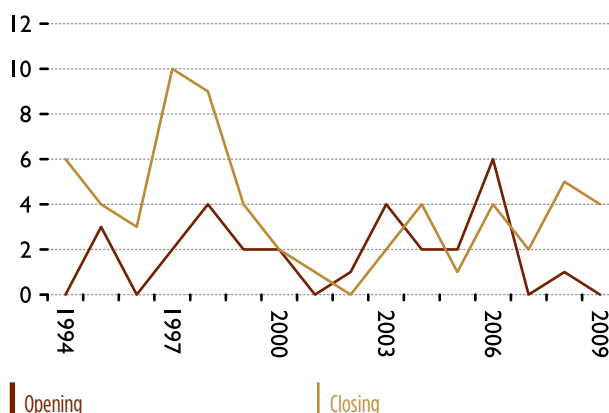


Chart 3.10. Number of bank branch openings and closings, city of Detroit



Sources: Authors' calculations based on data from Federal Deposit Insurance Corporation (FDIC) Summary of Deposits, <http://www2.fdic.gov/sod/>; Maptitude Version 5; 2000 U.S. Census Bureau boundary data, as obtained through Maptitude, Version 5; and the Google Geocoding API, Version 2, <https://developers.google.com/maps/documentation/geocoding/>.

Chart 3.11. Number of bank branches

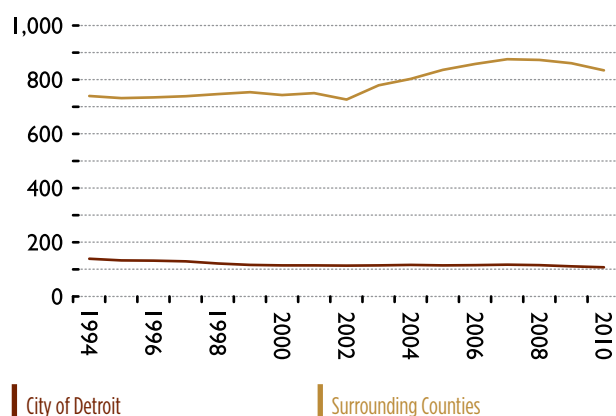
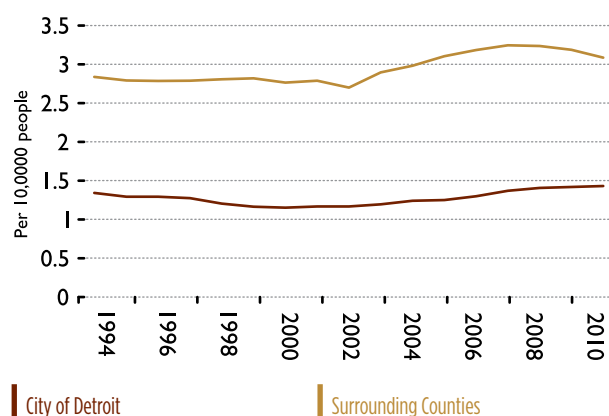


Chart 3.12. Bank branch per capita



Sources: Authors' calculations based on data from the Federal Deposit Insurance Corporation (FDIC), Summary of Deposits, <http://www2.fdic.gov/sod/>; U.S. Census Bureau, Decennial Census, Short Form (for 2000 and 2010 population point values) and population estimates from the Southeast Michigan Council of Governments (for interpolations).

to 30 bank branches closing each year² (see charts 3.9 and 3.10). Closings accelerated after 2002 and again during and after the 2007 recession. On the other hand, the number of bank openings was relatively steady from 1995 to 2002, averaging 30 yearly. From 2006 onward, there was a rapid decline in bank branch openings, and more bank branches closed than opened. Detroit's surrounding counties had an average of 788 bank branches over the period. This was an average of 2.9 bank branches per 10,000 people, more than double that in Detroit city (see charts 3.11 and 3.12).

Trends in the size and headquarters of banks in Detroit and surrounding counties. As the number of banking institutions in Detroit has fallen, the size of the banks operating in the city and surrounding counties has expanded dramatically (see table 3.1). In 1994, institutions with more than \$10 billion in assets controlled 64 percent of the bank branches in the city (89 out of 139 branches). By 2010, their share

of the market had increased to 89 percent (95 out of 107 branches). In the surrounding counties, the number of bank branches of institutions with more than \$10 billion in assets more than doubled over the period, from 330 in 1994 to 714 by 2010. These institutions' share of branches went from 47 percent to 86 percent.

With the growth of these institutions, the locus of ownership and control has changed almost entirely from in-market institutions (headquartered in the Detroit MSA) to out-of-market institutions (not headquartered in the Detroit MSA). In 1994, out-of-market banks controlled only 3 percent of bank branches (four out of 139 bank branches) in the city of Detroit. By 2010, they controlled 97 percent of branches in the city (100 out of 107 branches). Similar shifts from in-market to out-of-market ownership occurred in the surrounding counties. Small, locally owned institutions, which we define as community banks,

Table 3.1. Characteristics of bank branches

	City of Detroit			Surrounding counties		
	Number 1994	Number 2010	Change	Number 1994	Number 2010	Change
Branches by service type						
All branches	139	107	-23%	740	834	13%
Full service branches	137	105	-23%	738	829	12%
Non full service branches	2	2	0%	2	5	150%
Branches by institution size						
More than 10 billion in assets	89	95	7%	330	714	116%
1-10 billion in assets	37	5	-86%	273	51	-81%
100 million to 1 billion in assets	3	7	133%	120	64	-47%
Less than 100 million in assets	10	0	-100%	17	5	-71%
Branches by holding company status						
Multibank holding company	111	89	-20%	493	538	9%
Single holding company	6	13	117%	57	210	268%
Not a holding company	22	5	-77%	190	86	-55%
Branches by institution location						
Not headquartered in MSA	4	100	2400%	37	671	1714%
Headquartered in MSA	135	7	-95%	703	163	-77%
Local community bank	13	5	-62%	137	68	-50%
Financial intermediation intensity						
Deposits (inflation-adjusted, in millions)	7,559	7,029	-7%	22,805	28,970	27%
Deposits (inflation-adjusted, in millions per 1000 people)	7.29	9.39	29%	8.74	10.33	18%
Ratio of local bank deposits at banks not headquartered in MSA	0.01	0.98	--	0.03	0.84	--

Note: We define banks with less than \$1 billion in assets (“small banks”) that are headquartered in the Detroit MSA as community banks.

Sources: Authors’ calculations based on data from the Federal Deposit Insurance Corporation (FDIC) Summary of Deposits, <http://www2.fdic.gov/sod/>.

decreased by 62 percent (from 13 such banks in 1994 to five in 2010) in the city of Detroit. In the surrounding counties, they decreased by 50 percent (from 137 in 1994 to 68 in 2010) (see charts 3.13 and 3.14).

Bank Deposits. The level of deposits per capita gives an indication of the intensity of financial intermediation in a local market. Albeit with some fluctuations, local bank deposits per capita grew between 1994 and 2010 in the city of Detroit (29 percent) and the surrounding counties (18 percent), reflecting an annual growth rate of 2.2 percent and 1.8 percent, respectively. On average, there were \$8.7 million in bank deposits per 1,000 people in the city (this includes business accounts) and \$10.3 million in deposits per 1,000 people in the surrounding counties over the period. Based on local deposit growth, the metro area seems to have remained a viable financial market, at least compared with the 1990s (see charts 3.15 and 3.16).

BANK BRANCH SPATIAL CONCENTRATION AND DISPERSION ACROSS NEIGHBORHOODS

Previous research has demonstrated that distance can measure the extent of financial access and relationship lending in a local market. In *lending* relationships, the median distance between a small business and its lender has been found to be 11 miles (Board of Governors of the Federal Reserve System, 2003) and in 66 percent of all business lending relationships, the lender was located within 30 miles of the firm’s headquarters (as of 2003). Among *depository* relationships with banks and thrifts of all sizes, the median distance between a small business and its depository institution was four miles, and 83 percent of depository institutions were located within 30 miles of the firm’s headquarters. This is consistent with survey evidence from the Federal Reserve indicating that the location of a bank’s branches is the single most important factor influencing customers’ choice of bank.³ Consideration of

Chart 3.13. Deposits associated with out-of-market institutions

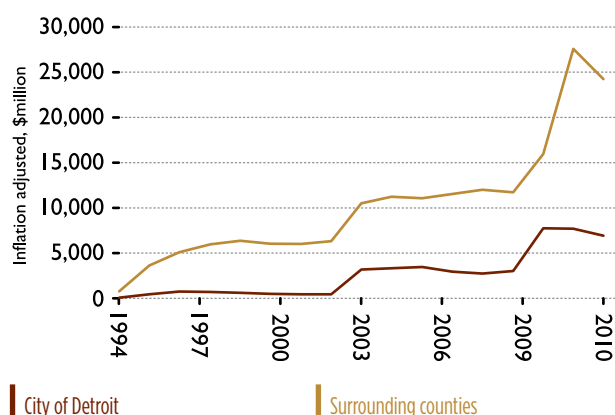
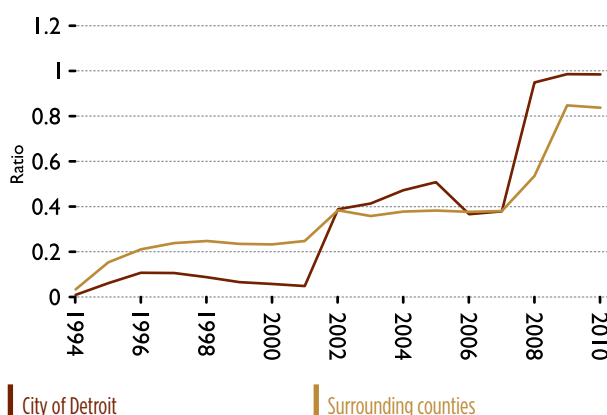


Chart 3.14. Ratio of deposits associated with out-of-market vs. in-market institutions



Source: Authors' calculations based on data from the Federal Deposit Insurance Corporation (FDIC), Summary of Deposits, <http://www2.fdic.gov/sod/>.

Chart 3.15. : Deposits in banks, amounts

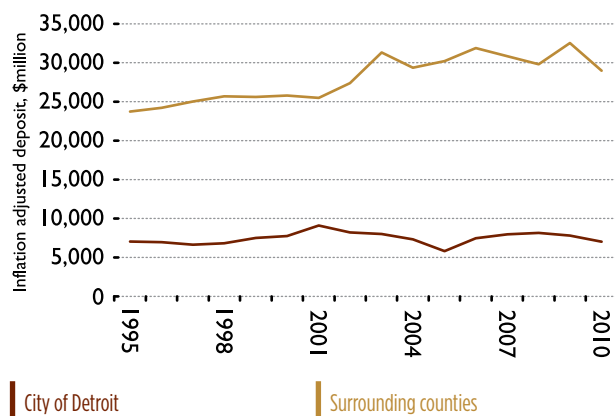
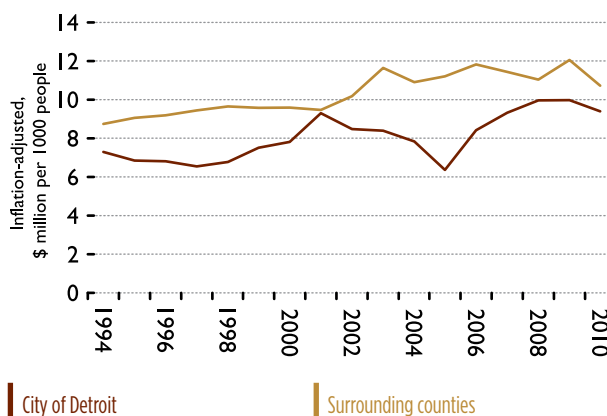


Chart 3.16. Deposits in banks, per capita



Sources: Authors' calculations based on data from the Federal Deposit Insurance Corporation (FDIC) Summary of Deposits, <http://www2.fdic.gov/sod/>; U.S. Census Bureau, Decennial Census, Short Form (for 2000 and 2010 population point values) and population estimates from the Southeast Michigan Council of Governments (for interpolations).

physical distance is more relevant with lending in localized opaque markets, where residents have lower incomes. (See box 3.2 for a brief review of the literature on the importance of bank presence in LMI neighborhoods.) In the (mortgage) loan market, for example, access to bank branches in LMI neighborhoods (within up to 10 miles of the neighborhood) increases originations, as well as improves the terms of the loans borrowers receive (Ergungor, 2010). In addition, loan applicants living in proximity to their lenders have been found to be more likely to be approved and less likely to default (Petersen and Rajan, 2002), although some of this effect wanes with progress in information and technology.

Banks per square mile. In Detroit, the number of bank branches per square mile has fallen in all census tracts for the past 20 years, although LMI tracts historically had fewer bank branches per square mile than middle/upper income tracts. As far back as 1990, 77 percent of census tracts in the city of Detroit (254 out of 338) had

no bank branch (see figure 3.1). But over the 1994 to 2010 period, the number of bank branches per square mile decreased everywhere in the city. LMI neighborhoods saw a 23 percent decline (an average annual rate of 1.3 percent) in bank branches per square mile (see charts 3.17 and 3.18). Middle/upper-income neighborhoods saw a 16 percent decline (or an average annual rate of 0.3 percent). Consistent with the decline in banks, bank branch density decreased in LMI neighborhoods over the period. At 0.80 per square mile in the late 1990s, bank density per square mile dropped to 0.67 in the late 2000s. LMI census tracts had an average of 0.70 bank branches per square mile over the period. The city's middle to upper-income tracts, which include the Downtown and Midtown neighborhoods, had an average density of 1.6 bank branches per square mile.

By contrast, about 43 percent of the census tracts in the surrounding counties (314 out of 736) had no bank branch. In the LMI neighborhoods in the surrounding counties,

bank branches per square mile decreased by 5.5 percent between 1994 and 2010. The middle- to upper-income neighborhoods in surrounding counties were the only areas to experience an increase in bank branches. Bank branches increased by 17 percent between 1994 and 2010 (at an annualized rate of 1.4 percent). In the surrounding counties, LMI neighborhoods had an average bank density of 0.69 per square mile between 1994 and 2010, while middle/upper-income neighborhoods have an average bank branch density of 0.82 branches per square mile. This was less than in the middle/upper-income neighborhoods

in the city of Detroit, which include the relatively dense banking areas of Downtown and Midtown (see charts 3.17 and 3.18). Bank density in the surrounding counties increased to 0.73 branches per square mile in late 2000s.

Distance of banks to the census tracts. Counting bank branches inside a census tract can be somewhat misleading when it comes to assessing bank presence. In an urban area such as Detroit, a bank branch can literally be across the street and not be counted as being present in the census tract if the boundary of the tract is the street. Counting branches inside census tracts can also underestimate bank presence

BOX 3.2. THE IMPORTANCE OF BANK PRESENCE IN LMI NEIGHBORHOODS

The presence of banks in a local market has certain implications that go beyond convenience for residents and business owners. According to research, proximity of a bank to a neighborhood plays a role in the ability of the financial institution to collect soft information useful in the lending process, thus improving the ability to lend and contributing to more favorable terms of credit. Closer distance facilitates more frequent interactions and relationship banking. This helps mitigate the problems of information asymmetry and credit rationing (e.g., the probability of erroneously denying credit to good borrowers) (Gehrig, 1998; Zazzaro, 2002). Proximity of the lender to customers is even more necessary in poorer communities where informational frictions could otherwise make credit prohibitively expensive, if not rationed altogether (Stiglitz and Weiss, 1981).

One response by the financial market to credit rationing is the use of credit scoring. This allows the lender to judge the borrower at relatively low-cost based on incomplete information. Another response is relationship lending. The latter is costlier. It relies on soft information about the borrower, which is observed through repeated interactions over a longer period of time. In the process of relationship banking, banks learn about the borrower's quality over time and benefit by getting the return to that time invested, as the borrower graduates into more profitable (i.e. loan) product lines. In that sense, proximity helps minimize costs of acquiring soft information, which drives down the costs of capital allocation.

With the demise of many local banks, a large literature has focused on the question of bank size and what it means for small business lending (DeYoung et al 2006; Brevoort and Hannan, 2004; Strahan and Weston, 1998). One side of the literature suggests that small business credit is not impacted by the size of banks in a local market. The premise behind this research is that, even as small banks are replaced with large ones, with the dynamics of U.S. competitive banking markets, borrowers and lenders are able to “sort themselves to find mutual advantage” (Berger et al, 2004). These studies unanimously find that large U.S. banks have reduced their small business lending significantly and have reduced their supply of soft-information based relationship loans (e.g., Berger, Saunders, Scalise, and Udell 1998; Peek and Rosengren 1998; Strahan and Weston 1998; Jayarantne and Wolken, 1999). Even so, they maintain that the supply of small business credit has not changed substantially because of “external effects” or the “general equilibrium reactions of other banks.” That is, other incumbent banks are responding by increasing their lending portfolio to small businesses (e.g., Berger, Saunders, Scalise, and Udell, 1998; Berger, Goldberg, and White 2001; Avery and Samolyk 2004). Large banks are able to deploy various transaction lending technologies in addition to credit scoring, including asset-based lending and leasing (Berger, Rosen and Udell, 2007). These researchers have also proposed that in places where small banks are declining, the finding that small businesses credit is not affected may also be due to less demand for credit in those markets (Berger et al, 2004).

A different line of research has taken a local-based neighborhood approach and has found that small business lending is affected by changes in bank structure. As local banks close, market failures have led, in some specific instances, to credit constraints for consumers and small businesses, and financial exclusion of some poor neighborhoods (Mitchell, 1990; Scott, 1988; Wydick, 1999; Pollard, 1996; Bolton and Rosenthal, 2005). From a loan market perspective, the locus of ownership is relevant because even as multi-market banks have expanded branches in local areas, they tend to centralize their lending decisions for larger loans, and make final decisions outside some borrowers' local market (Cole, Goldberg, and White, 1999; Haynes, Ou, and Berney, 1999). As the number of bank branches has increased over time, the *physical* distance between banks and potential borrowers may have been reduced; however, in *function* the economic distance may have increased, precisely due to changes in the ownership structure of banks. The greater *functional* distance between banks' headquarters where the decisions are made, and local borrowers, could mean more constraints for credit access, especially in more opaque and poorer markets (Alessandrini et al, 2009).

Chart 3.17. Bank branches per square mile, city of Detroit

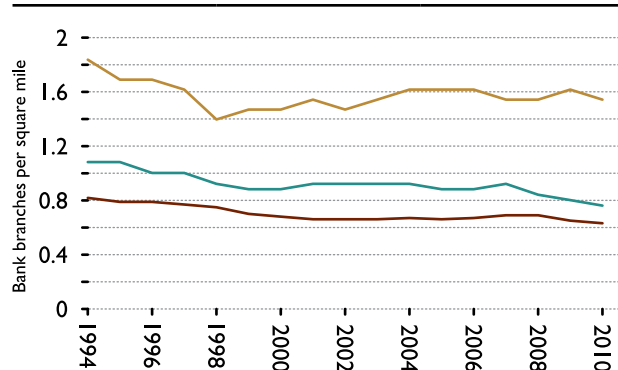
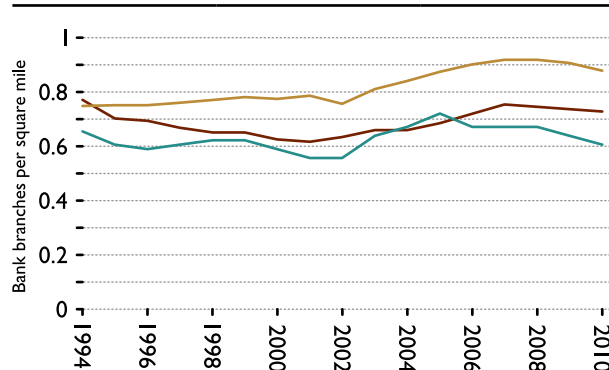


Chart 3.18. Bank branches per square mile, surrounding counties



Low and moderate income Middle and upper income Change from low/moderate income to middle/upper income

Sources: Authors' calculations based on data from FDIC Summary of Deposits (<http://www2.fdic.gov/sod/>) and U.S. Census Bureau boundary data, as obtained through Maptitude, Version 5; HUD.

conceptually in census tracts in cities, where the census tracts are densely populated but are small in square miles. Therefore, we compute an alternative measure of bank presence for each census tract at one mile, five miles, and

10 miles, respectively, from the *centroid* of the census tract (see Box 3.3).

We can have an idea of the *relative* position of neighborhoods in terms of bank presence, in both the city and surrounding counties, by looking at where census

BOX 3.3. DISTANCES OF BANK BRANCHES TO CENSUS TRACTS

We adopt a strategy to approximate bank presence in a census tract where we determine the distance of each branch to the census tract “centroid” using the Haversine Formula (Sinnott, 1984). The centroid is the center of gravity of a 3-D object. Here, it is applied to a two dimensional shape – thus it is the center of the census tract.

We take all the branches within one mile of the centroid and calculate the extent of branch presence as follows:

$$\text{Bank Access}_i = 1n \left(1 + \sum_{k=1}^n \frac{1}{\max(1, D_{i,k})} \right)$$

where Bank Access is the branch presence indicator variable for census tract i , and n is the number of branches around 1 mile radius of the centroid of census tract i . $D_{i,k}$ is the distance of branch k to the centroid of the census tract i . Note that in the construction by taking the inverse distance of the branch to the centroid ($D_{i,k}$ is in the denominator), we are implicitly assuming that larger distances diminishes the extent to which banks are effectively physically present in a census tract. This follows from the banking relationship literature, briefly reviewed in Box 3.2, which uses distance as an indicator of access and assumes that the farther the branch is from the neighborhood, the less likely it is to improve accessibility of banking services in the neighborhood (Ergunor, 2010).

While this formula for bank presence could underestimate access in areas where the centroid is an uninhabited area, we do not have this problem because our area of study does not include places which are very sparsely populated. Another potential technicality addressed with this formula is if a bank is in the centroid. If this were the case, the distance would be zero, and the bank access measure would be extremely large. To avoid this problem, the bank access formula is *winsorized* (max 1), that is, we treat banks that are closer than one mile to the centroid as if there are at least one mile away from the centroid. Finally, the implicit assumption of the formula is that bank presence further than one mile has no effect on branch access. This clearly may not be true, especially as we know from surveys that a bank's lenders are for most businesses found up to a 11 miles distance (Federal Reserve Survey of Small Business Finances, SSBF, 2003). We therefore adjust the bank presence variable by taking branches within an alternative distance of the centroid of the census tracts at 5, 10, and 25 miles.

Figure 3.1. Bank presence within one mile in neighborhoods of the city of Detroit, by quartile distribution, 2010

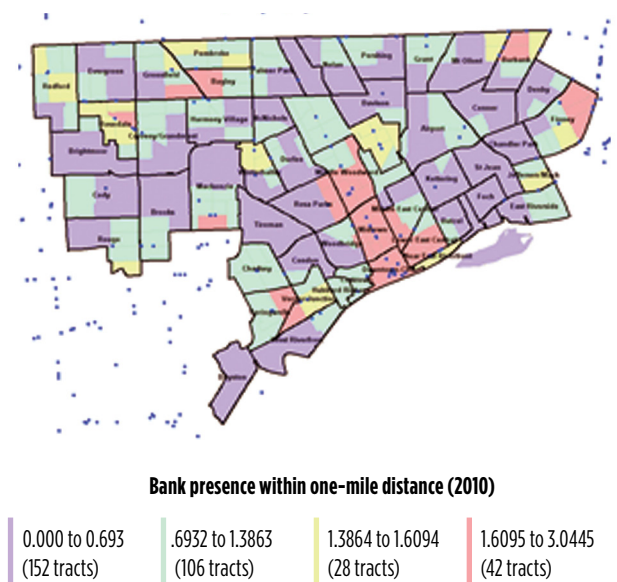
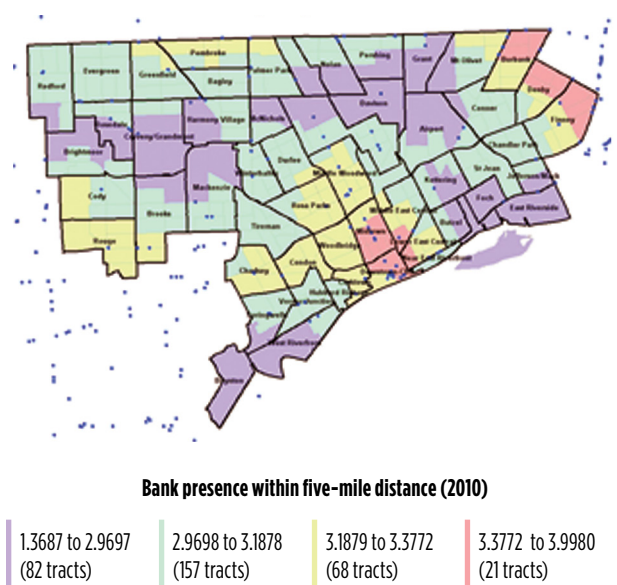
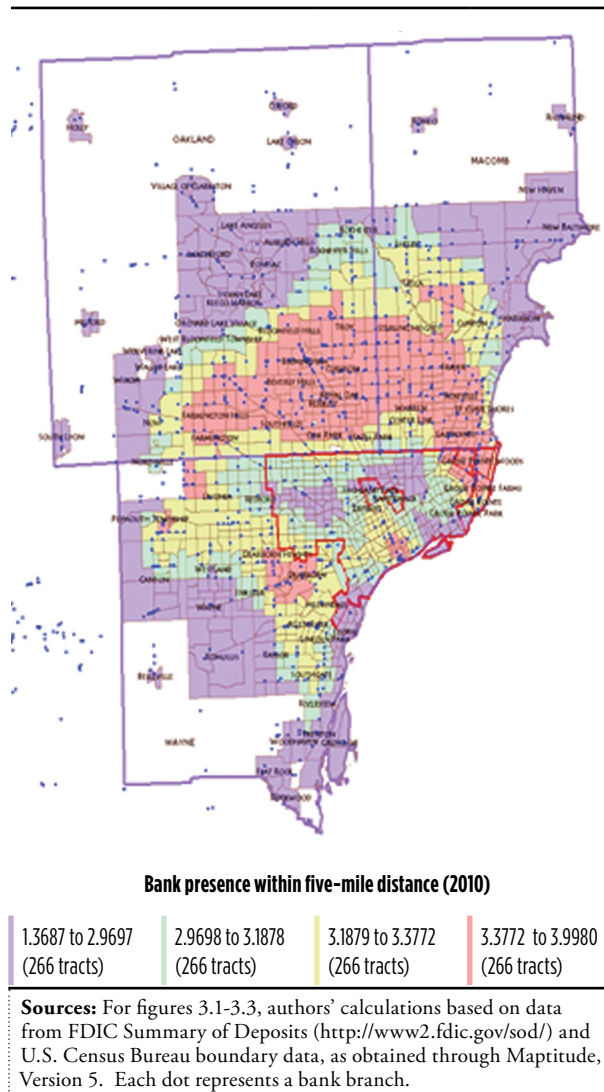


Figure 3.2. Bank presence within five miles in neighborhoods of the city of Detroit, by quartile distribution, 2010



tracts fall by quartiles of the distribution of bank branch density within the specified distances (see figure 3.1). At a distance of one mile or less, 20 percent of the census tracts in the city (64 out of 322) have no bank “presence.” The remainder have at least one bank present, but the density of banks remain sparse at that distance. In fact, being in the upper half of the distribution in the city entails that a census tract has between one and three bank branches within one mile, with most having just one bank within

Figure 3.3. Bank presence within five miles in neighborhoods in the city of Detroit and surrounding counties, by quartile distribution, 2010



that distance. At that same one-mile distance, 13.7 percent of tracts also had no bank “presence” in the surrounding counties.

There was no census tract in the city that did not have at least one bank branch present within a five-mile distance (figure 3.2). This suggests that there is at least one bank branch located well within range of having the potential for relationship lending. Those census tracts in the lower half of the bank presence distribution had around three banks within five miles.

Comparing the city and the surrounding counties, a larger portion of census tracts in the city of Detroit were on the lower end of the branch-presence distribution compared with the surrounding counties in 2010 (see figures 3.2 and 3.3). Seventy-four percent of the census tracts (239 census

Chart 3.19. Bank branch presence, surrounding counties

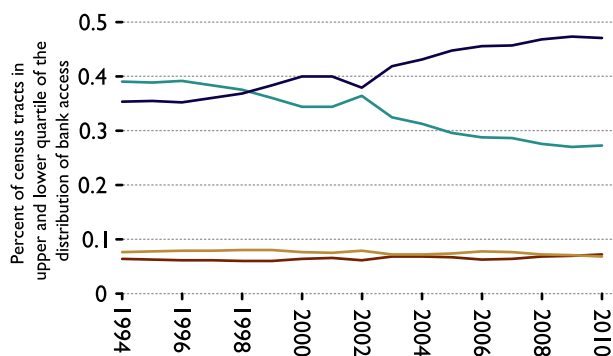
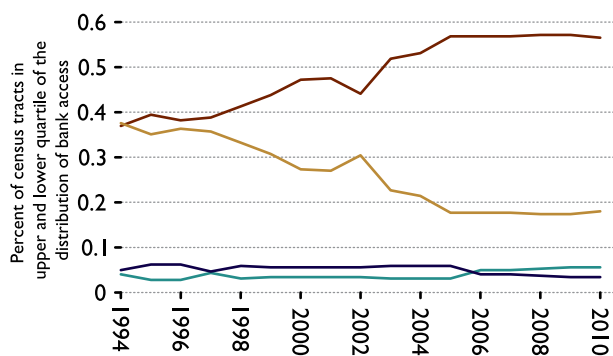


Chart 3.20. Bank branch presence, city of Detroit



Note: These charts show trends in bank presence within a distance of up to five miles around the centroid of the census tracts.

Sources: Authors' calculations based on data from FDIC Summary of Deposits (<http://www2.fdic.gov/sod/>); HUD.

tracts out of 322) in the city were in the lower half of the distribution (meaning that they had three bank branches or fewer within a five-mile radius), compared with 40 percent (294 out of 733) in the surrounding counties (not shown in figures). Meanwhile, 27 percent of census tracts in the city (89 out of 322) were in the upper half of the presence distribution (meaning that a census tract had more than three bank branches within five miles), while 60 percent of tracts in the surrounding counties (443 out of 733) were in the upper half.

Charts 3.19 and 3.20 illustrate bank branch presence over time by neighborhood income. They show the percentage of LMI and non-LMI census tracts that fall in the lower versus the upper half of the distribution in terms of bank presence within five miles from 1994 to 2010. In 1994, 37 percent of LMI neighborhoods in the city of Detroit had low bank branch presence (i.e., having from one to 3.2 bank branches within a five-mile radius). By 2010, 57 percent (182 out of 322) were in that position (i.e., they fell in the bottom half of the quartile distribution). In the surrounding counties, fewer than 10 percent of LMI census tracts (53 out of 733) were in the lower quartile of the distribution in 2010. In addition, the relative position of middle- to upper-income census tracts in the surrounding counties improved. Whereas in 1994, 38 percent of them were in the upper half quartile of the distribution of bank presence (at least three bank branches within a five-mile radius), by 2010, 50 percent were in that position.

EMPIRICAL ANALYSIS:

Determinants of bank presence (bank access) across neighborhoods

We provide an empirical analysis of bank location to further explain the extent to which specific factors contribute to differences in the presence of bank branches across neighborhoods. Our strategy consists first in determining

whether the differences by location observed in the descriptive analyses are in fact statistically significant. For that purpose, we develop a model of determinants of financial service infrastructure and use ordinary least squares (OLS) regression techniques to ascertain the impact of the factors influencing bank presence.⁴ This exercise also allows us to address in a more robust fashion whether differences in bank access persists in the city of Detroit and minority neighborhoods after controlling for various key characteristics.

We consider factors underlying the presence of banks in a census tract, following previous research on the determinants of bank location (Hannan and Hanweck, 2008; Davis and Rice, 2007; Hirtle and Metli, 2004; Spieker, 2004; Okeahalam, 2009; Ergungor, 2010; Kumar et al, 2005). Such factors reflect both supply-side and demand-side considerations by the institution and other specific characteristics of the location. On the supply side, the decision is driven by costs of production, returns on investment, and operational efficiency, among other considerations (Berger et al., 1997; Spieker, 2004). On the demand side, the location of the bank reflects the institution's strategic response to the market size, including the proportion of the market without services, and demand-influencing factors such as socioeconomic and demographic characteristics of the neighborhoods. To capture these various facets of bank location decisions, we use proxy indicator variables, including population density, business density, business revenue, and housing characteristics, including home values and housing vacancy levels. The model also controls for deposits, which we measure as the moving average of past deposits in a census tract. This is an indicator of the savings propensity, an indicator of the propensity of a neighborhood to utilize the banking sector, or an indicator of the initial intensity of financial intermediation in the local market, an important

Table 3.2. OLS estimates of determinants of bank presence across neighborhoods

	Bank per 1,000 people	Bank presence within 1 mile	Bank presence within 5 miles	Bank presence within 10 miles	Bank presence within 25 miles
Log (population density)	0.022*** (0.007)	0.728*** (0.013)	0.478*** (0.009)	0.393*** (0.010)	0.241*** (0.006)
Business per capita	0.055*** (0.003)	0.049*** (0.003)	0.023*** (0.001)	0.018*** (0.001)	0.013*** (0.001)
Median revenue of businesses	0.000** (0.000)	0.002*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Deposits	0.000*** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)
Log (median home value in 2000)	0.075*** (0.012)	0.094*** (0.021)	0.144*** (0.011)	0.135*** (0.011)	0.109*** (0.007)
Log vacant units	0.021*** (0.007)	-0.060*** (0.013)	-0.154*** (0.008)	-0.145*** (0.009)	-0.092*** (0.006)
2004	-0.050*** (0.013)	0.044** (0.026)	0.069** (0.015)	0.065** (0.015)	0.049** (0.010)
2005	-0.056*** (0.014)	0.063*** (0.026)	0.129*** (0.015)	0.124*** (0.015)	0.099*** (0.010)
2006	-0.035*** (0.015)	0.081*** (0.028)	0.143*** (0.016)	0.137*** (0.016)	0.127*** (0.010)
2007	-0.049*** (0.015)	0.114*** (0.027)	0.197*** (0.016)	0.189*** (0.016)	0.155*** (0.010)
2008	-0.073*** (0.017)	0.139*** (0.029)	0.227*** (0.017)	0.216*** (0.017)	0.170*** (0.011)
2009	-0.105*** (0.018)	0.132*** (0.029)	0.216*** (0.017)	0.205*** (0.017)	0.155*** (0.011)
2010	-0.111*** (0.018)	0.129*** (0.030)	0.205*** (0.018)	0.190*** (0.018)	0.134*** (0.012)
Detroit	0.082*** (0.019)	0.132*** (0.041)	-0.132*** (0.022)	-0.057*** (0.018)	-0.042*** (0.012)
Detroit * LMI	0.026** (0.015)	-0.117** (0.037)	0.125** (0.017)	0.025** (0.016)	0.035** (0.011)

Continued on next page

factor in predicting bank presence in a location (King and Levine, 1993). Finally, the model includes time trend/ fixed effects to control for the macroeconomic business cycle affecting trends in bank openings and closings. We summarize here the main findings from the regression analyses (see table 3.2).

Population: The population density of a neighborhood is an indicator of its relative market size. On the demand side, places with greater population density might also have more employment opportunities and greater demand

for financial services. The results of our analysis confirm that a larger population in a neighborhood is significantly correlated with having more access to banks. A 1 percent increase in population in a census tract corresponds to a 0.02 percent increase in banks per capita and a 0.73 percent increase in bank branches within one mile of a census tract. The influence of population in a census tract is also positive (but to a lesser degree) for bank access within larger distances.

Table 3.2. OLS estimates of determinants of bank presence across neighborhoods (continued)

	Bank per 1,000 people	Bank presence within 1 mile	Bank presence within 5 miles	Bank presence within 10 miles	Bank presence within 25 miles
Percent Blacks	-0.160*** (0.019)	-0.382*** (0.036)	0.047*** (0.022)	0.256*** (0.019)	0.222*** (0.013)
Percent Hispanics	-0.077*** (0.035)	-0.288*** (0.077)	-0.225*** (0.041)	-0.216*** (0.036)	-0.005 (0.023)
LMI	-0.011 (0.012)	-0.113*** (0.021)	-0.017 (0.013)	0.063*** (0.013)	0.038*** (0.008)
Detroit * vacant units	0.000*** (0.000)	-0.001*** (0.000)	0.000** (0.000)	0.000 (0.000)	0.000 (0.000)
Intercept	-0.363*** (0.084)	-5.269*** (0.154)	-0.979*** (0.101)	0.340*** (0.103)	2.207*** (0.068)
R-square	0.3847	0.3555	0.4182	0.3775	0.372
Number of observations	8156	8156	8156	8156	8156

Note: Weighted (by population) OLS estimates, robust standard errors in parentheses.
***Signifies that the coefficient estimates are statistically significant at 0.001.

Sources: Authors' calculations based on FDIC SOD, U.S. Census, and HUD.

Businesses characteristics: The number of businesses in a neighborhood conveys the extent of the commercial character or vitality and the potential demand for financial services. We thus control for business intensity in the model. We find that business density (100 businesses per capita) is a statistically significant factor in explaining the intensity of bank presence in the neighborhood. Each additional 100 businesses per capita is associated with a 5.5 percent increase in the number of bank branches per capita. Considering an alternative measure of bank access, the concentration of banks within one mile of a census tract, we find that each additional 100 businesses in a census tract corresponds with a 4.9 percent increase in the concentration of bank branches. Similar increases in businesses correspond with positive increases in bank branch concentration within farther distances, but at a decreasing rate— at five miles (2.3 percent), at ten miles (1.8 percent), and at 25 miles (1.3 percent), respectively.

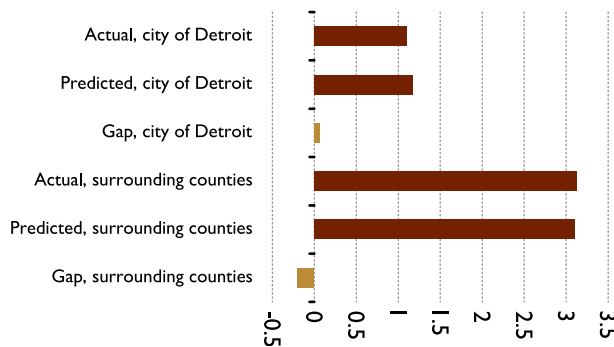
We attempt to capture the effect of the health of the business community with a proxy indicator variable, the median revenue of businesses in a neighborhood. We find that this indicator variable is also statistically significant in explaining bank branch access. Each additional \$1,000 increase in median revenue of businesses in a census tract corresponds to a 0.2 percent increase in bank access within one mile of that census tract and to a 0.1 percent increase in bank presence within further distances up to 25 miles around the census tract.

Housing characteristics: Neighborhoods with better housing markets tend to have residents with more income and potentially more demand for financial services. We expect that such factors would be positively correlated with having greater access to banks in terms of having more bank branches present within the immediate vicinity. Conversely, neighborhoods with high vacancies tend to foster negative externalities (like crime) that can discourage businesses and reduce demand for financial services. Therefore, we include median home value and the level of housing vacancies as explanatory variables to capture the health of the housing conditions of the neighborhoods. We find that on average, a 1 percent increase in median home value (log median home value) in a census tract corresponds to an approximately 0.07 percent increase in bank access. Such an increase in home value corresponds to a 0.09 percent increase in bank branch access within one mile and to a 0.14 percent increase in bank branch access within five miles. An increase in home value in a census tract also corresponds to increases in bank branches within ten and 25 miles, but consistent with the notion that accessibility decreases with greater distances, the effect is smaller at 10 and 25 miles than at one and five miles. In addition, housing vacancy is also statistically significant in explaining the presence of bank branches. We find that a 1 percent increase in the average number of vacant homes in a census tract is associated with a 0.06 percent decrease in bank branches within one mile of a given census tract.

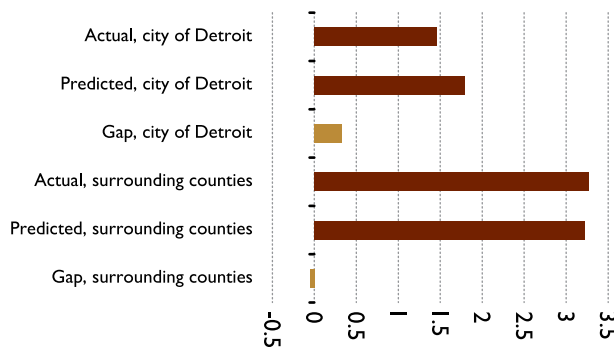
LMI and minority neighborhoods: An important question is whether differences persist on the basis of the LMI and

Chart 3.21–Chart 3.23. Bank presence gap analysis, by neighborhood income

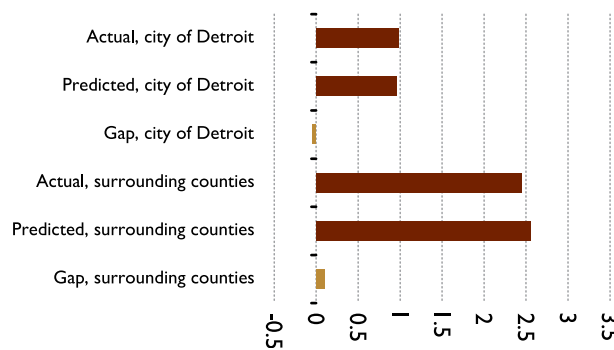
3.21. All neighborhoods



3.22. Non-LMI neighborhoods



3.23. LMI neighborhoods

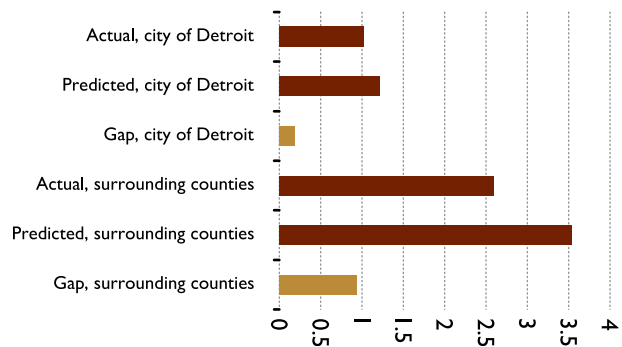


Sources: Authors' calculations based on data from the Federal Deposit Insurance Corporation (FDIC), Summary of Deposits, <http://www2.fdic.gov/sod/>; U.S. Census Bureau, Decennial Census, and HUD.

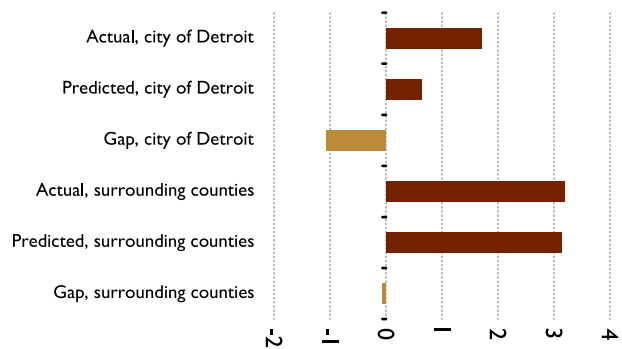
minority status of a neighborhood, after controlling for housing factors, business characteristics, and population. We find that LMI neighborhoods have significantly less access to bank branches in terms of the number of banks per capita, as well as the number of banks within a distance of one and five miles of a census tract than

Chart 3.24–3.26. Bank presence gap analysis, by minority status of the census tracts

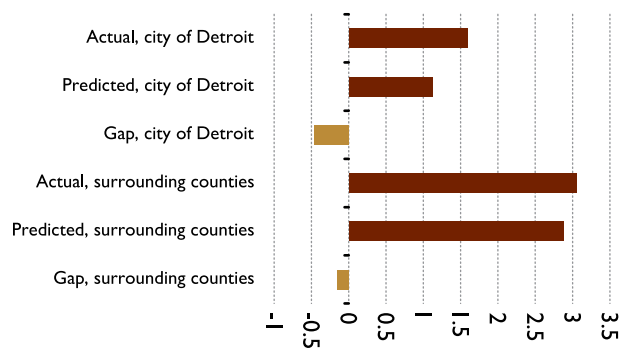
3.24. Black neighborhoods



3.25. Non-minority neighborhoods



3.26. Mixed neighborhoods



Sources: Authors' calculations based on data from the Federal Deposit Insurance Corporation (FDIC), Summary of Deposits, <http://www2.fdic.gov/sod/>; U.S. Census Bureau, Decennial Census, and HUD. Bank presence is defined as the number of bank branches per 10,000 people for a census tract.

non-LMI neighborhoods. On average, there are 1 percent fewer banks per 1,000 people in LMI neighborhoods than in non-LMI neighborhoods, holding constant other characteristics. LMI census tracts have approximately 11.3 percent fewer banks within one mile than non-LMI

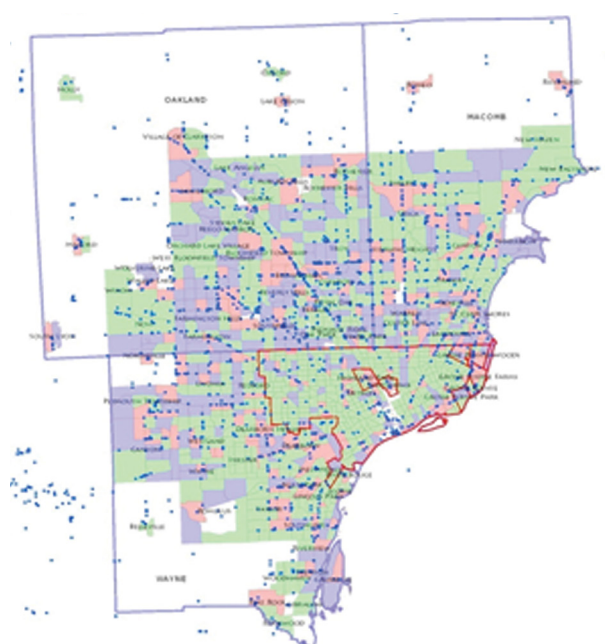
census tracts and 1.7 percent fewer banks within five miles. Distance is inversely related to access, and consequently banks at greater distances of a census tract are considered to be less accessible. Extending the density of banks to cover bigger distances, ten miles and 25 miles, the coefficient estimates for LMI neighborhoods turn positive, suggesting that banks' presence is denser further away from LMI census tracts.

In addition, after controlling for LMI status (income factor) and other characteristics, we find that minority status of a neighborhood corresponds to less access or fewer banks in that neighborhood. Each additional percentage point increase in the number of blacks in a neighborhood coincides with approximately 16 percent fewer banks per 1,000 individuals in a census tract. Measuring access in terms of density and distance, a similar increase in the number of blacks in a neighborhood corresponds to 38 percent fewer banks within one mile of a given census tract. Past a distance of one mile, the relative disadvantage of bank access associated with black neighborhoods disappears. A 1 percentage point increase in the number of Hispanics in a census tract corresponds to 7.7 percent fewer banks per 1,000 people in that census tract, 29 percent fewer banks within one mile of a census tract, and approximately 20 percent fewer banks at farther distances.

BANK ACCESS GAP ANALYSIS

The empirical analysis thus far suggests that differences in the presence of banks persist by income level and minority characteristics of a neighborhood. Drawing from the model estimates of the determinants of bank branches per capita, we conduct an additional analysis of bank presence *gaps* to explore whether, and where, there is a difference in the actual number of bank branches per capita in the city of Detroit LMI, non-LMI, and minority neighborhoods, compared with the model-predicted number of bank branches per capita in those same neighborhoods. The gap analysis calculates the *gap* or the *difference* in bank branches per capita between an estimated *predicted* number based on the model and the *actual average number* of banks per capita for the neighborhoods. The estimated *predicted* numbers for the neighborhood are derived from the empirical model estimates, accounting for differences across neighborhoods that can be explained by factors related to market size and other demand-related factors controlled for and deemed crucial in the model.⁵ A positive gap (i.e., the model *predicted* number is more than the *actual number*) suggests that the area in question may be *relatively underbanked*, at least by the standard imposed in the empirical model. A negative gap suggests that the area in question has a level of access consistent with what is expected by our metrics, that is, controlling for location characteristics, including business density, home values, vacancy rates, and deposits. The results of the gap analysis indicate where LMI and minority neighborhoods

Figure 3.4. Detroit and surrounding counties, bank presence gap analysis



Difference between actual and predicted level of bank branch access

Positive gaps (235 tracts)	Predicted close to actual (577 tracts)	Actual greater than predicted (153 tracts)
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Note: This figure illustrates the result of a gap analysis for census tracts. The gap refers to the difference between the level of bank branch access and the predicted level of access, derived from OLS estimations of bank access (numbers of branches per 1,000 people in a census tract), controlling for location characteristics, including business density, home value, and vacancy rate, and deposits. The census tracts are coded according to their standard deviations from the predicted means. Each dot represents an actual branch.

are adequately served or have adequate access to banks, or if not, where opportunities might exist to improve bank access in those neighborhoods.

The results for the city of Detroit and surrounding counties are presented in charts 3.21-3.23. While there were on average 1.1 bank branches per 10,000 people in the city of Detroit, the predicted value suggests that a proportionate number might be 1.2 bank branches per 10,000 people, indicating some room for expansion. By comparison, there were 3.1 bank branches per 10,000 people in the surrounding counties, with the model predicting a number that is slightly less than the actual number, suggesting that the surrounding counties are proportionately served in terms of the number of bank branches, given various characteristics. As charts 3.22 and 3.23 indicate, the model predicts that opportunities for expansion in Detroit might specifically be in middle- and upper-income neighborhoods in the city, more so than in low- to moderate income neighborhoods, holding all other factors the same. In non-LMI neighborhoods in the city,

there are on average 1.5 bank branch per 10,000, while the predicted number is 1.8, suggesting room for an additional 0.3 branch per 10,000 people.

Charts 3.24-3.26 report the results of a similar gap analyses, but based on the racial composition of neighborhoods in Detroit and the surrounding counties. The results shown in chart 3.24 suggest a positive gap for black neighborhoods (i.e., those with more than 50 percent black population) in both the city and surrounding counties. The neighborhoods on average have 1.0 bank branches per 10,000 people, while the predicted number is 1.2 banks per 10,000 people. In surrounding counties, there are 2.6 bank branches per 10,000 in black neighborhoods, while the predicted level is 3.5, suggesting an additional 0.9 branch per 10,000 people in those neighborhoods. By contrast, neighborhoods that are predominantly white or mixed in both the city of Detroit and surrounding counties are better served in terms of bank branches per capita.

Finally, to illustrate the results of this analysis for both the city and surrounding counties, we present the findings in a map at the census tract level (figure 3.4). The pink color represents census tracts that are doing well by the metrics in terms of access and predicted level of access. Green represents tracts that have the level of access that would be expected, given characteristics or the standards imposed by the model. Blue is assigned to tracts where we find positive gaps. These are places that may offer opportunities for expanding markets.

CONCLUSION AND IMPLICATIONS

This chapter analyzes branch presence and the spatial concentration and distribution of bank branches in the city of Detroit and the surrounding counties. The implicit motivation for this analysis is that increased financial intermediation from regulated banks contributes to the health of communities, and expanding or ensuring proximity to financial institutions and improved financial inclusion could help distressed communities such as those in the city of Detroit. Indeed, the U.S. has a decades-long policy of encouraging banks to lend and invest in lower-income communities. The 1977 Community Reinvestment Act (CRA) established federal regulatory processes to encourage banks to reinvest in LMI communities from which they receive deposits, consistent with safe and sound banking practices. Although the CRA relates mostly to credit needs, an institution's records of opening and closing offices and the products and services offered at specific locations are also part of the CRA assessment process (Mitchell, 1990).

While the city of Detroit is not unique in terms of its loss of population, it has had a much lower rate of bank branches per capita over the past 15 to 20 years and a higher decline in banks than some other industrial cities. The city of Detroit and its greater metropolitan area have also

experienced strong shifts in terms of the locus of control across institutions, with banks and local market deposits shifting almost entirely to institutions not headquartered in the Detroit MSA.

In addition, the data suggest that differences exist in the relative intensity of bank presence by neighborhood income. Population density, the number of businesses, housing market indicators, and other demand-related indicators independently influence the extent of bank presence in a neighborhood. This is consistent with previous research on branch location decisions across metropolitan areas, which has found branch growth tends to follow key economic drivers, such as population and employment growth (Spieker, 2004; Hopson and Rymers, 2003). After controlling for key characteristics, we find that the city of Detroit's LMI and minority neighborhoods remain *relatively underbanked* compared with the urban metropolitan areas in surrounding counties.

Admittedly, branch location decisions are based on individual company and market considerations, which are outside the scope of this research. Even so, the differences in the presence of banks in non-LMI neighborhoods and minority neighborhoods, both in the city and surrounding counties, suggest there might be potentially untapped market opportunities in the area, in spite of the challenging economic climate.

4. BANK LENDING TO BUSINESSES IN NEIGHBORHOODS IN DETROIT

SUMMARY

An important question is whether small businesses in Detroit have adequate funding to be sustainable in the long run. In this section, we analyze trends in bank lending to small businesses in Detroit and the surrounding counties and assess the factors that are associated with access to credit by businesses at the neighborhood level. We also test the proposition, consistent with the research on relationship banking, that the presence of banks is even more important for lending to businesses in LMI neighborhoods than in higher-income areas. In a business climate that has seen a decline in the number of establishments with employees over the past ten years and an increase in establishments with no employees, many of the businesses operating in Detroit are likely to face liquidity and credit constraints. These problems are likely compounded for businesses in LMI neighborhoods whose growth and number of bank branches per capita lag behind those in non-LMI neighborhoods.

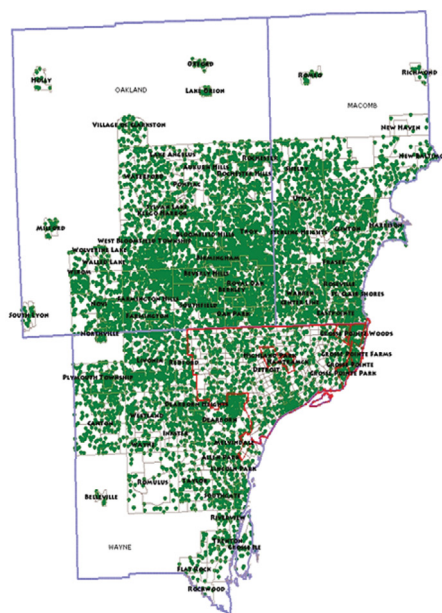
In summary, we find that lending declined consistent with the overall macroeconomic conditions and restricted credit flows during the period covered in our analysis 2005-2010. We find that smaller businesses, especially those in the city of Detroit, faced the steepest cuts in lending over the second half of the 2000s. In addition, businesses in the city of Detroit, and in black neighborhoods in particular, received fewer small business loans than those in other neighborhoods after controlling for differences in neighborhood characteristics, including vacancy rates, business density, and the revenue of businesses. We find that bank presence, as an indicator of potential relationship-based lending, contributes to some extent to explaining increased lending in LMI neighborhoods, but not necessarily in non-LMI neighborhoods, where other factors such as businesses density and higher average business revenue seems to play a bigger role in explaining lending. We also find that the ownership structure of banks is significantly correlated with lending. As the ratio of banks that are *not* headquartered in the MSA relative to banks headquartered in the Detroit MSA increases, this coincides with fewer number of loans for a given census tract. These results reinforce the need for greater understanding of the impact of changes in bank location and ownership structure on communities of all income levels.

TRENDS IN CRA SMALL BUSINESS LENDING, 2005-2010, IN DETROIT AND SURROUNDING COUNTIES

Small businesses use a variety of funding sources, including personal resources and informal or alternative financing.¹ The formal financial sector, including banks, supplies the bulk of funding for small businesses, either as business loans, home equity loans or credit cards. In this analysis, we focus on small business lending from banks for the period 2005-2010. Bank small business lending here refers to loans of less than \$1 million by banks that are covered by CRA data reporting requirements, representing nearly all banks in the Detroit MSA. CRA lending data provide information on lending to businesses at the census tract level. While the reporting period is relatively short, it captures important trends preceding and following the financial crisis in 2008.

To be sure, lending to businesses in Detroit was affected by macroeconomic trends that reduced the volume of lending throughout the country during and following the financial crisis. Nationwide, from 1993 through 2008, commercial banks more than doubled the value of their small business loans outstanding. However, from the second quarter of 2008 to the first quarter of 2010, outstanding loans

Figure 4.1. Small business lending in the city of Detroit and surrounding counties, 2010



Note: Each dot represents a count of a “CRA loan”. CRA small business loans are defined as loans of \$1 million or less and are either secured by nonfarm or nonresidential real estate or are commercial and industrial loans.

Sources: Authors’ calculations based on CRA lending data and Mapitude.

Table 4.1. CRA-reported loan counts and amounts (\$) to small businesses

	City of Detroit								
	ALL			LMI			Non-LMI		
	2005	2010	Change	2005	2010	Change	2005	2010	Change
Loan amount \$	214,741,300	115,648,400	-0.46	155,177,100	84,208,150	-0.46	27,909,140	13,252,940	-0.53
Loan count	8,643	3,589	-0.58	5,577	2,328	-0.58	1,305	562	-0.57
Loan amount \$ to businesses < \$1 million revenue	67,253,490	24,829,730	-0.63	46,277,230	17,600,350	-0.62	9,429,530	3,249,948	-0.66
Loan amount \$ to businesses > \$1 million revenue	147,487,900	90,818,710	-0.38	108,899,800	66,607,800	-0.39	18,479,610	10,003,000	-0.46
	Surrounding Counties								
	ALL			LMI			Non-LMI		
	2005	2010	Change	2005	2010	Change	2005	2010	Change
Loan amount \$	1,990,837,000	1,078,818,000	-0.46	325,733,600	185,159,000	-0.43	1,439,369,000	775,475,500	-0.46
Loan count	75,981	39,485	-0.48	9,606	4,420	-0.54	58,855	31,596	-0.46
Loan amount \$ to businesses < \$1 million revenue	710,373,200	286,066,900	-0.60	102,039,700	36,629,240	-0.64	538,168,300	223,204,300	-0.59
Loan amount \$ to businesses > \$1 million revenue	1,280,464,000	792,751,200	-0.38	223,693,800	148,529,700	-0.34	901,200,800	552,271,200	-0.39
<p>Note: LMI and non-LMI are restricted to those tracts that did not change status over the course of the period. The numbers therefore do not add up to 100 percent.</p> <p>Source: Authors' calculations based on CRA small business lending data.</p>									

to small businesses dropped from almost \$700 billion to approximately \$660 billion. Credit card terms also became tougher after the recession. In a survey by the National Small Business Alliance in 2009, 63 percent of small business owners reported that their interest rate had increased and 41 percent reported that their credit limit had been reduced. Access to home equity lines of credit, historically a popular resource for small business owners, also dried up during the recession.

The density map in figure 4.1 provides a birds-eye view of the scope of business lending in Detroit and the surrounding counties. Each green dot represents the loan count in 2010, and the concentration of green dots outside of Detroit city suggests considerably more small business lending in the surrounding counties than in Detroit.

As table 4.1 shows, lending activity decreased between 2005 and 2010 in both the city of Detroit and the surrounding counties. The number of small business loans decreased close to 60 percent in the city of Detroit and by more than 45 percent in the surrounding counties. In the city, the amount of lending to businesses fell from \$215 million in 2005 to \$116 million in 2010, a 46 percent decline. In

the surrounding counties, it went from \$2 billion to \$1.1 billion, also a 46 percent decline.

Considering lending to businesses of different sizes, the declines in the total amount of lending to smaller versus larger businesses followed similar trends in both the city and surrounding counties, with smaller businesses experiencing a stronger decline in lending over the period (table 4.1). In the city of Detroit, businesses with less than \$1 million in revenue received a total of \$67 million in small business loans in 2005 and \$25 million in 2010, a decline of 63 percent. The decline in lending to larger businesses was smaller, at 38 percent; businesses with more than \$1 million in revenue in 2005 received \$148 million in small business funding in 2005 and \$90 million in 2010. This pattern persisted in the surrounding counties. Smaller businesses had \$710 million in loans in 2005 and \$286 million in 2010, a decrease of 60 percent. By contrast, larger businesses received \$1.3 billion in funding in 2005 and \$782 million in 2010, a decrease of 38 percent.

In addition to the influence of macroeconomic trends, business lending experiences in the Detroit area have been shaped by neighborhood-specific conditions. Listening

sessions with (mostly minority) business owners and other local experts provide a nuanced understanding of the lending climate in diverse communities in the city of Detroit (see box 4.1).² To be sure, many Detroit-based businesses continued to receive lines of credit and term loans from banks in the Detroit area in the period following the financial crisis. But many long-established businesses that saw a drop in income during 2008 and 2009 were unable to refinance their (commercial) mortgages at lower rates when interest rates fell. Businesses that for years had managed lines of credit saw those lines eliminated or cut in half in 2009 and 2010. A survey by New Detroit, Inc. found that access to bank capital remained an area of particular concern for minority businesses—more than 40 percent cited access to capital as an impediment for their businesses.³

Further analysis at the neighborhood level (census tracts) shows additional discrepancies between the city and the

surrounding counties in terms of the number of small business loans made to businesses. Figures 4.2, 4.3, and 4.4 illustrate the distribution of census tracts into quartiles in the city and in the surrounding counties, based on the number of loans received. More than 50 percent of census tracts in the city were at the lowest end of the distribution. These census tracts each received no more than 11 small business loans in 2010 as reported in the CRA data (figure 4.2). In contrast, only a handful of census tracts in the city fell within the highest quartile of the distribution. Businesses in those neighborhoods received at least 53 loans.

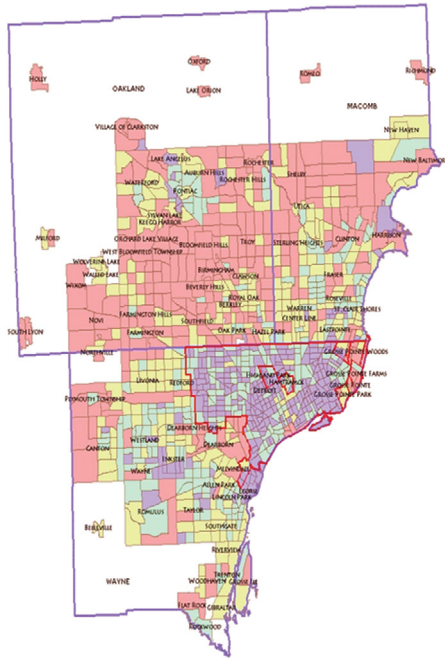
Lending to businesses with revenues below \$1 million all but dried up in the city of Detroit in 2010. As figure 4.3 shows, more than 80 percent of census tracts in the city of Detroit were at the bottom quartile by this metric. These census tracts received no more than three loans from CRA-reporting banks during the year. Census tracts at the

BOX 4.1. EXPERIENCES WITH BANK BORROWING: THE PERSPECTIVE OF LOCAL BUSINESSES

Most business owners in Detroit who participated in our listening sessions agreed that the 2008 recession made it harder for small businesses in Detroit to be approved for bank financing. The experiences cited by participants in listening sessions held in 2011 included some of the following observations:

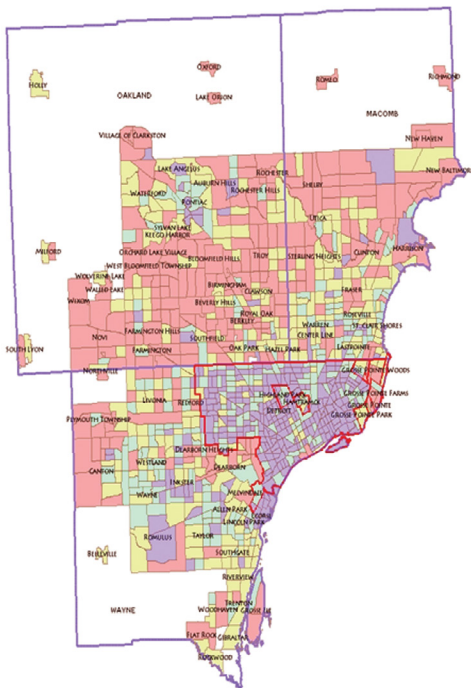
- Some business owners believed that bankers called loans based on concentrations in their lending portfolios in a particular industry, such as restaurants or construction, without looking at the payment history of these businesses, the timeliness of payments, or the financial statements of the businesses.
- Business owners believed that declining property values in the city led to the reduction in lines of credit or the denial of new loans. Within the city, businesses were evaluated on the location of their property. They believed that banks would not lend until they thought the bottom had been reached in terms of asset values in Detroit.
- The tightening of credit hindered small businesses involved in infrastructure projects. Billions of dollars of transportation projects were coming into particular neighborhoods of Detroit, but local businesses needed to be bonded and insured to get pieces of these contracts. When a bank would not offer lines of credit, this compromised opportunities for insurance and then compromised opportunities for bonding and the possibility to expand. This affected companies trying to get local contracting business into the pipeline.
- Business owners tended to work with national banks but were less familiar with community banks. They knew of others who borrowed from credit unions.
- Business owners noted that telling their story was more of a challenge when bank management was not headquartered close by. The loan committee does not know their reputation or commitment.
- When one business was planning to buy a building, their banker kept saying ‘come to me.’ When they got their financials together and went back to the banker, it turns out he wasn’t ‘the man’. In reality there was a credit committee in a far-off office and this banker didn’t have much influence.
- Small businesses were hit hard in 2009 when financing all but disappeared for companies that supply parts to automakers. Banks did not want their loans concentrated in the auto sector, and many companies saw bank lines of credit pulled even when they could demonstrate a diversified mix of customers. Companies that had been highly profitable before the recession became suddenly dependent on bank funds to stay afloat, and many of those were forced to close. Other companies that were able to maintain sufficient liquidity throughout the recession missed out on the opportunity to make inexpensive acquisitions and reach into new markets, given the lack of credit available to them. Since 2011, auto suppliers have seen renewed interest on the part of banks to reestablish their relationships.
- When business owners were not able to use bank credit, they used credit cards, trade or supplier credit, or self-financed through savings. Franchises had access to corporate credit. Auto suppliers used finance companies.

Figure 4.2. Number of CRA-reported loans to businesses across neighborhoods, 2010



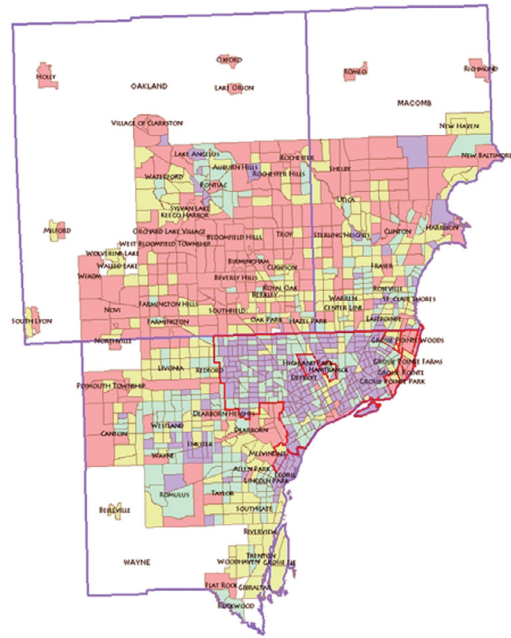
0 to 11 (272 tracts) 12 to 26 (270 tracts) 27 to 52 (258 tracts) 53 to 586 (264 tracts)

Figure 4.3. Number of CRA-reported loans to businesses with revenues of \$1 million or less across neighborhoods, 2010



0 to 3 (297 tracts) 4 to 7 (239 tracts) 8 to 14 (267 tracts) 15 to 93 (261 tracts)

Figure 4.4. Number of CRA-reported loans to businesses with more than \$1 million in revenue across neighborhoods, 2010



0 to 7 (271 tracts) 8 to 17 (261 tracts) 18 to 38 (267 tracts) 39 to 493 (265 tracts)

Note: “CRA-reported loans” are defined as those whose original amounts were \$1 million or less and are either secured by nonfarm or nonresidential real estate or are commercial and industrial loans.

Sources: Authors’ calculations based on CRA lending data and Maptitude.

higher end of the lending distribution received between 15 to 100 loans for businesses with revenues of \$1 million or less. Fewer than 5 percent of the census tracts in Detroit were at the higher end of the lending distribution.

The city’s neighborhoods did not do much better in terms of their relative position for loans for larger businesses, as again only a handful of tracts were on the high end of the distribution (figure 4.4).

FACTORS INFLUENCING LENDING TO BUSINESSES ACROSS NEIGHBORHOODS

We rely on multivariate regression to explore lending differences to businesses in the different neighborhoods. This approach allows us to assess whether and the extent to which there might be differences in the number of business loans or amounts made to certain neighborhoods in the city of Detroit versus the surrounding counties, holding constant other demand-related and bank-market-specific factors. We also test the proposition from section 3 that the presence of bank branches matters for lending in certain markets. (See tables 4.2 and 4.3 for results of the lending

Table 4.2. Determinants of CRA-reported loans

	Full sample		LMI		Non-LMI	
	Coefficient	Standard deviation	Coefficient	Standard deviation	Coefficient	Standard deviation
Bank presence	-0.064***	0.010	0.093***	0.020	-0.125***	0.011
City of Detroit * LMI	-0.060***	0.031	-0.144***	0.039	-0.089***	0.044
LMI	-0.113***	0.024	--	--	--	--
Percent of black population	-0.607***	0.026	-0.400***	0.051	-0.514***	0.045
Deposit	0.000***	0.000	0.000***	0.000	0.000***	0.000
Vacancy rate	-2.417***	0.176	-0.961***	0.236	-3.545***	0.255
Percent occupied unit with one vehicle	0.001***	0.000	0.001***	0.000	0.001***	0.000
Out-of-town bank branch /in-town bank branch	-0.101***	0.022	-0.041	0.041	-0.108	0.024
Business per capita	0.081***	0.004	0.056***	0.006	0.177***	0.005
Business per capita squared	0.000***	0.000	0.000***	0.000	-0.002***	0.000
Revenue of business	0.004***	0.000	0.007***	0.001	0.000	0.000
Revenue of business squared	0.000***	0.000	0.000***	0.000	0.000*	0.000
Year 2006	0.516***	0.022	0.492***	0.042	0.540***	0.024
Year 2007	0.567***	0.019	0.513***	0.036	0.583***	0.021
Year 2008	0.315***	0.021	0.277***	0.038	0.277***	0.023
Year 2009	-0.529***	0.023	-0.646***	0.044	-0.604***	0.025
Year 2010	-0.673***	0.024	-0.808***	0.046	-0.748***	0.026
Intercept	2.763***	0.065	1.610***	0.125	3.215***	0.066
R-square	0.8038		0.8048		0.8013	
Number of observations	6148		2195		3953	

Note: Weighted (by population) OLS estimates, robust standard errors. *** Signifies that the coefficient estimates are statistically significant at 0.001. The dependent variable is the log (business loan counts in census tracts). Other variables are as defined in the text.

Sources: Authors' calculations based on FDIC SOD, U.S. Census, and HUD.

regression analyses for number of loans and amounts of loans, respectively.) We summarize our findings below.

Bank presence. Proximity of a bank should signal greater accessibility and greater opportunities to engage in relationship banking that could prove fruitful for lending to business owners. This should be relevant in low- and moderate-income markets, where lending relationships might benefit from soft information gathered through interaction with the business owner and more knowledge of the business and its location. Consistent with previous research, we find a positive association between the indicator of a bank's physical presence and lending for LMI areas (but not necessarily for non-LMI) (e.g., Ergungor, 2006). Our analysis suggests that the presence of banks exerts a positive (although somewhat qualitatively small) effect on the number of loans in LMI neighborhoods. A 1 percent increase in the number of bank branches within one mile of LMI neighborhoods is associated with

a 0.1 percent increase in lending to small businesses in those neighborhoods. In the case of loan volume, such presence is more qualitatively significant, as it explains an additional 4 percent higher volume of lending in LMI neighborhoods, but has no discernible positive influence for non-LMI neighborhoods.

Ownership structure of banks present. We measure the ownership structure of banks present in a census tract by the ratio of out-of-market banks (not headquartered in the Detroit MSA) to in-town banks (with headquarters in the MSA). As this ratio changes for a neighborhood, this tends to correspond with less lending to businesses in that neighborhood. The reverse is true for the volume of lending, in which case such an increase would correspond to larger loan amounts in both type of neighborhood income categories, LMI and non-LMI. More specifically, if one goes from none to all out-of-town banks, this would correspond to a 4 percent decrease in lending in LMI

Table 4.3. Determinants of CRA-reported loan amounts

	Full sample		LMI		Non-LMI	
	Coefficient	Standard deviation	Coefficient	Standard deviation	Coefficient	Standard deviation
Bank presence	-0.055***	0.008	0.040***	0.013	-0.086***	0.009
City of Detroit * LMI	0.008	0.020	-0.081***	0.023	-0.019	0.032
LMI	-0.018	0.017	-0.067***	0.030	-0.213***	0.034
Percent of black population	-0.212***	0.018	0.000***	0.000	0.000***	0.000
Deposit	0.000***	0.000	-0.228**	0.127	-0.597***	0.202
Vacancy rate	-0.412***	0.111	0.000***	0.000	0.000***	0.000
Percent occupied unit with one vehicle	0.000***	0.000	-0.048*	0.036	-0.067***	0.020
Out-of-town bank branch /in-town bank branch	-0.073***	0.018	0.034***	0.004	0.114***	0.004
Business per capita	0.059***	0.003	0.000***	0.000	-0.001***	0.000
Business per capita squared	0.000***	0.000	0.001***	0.001	0.003***	0.001
Revenue of business	0.004***	0.001	0.000***	0.000	0.000	0.000
Revenue of business squared	0.000***	0.000	0.016	0.031	0.078***	0.023
Year 2006	0.052***	0.019	0.003	0.026	0.051***	0.019
Year 2007	0.036***	0.016	-0.057***	0.028	-0.059***	0.020
Year 2008	-0.041***	0.017	-0.195***	0.028	-0.300***	0.020
Year 2009	-0.233***	0.017	-0.198***	0.030	-0.328***	0.021
Year 2010	-0.254***	0.018	-0.247***	0.097	-0.411***	0.077
Intercept	-0.427***	0.072				
R-square	0.6949		0.7405		0.6978	
Number of observations	6178		2195		3953	

Note: Weighted (by population) OLS estimates, robust standard errors. *** Signifies that the coefficient estimates are statistically significant at 0.001. The dependent variable is the log (business loan amounts in census tracts).

Sources: Authors' calculations based on FDIC SOD, U.S. Census, and HUD.

neighborhoods and a 11 percent decrease in lending in non-LMI neighborhoods. In the case of loan volume, such change would mean a 3 percent higher loan amounts if this is a LMI neighborhood, and 11 percent higher loan amounts of loans if a non-LMI neighborhood.

Neighborhood business makeup and socioeconomic characteristics.

A number of factors related to the business character and the socioeconomic characteristics of neighborhoods are consistent with differences in lending to businesses across neighborhoods. Not surprisingly, a higher number of businesses in a neighborhood is associated with more lending, with the effect stronger for a non-LMI neighborhood. An additional business per capita would correspond to 6 percent higher lending, if a LMI neighborhood, and 17 percent higher lending if a non-LMI neighborhood. The size of the business, in terms of revenue generated, also matters, particularly for the volume of loans. A given increase in the average revenues generated by

businesses in a neighborhood corresponds to a qualitatively small increase in the number of loans (0.01 percent more loans for LMIs). By contrast, each additional 1000 dollars increase in the average revenue by firms in a census tract is associated with a 3.2 percent increase in the volume or amounts of lending for LMI census tracts, and a 16 percent increase in the amount of loans for non-LMI census tracts.⁴ Other characteristics behave in expected ways; the number of loans is positively associated with more deposits, and is negatively associated with higher vacancy rates.

Race. The proportion of the census tract population that is black is inversely related to both the number and the amount of small business loans. If one goes from a non-black neighborhood to an all black neighborhood, with otherwise similar characteristics as accounted for in the model, lending is expected to be lower by more than half, while the volume of loans is expected to be lower by 21 percent in such neighborhood.

Chart 4.1. Gap in bank CRA-reported lending to small businesses: city of Detroit, surrounding counties

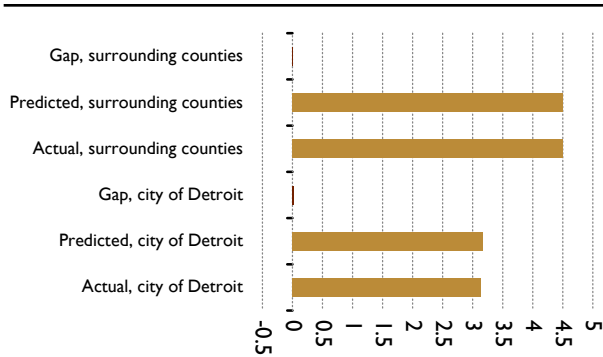


Chart 4.2. Gap in CRA-reported lending to small businesses in LMI neighborhoods: city of Detroit, surrounding counties

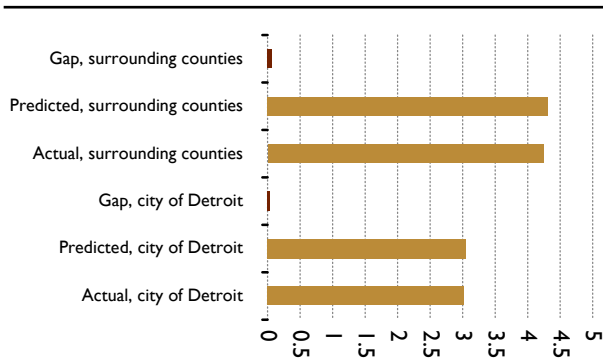
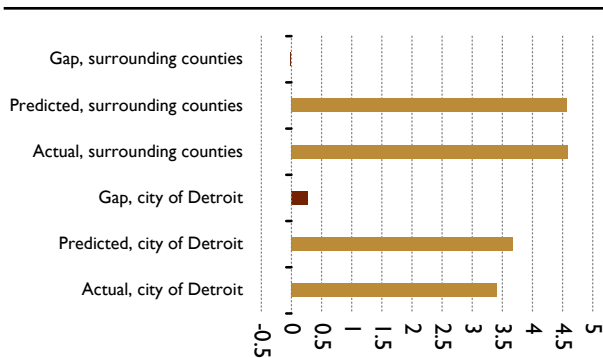


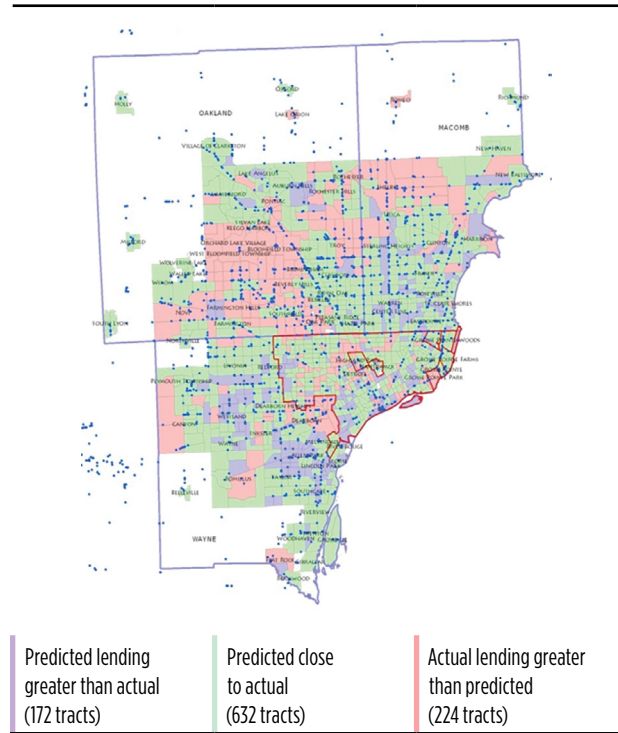
Chart 4.3. Gap in CRA-reported lending to small businesses in black neighborhoods: city of Detroit, surrounding counties



LENDING GAP ANALYSIS

As in section 3, we again perform a gap analysis, in this case to assess the extent to which some neighborhoods based on their racial and income characteristics received more or less bank lending than predicted by the empirical model, which is controlling for neighborhood characteristics – namely business density, home value, and vacancy rate, average deposits – and for time trends to reflect credit

Figure 4.5. Bank CRA-reported lending gaps



cycles. The gap analysis here takes the difference between the estimated *predicted* amount of bank small business lending from model estimates and the actual number of small business loans. A positive gap (i.e., the model *predicted* number is more than the *actual number*) suggests that the area in question may have had room for more funding to businesses, given its characteristics.

The results suggest that the average number of loans in neighborhoods is generally in line with what the model predicts for Detroit’s surrounding counties. By contrast, we find a positive gap for the city of Detroit (four more loans per 100 businesses) (chart 4.1). Disaggregating the analysis by income and racial characteristics of the neighborhoods, we find that there are positive gaps for LMI neighborhoods in both the city of Detroit and surrounding counties (four more loans per 100 businesses in LMI neighborhoods for the city and seven more per 100 businesses in LMI neighborhoods in the surrounding counties) (chart 4.2). For minority (black) neighborhoods, there is a gap of 0.28 (suggesting room for more lending activities – at least three more loans per 100 businesses) (chart 4.3).

Finally, to illustrate the results of this analysis for both the city and surrounding counties, we present a bird’s-eye view of the gap analysis findings in a map at the census tract level (figure 4.5). The pink color represents census tracts that are did well in terms of actual average level of lending and predicted average level of lending, according to the model. Green represents tracts that had the level of lending that would be expected. Blue is assigned to tracts

where we find positive gaps. These are places that may offer opportunities for expanding markets.

CONCLUSION AND IMPLICATIONS

Small business lending in Detroit has been affected by both broad macroeconomic conditions and local contextual factors. Consistent with contractions in business lending nationwide, both Detroit and the surrounding counties saw more than 45 percent decline in the number and amount of small business lending between 2005 and 2010. Lending to small businesses decreased more aggressively than lending to large businesses. The cuts in the lending market had arguably greater impact on small businesses in the city.

An analysis of differences in small business lending across neighborhoods in the Detroit MSA reveals more lending per business in surrounding counties than in the city. Lending is positively correlated with neighborhood characteristics such as the number of businesses and average revenue of businesses, while it is negatively correlated with neighborhood characteristics such as higher vacancy rates. Small business lending also tends to fall with increases in concentrations of black population in a census tract. A gap analysis suggests that some of these areas might be relatively underserved.

Bank presence significantly matters for lending in LMI neighborhoods. It does not explain positively small business lending in middle- and upper-income neighborhoods, where such lending tends to be tied more closely to the distribution of businesses. Testing for the potential relevance of the structure of bank ownership, we find that higher ratios of banks headquartered outside the Michigan market tend to correspond to lower number of loans and higher amounts of loans, on average. This result is consistent with previous research which has found that increased *functional* distance (when the lending decision may take place in headquarters, away from the borrower's location) may lead to less lending. These findings suggest that initiatives that reinforce and facilitate relationship banking may help build access to credit in LMI communities.

5. MAKING THE CONNECTION: WHAT BANKS CAN DO

The Community Development and Policy Studies division at the Federal Reserve Bank of Chicago has sponsored a series of meetings and discussions that have brought together bankers, regulators, business owners, policymakers, and funders, to examine the challenges and opportunities related to access to small business credit and financing in Detroit.¹ Among the issues and themes discussed, experts have shared their knowledge about the strategies and investments that have attracted business and job growth to various parts of the city, as well as their views on the economic and regulatory constraints that have limited lending to certain segments of the small business market in Detroit. The consensus has been that there is a need for innovation and partnerships to channel additional financial resources to Detroit small businesses. This section highlights strategies by banks, other intermediaries, and the public sector to leverage resources that increase financing opportunities for businesses.²

SUPPLEMENTING PRIVATE CAPITAL WITH PUBLIC FUNDS

Several programs have opened opportunity for Detroit area small businesses to obtain bank capital through guaranties, loss reserve pools, participation agreements, and creative use of tax credits. These include traditional

public/private loan-guarantee programs such as those run through the Small Business Administration (SBA), where banks and other financial institutions in Michigan have been at the forefront in the country in terms of the number of SBA loans made (Toussaint-Comeau and Newberger, 2014); Low Income Housing Tax Credits and Historical Preservation Tax Credits, through which Detroit-area bankers have financed small business developers of multi-unit properties in the city; and New Markets Tax Credits, which Michigan bankers have deployed for commercial development and manufacturing businesses. In addition, the state of Michigan has been active in innovating public/private programs for small business lending that complement banks' lending. For example, Michigan was one of the first states to establish a Collateral Support Program, which became the model for a federal program through the State Small Business Credit Initiative Act of 2010 (see box 5.1). As representatives from the Michigan Economic Development Corporation have noted, public/private programs in the past were not always designed to maximize the efficiency of resources, but much has been learned in recent years regarding how to better structure these investments to support small business development.

SUPPORTING SMALL BUSINESS TRAINING AND SMALL-DOLLAR LENDERS

Another way that banks, the public sector, and philanthropies have leveraged resources for small business owners is through third-party organizations that provide loans, training or consulting services to business owners to prepare them for running a business or seeking financing.

BOX 5.1. SUPPLEMENTING PRIVATE CAPITAL WITH PUBLIC FUNDS

The Michigan Economic Development Corporation (MEDC), the state's lead agency for business development and economic growth, has developed a variety of programs through which public money is made available in conjunction with private dollars for small business development.

The state developed the *Collateral Support Program* in 2008 to respond to the problem of would-be borrowers with collateral shortfalls. The Collateral Support Program enables borrowers to acquire financing that might otherwise, by lender underwriting (and regulatory) criteria, lack sufficient security. Under this program, the state deposits money in a financial institution to fill the collateral gap for approved projects, up to 49.9 percent of the entire amount. The Collateral Support Program is funded by federal dollars provided through the State Small Business Credit Initiative (SSBCI) Act of 2010.

The state also developed the *Loan Participation Program* to compensate for cash flow deficiency especially at early stages of business development. The Loan Participation Program seeks to enable companies to acquire the financing that they might otherwise be unable to get due to a cash flow shortage according to the lender's analysis. The program allows participation up to 49.9 percent of the value of the bank loan for approved projects. The program is also funded by federal dollars provided under the State Small Business Credit Initiative (SSBCI) Act of 2010.

The *Pure Michigan Micro Lending Initiative* was launched in 2013 as a collaboration between Huntington Bank, the state of Michigan and nonprofit service deliverers. According to Huntington's press release, the bank commits \$25 million, the Michigan Economic Development Corporation provides initial credit reserves in support of the program, and the money is distributed through lines of credit provided to community micro-lenders such as the Detroit Development Fund.

A number of banks that operate in Detroit provide direct support for training and consulting intermediaries, including organizations that run business incubators, or provide technical assistance in industry-specific sectors, such as food and renewable energy. Some banks also support non-bank lenders who finance businesses that the banks themselves, due to loan policies, regulatory strictures, or (small) loan size, cannot fund directly. Bankers who attended the various meetings described the ways in which they have given support to the operating budgets of microenterprise organizations as well as to the loan funds administered by these organizations.³ One of the largest commitments to date has been Goldman Sachs' announcement of \$15 million in lending capital; the bank had already launched its 10,000 Small Business Initiative in Detroit in November 2013.⁴ Bankers have also served in director capacities to these entities, and as participants in their loan review committees. Bank and credit union lenders have further been involved in alternative funding mechanisms, such as competitions and awards to worthy businesses looking for seed money. Bank- and credit-union-supported contests that encourage entrepreneurship have proliferated in recent years in Detroit, including Hatch Detroit, which offers (one-time) \$50,000 to businesses in

an annual competition, Urban Rebound, which provides ten women business owners \$1000 (each), and educational opportunities for their winning business pitches, and CU Soup, a forum sponsored by local credit unions that brings together early-stage business owners, and provides a cash award for the best business plan and presentation.

AUGMENTING NETWORKING OPPORTUNITIES FOR SMALL BUSINESS OWNERS

A third strategy for leveraging resources relates to building information channels between small businesses, small business intermediaries, and sources of financing such as banks. An important part of this vision in Detroit has involved the creation of a three-and-a-half mile 'innovation corridor' of entrepreneurial services (between the Downtown area and the Woodward Corridor in Midtown) to promote synergies between business development intermediaries. The goal of creating this network is to encourage business-to-business collaboration, the transfer of ideas and technologies, and communication between the leaders of these institutions, by providing a roadmap to services offered and capital sources available (see box 5.2

BOX 5.2. CONNECTING DETROIT BUSINESS OWNERS TO RESOURCES

Since 2008, a number of foundations, local planners and nonprofits have sought to improve knowledge-sharing and referrals between institutions that provide services to small businesses. An important part of this vision in Detroit has involved the creation of a three-and-a-half mile 'innovation corridor' of entrepreneurial services (between the Downtown area and the Woodward Corridor in Midtown) to promote synergies between business development intermediaries. The network includes organizations that provide training to business owners, those that produce ideas and intellectual property, and those that fund small businesses. The goal of creating this network is to encourage business-to-business collaboration, the transfer of ideas and technologies, and communication between the leaders of these institutions. By providing a roadmap to the services offered in the community, the goal is also to help entrepreneurs better understand the services and capital available to them. Investments from the New Economy Initiative, a \$100 million foundation coalition in Southeast Michigan, have focused on helping small business owners in Detroit connect to information for their businesses:

Example 1: InsYght

With support from the New Economy Initiative, the nonprofit Matching Opportunities and Resources for Entrepreneurs (MORE) launched the InsYght system in 2011, an online inventory of over 2000 business resources in Michigan. InsYght offers a single portal for granular information on thousands of subsidized or free business support tools and services in Michigan including mentoring, laboratory or manufacturing space and market analysis, as well as funding opportunities for small businesses. The catalogue includes less publicized services, and resources, such as rapid prototyping at colleges and universities, or community kitchens for local food producers to commercialize their products. When users log into the system, they are asked to provide basic information about their business (or idea for a business), the system forms a profile on the user, and then prescribes the next steps to connect the user to specific resources and contacts. See <http://insyght.co/>.

Example 2: Bizgrid

With funding from the New Economy Initiative, the Detroit Business Support Network (a collaboration of organizations which themselves provide information to small business owners and entrepreneurs) created the Detroit BizGrid infographic in 2013. The infographic organizes the type of assistance businesses need into several categories (product development, financial management, etc.) as well as according to the stage of the business. It then identifies the names of the organizations which offer the appropriate service. The poster was designed as a tool to help Detroit's existing and prospective small business owners navigate the landscape of organizations providing business assistance, but also simply to convey the message that there are many resources available for small businesses within the city. See <http://www.detroitbizgrid.com/>.

for examples of two programs that were created to help small business owners in Detroit connect to information for their businesses.)

Discussion participants advocated for more widespread information-sharing between intermediaries, as well. As many discussion participants noted, business owners are often not aware of the training, mentors or alternative financial resources available to them, despite the range of low-cost or free services for small businesses in the Detroit area. By one count, thousands of programs exist in Michigan to support entrepreneurs with legal, financial, management and marketing services. For example, the SBA supports intermediaries such as Small Business Development Centers, SCORE, and other resource partners to link business owners with sources of capital – appropriate for their business stage/level of development – including both banks and non-bank intermediaries. Given so few banks in certain neighborhoods of Detroit, participants recommended that bankers cultivate relationships with third-party intermediaries that work directly with small businesses. Familiarity with intermediaries, including community-based financing organizations, allows banks to refer early-stage or less liquid businesses, and offer more than a simple decline. Gaining fluency with non-bank small business resources and alternative financing options could also be a starting point for banks to take a more active role in business development and community revitalization. Longer term, this resource pipeline/relationship could lead customers, when their business (and, one hopes, the local economy) is on more solid footing, back to the bank, creating future business and credit relationships.

CONCLUSION: LOOKING INTO THE FUTURE

Changes to Detroit’s financial landscape over decades have eroded the small business banking sector, which has important implications for both consumer and entrepreneur relationships with local banking institutions. As shown in section 3, almost 20 percent of the census tracts in Detroit have no bank “presence” at a distance of one mile or less, and most census tracts in Detroit have just one bank branch within that distance. Yet, as described in section 4, bank presence to some extent does contribute to explaining small business lending in low- and moderate-income neighborhoods, signaling that relationship-based lending is important to maintaining access to credit for businesses in those communities. The locus of bank headquarters is also significantly correlated with more small business lending. The analysis shows that as the ratio of banks *not* headquartered in the MSA relative to banks headquartered in the Detroit MSA increases, there are fewer loans for a given census tract, holding other factors constant. This too has implications for credit delivery in Detroit, given that bank ownership has shifted almost entirely from institutions headquartered in the Detroit MSA to those headquartered elsewhere. Many of the discussion

participants described feeling the effects of these trends (steadily fewer banks and bank headquarters) first-hand. When they approached a bank looking for financing, they found that the bank evaluated their proposals not just in comparison to those in other parts of the city, but in other parts of the country. A recommendation from discussion participants was for bankers with little experience in Detroit to learn the stories and contexts behind the loan requests in order to get more comfortable with lending in the city.

While the banking environment has undergone substantial change, the growth of small businesses across Detroit neighborhoods during the 2000s provides evidence of dynamism among small business owners in the city. The small business environment within the Woodward Corridor is benefiting from the substantial investment from institutional anchors in the Midtown neighborhood, as well as the arrival of major real estate interests. Foundations, universities, corporations and nonprofits have put millions of dollars into new infrastructure to develop entrepreneurial talent and strengthen the capacity of existing small business owners. In addition to major investors, civic organizations, community development practitioners and neighborhood advocates are helping to build the housing, safety, and other neighborhood amenities to create a vibrant environment for small business activity. Nonprofits, foundations and universities, working alongside of city and state government, have made investments in high-tech and high-growth business incubators, anchor-institution procurement initiatives, one-on-one counseling opportunities, clustering strategies to draw concentrations of customers, and housing incentives to attract new residents to specific neighborhoods. The city has also seen increases in high-tech and creative jobs over the past few years. Foundations, universities and corporations have put millions into new infrastructure to develop entrepreneurial talent and strengthen the capacity of existing small business owners in Detroit. New retailers have sprouted up in the Midtown neighborhood. Southwest Detroit, a largely Hispanic and immigrant neighborhood, has one of the most active commercial districts in the city. Revolve Detroit, operated through the Detroit Economic Growth Corporation, is filling storefronts with local businesses and artists in neighborhood business districts. In addition, nonprofits and Community Development Financial Institutions in Detroit are growing their capacity to nurture retail, design firms, food entrepreneurs, and other small businesses. These trends suggest that a growing number of businesses, from retail shops to high-tech startups, may be seeking capital. Traditional bank financing remains an important source for businesses, especially as they mature beyond a startup phase.

Thus considerable work remains to attract capital and leverage resources for small businesses in Detroit. The gap analysis described in section 3 finds that low- and moderate-

income neighborhoods and black neighborhoods in the city of Detroit remain relatively underbanked compared with other areas in the surrounding counties. This suggests that there are potentially untapped financial services market opportunities in the city. Recent announcements by banks such as Talmer Bank and Trust to finance home ownership in Detroit, Huntington Bank to fund microenterprise lending, Urban Partnership to ramp up small business lending, and JPMorgan Chase to invest in a range of revitalization strategies, may signal an increased willingness on the part of banks to identify and prove up opportunities in the city.⁵ Going forward, increasing the amount of bank activity in Detroit may entail bringing more bankers to neighborhood small business corridors where they can meet local residents and businesses; heavily marketing state and federal programs that can be joined with private money to mitigate risk; and encouraging


greater investments in intermediaries that finance small businesses or provide training, technical assistance and other support services to entrepreneurs and business owners. Business owners and economic development professionals in Detroit, speaking at a variety of meetings and conferences over the past year, have tended to agree that financial institutions can contribute to the vitality of the small business sector even when these institutions do not lend directly to a particular segment of the market. Initiatives that reinforce and facilitate relationship banking, or at least support intermediaries with knowledge of the local small business environment, may help build access to credit in low- and moderate-income communities.

BOX 5.2. CONNECTING DETROIT BUSINESS OWNERS TO RESOURCES (CONTINUED)

THE
BIZ
GRID

YOUR GUIDE TO:
The Detroit Business Support Network

Built by entrepreneurs.
For entrepreneurs.



HOW DO I USE THIS THING?

01. First ask yourself: What's my BUSINESS STAGE?

- Am I an entrepreneur with an **IDEA**?
- Am I a **STARTUP**?
- Am I an **EXISTING BUSINESS**?




02. Then ask: What assistance do I need? We've identified eight basic **ASSISTANCE NEEDS**. Incidentally, if you're not sure what you need, these categories can serve as a to-do list.




03. Then ask: Do I have **SPACE NEEDS**? If so, am I looking for Office Space with a desk, wi-fi, and conference room space? Or, am I looking for Production Space to make, cut, chop, cook, saw, mix, melt, or weld? Bear in mind, many of the organizations offering space do so in a co-working environment. Be sure to ask about it!

04. These questions will guide you across the BizGrid to the column of **PROVIDERS** and their contact info. Now it's up to you to call, click, visit, and learn more about them.

Note: Providers serving limited geographies and or specializing in minority, women, or immigrant-owned businesses are indicated as having **GEOGRAPHY** or **OWNERSHIP PARAMETERS**. Contact them to learn more.

CREATED BY:

Source: <http://detroitbizgrid.com/>

BUSINESS STAGE

ASSISTANCE NEEDS

SPACE

PROVIDERS AND PARAMETERS

Business Stage	Assistance Needs								Office Space	Production Space	Real Estate Assistance	Funding	Workforce	Financial Management	Legal Assistance	Sales & Marketing	Research & Product Development	Business Planning & Strategy	The key below identifies organizations with geography or ownership parameters:	
	GEOGRAPHY		OWNERSHIP																	
IDEA OR STARTUP																			Bizdom	bizdom.com (313) 833.7800
																			Blackstone LaunchPad: Wayne State University	wayne.edu/blackstonelaunchpad (313) 577.1533
																			Detroit Public Library: Business Library	detroit.lib.mi.us (313) 481.1300
																			D:hive	dhivedetroit.org (313) 962.4590
																			OmniCorp	omnicorpdetroit.com info@omnicorpdetroit.com
																			ProsperUS	prosperusdetroit.org (313) 297.1312
																			TechShop	techshop.ws/ts_detroit.html (313) 583.3831
																			U.S. Patent & Trademark Office	uspto.gov/about/contacts/detroit.jsp (313) 446.4800
STARTUP																			Wayne County Community College District	wcccd.edu (313) 496.2600
																			Detroit SOUP	detroitsoup.com info@detroitsoup.com
																			Hatch Detroit	hatchdetroit.com info@hatchdetroit.com
																			Inforum InGAGE	inforummichigan.org/ingage (877) 633.3500
STARTUP OR EXISTING BUSINESS																			Kiva Detroit	kiva.org/detroit (828) 479.5482
																			WSU Law School Small Business Clinic	law.wayne.edu (313) 577.3933
																			Center for Empowerment & Economic Development	miceed.org (734) 677.1400
																			Detroit Development Fund	detroitdevelopmentfund.com (313) 784.9547
																			Detroit Micro Enterprise Fund	detroitmicroenterprise.org (313) 263.4032
																			Eastern Market Corporation	detroiteasternmarket.com (313) 833.9300
																			Focus: HOPE	focushope.edu (313) 494.5500
																			Goodwill Industries	goodwilldetroit.org (313) 557.8701
																			Grandmont Rosedale Development Corporation	grandmontrosedale.com (313) 387.4732
																			Green Garage	greengaragedetroit.com (313) 444.4054
																			Invest Detroit	investdetroit.com (313) 259.6368
																		Jefferson East Business Association	jeffersoneast.org (313) 331.7939	
																		Michigan Economic Development Corporation	michiganadvantage.org (888) 522.0103	
																		Michigan Women's Foundation	miwf.org (313) 962.1920	
																		Midtown Detroit, Inc.	midtowndetroitinc.org (313) 420.6000	

BUSINESS STAGE

ASSISTANCE NEEDS

SPACE

PROVIDERS AND PARAMETERS

Business Stage	Business Planning & Strategy	Research & Product Development	Sales & Marketing	Legal Assistance	Financial Management	Workforce	Funding	Real Estate Assistance	Production Space	Office Space	The key below identifies organizations with geography or ownership parameters:		
											Geography	Ownership	
STARTUP OR EXISTING BUSINESS											NextEnergy	nextenergy.org (313) 833.0100	
					%						Opportunity Resource Fund	oppfund.org (313) 964.7300	
												Procurement Technical Assistance Center	ptacsofmichigan.org (313) 577.0132
											Ponyride	ponyride.org info@ponyride.org	
												Southwest Detroit Business Association	southwestdetroit.com (313) 842.0986
					%						TechTown	techtowndetroit.org (313) 879.5250	
					%						Vanguard CDC	vanguardcdc.org (313) 872.7831	
											Wayne State Front Door	thefrontdoor.wayne.edu (888) 978.3667	
EXISTING BUSINESS											Detroit Economic Growth Corporation	degc.org (313) 963.2940	
											Detroit Employment Solutions Corporation	detroitmiworks.com (313) 962.9675	
											Detroit Regional Chamber	detroitchamber.com (313) 964.4000	
											Downtown Detroit Partnership	downtowndetroit.org (313) 566.8250	
					%						Export Assistance Center	export.gov/michigan (313) 872.6794	
					%						Michigan Manufacturing Technology Center	mmtc.org (888) 414.6682	
					%						Michigan Minority Supplier Development Council	mmbdc.com (313) 873.3200	
											SBA Emerging Leaders Initiative	sba.gov (800) 827.5722	
												The Villages Community Development Corporation	thevillagesofdetroit.com (313) 486.2900
												Warren Conner Development Corporation	warrenconner.org (313) 331.3044
											Wayne County: EDGE	waynecounty.com/edge (313) 224.6798	
ANY STAGE					%						ACCESS	accessgrowthcenter.org (313) 945.8159	
											Center for Community Based Enterprise	c2be.org (313) 331.7821	
											Detroit Creative Corridor Center (DC3)	detroitcreativecorridorcenter.com (313) 664.7421	
											FoodLab	foodlabdetroit.com (313) 799.3280	
											InsYght	insyght.co (313) 223.2521	
					%						MSU Product Center at Eastern Market	productcenter.msu.edu (313) 778.6028	
					%						Michigan Small Business & Tech. Development Center	misbtcdc.org (313) 967.9295	
					%						SCORE Detroit	detroit.score.org (313) 226.7947	

Designed by D'Rhine

NOTES

SECTION 1

1. "Entrepreneurial Ecosystem," <http://neweconomy.org/>.
2. CRA evaluations take into consideration banks' lending, investing, and services in their assessment areas. See, for example, <http://www.ffiec.gov/craratings/default.aspx> for CRA ratings of banks supervised by all supervising agencies, OCC, FRB, FDIC, and OTS.
3. See "Justice Department Reaches Settlement with Citizens Republic Bancorp Inc. and Citizens Bank Regarding Alleged Lending Discrimination in Detroit," May 2011, <http://www.justice.gov/opa/pr/2011/May/11-crt-576.html>.
4. We conducted several focus groups in Detroit. One group included businesses in the auto supply sector; another included technology business supported by Tech Town; and one consisted of minority/ethnic/immigrant business owners, including Hispanics and Arabs. We also conducted more than a dozen interviews with experts in Detroit.

SECTION 2

1. Between 1990 and 2000, the downtown population in Philadelphia increased by 4.9 percent, in Chicago by 30 percent, in Cleveland, by 32 percent. The downtown population in Detroit declined by 3 percent between 1990 and 2000, a rate that is much lower than the 32 percent decline in downtown living from 1970 to 1980 and the 17 percent decline from 1980 to 1990.
2. We extrapolate the yearly population estimates for each census tract based on Southeast Michigan Council of Governments and Metropolitan Affairs Coalition (SEMCOG) estimates of the yearly population for the city of Detroit.
3. The census tract income designation is based on U.S. Department of Housing and Urban Development (HUD) data for 2000 and 2005. The middle- to upper-income census tracts in Detroit cited here include 29 census tracts that were defined as such in 2000 and 2005 and 53 census tracts that changed from LMI status in 2000 to non-LMI status in 2005. For those non-LMI tracts that never changed income status, the decrease in population was smaller (13 percent between 1994 and 2010). Those that changed from LMI to non-LMI had a population decline of about 16 percent between 1994 and 2004. Combined, their population decline is 13 percent, as reported in the text.
4. In 1990, a quarter of the MSA population (Wayne, Livingston, Macomb, Oakland, St. Clair, and Lapeer counties) lived in Detroit city. This fell to about 15 percent of the MSA population in 2010. As population was declining, the city of Detroit became more racially segregated. In 1960 less than a third of the population was black. By 1990, more than 80 percent of the population was black. In recent years, as the population in the city has declined, out-migration has been primarily among blacks, its largest population group. The surrounding towns have largely been the beneficiaries of this out-migration, with Macomb and Oakland Counties realizing a more than 250 percent and 37 percent increase, respectively, in their black populations between 2000 and 2010, and a 6.7 and 0.7 percent increase, respectively, in their overall populations.
5. Southeast Michigan Council of Governments (SEMCOG) and Metropolitan Affairs Coalition, 2010, "Increasing Jobs and Prosperity in Southeast Michigan," available at <http://library.semco.org/InmagicGenie/DocumentFolder/IncreasingJobsandProsperityinSoutheastMichigan.pdf>.
6. The data available on jobs and employment from this source is for the MSA and comprises all six counties, not just the three counties that are the primary focus of our analysis.

7. The U.S. Census Bureau's Census Quarterly Workforce Indicators report counts all jobs in the quarter, but does not include self-employed workers and contractor employment.
8. Based on responses to the Federal Reserve and U.S. Treasury Department's Survey of Consumer Finances. See "Small Business Credit Availability," Governor Elizabeth A. Duke, 2011 International Factoring Association Conference, Washington, DC, April 14, 2011, <http://www.federalreserve.gov/newsevents/speech/duke20110414a.htm>.
9. See U.S. Census Nonemployer Statistics at <http://www.census.gov/econ/nonemployer/>.
10. This trend is consistent with the data on businesses with no employees from the U.S. Census Bureau, although the Dun & Bradstreet data do not distinguish between businesses with and without employees.

SECTION 3

1. We use census tracts as our unit of measure for neighborhoods. Census tracts are small, relatively permanent statistical subdivisions of a county. The advantage of this approach is that it allows us to assess directly the effect of the changing financing infrastructure on communities. As a geographic unit, census tracts are often used in community or neighborhood studies and are more appealing than zip codes or counties, as they are designed to be economically and demographically homogeneous. In Detroit, census tracts vary substantially in economic and racial composition. If financial institutions differentially serve minority and low-income neighborhoods or the city of Detroit, we would expect those patterns to be apparent at the census tract level.
2. Bank openings and closings are imputed as follows: Using the FDIC's Summary of Deposits data, first we determine if a branch exists at the beginning of a year in the analysis. Then in the subsequent year, if it is no longer there, we determine it is closed. If a branch appears in a given period that was not there in the prior period, it is identified as a new branch opening.
3. Governor Mark W. Olson, 2004, "Remarks at the Fortieth Annual Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, Chicago, Illinois, May 6.
4. The analysis is performed for 2005 to 2010, due to limited data availability for some of the control variables in earlier years.
5. While we control for key factors in the model, the results of the gap analysis are suggestive as they do not incorporate, given data limitations, actual costs and other potentially key aspects of efficiency considerations from the supply side. Nonetheless, they suggest potential gaps that do not seem to be fully accounted for by basic key location-specific characteristics.

SECTION 4

1. Most small businesses, especially start-ups, use alternative financing and do not use bank credit. Alternative financing includes credit cards, trade credit, and owner loans.
2. According to the 2007 Survey of Business Owners Characteristics, more than 50 percent of businesses in Detroit are/were owned by minorities.
3. See <http://www.newdetroit.org/docs/ee/mbsnr.pdf>.
4. To calculate the effect of the quadratic revenue term, that is, to get the percent by which we expect lending to change due to a change in (1 unit) of revenue, we take the first derivative of the change in lending with respect to the change in revenue. This is equal to the coefficient of revenue + 2 times coefficient of revenue square. This result is then multiplied by 100.

SECTION 5

1. For summaries and analyses of discussions organized through the Community Development and Policy Studies Detroit Project. See http://www.chicagofed.org/webpages/region/community_development/community_economic_development/detroit_project/index.cfm.
2. This section focuses on bank-related actions. Discussion participants also highlighted non-bank organizations supporting small businesses. The expansion of non-bank organizations has increased the financial options for start-ups and very small businesses outside of traditional bank loans (e.g. micro-loans, peer-to-peer loans, competitive grant money), and reflects recent trends to encourage grass-roots innovation and entrepreneurship in Detroit.
3. In Detroit, the microenterprise organizations include the Detroit Development Fund, Invest Detroit, Opportunity Resource Fund, and the Center for Empowerment and Economic Development, among others.
4. According to their press release, Goldman Sachs is making \$15 million of lending capital available beginning in 2014 through Invest Detroit and Detroit Development Fund. Invest Detroit will focus its lending to businesses in the core of Downtown Detroit, while Detroit Development Fund will focus its lending citywide.
5. In April 2014, Talmer Bank and Trust announced a partnership with the city of Detroit to offer forgivable loans up to \$25,000 for buying a home from the Detroit Land Bank. Urban Partnership has set a goal of lending \$10 million to small business, nonprofits, and real estate investors for 2014. JPMorgan Chase reports that it will allocate \$50 million to investing in community development; \$25 million to tackling blight; \$12.5 million to strengthening workforce readiness; \$7 million to growing small businesses; and \$5.5 million to seeding future economic growth.

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