

# GREEN BAY



# INDUSTRIAL CITIES INITIATIVE

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Edited by Susan Longworth



## Acknowledgements

*The Industrial Cities Initiative* (ICI) is a project of the Federal Reserve Bank of Chicago's Community Development and Policy Studies Division, led by Alicia Williams, vice president. Susan Longworth edited this document.

We would like to acknowledge and thank government, private sector, and civic leaders in all ten ICI cities who agreed to interviews for this publication. The individuals interviewed for the ICI are listed in Appendix D.

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#### ***Industrial Cities Initiative***

Community Development and Policy Studies Division  
Federal Reserve Bank of Chicago  
230 South LaSalle Street  
Chicago, IL 60604-1413

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## Introduction

The Community Development and Policy Studies (CDPS) division of the Federal Reserve Bank of Chicago undertook the Industrial Cities Initiative (ICI) to gain a better understanding of the economic, demographic, and social trends shaping industrial cities in the Midwest. The ICI was motivated by questions about why some Midwest towns and cities outperform other similar cities with comparable histories and manufacturing legacies. And, can ‘successful’ economic development strategies implemented in ‘outperforming cities’ be replicated in ‘underperforming cities?’

The effort to improve the economic and social well-being of these cities and their residents occurs in an environment shaped by:

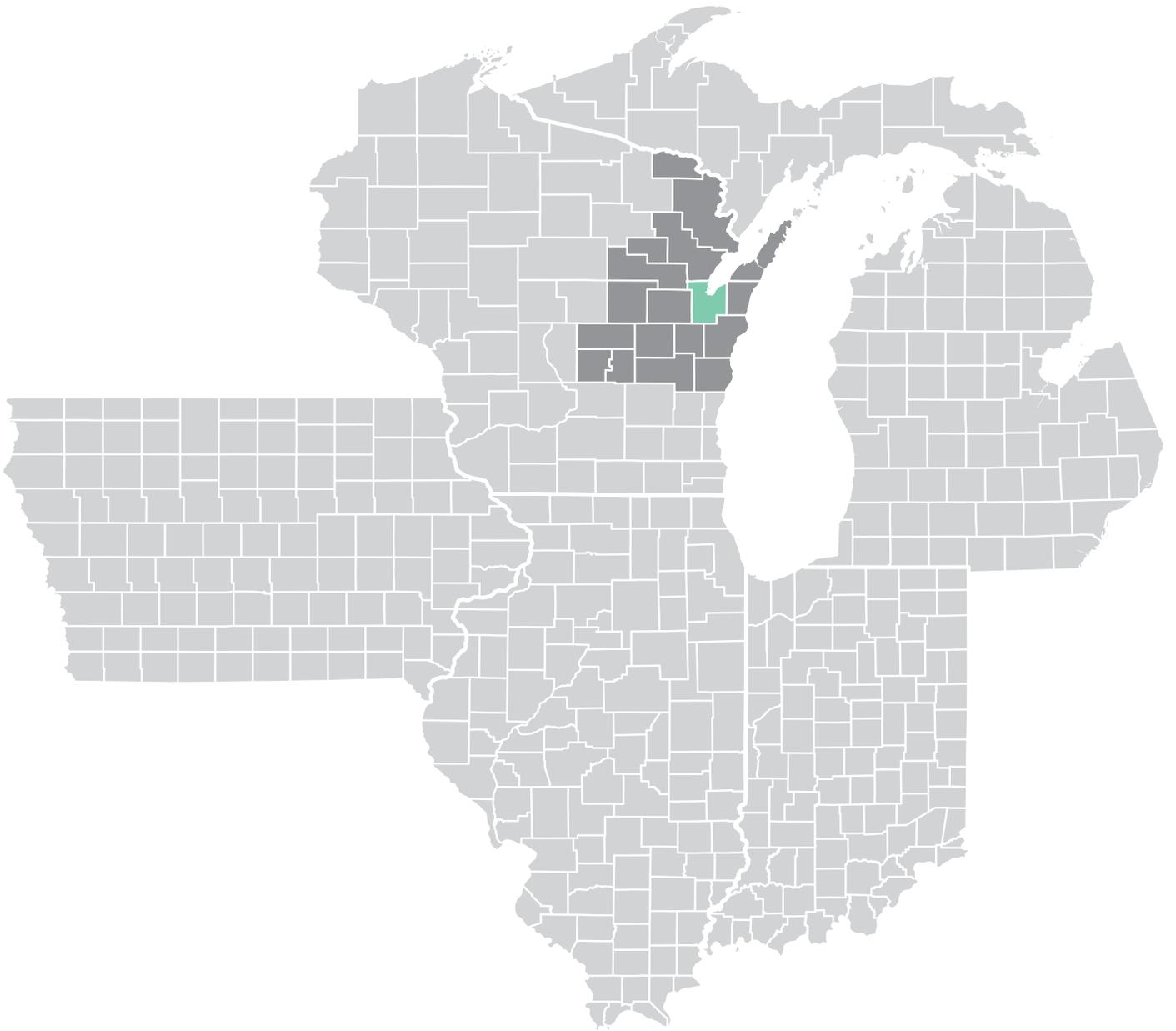
- **Macroeconomic forces:** Globalization, immigration, demographic trends including an aging population, education and training needs, and the benefits and burdens of wealth, wages, and poverty impact these cities, regardless of size or location.
- **State and national policies:** Economic development leaders contend that state and national policies pit one city against another in a zero-sum competition for job- and wealth-generating firms.
- **The dynamic relationship of city and region:** Although cities remain the economic entities, regional strengths and weaknesses to a large extent determine the fate of their respective cities.

As a first phase, we profiled ten midwestern cities whose legacy as twentieth century manufacturing centers remains a powerful influence on the well-being of those cities, their residents and their regions. However, the objective of the ICI was not only to look at the individual conditions, trends and experience of these places, but to also explore these cities in comparison to peers, their home states and the nation.

Therefore in addition to reviewing an individual profile that may be of particular interest, we also advise reading the Summary of Findings ([http://www.chicagofed.org/ICI\\_Summary.pdf](http://www.chicagofed.org/ICI_Summary.pdf)) which explains further the motivation and context for the ICI and provides thematic observations that emerged from the interviews, as well as supporting data. Overarching trends, relating to human capital – its quantity and quality, industry concentrations, employment and productivity outlooks, educational attainment, diversity and inclusion, housing and poverty, and access to capital that are described in each of the profiles are coalesced in the Summary of Findings to arrive at conclusions and next steps. They constitute an essential component of the overall narrative.

In addition, attached to each profile is a series of appendices. These important documents provide insight into the data methodology and resources used, and a data summary for each city.

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# Green Bay, WI

## Overview

Green Bay is the oldest settlement in Wisconsin.<sup>1</sup> Situated in Brown County in Northeast Wisconsin, some see Green Bay as the northern-most point of the Gary-Chicago-Kenosha-Racine-Milwaukee-Green Bay manufacturing corridor on the western shore of Lake Michigan.

Over time, Green Bay's economy has evolved from being a trading post on the American fur and agricultural frontier, to a small village well adapted for dairy purposes, to a factory town catering to the lumber industry, to a city on the cutting edge of paper technology.<sup>2</sup> Today, Green Bay is a modern city with a diverse economy that includes many service-related sectors. However, with almost one in five jobs still based on manufacturing, Green Bay retains its manufacturing heritage as a core economic strength.

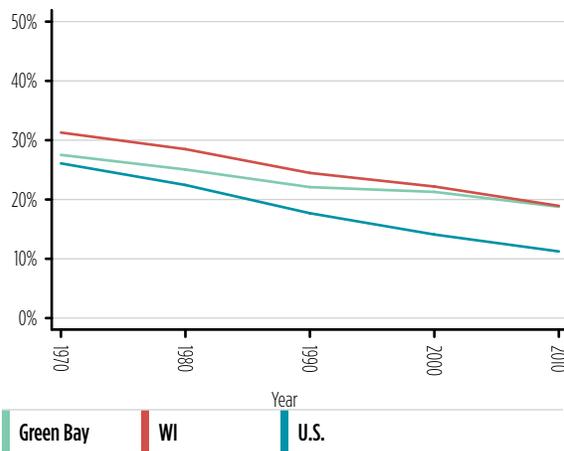
As chart 1 summarizes, Green Bay has experienced a small decline in manufacturing employment compared to Wisconsin and the U.S., while at the same time growing its population (chart 3), and controlling unemployment (chart 2).

Nevertheless, Green Bay retains a relatively high proportion of workers still employed in manufacturing. Eleven percent of all U.S. workers are employed in manufacturing, while for Green Bay that number is 19 percent. Since 1970, the percentage of all U.S. workers employed in manufacturing has dropped by 57 percent, while in Green Bay the drop has been only 32 percent.<sup>3</sup>

The richly diverse Northeast Wisconsin economy, centered in Green Bay, has been historically anchored by paper and food production. The supplier base for these two industries is versatile, able to adapt to the changing industrial needs. "The economy here is engineered, designed products: machines that make machines – very high end, very sophisticated innovative design-build capacity. The diversity of the economy is a stabilizer."<sup>4</sup> One leader is often quoted as summarizing Green Bay's future with, "We're going to be the mecca of manufacturing. We're going to put our flag in the ground and we are going to remain important."<sup>5</sup>

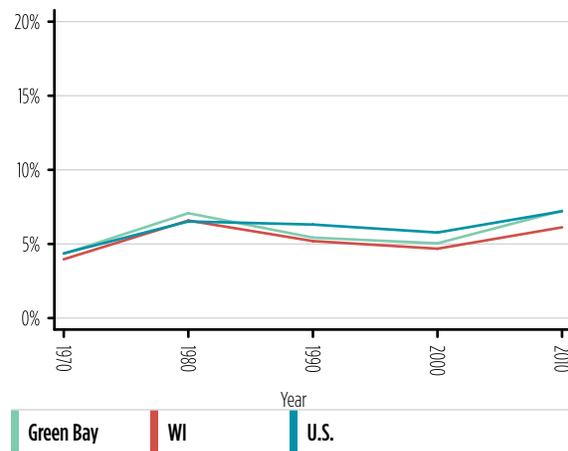
To ensure a bright future for Green Bay, its leaders know that they will have to address issues ranging from human capital to the challenges of globalization common to virtually all midwestern industrial cities. Cooperation and collaboration between these cities and their metro areas represent the best hope for competing in a global economy.

**Chart 1. Percent employed in manufacturing: Green Bay and comparison areas, 1970-2010**

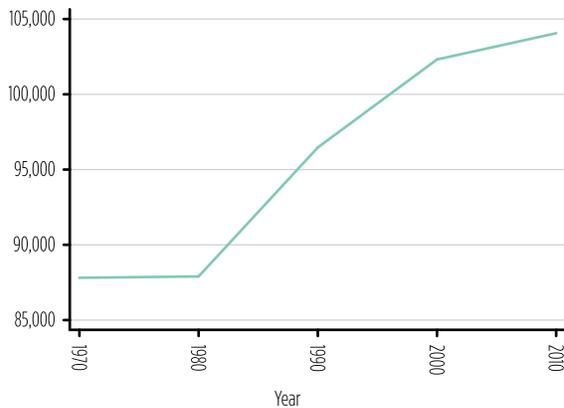


Source: U.S. Census Bureau (A-1).

**Chart 2. Percent civilian unemployment: Green Bay and comparison areas, 1970-2010**

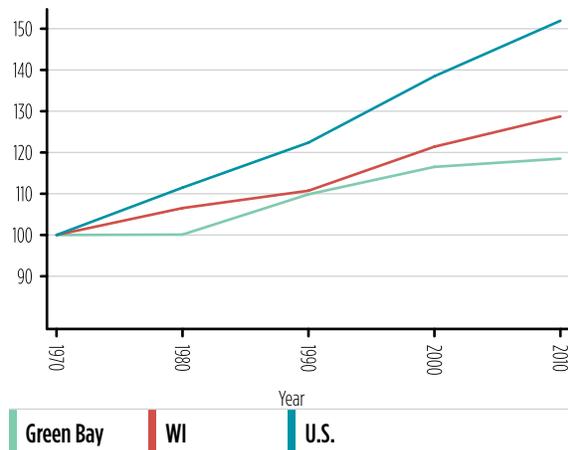


**Chart 3. Total population: Green Bay, 1970-2010**



Source: U.S. Census Bureau (A-1).

**Chart 4. Total population (indexed, 1970=100): Green Bay and comparison areas, 1970-2010**



### Northeast Wisconsin (NEW) Regional Development

Green Bay sits at the center of an 18-county, 11,000 square mile Northeast Wisconsin region that includes 400 local governments. This region is organizing itself economically through the work of The New North, Inc., a nonprofit economic development organization.<sup>6</sup>

A recent study concluded that, “Ultimately, Northeast Wisconsin’s economic prosperity is the responsibility of the businesses and citizens in the region. The talent and the resources required for future prosperity are available. They just need to be focused under a common vision, steered by strong leadership, and driven by the natural, human, capital, and creative resources available [here].”<sup>7</sup>

Manufacturers in Northeast Wisconsin include hundreds of small firms that have served the paper, packaging, and food processing industries. As Jerry Murphy, executive director of New North, describes them, these small manufacturers tend to be meticulous problem solvers and innovators, “driven to exacting dimensions of design,” making them adaptable to other industries and markets.

As table 1 shows, the top five industries in Brown County, arranged by each industry’s 2011 location quotient, represent 18 percent of total employment in Brown County. Of those top five industries, all are gaining employment share and two are also gaining

jobs (food manufacturing and insurance carriers and related activities).

Table 2 shows the top five industries in Brown County arranged by total employment in 2011. These industries represent 30 percent of the county’s total employment. Of these five industries with the greatest number of jobs, four are gaining jobs – only paper manufacturing is expected to lose jobs. All five represent growing industries in terms of output as well.

Part of New North’s underlying philosophy is that certain things such as industry cluster development don’t work at the municipal level. New North works with a wide range of industries across the region to create a “brand” that will attract and retain businesses in the area.

“Someone deconstructed a [wind] turbine,” Murphy explained, “and found 8,000 components, and matched the production capacity to get those 8,000 components by NAICS codes. Overlay the NAICS codes with Wisconsin manufacturers and lo and behold, we’re in the wind industry.” New North plans to explore that approach in industries such as biofuels and defense contracting.

Further, Ann Franz, Strategic Partnerships manager, Northeast Wisconsin Technical College, is partnering with the North Coast Marine Manufacturing Alliance to market the regions’ advantages over the Gulf or East Coasts. “It’s actually closer to get to Europe from

**Table 1. Top 5 industries in Brown County, WI by 2011 location quotient**

Industry	Brown County, WI						U.S.			
	Location Quotient		Employment				Employment		Output	
	2001	2011	2001	2011	% Share	Annual Rate of Change, 2001-2011	Annual Rate of Change, 2000-2010	Annual Rate of Change, 2010-2020 (Projected)	Annual Rate of Change, 2000-2010	Annual Rate of Change, 2010-2020 (Projected)
Paper manufacturing	11.54	14.29	7,715	6,568	5.11%	-1.60%	-4.10%	-0.80%	-1.90%	1.80%
Printing and related support activities	2.89	4.35	2,565	2,430	1.89%	-0.54%	-4.90%	-0.70%	-2.60%	2.70%
Furniture and related product manufacturing	3.07	3.50	2,283	1,456	1.13%	-4.40%	-6.30%	0.90%	-2.60%	2.10%
Food manufacturing	3.14	3.31	5,646	5,712	4.45%	0.12%	-0.70%	0.20%	0.60%	1.40%
Insurance carriers and related activities	2.69	2.86	6,558	6,915	5.38%	0.53%	0.10%	0.80%	1.10%	2.20%
<b>Total, top 5 Industries by Location Quotient</b>			<b>24,767</b>	<b>23,081</b>	<b>17.97%</b>	<b>-0.70%</b>				
<b>Total, All Industries</b>			<b>126,589</b>	<b>128,461</b>	<b>100.00%</b>	<b>0.15%</b>				

Source: U.S. Bureau of Labor Statistics (A-2).

**Table 2. Top 5 industries in Brown County, WI by 2011 employment**

Industry	Brown County, WI						U.S.			
	Location Quotient		Employment				Employment		Output	
	2001	2011	2001	2011	% Share	Annual Rate of Change, 2001-2011	Annual Rate of Change, 2000-2010	Annual Rate of Change, 2010-2020 (Projected)	Annual Rate of Change, 2000-2010	Annual Rate of Change, 2010-2020 (Projected)
Food services and drinking places	1.01	0.89	9,704	10,160	7.91%	0.46%	1.30%	0.90%	1.40%	2.50%
Administrative and support services	0.62	0.87	5,303	7,604	5.92%	3.67%	-1.10%	2.00%	0.90%	3.40%
Insurance carriers and related activities	2.69	2.86	6,558	6,915	5.38%	0.53%	0.10%	0.80%	1.10%	2.20%
Hospitals	1.22	1.23	5,663	6,828	5.32%	1.89%	1.70%	1.70%	2.30%	2.30%
Paper manufacturing	11.54	14.29	7,715	6,568	5.11%	-1.60%	-4.10%	-0.80%	-1.90%	1.80%
<b>Total, top 5 Industries by Employment</b>			<b>34,943</b>	<b>38,075</b>	<b>29.64%</b>	<b>0.86%</b>				
<b>Total, all industries</b>			<b>126,589</b>	<b>128,461</b>	<b>100.00%</b>	<b>0.15%</b>				

Source: U.S. Bureau of Labor Statistics (A-2).

Green Bay than it is to get there from Baltimore. So we're trying to reeducate people as to the viability of this as a ship building area," Franz said. The U.S. Defense Department recently awarded a contract to build a Littoral Combat Ship to Fincantieri's facility in Marinette, Wisconsin, illustrating the strength of the strategy.

"We've never said that the next thing is based on stuff that we're not," Murphy concluded. "Our current landscape is our strength. That's the foundation. It can't be a leap from the current landscape to somebody else's landscape. So I don't know if we can get into pharmaceuticals because we don't have that fundamental strength. Could we be the manufacturers of machines that make pharmaceuticals? Absolutely. Could we package pharmaceuticals? Absolutely.

It's taking what we are and aligning it with new market opportunities.”

## Human capital and workforce development<sup>8</sup>

Between 1995 and 2005, Green Bay went “from a lot of jobs that were basically low-skill jobs that paid decently, to no jobs for anybody, to high-tech jobs. The bar got raised: there were jobs, but you needed to have skills.” Chart 5 suggests that workers have responded by pursuing higher education. Still, while the trend is positive for Green Bay in terms of the percentage of the population that have at least some college or a college degree, Green Bay is at risk of losing ground on this measure. While Green Bay has made strides over the past four decades in increasing the percentage of its over-25 population that has pursued at least some college, that trend has flattened in the past decade (chart 6).

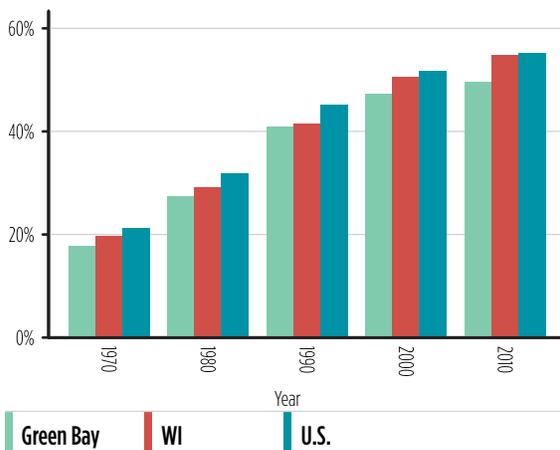
Manufacturing still accounts for almost 20 percent of employment in the Green Bay area and has the highest average wage. Multiple interviews highlighted the importance of EMT International’s CEO Paul Rauscher’s leadership and vision in creating the NEW Manufacturing Alliance (the Alliance) to address a range of workforce development needs to support a strategy that maintains modern manufacturing as the core of the region’s economic development strategy.

According to interviewees, Rauscher looked at the demographics of the employees in his and other manufacturing companies and saw the impending retirement of baby boom workers with very few young people pursuing the careers available in manufacturing or with the skills needed to fill the need for workers. As indicated in chart 7, the percentage of people in Green Bay that are under 25 years old (people who will soon be entering the workforce) is decreasing, while the percentage of 45-64 year olds (those most likely to be retiring soon) is increasing. Warren Long, senior principal supplier development engineer at Oshkosh Corporation, called the lack of skilled technical workers a crisis. “The average age of a certified welder in the Green Bay area is 63 years old,” he emphasized.

“We looked out at the baby boom retirement; we know that manufacturing has a negative image as a polluter, dirty jobs and jobs going away; so we have to change that image,” said James Golembeski of the Bay Area Workforce Development Board (the Board). “That’s when we started the Manufacturing Alliance.”

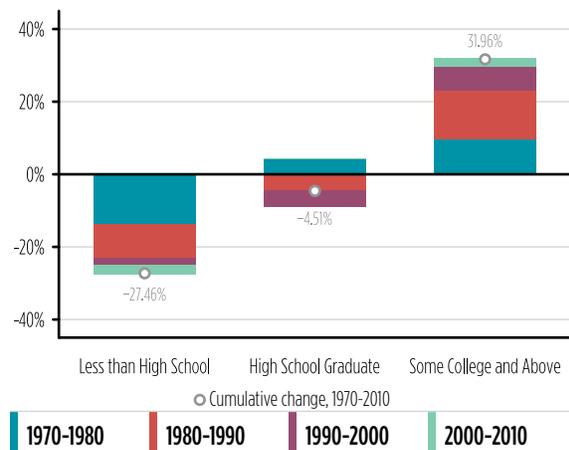
The Alliance includes the leaders of more than 100 manufacturing firms, including virtually all of the largest employers in manufacturing: Osh Kosh Corporation, Manitowoc Company, Inc., Johnsonville Sausage LLC, Georgia-Pacific, among others.<sup>10</sup> The Board and the Northeast Wisconsin Technical College (NWTC) work closely with these private sector leaders identifying the needs of the companies

**Chart 5. Percent some college and college grad: Green Bay and comparison areas, 1970-2010**

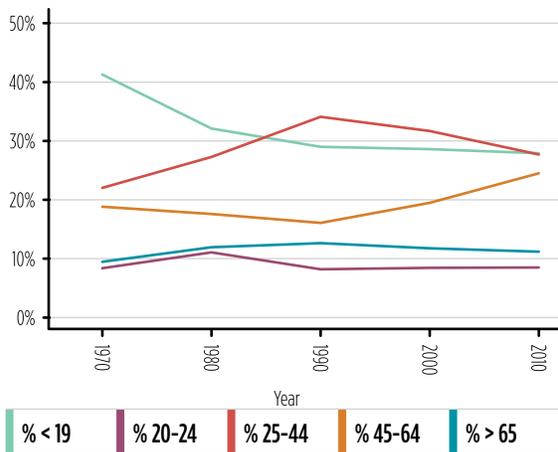


Source: U.S. Census Bureau (A-1).

**Chart 6. Percentage point changes in educational attainment: Green Bay, 1970-2010**



**Chart 7. Changes in age cohorts: Green Bay, 1970-2010**



Source: U.S. Census (A-1).

and marshaling the resources necessary to build a pipeline of skilled workers.

The Alliance has worked to reach out primarily to K-12 schools to talk about manufacturing careers and improve the image of manufacturing. Golembeski described the K-12 schools in the region as “in crisis.” “We do a really great job with the top 20 percent of our students; and then we have about 10 percent of our kids with special needs; and I would say that 70 percent of our kids that walk off that stage with a diploma in hand do not have a clue about what they’re going to do next. They don’t have a career direction; they haven’t had a connection to the workforce; they just don’t know.”<sup>11</sup>

Interviewees highlighted two projects as strategies to reach high school and junior high students and their parents to increase awareness that modern manufacturing provides an attractive career path. *Manufacturing the Future* is a documentary that has complementary classroom materials for teachers.<sup>12</sup> The second project, the Computer Integrated Manufacturing Mobile Lab, brings manufacturing to the students.<sup>13</sup>

The machines that high school students are training on – if they have access to such training at all – are manual machines that nobody has used for ten years. The Computer Integrated Manufacturing Mobile Lab is an example of how the Alliance, the Board, and

NWTC work together, with other partners, to address identified needs. The Board’s funding sources do not allow it to buy equipment, but it can pay for training and retraining programs. NWTC bought a 44-foot truck and trailer to bring state-of-the-art computer numerical control (CNC) manufacturing technology to school districts throughout the region. The Board contracts with NWTC to provide the training, and the Alliance members support the effort both by sponsoring the Lab and, “they’ve got plenty of jobs to fill using this technology. They’re very concerned about getting young people interested in manufacturing as primary careers.”<sup>14</sup>

The NWTC, for its part, is able to leverage its relationship with the Alliance’s leaders to provide training that is tailored to the needs of those employees. Ninety-four percent of NWTC graduates stay in Wisconsin, and 69 percent of employed graduates work in the district. Even in tight job market economy, 91 percent of its 2012 graduates were employed within six months of graduation.<sup>15</sup> Interviewees pointed to the passage of a \$50 million tax levy that was approved in 2002 to expand NWTC’s presence in an eight-county area it serves, as evidence that residents see the college as connected and responsive to the community.

The NWTC also operates under a philosophy of not turning anyone away. In a cohort of 15 to 20 students in a machine tool or CNC program, three to five may be unprepared for the course work. NWTC developed a “Dream Catchers” program modeled on the Lumina Foundation’s “Achieving the Dream” that promotes successful outcomes for challenged or under-prepared learners.<sup>16</sup> The program improves student orientations, monitors a set of “core signals,” and converts “weeder” classes to “gateway” classes. Dream Catchers is the college’s way of treating every student’s enrollment as an opportunity to work with them, even if they are not prepared.

## Economic development

The city of Green Bay and the Green Bay Area Chamber of Commerce are working with the Green Bay Packers to leverage the team’s impact by purchasing 27 acres surrounding the stadium. A 2010 economic impact analysis estimates that the Packers franchise and Lambeau Field combined generated an additional “\$282 million in output, 2,560 jobs, \$124.3 million in earnings, and \$15.2 million in tax revenues”

in 2009 for Brown County.<sup>17</sup> Together, the city, the chamber, and the team hope to develop the area into a youth sports and sports medicine cluster through construction of a new medical school, a partnership with General Electric, and an expanded campus for health insurance companies.<sup>18</sup>

In addition to being partners in the development of the industrial clusters described above, the city and the chamber are working on local development efforts in Green Bay and Brown County. To spur growth, the city employs a familiar set of municipal development tools – Tax Increment Financing, New Markets Tax Credits, State and U.S. Department of Transportation funds and city-assembled land and cost write downs. The city also has a revolving loan fund using federal Community Development Block Grant (CDBG) money to support and promote small business development.<sup>19</sup>

The city’s focus is on redevelopment and revitalization of downtown. The second phase of an urban river walk is underway, that will support continued attraction of new restaurants and other businesses. A notable recent success of the downtown redevelopment strategy is the decision of Schreiber Foods to build its new corporate headquarters in a new \$55 million building, replacing an aging 1970s-era shopping mall and bringing the company’s workforce downtown.<sup>20</sup> “They could just as easily have gone to Chicago or one of their other communities,” said one observer.

The 2013 *Manufacturing Vitality Index* found that, among the 156 manufacturers surveyed, 68 percent expected sales to increase in 2013 and 46 percent planned to modernize their plants in the next 12-24 months. As discussed above, the major challenge is that, while one in three respondents are planning to hire, “46 percent anticipate difficulty finding talent in the region.”<sup>21</sup>

Many leaders see the region’s diverse economy as a strength that helped the area through the recent financial crisis and recession. “We have so many clusters in manufacturing” that include a wind energy supply chain cluster, the North Coast Marine Manufacturing Alliance, a group of converting industry manufacturers that meet annually at a tradeshow – Converting Influence – to “sell” to each other. “In Northeast Wisconsin, there are about 2,000 manufacturing companies, and there’s a significant

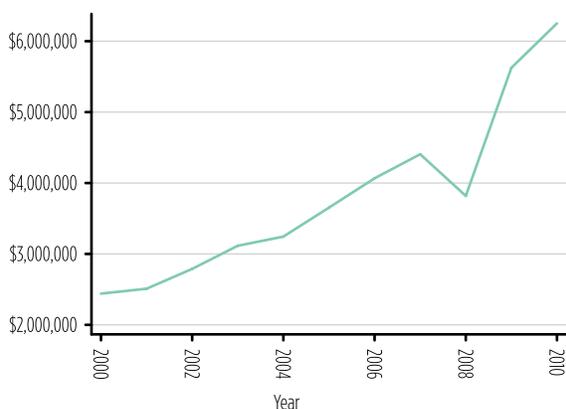
variety – so no one industry is larger than 30 percent of the total, and that really saved us.”<sup>22</sup>

### Access to credit and capital for small business development

When Austin E. Cofrin founded the Fort Howard Paper Company in the 1920s, he “went door-to-door selling stock at \$100 per share...There’s an awful lot of quiet millionaires in the Green Bay community because of that.”<sup>23</sup> According to Mary Jane Herber, “When the Fort Howard Paper Company went public in 1972, the stock split 400 to 1. That was an investment that was held locally from the 1920s until 1972.”<sup>24</sup> Many of the businesses that grew out of the paper mills were developed by mill employees whose ideas and businesses were financed, in many cases, by loans from fellow workers whose families owned stock in the mill. So, as some reported, the investments in the paper mills created enough capital in the community that entrepreneurs could find capital to start and grow businesses. “There are a lot of people in Green Bay whose fathers and grandfathers or aunts and uncles invested \$100 to \$1,000 in the paper company, and were also successful in their own businesses.”<sup>25</sup>

More recently, as the country began to rebound from the financial crisis and recession, a local bank conducted a survey and had an economist study business confidence, capital investments in equipment, and expansions during the heart of the recession. “I was surprised that there was a significant amount of capital investment occurring while hearing others say there’s no credit available for even the most

**Chart 8. Total deposits (thousands of real \$, 2010=100): Green Bay, 2000-2010**



Source: FDIC Summary of Deposits (A-6).

creditworthy businesses. So I asked where the money is coming from and the answer was that it was almost exclusively from internal cash.”<sup>26</sup>

Microloans distributed through the Green Bay Area Chamber of Commerce’s Advance Program are meant to provide access to credit for small businesses that typically cannot get funding from a bank. One of the bigger challenges is the support for the operational development of growth oriented businesses. The Advance Business and Manufacturing Center Incubator on the campus of NWTTC has many resources available for small businesses under one roof.

But the challenge of developing a broader entrepreneurial development and support system throughout the region still needs to be addressed. By New North’s count, there are approximately 167 entities that say they are in the business of small business technical support in the 18 counties. New North estimates that there are probably 1,000 small businesses seeking some form of assistance that interact with one or more of these 167 resources. New North is trying to figure out how to weave together some of the 167 support organizations to provide appropriate resources to support many of the businesses and identify those with the highest growth potential so that they can be fed into some sort of local angel investing or other risk-capital group.<sup>27</sup>

## Banking

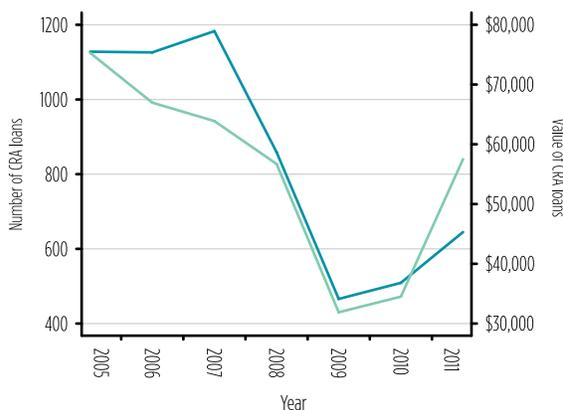
The number of bank branches within Green Bay city limits increased by 27 percent between 2002 and 2012, while both the total number of institutions serving the city and population remained virtually flat. The banking institutions present in Green Bay represent a mix of national, as well as local, community banks. Thirty-nine percent of the deposit market share is held by a regional bank, Associated Bank, which is headquartered in Green Bay.

Deposits in Green Bay increased dramatically over the past ten years far outpacing population growth, and warrants further investigation (chart 8).

The total, real value of CRA loans was already falling in 2006 and did not increase until 2010 (chart 9). However, by 2011 the real value of CRA loans had returned to more than 80 percent of 2006 levels, reflecting an apparently strong recovery in Green Bay.

While Green Bay saw a dramatic increase in HMDA activity, peaking in 2004, denials tracked closely to originations, as shown in chart 11, and continued to do so through the recession and recovery. Although strong in the lead up to the recession, demand for

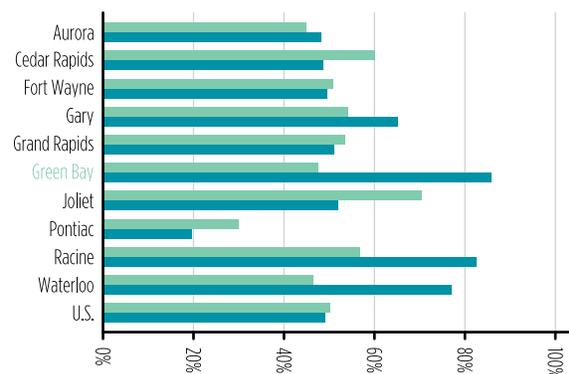
**Chart 9. Number and value of CRA loans (thousands of real \$, 2010=100): Green Bay, 2005-2011**



Value of CRA loans

Number of CRA loans

**Chart 10. Value of CRA loans (thousands of real \$, 2010=100) in all case study cities as a percentage of 2006 levels**



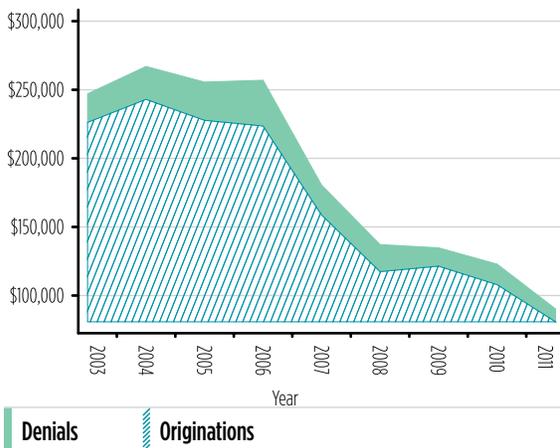
2009

2011

Limited to loans made to businesses with less than \$1M in annual revenues

Source: CRA (A-5).

**Chart 11. Value of HMDA loan originations and denials (thousands of real \$, 2010=100): Green Bay, 2003-2011**



Source: HMDA (A-4).

home mortgage origination loans has not rebounded since the recession and, in fact, continues to decline.

## Race and diversity

Green Bay ranks in the top quartile of all U.S. cities with respect to the percentage of population that is white. In Green Bay, 78 percent of residents are White, versus 61 percent for all U.S. cities. Further, Green Bay ranked in the bottom quartile with regard to the percentage of population that identified themselves as Black. In Green Bay, 4 percent are Black, versus 21 percent for all U.S. cities.<sup>28</sup>

Green Bay's increasing diversity is a result of immigration from Central America, Mexico, and Southeast Asia. However, despite significant immigration in the 1990s, the percentage of the population that is foreign born in Green Bay is still well below the national level (chart 12).

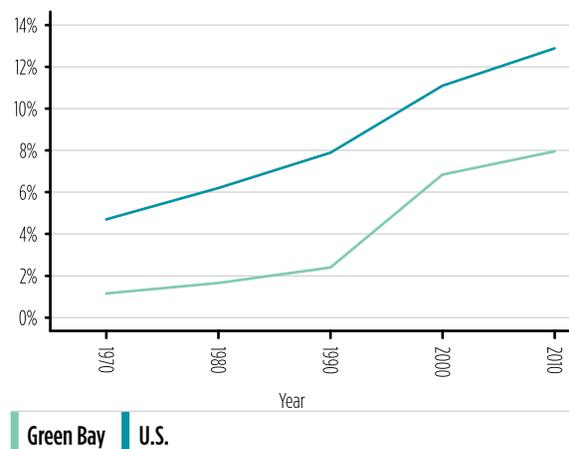
There are approximately 300,000 Hmong in the U.S. currently, with approximately 33,000 (in 2000) in Wisconsin.<sup>29, 30</sup> Many Hmong students do not go to college and they graduate at much lower rates than White students. Green Bay East High School has the largest Southeast Asian population and offers bilingual classes and English as a second language classes. This additional support is critical to encourage Hmong

students to do well in high school and to continue their education. According to one interviewee, impediments to Hmong students graduating include early marriage (at age 15-16) and a cultural norm where girls stay at home.<sup>31</sup>

Since 1990, the percentage of Hispanic or Latino (any race) people in Green Bay has risen from 1 percent to 13 percent. However, despite the rise, Green Bay is far less diverse than U.S. cities in aggregate, as the national average is 20 percent Hispanic.<sup>32</sup> A principal draw for Hispanic workers to Green Bay has been the meatpacking industry.<sup>33</sup>

The Bay Area Workforce Development Board is one organization that is helping immigrants make a smooth transition to life in Green Bay. As the Board's James Golembeski explained, "If we go back to 1997, '98, '99, the Green Bay area was the fastest-growing job market in the country. We had a large group of companies that could not find enough workers and were dealing with a huge increase in Spanish-speaking workers. At that time, there was a group of companies that wanted to have a collaborative effort to deal with some of the problems such as language issues. One huge issue was insurance. Many of the immigrants had one objective – send money home. When they saw a pay deduction on their check for health insurance that they didn't want, it became a problem for employers who were required to maintain a 50 percent participation rate in company-sponsored health insurance plans or face a

**Chart 12. Percent foreign born: Green Bay vs. U.S. 1970-2010**



Source: U.S. Census (A-1).

cost penalty.” So Golembeski organized the Employers Workforce Development Network to deal with those types of issues.<sup>34</sup> “They were also busing 100 people every day up to Sturgeon Bay to work at Emerson Motors. So they [held] English lessons on the bus.”<sup>35</sup>

## Housing and poverty

More families and households in Green Bay are facing challenges in making ends meet. As shown in chart 13, median real household income has been declining as rent burdens increase, representing the challenges of securing affordable housing.

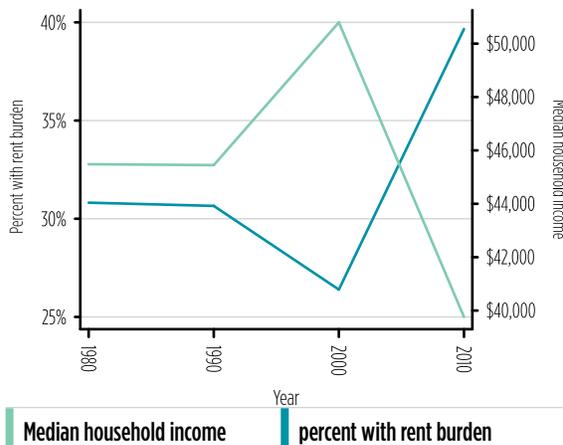
The city of Green Bay is tracking more than 1,400 “distressed” properties. These include properties that are in the foreclosure process, bank-owned or going to auction. The number of vacant properties has increased even in the face of a rental housing “crunch.” Many of these issues and challenges are concentrated near downtown Green Bay.<sup>36</sup>

In addition, while much is being done to stabilize and grow the regional economy, the poverty rate is growing more rapidly than the unemployment rate, indicating that the jobs that are being created may not pay well.

## Conclusion

Green Bay has strong and fully engaged leadership that has adopted appropriate strategies and can marshal the resources to address the economic development needs of the city and the region. Those resources are being organized to address the most critical challenge: building a skills pipeline that can support the development and growth of modern manufacturing businesses that build on Green Bay’s manufacturing legacy. However, even as Green Bay outperforms many of its peers on economic performance metrics, the economic well-being of its low- and moderate-income families is not keeping pace.

**Chart 13. Rent burden and median household income (real \$, 2010=100): Green Bay, 1980-2010**



Percent rent burden represents the proportion of renting households whose gross rent exceeds 35% of income. Source: U.S. Census Bureau (A-1).

## Notes

1. National Park Service, Survey of Historic Sites and Buildings, Green Bay, Wisconsin. Available at [http://www.cr.nps.gov/history/online\\_books/fauna2/sitee33.htm](http://www.cr.nps.gov/history/online_books/fauna2/sitee33.htm).
2. Kersten, Andrew (2005). Untold Significance: A Commemorative History of Green Bay, *Voyageur Magazine*, Winter/Spring, Volume 21, Number 2.
3. U.S. Census Bureau (see Appendix A-1). Full citations and descriptions for datasets used throughout the ICI profiles are provided in Appendix A. These include data from the U.S. Census Bureau, U.S. Bureau of Labor Statistics, HMDA, CRA, Summary of Deposits, Lender Processing Services, and Brown University, and Living Wage Project.
4. Interview with Jerry Murphy, executive director, The New North, Inc.
5. Quote attributed by many interviewees to Paul Rauscher, president of EMT International, Inc., and founding member of the NEW Manufacturing Alliance.
6. The New North, Inc. What We Do. Available at <http://www.thenewnorth.com/what-we-do/about-us>.
7. New Economy Project 2004. *Northeast Wisconsin (NEW) Economic Opportunity Study*, Executive Summary, p. 5. Available at [http://www.eastcentralrpc.org/planning/economic/EDD/CEDS08\\_Final/Appendices/App%20F\\_NEWEO5.pdf](http://www.eastcentralrpc.org/planning/economic/EDD/CEDS08_Final/Appendices/App%20F_NEWEO5.pdf).
8. Interviews with Ann Franz, Strategic Partnerships manager, Manufacturing Alliance, and Mark Weber, dean of Trades and Engineering at the Northeast Wisconsin Technical College, who told versions of the Alliance's approach to workforce development strategies in the 18 counties of NEW North.
9. Golembeski, James, executive director, Bay Area Workforce Development.
10. NEW Manufacturing Alliance, list of members. Available at <http://www.newmfgalliance.org/manufacturers/alliance-members-websites>.
11. Author interview with James Golembeski, executive director, Bay Area Workforce Development Board.
12. Manufacturing the Future, available at <http://www.youtube.com/watch?v=6ZulUFDQ7MA>.
13. Computer Integrated Manufacturing Mobile Lab. Information available at <http://wistechcolleges.wordpress.com/2011/08/29/mobile-lab-takes-manufacturing-training-on-the-road>.
14. Ibid.
15. Northeast Wisconsin Technical College. *2012 Annual Report*. Available at <http://www.nwtc.edu/aboutus/financeoffice/Documents/2011-12%20NWTC%20Annual%20Report.pdf> p. 4.
16. Achieving the Dream at NWTC. Available at [http://www.achievingthedream.org/college\\_profile/northeast\\_wisconsin\\_technical\\_college](http://www.achievingthedream.org/college_profile/northeast_wisconsin_technical_college).
17. AECOM 2010. *Economic Impact Study of the Green Bay Packers and the Redevelopment of Lambeau Field*. Prepared for the Green Bay/Brown County Professional Football Stadium District p. 7.
18. Interview with Fred Monique, vice president of Economic Development, Advance Green Bay Area Economic Development.
19. Links to Green Bay Economic Development Programs and Incentives. Available at [http://greenbaywi.gov/EconomicDevelopment/?page\\_id=16](http://greenbaywi.gov/EconomicDevelopment/?page_id=16).
20. Schreiber Foods Planning Development in Downtown Green Bay. Available at <http://greenbaywi.gov/EconomicDevelopment/?p=424>.
21. *Northeast Wisconsin Manufacturing Alliance 2013 Manufacturing Vitality Index* available at <http://www.newmfgalliance.org>.
22. Interview with Ann Franz, Strategic Partnerships manager, Northeast Wisconsin Technical College.
23. Tom Murphy interviewed for the PBS documentary, *Wisconsin Stories: Green Bay*. Available at <http://wpt2.org/wisconsinstories/greenbay>.
24. Author interview with Mary Jane Herber, local historian and genealogist at the Brown County Public Library. Transcript available at <http://wpt2.org/wisconsinstories/greenbay/transcript.cfm>.
25. Ibid.
26. Interview with Jerry Murphy, executive director, The New North, Inc.
27. Ibid.
28. U.S. Census (A-1).
29. "Recruited during the Vietnam War as guerilla soldiers to fight the North Vietnamese, Hmong peoples were living literally in the crossfire during the conflict. When the United States withdrew from Vietnam in 1975, the Hmong who had aided the U.S. were left in the hands of the communists they had fought against. Thousands fled to refugee camps in Thailand where resettlement organizations helped to sponsor Hmong immigration to the United States. Wisconsin has the third largest Hmong population in the country, after Minnesota and California; our largest Hmong communities are in La Crosse, Sheboygan, Green Bay, Wausau, and Milwaukee." Available at <http://www.wisconsinhistory.org/turningpoints/lessonplans/search.asp?id=89>.
30. Hmong Chartbook, prepared for the University of Wisconsin Extension and Applied Population Laboratory. Available at <http://www.apl.wisc.edu/publications/HmongChartbook.pdf>, p. 8.
31. Interview with Charles Vang, Board president, Hmong Chamber of Commerce.
32. U.S. Census (A-1).
33. Ebben, Kathryn. *Through their Eyes: Experiences of Mexican Immigrants in Green Bay, Wisconsin*, p. 23. Available at <http://www.csbsju.edu/Documents/Peace%20Studies/pdf/ThroughTheirEyes.pdf> (p. 23).
34. *Bay Area Workforce Development Board, Ballad of the Last Ten Years*, p. 12. Available at <http://www.bayareawdb.org/media/52967/the%20ballad%20of%20the%20last%20ten%20years.pdf>.
35. Interview with James Golembeski, executive director, The New North.
36. These issues were articulated in two interviews; they also are covered in the public input section of Green Bay's *Fourth Program Year 2013 Action Plan*.

## Appendix A: Overview of key data sources and compilation methods

### [1] U.S. Census Bureau

The U.S. Census collects information on the American population and housing every ten years for use in policy-making and research. Until recently, it was distributed in two forms: a short form that counts all residents as mandated by the Constitution, and a long form that samples the population for characteristics such as income, housing, and education. After the 2000 Census, the long form was replaced by the American Community Survey (ACS). All three are discussed below.

With a few exceptions, the Census-derived time series presented in these profiles represent an amalgamation of data points from these three sources. While we made every effort to ensure comparability between figures over time, in some cases – detailed in table 2 – this was not possible and/or was difficult to assess. Furthermore, for the sake of narrative efficiency, we indicated all ACS data as corresponding to 2010 throughout the text and charts, even though the majority of it actually corresponds to the five-year timeframe between 2005 and 2009.

Please note that, for tabulation purposes, the Census treats cities as political units rather than spatially-fixed communities. As such, apparent changes over time may reflect changes caused by annexation, as well as changes within the original city boundaries. The table below indicates the extent of annexation for each of the ten case cities between 1970 and 2010.

**Table 1. Change in land area by city, 1970-2010**

City	Land Area in Square Miles		Percent Change
	1970	2010	
Fort Wayne	51.5	110.6	115%
Gary	42.0	49.9	19%
Grand Rapids	44.9	44.4	-1%
Pontiac	19.7	20.0	1%
Aurora	14.1	44.9	219%
Joliet	16.5	62.1	276%
Racine	13.1	15.5	18%
Green Bay	41.7	45.5	9%
Cedar Rapids	50.7	70.8	40%
Waterloo	59.2	61.4	4%

Notes: 1. Data for 1970 come from 1972 County and City Databook as accessed through ICPSR.  
2. Data for 2010 come from the U.S. Census Bureau State and County Quickfacts.

## Inset 1: Census data and the business cycle

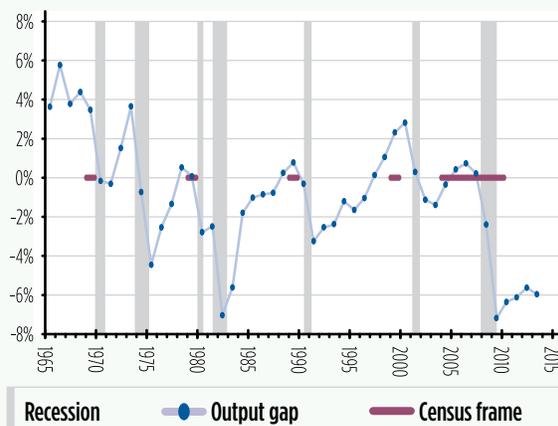
For most characteristics, observed changes over time neatly capture the long-term trends that interest us. For a handful of characteristics, however, historically meaningful structural changes may be somewhat obscured by short-term fluctuations in the business cycle. To illustrate, Census data indicate that real median family income in Green Bay increased by just over 12 percent between 1990 and 2000. This probably understates the true gain, however, insofar as the first measurement reflects income closer to the peak of a business cycle than the second one.<sup>1</sup>

This concern mainly applies to income- and employment-related characteristics. Ideally, in the interest of holding cyclical change constant and thereby isolating structural change, comparisons between these types of characteristics should be made between measurements taken during the same stage of the business cycle (e.g., peak-to-peak or trough-to-trough). When not possible, however, such comparisons should at least take into account that differences in timing with respect to the business cycle may be relevant.

These differences are captured in chart 1, which displays the timeframe for income questions (Census frame) from the Census and ACS in relation to fluctuations in the business cycle. Note that both the formal definition of business cycles (in shading, and an informal measure depicted by the output gap (i.e., the difference between actual GDP and potential GDP), are depicted. The output gap rises during economic expansions and falls during contractions. We express it as a percent of real potential GDP to isolate this cyclical effect from long-term, structural increases in GDP. In the context of our example, the red line in 1989 highlights the period for which income was reported in the 1990 Census and the red line in 1999 highlights the same for the 2000 Census. Visually, we can see that the 1990 frame is closer to a recession and decline in the output gap; indicating it occurred closer to the peak of a business cycle.

Lastly, in addition to the official U.S. Census website for sharing recent data (American FactFinder), for historical data we relied on two intermediary venues that organize the myriad older Census products into a coherent framework. In particular, for the period 1970-1990, we relied heavily on the National Historical Geographic Information System (NHGIS) maintained by the University of Minnesota. As a supplement, we also used data provided by the Interuniversity Consortium for Political and Social Research (ICPSR) maintained by the University of Michigan. Accordingly, the full citation for any specific Census-derived figure should be considered as “[the source] as obtained through [the venue], [the year]”. Additional detail for each of these venues is provided below.

Chart 1. Real U.S. output gap as a percent of real potential GDP



Source: Congressional Budget Office/Haver Analytics.

## Sources

### [i] Short Form

**Citation:** *U.S. Census Bureau, Decennial Census, Short Form.*

In contrast to the long form or ACS, all persons complete the short form. All households and group quarters receive a questionnaire by mail every ten years. It asks for the age, sex, and race/ethnicity for each person living at the address, as well as whether the residence is owned or rented.<sup>2</sup> Addresses are primarily obtained from the Master Address File from previous Census years and the Delivery Sequence File from the U.S. Postal Service. Follow-ups are conducted by telephone and personal interviews for nonrespondents. Missing data are imputed. Since the published figures are enumerations and not estimates from a sample, there are no calculable margins of error associated with sampling bias. However, the decennial Census is accompanied by a post-enumeration survey to assess coverage error.<sup>4</sup> The post-enumeration survey for the 2010 Census did not find a significant percent net undercount or overcount for the household population.<sup>5</sup>

### [ii] Long Form

**Citation:** *U.S. Census Bureau, Decennial Census, Long Form.*

For Censuses 1970-2000, one in six residents received a long form questionnaire with detailed questions on population and housing. Though results from the long form are technically estimates (not enumerations), the Census Bureau considers the figures sufficiently precise that it does not publish margins of error.

### [iii] American Community Survey

**Citation:** *U.S. Census Bureau, American Community Survey.*

The Census Bureau officially introduced the ACS in 2005 as a replacement for the Decennial Census long form. Instead of sampling the population at one point in time every ten years, the ACS draws monthly rolling samples from U.S. households and group quarters for release every year. Because these annual samples are smaller than the long form samples (about 1 in 40), geographies with smaller populations require greater than single-year periods to achieve appropriate margins of error. Thus the ACS also releases rolling three-year and five-year estimates, where the multi-year estimates are constructed by pooling data from all years. For our analysis of industrial cities, appropriate margins of error were typically only obtainable from 5-year data. In some cases, our assessment of the standard error relative to the estimate allowed us to use three-year data (this measure is known as the coefficient of variation (CV); see discussion below for additional detail). It should be noted that we only considered margins of error when selecting the timeframe for an estimate. We did not test whether differences in estimates are statistically significant. Comparisons of ACS data made in the profiles may not be statistically significant when the estimates are very close or from a small population.

### [iv] County and City Data Book

**Citation:** *U.S. Census Bureau, County and City Data Book [United States] consolidated files, 1944-1977.*

The County and City Data Book is a compendium of local-area data compiled by the U.S. Census Bureau from a variety of sources. It was published as a supplement to the Statistical Abstract of the United States in 1952, 1956, 1962, 1972, 1977, 1983, 1988, 1994, 2000, and 2007. For budget reasons, the Bureau terminated the program in 2011.

## Venues

### [i] American Factfinder

**Citation:** *U.S. Census Bureau, American FactFinder, <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.*

American FactFinder provides access to data about the United States, Puerto Rico, and the Island Areas. The data in American FactFinder come from several censuses and surveys.

For more information see “Using FactFinder” and “What We Provide.”<sup>9, 1</sup>

### [ii] NHGIS

**Citation:** *Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011, <http://www.nhgis.org>.*

The National Historical Geographic Information System (NHGIS) provides, free of charge, aggregate census data and GIS-compatible boundary files for the United States between 1790 and 2012.

### [iii] ICPSR

**Citation:** *The Interuniversity Consortium for Political and Social Research. Ann Arbor, MI: University of Michigan, <http://www.icpsr.umich.edu/>.*

The Interuniversity Consortium for Political and Social Research maintains an extensive archive of data sets in the social sciences. Data are available to researchers at no charge.

### [iv] Miscellaneous

Percent manufacturing in 1960 and two other national figures for 1970 were not found in the above venues and thus obtained elsewhere, as indicated below.

- Percent Manufacturing from University of Virginia Library  
**Citation:** *University of Virginia Library, County and City Data Books, <http://www2.lib.virginia.edu/ccdb>.*
- Median Family Income from Current Population Reports  
**Citation:** *U.S. Census Bureau, U.S. Department of Commerce, Current Population Reports, Consumer Income, Series P-60, No. 78. May 20, 1971, <http://www2.census.gov/prod2/popscan/p60-078.pdf>.*
- Median Value of Owner Occupied Homes from Historical Census of Housing Tables  
**Citation:** *U.S. Census Bureau, U.S. Department of Commerce, Historical Census of Housing Tables, Home Values, <http://www.census.gov/hhes/www/housing/census/historic/values.html>.*

**Table 2. U.S. Census figures by Decennial Form**

Order	Figure	Description	Census Form	Notes
1	Total population	Total number of persons	Short	--
2	% < 19	% of total population aged 19 and under	Short	--
3	% 20-24	% of total population aged 20-24	Short	--
4	% 25-44	% of total population aged 25-44	Short	--
5	% 45-64	% of total population aged 45-64	Short	--
6	% > 65	% of total population aged 65 and over	Short	--
7	% Black	% of population that identified themselves as Black	Short	To ensure comparability with earlier years, universe is constrained to persons who identified with only one race.
8	% White	% of population that identified themselves as White	Short	To ensure comparability with earlier years, universe is constrained to persons who identified with only one race.
9	% Hispanic or Latino (of any race)	% of total population that reported a Hispanic country of origin	Short	Not found for 1970 and 1980. Unlike race figures, universe includes the entire population.
10	% Less than HS	% of population aged 25 and over that did not graduate from high school	Long	See % HS Grad note.
11	% HS Grad	% of population over 25 who graduated from high school but never attended college	Long	In 1970, there is no explicit distinction between high school graduate and non-high school graduate. Individuals assumed to have graduated high school if and only if they completed 4 years of high school.
12	% Some College & College Grad	% of persons aged 25 and over that ever attended college	Long	--
13	% Manufacturing	% of employed population aged 16 and over that work in the manufacturing industry	Long	Figures for 1970 appear to omit approximately 3-8% of eligible universe. Figures for 1960 come from County and City Data Book.
14	Civilian Work Force	Full civilian work force, including the unemployed	Long	--
15	% Civilian Unemployed	% of individuals who are in the labor force but not employed	Long	--
16	Real Median Family Income	Real median family income, adjusted using CPI-U-RS (2010=100)	Long	See extended note to figure 16 below.
17	% Families Below Poverty Line	% families below poverty line	Long	--
18	Mean Commute Time	Mean travel time to work (minutes)	Long	Only found for 2000 and 2010.
19	% Married (individuals 15 years and over)	% of population aged 15 and over that are married	Long	In 1970, includes persons 14 years and over.
20	Average HH size	Average number of persons per household	Short	Only found for 2000 and 2010.
21	Average Family Size	Average family size	Short	Not found for 1970 and 1980.
22	Total Units	Total number of housing units	Short	--
23	% Owner Occupied	% of occupied housing units that are owner occupied	Short	--
24	Real Median Value of Owner Occupied Homes	Real median value of specified owner occupied homes	Long	See extended note to figure 24 below.
25	% homes w- 0 Vehicle	% of occupied units with no vehicles	Long	--
26	% homes w- 1 Vehicle	% of occupied units with exactly 1 vehicle	Long	--
27	% homes w- 2+ Vehicles	% of occupied units with 2 or more vehicles	Long	--

**Table 2. U.S. Census figures by Decennial Form**

28	% Foreign Born	% of entire population that was born abroad to non-native parents	Long	See extended note to figure 28 below.
29	Real Median Household Income	Real median household income, adjusted using CPI-U-RS (2010=100)	Long	See extended note to figure 29 below.
30	% Rent Burden	% of renting HHS whose gross rent is greater than or equal to 35% of income	Long	See extended note to figure 30 below.

## General notes

### In all cases:

- All data from 2000 and after were obtained through American FactFinder.
- Non-ACS figures that take into account income (median family income, median household income, and rent burden) are based on income from the year immediately prior to the indicated year (e.g., 1970 income data corresponds to 1969); the timeframe for ACS income-related figures is also offset by one year (e.g., income data from the 2005-2009 timeframe corresponds to 2004-2008).
- Real dollar amounts were adjusted using the CPI-U Research Series (CPI-U-RS, 2010=100).

### Unless otherwise indicated:

- Figures indicated as deriving from the “Short Form,” do in fact derive from the Decennial Census Short Form for all years.
- Figures indicated as deriving from the “Long Form” derive from the Decennial Census Long Form for all years except 2010; in that case, data were derived from the 2005-2009 American Community Survey.
- All figures from 1960-1990 were obtained through the NHGIS.

## Extended notes to figures

- 16 In 1970, city- and state-level figures were taken from the County and City Data Book as obtained through the ICPSR, while the U.S. level figure was taken from a Current Population Reports publication (see <http://www2.census.gov/prod2/popscan/p60-078.pdf>). We were unable to find sufficient documentation to confirm comparability between 1970 and later years.
- 24 The following caveat applies to comparisons between 1970 and later years: For 1980-2010, the population of units includes only “specified” units, which represents a subset of single-family homes (see [http://quickfacts.census.gov/qfd/meta/long\\_HSG495210.htm](http://quickfacts.census.gov/qfd/meta/long_HSG495210.htm) for the definition of “specified” as employed in the ACS). In 1970, however, city- and state-level figures were taken from the County and City Data Book as obtained through the ICPSR. The codebook entry for that year is indicated as “OOU.SINGLE FAMILY MEDIAN VAL. \$1970.” We were unable to determine if this contains all single family homes, or just a subset thereof. The U.S. level figure for 1970 was obtained from Historical Census of Housing Tables (see <http://www.census.gov/hhes/www/housing/census/historic/values.html>), and appears to subset the population of units in a manner consistent with the definition of “specified.” Any potential difference in the underlying universe should be mitigated by our using the median rather than the mean.
- 28 For 1970 and 2000: We assume, but cannot verify, that “foreign” excludes individuals born abroad to native parents. In Joliet in 1970, 2.3% of the eligible universe appears to be missing. For the last data point, we used a narrower three-year timeframe (2009-2011), as the coefficients of variation were generally acceptable. The CV for Gary, however, straddled the informal threshold between “Good” and “Fair”.
- 29 We assume, but cannot verify, that the population includes all households, as opposed to a subset of households that meet a certain criteria. For 2010, we used ACS data from the 2009-2011, as all coefficients met the informal criteria for “good” reliability.
- 30 2010 figures correspond to ACS five-year estimates from the 2007-2011 timeframe. Due to changes in the universe, comparability might be problematic for 1970, and is definitely problematic for 2007-2011. Figures relating to 1980-2000 all take into account “specified renter occupied housing units,” while 1970 takes into account “renter-occupied units for which rent tabulated,” and 2010 takes into account “renter-occupied housing units.” The Census Bureau makes the disclaimer that the ACS data is not suitable for comparison with earlier long form data due to this change in the universe. By this logic, 1970 may be problematic as well. Renters who did not pay rent or who had a non-positive income are omitted from all calculations. Although we cannot verify the definition of gross rent for all years, in recent years “Gross rent is the contract rent plus the estimated average monthly cost of utilities...and fuels...if these are paid for by the renter.” (For example, see [http://www.socialexplorer.com/data/ACS2012/metadata/?ds=Social+Explorer+Tables%3A+ACS+2012+\(1-Year+Estimates\)&table=T102B](http://www.socialexplorer.com/data/ACS2012/metadata/?ds=Social+Explorer+Tables%3A+ACS+2012+(1-Year+Estimates)&table=T102B).)

## Inset 2: Detailed discussion of ACS reliability and the coefficient of variation

Inherent in the design of the ACS is a tradeoff between timeliness, accuracy, and geographic specificity; given limited resources and therefore a limited sample size, it's impossible to have all three of these desirable properties simultaneously.

To give researchers better control over how exactly these tradeoffs are calibrated, the ACS provides estimates of demographic characteristics in terms of 5-year, 3-year, and 1-year timeframes. The 5-year estimates are the most reliable because they have the largest sample size. Furthermore, 5-year estimates are available for all geographies for which the ACS tabulates data. The obvious downside of the 5-year data is that it applies to a long period, and may therefore be unsuitable for understanding short-term trends and/or the current picture. The 1-year data, on the other hand, is suitable for analyzing short-term dynamics. The downside is that it is only available for larger geographies, and that estimates may have a high margin of error. The properties of the 3-year data are somewhere in between those of the 1-year and 5-year data.

Given that we are dealing with midsize cities, the choice was really between the 3-year and 5-year estimates. (1-year estimates are available for most cities, but omit Pontiac as well as several cities used for comparison. Further, as will be explained below, cities that barely met the population thresholds for inclusion in the 1-year data may suffer from high margins of error that would make their use questionable.)<sup>11</sup>

To make the decision between the 3-year and 5-year data, we follow the Census Bureau's advice and look at a metric known as the Coefficient of Variation (CV). The Bureau emphasizes that an acceptable CV should ultimately be a function of the estimate's intended use, and declines to provide specific interpretive thresholds. However, an informative user guide compiled by the Washington State Office of Financial Management suggests that, as a general rule, estimates with CVs less than 15% may be considered "good," estimates with CVs between 15% and 30% may be considered "fair," and estimates with CVs in excess of 30% should be used "with caution."<sup>12</sup>

Throughout, we only used 3-year data when the CVs were acceptable for all case study cities.

## [2] U.S. Bureau of Labor Statistics

### [i] Quarterly Census of Employment and Wages

**Citation:** *Bureau of Labor Statistics, U.S. Department of Labor, Quarterly Census of Employment and Wages [www.bls.gov/cew/].*

Employment and location quotient data by industry are from the Quarterly Census of Employment and Wages as obtained through the Location Quotient Calculator. Employment is calculated from quarterly reports filed by nearly every employer in the U.S.

When used in the profiles, these data reflect annual averages for the county corresponding to the case-study cities. Please see below for the definition of "location quotient." Information on living wage calculations, which generally accompany these data in the profiles, is provided in A-9.

### [ii] Occupational Employment Statistics

**Citation:** Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*, ([www.bls.gov/oes/](http://www.bls.gov/oes/)).

Employment, location quotient, and wage data by occupation are from the May 2012 release of the Occupational Employment Statistics for Metropolitan and Nonmetropolitan Areas. These estimates were calculated based on a rolling sample of establishments from May 2012, November 2011, May 2011, November 2010, May 2010, and November 2009.<sup>1</sup> The Employer Cost Index is used to express wage data across the timeframe in terms of May 2012 constant dollars.

When used in the profiles, these data reflect figures for the CBSA or Metropolitan Division corresponding to the case study cities. Please see below for the definition of “location quotient.” Information on living wage calculations, which generally accompany these data in the profiles, is provided in A-9.

### [iii] Employment Projections

**Citation:** Bureau of Labor Statistics, U.S. Department of Labor, *Employment Projections* ([www.bls.gov/emp/](http://www.bls.gov/emp/)).

All employment and output projections by industry are at the national level, and were taken from table 2.7 of the 2010-2020 Employment Projections Program.<sup>16</sup>

## Inset 3: Location Quotient Definition

A location quotient (LQ) measures the concentration of a characteristic in one level of geography relative to that same concentration in a reference geography. In the profiles, we employ location quotient to examine employment by industry between county and U.S., and employment by occupation between MSA and U.S.

LQs greater than one indicate that the characteristic is more concentrated in the local geography than the nation, while LQs less than one indicate it is less concentrated. For example, the 2011 LQ of paper manufacturing in Kane County, IL, is 2.43. This means that the share of paper manufacturing employment in Kane County is 2.43 times greater than the national share.

Mathematically, a LQ is a representation ratio defined by:

$$LQ = \frac{e_i/e}{E_i/E}$$

Where:

$e_i$  = Local employment in industry  $i$

$e$  = Total local employment

$E_i$  = Base area employment in industry  $i$

$E$  = Total base area employment

### [3] CPI-U-RS

#### Citation

- For 1978 and onward: U.S. Bureau of Labor Statistics, Consumer Price Index Research Series Using Current Methods (CPI-U-RS), U.S. city average, all items, December 1977=100 (see [http://www.bls.gov/cpi/cpiursai1978\\_2012.pdf](http://www.bls.gov/cpi/cpiursai1978_2012.pdf)).
- For years prior to 1978: extrapolations as calculated by the U.S. Census Bureau (see <http://www.census.gov/hhes/www/income/data/incpovhlth/2012/CPI-U-RS-Index-2012.pdf>).

All values presented in real dollars were adjusted for inflation using the Consumer Price Index research series (CPI-U-RS) as employed by the U.S. Census Bureau. The CPI-U-RS is officially published by the Bureau of Labor Statistics (BLS) for a period beginning in 1978.<sup>1</sup> The Census Bureau derives values for prior years by applying the ratio of the CPI-U-RS and CPI-U in 1977 to the 1947-1976 CPI-U. Though the index is published such that December 1977=100, we transformed the series to present values in terms of 2010 dollars.

The CPI-U-RS tracks historical changes in the cost of living more consistently and accurately than the commonly reported Consumer Price Index for All Urban Consumers (CPI-U). It is more consistent because it applies current methodology to all years in the series, while the CPI-U – despite improving over the years – is not adjusted retroactively. Incorporating these improvements, in turn, improves accuracy. Current methods have reduced upward bias, which the Boskin commission reported to be 1.1 percent per year. For example, the CPI now accounts for lower-level substitution bias (i.e., substitutions made among purchases within the same class of good.) Accordingly, the research series exhibits lower rates of inflation than the CPI-U. These improvements are especially significant for longitudinal analysis where rates compound over time. The CPI-U estimates that the price level rose by 462 percent between 1970 and 2010, whereas the CPI-U-RS estimates the increase at 401 percent.<sup>20</sup>

It should be noted that the CPI-U-RS, while an improvement over the CPI-U, still does not represent the BLS' best measure of a cost-of-living index because it does not accommodate for substitutions made between classes of goods (aka, upper-level substitutions).<sup>21</sup> To appreciate the significance of this type of substitution, it's helpful to note that a cost-of-living index should estimate the increase in income necessary to make a consumer just as happy after an increase in the price level as before. As an example, if the price of pork increases relative to beef, a consumer may be just as happy purchasing more beef and less pork. Thus an index which presumes the consumer purchases the same amount of pork at a higher price is upwardly biased. The BLS produces a series that accounts for this effect, the Chained CPI-U, but it only extends back to year 2000. Examining the change in price level between 2000 and 2010 (years for which all three indices are available), the Chained CPI estimates an increase of 23 percent, while the CPI-U and CPI-U-RS both estimate an increase of 27 percent.<sup>23</sup>

It should also be noted that the CPI-U-RS is a national index and may not reflect regional differences in the cost of living across the 10 cities. Thus readers are cautioned against interpreting cities with comparatively lower median incomes or median incomes that fail to keep pace with the CPI-U-RS as strictly worse off.

## [4] HMDA

**Main Citation:** *Federal Financial Institutions Examination Council (FFIEC), Home Mortgage Disclosure Act (HMDA) loan application register flat files (<http://www.ffiec.gov/hmda/hmdaflat.htm>).*

**Tract-to-City Crosswalk:** *2000 U.S. Census Bureau boundary data, as obtained through Maptitude Version 5.*

The Home Mortgage Disclosure Act (HMDA) requires that certain lending institutions publically report information pertaining to loan applications for home purchases, improvements, and refinancing. Policymakers and regulators use the resulting report – which includes borrower characteristics such as race and income – to assess whether institutions are meeting the credit needs of the community, as well as to deter discriminatory practices. In addition to these regulatory purposes, the data are well suited to place-based analysis in general because they include the Census tract of the property.

In the profiles, we limited our data to home purchase loans that were either originated or denied by the lending institution after a full review of the application. Preapprovals and withdrawn applications were not considered. Data were aggregated by Census tract and then converted to city-level data using 2000 Census boundary data as obtained through Maptitude. All dollar values were adjusted for inflation using the CPI-U-RS.

## [5] CRA

**Main Citation:** *Federal Financial Institutions Examination Council (FFIEC), Community Reinvestment Act (CRA) aggregate flat files (<http://www.ffiec.gov/cra/craflatfiles.htm>).*

**Tract-to-City Crosswalk:** *2000 U.S. Census Bureau boundary data, as obtained through Maptitude Version 5.*

The Community Reinvestment Act (CRA) requires certain depository institutions to report data on business lending for the public.<sup>25</sup>

Data include loans made in amounts of less than \$1 million; to better focus on lending to small businesses we further limit the data to loans made to businesses with less than \$1 million in revenues. Tract-level data was converted to city-level data using 2000 Census boundary data as obtained through Maptitude. All dollar values were adjusted for inflation using the CPI-U-RS. Note that, unlike HMDA, CRA does not provide data regarding applications.

## [6] FDIC Summary of Deposits

**Main Citation:** *FDIC Summary of Deposits (<http://www2.fdic.gov/sod/>).*

### Geocoding-related Citations:

- Maptitude Version 5.
- 2000 U.S. Census Bureau boundary data, as obtained through Maptitude Version 5.
- The Google Geocoding API, Version 2 (<https://developers.google.com/maps/documentation/geocoding/>).
- Federal Reserve Bank of Chicago calculations.

The Federal Deposit Insurance Corporation (FDIC) Summary of Deposits is an annual report that reflects, among other things, the geographic distribution of deposits held by all FDIC-insured institutions. Information in the report is obtained from two sources: 1) a mandatory survey required of all FDIC-insured institutions that operate two or more branch locations, including foreign institutions that operate in the U.S. and 2) the Call Report, which may be used in place of the survey in cases where an institution operates in only one location. These data comprise the vast majority of deposits and deposit-like instruments held in the U.S.; credit unions – whose deposits collectively summed to about 12 percent of that of commercial banks in 2004 account for the remainder.<sup>27</sup>

In the survey, institutional respondents are asked to allocate total deposits to physical bank locations in a manner consistent with their respective internal practices. For example, the allocation of a certain account to a certain branch office for SOD purposes might derive from matching the account holder’s address to the nearest branch, where the account is most active, or where the account was opened.

Furthermore, respondents are instructed to consolidate the deposits of limited-service outlets (such as ATMs) into more substantial branches located nearby (preferably in the same county). The sum of deposits distributed over the various locations should match the analogous figure in the Call Report or Report of Assets and Liabilities.<sup>29</sup>

The subsequent availability of detailed address fields in the report can be used to pinpoint the exact latitude and longitude of bank locations (and their corresponding deposits), thereby making this source particularly useful for the sort of place-based analysis employed throughout the profiles. This process of converting addresses to coordinates is known as “geocoding”, and is implemented by a piece of software called a “geocoder.”

We used two geocoders to match deposits with the profiled cities: Maptitude (v5) and the Google Geocoding API (v2). After determining the coordinates of bank locations, we then used Maptitude again to determine the corresponding city with respect to boundaries from the 2000 Census.

It is important to note that all geocoders rely on matching techniques with degrees of uncertainty in order to reconcile text-based address fields between multiple data sources. Consequently, any geocoding procedure is subject to multiple types of error including: 1) failure to match at all, 2) matching to the wrong location, and 3) matching to a correct but imprecisely defined location (e.g., a zipcode as opposed to a building).

Regarding the first type of error, our geocoding success rate generally fell between about 90 percent and 95 percent, depending on the year. The second type of error, while important, is difficult to quantify. Since our goal was to link banking data with a relatively large target (cities), we imagine that the third type of error is insignificant.

**A few general caveats are worth mentioning given how deposits are reported and geocoded:**

- First, note that deposits figures reported throughout the profiles relate to deposits corresponding to bank locations in the cities, not residents of the cities. Throughout the profiles, however, we implicitly presume that these two measures are highly correlated, and use them interchangeably.
- Second, between the survey instructions and Banks’ internal practices, an area’s figures may be skewed upward if it contains a central location within which large amounts of deposits from nearby limited-service locations are consolidated. (This effect was particularly noticeable in the case of Green Bay, WI, where one location with consolidated deposits drove per-capita deposits to a level nearly three times higher than that of the next highest case study city.)
- Lastly, given that geocoding outcomes tend to be more successful for recent periods than for earlier periods, estimated growth in deposits may be subject to upward bias. Using two geocoders mitigates but does not eliminate this bias.

#### Miscellaneous notes:

- While all discussions pertaining to deposits amounts draw from geocoded data, discussions relating to institutional characteristics and market structure (e.g., number of branches, market share, community versus non-community bank) draw from Summary of Deposits data as assigned to cities based on their zipcodes. This assignment, in turn, was based on 2000 city and 2007 zipcode boundaries from the Census, as obtained through Maptitude.
- The FDIC began including the results of its internal geocoding procedure starting with the 6-2012 release. All deposits figures in our analysis, however, are entirely based on geocodes obtained through Maptitude and Google as described above.
- Data were aggregated by Census tract and then converted to city-level data using 2000 Census boundary data as obtained through Maptitude. All dollar values were adjusted for inflation using the CPI-U-RS.

## [7] LPS Applied Analytics

**Main Citation:** *Lender Processing Services (LPS) Applied Analytics.*

**Zipcode-to-City Crosswalk:** *2000 U.S. Census Bureau boundary data, as obtained through Maptitude Version 5.*

Proprietary loan-level microdata furnished by LPS Applied Analytics details the monthly performance of mortgage loans in the residential housing market. LPS collects this data from large mortgage servicers, who collectively represent about two-thirds of this market.

The underlying raw data include numerous mortgage types including first mortgages, second mortgages, and various grades of home equity lines of credit. In an effort to better align our measures with properties as opposed to loans, however, we take into account only first-lien mortgages. Furthermore, we used Census data (as obtained through Maptitude V5) to assign loans to case study cities using the zipcode of the underlying property.

A variety of possible metrics may be derived from mortgage performance data to help gain insight into the health of a given housing market, including but not limited to: the foreclosure start, transition, and inventory rates. Throughout the profiles, we focus exclusively on the foreclosure inventory rate, a static measure that represents the number of mortgages in foreclosure as a proportion of all mortgages. The start and transition rates, on the other hand, are dynamic measures that provide insight into the flow of loans into and out of foreclosure status.<sup>30</sup>

It's important to note that foreclosure inventory rates are highly sensitive to state laws that govern how foreclosures are processed. A foreclosure in Illinois, for example, takes about 300 days and often longer because every foreclosure must be processed through the courts. However, some states, like Michigan, do not require foreclosures to go through the courts. Still, depending on the situation, certain states like Iowa and Wisconsin employ both methods. All things being equal, foreclosure rates tend to be lower in states that rely primarily on non-judicial procedures, as any potential buildup resulting from new foreclosures in these states is tempered by the speed with which they can be resolved.<sup>31</sup>

Given this sensitivity to various legal procedures, foreclosure inventory rates should only be compared among states with similar process periods. In the profiles, we compare the foreclosure inventory rate in a given city with its home state and the average of a group of reference states. The four reference groups were constructed based on the quartiles of the process period, as shown in table 3.

**Table 3. Typical foreclosure process period for reference states**

Group	Process Period (days)	States
1	< 63	AL CT DC GA MD <b>MI</b> MO NH RI TN TX VA WY
2	63-136	AK AR AZ CA FL KS MA MN MS NC NV VT WA WV
3	136-180	CO <b>IA</b> ID KY LA MT ND NE NM OR SC SD UT
4	>180	DE HI <b>IL IN</b> ME NJ NY OH OK PA <b>WI</b>

Source: RealtyTrac (see <http://www.realtytrac.com/real-estate-guides/foreclosure-laws/>).

## [8] Brown University

**Citation:** *Spatial Structures in the Social Sciences, Brown University, US2010 Project*, (<http://www.s4.brown.edu/us2010/Data/data.htm>).

Measures of residential segregation and racial/ethnic composition are from US2010, a project of Spatial Structures in the Social Sciences at Brown University, and based on data from the Decennial Census and the 2005-09 American Community Survey.

The dissimilarity index measures the extent to which one group is distributed proportionally across census tracts in a city relative to another group.<sup>32</sup> The index ranges from 0 to 100 and equals zero if every tract exhibits the same ratio between groups as the city as a whole. The index equals 100 if the two groups are entirely segregated by census tract. Values of 60 or above are considered fairly high. It means that 60 percent of one group must move to a different tract to achieve a proportional distribution. Values between 40 and 60 are considered moderate, while values less than 40 are fairly low.

More generally, the index for two racial groups is defined as:<sup>33</sup>

$$\frac{1}{2} \sum_{i=1}^N \left| \frac{x_i}{X} - \frac{y_i}{Y} \right|$$

Where:

$x_i$  = the population of group X in census tract  $i$

$X$  = the total population of group X in the city

$y_i$  = the population of group Y in census tract  $i$

$Y$  = the total population of group Y in the city

## [9] Living Wage Project

**Citation:** *Poverty in America*, Massachusetts Institute of Technology, Living Wage Project, Living Wage Calculator (<http://livingwage.mit.edu/>).

Estimates of living wages are from the Living Wage Calculator, a tool provided by the Living Wage Project under the Poverty in America program at the Massachusetts Institute of Technology. A living wage represents a minimum cost of living for low wage families in a particular area based on cost estimates for food, child care, healthcare, housing, transportation, other necessities, and taxes. It is intended to highlight that working families may not earn enough to live locally, even if they earn more than the minimum wage and are not officially in poverty.

All estimates cited in the profiles are for one adult raising one child. The calculator uses data from a variety of federal sources to estimate costs, including the Bureau of Labor Statistics, the U.S. Department of Housing and Urban Development, and the U.S. Department of Agriculture. Estimates are made with respect to the latest source data that was available in June 2012.

Though the calculator allows users to select estimates for either place or county, it does not detail the various levels of geography represented by the source data. Therefore we cannot distinguish which cost estimates, if any, are particular to the place or county, and which represent some broader level of geography. Estimates cited in the profiles were selected by place, and these are likely more representative of the MSA or metropolitan division, where one exists.

Additionally, the calculator does not report whether values are given in constant dollars. Given the latest update in June 2012, we speculate that all values can be generally assumed to be in “recent” dollars.

## Notes

1. As the table below indicates, please note that income reported in the 1980 and 1990 Census corresponds to income from 1979 and 1989, respectively.
2. U.S. Census Bureau, Explore the Form, available at <http://www.census.gov/2010census/about/interactive-form.php>.
3. U.S. Census Bureau, Summary Population and Housing Characteristics, Selected Appendixes, May 2012, available at <http://www.census.gov/prod/cen2010/cph-1-a.pdf>.
4. U.S. Census Bureau, Coverage Measurement, available at [https://www.census.gov/coverage\\_measurement/](https://www.census.gov/coverage_measurement/).
5. U.S. Census Bureau, Census Coverage Estimation Report, May 2012, available at [http://www.census.gov/coverage\\_measurement/pdfs/g01.pdf](http://www.census.gov/coverage_measurement/pdfs/g01.pdf).
6. U.S. Census Bureau, American Community Survey, Design and Methodology, available at [http://www.census.gov/acs/www/methodology/methodology\\_main/](http://www.census.gov/acs/www/methodology/methodology_main/).
7. Basic information on sample size and data quality by state can be found at [http://www.census.gov/acs/www/methodology/sample\\_size\\_and\\_data\\_quality/](http://www.census.gov/acs/www/methodology/sample_size_and_data_quality/).
8. U.S. Census Bureau, County and City Data Book: 2007, available at <http://www.census.gov/prod/2008pubs/07cddb/ccdb-07.pdf>.
9. U.S. Census Bureau, Using FactFinder, available at [http://factfinder2.census.gov/faces/nav/jsf/pages/using\\_factfinder.xhtml](http://factfinder2.census.gov/faces/nav/jsf/pages/using_factfinder.xhtml).
10. U.S. Census Bureau, What We Provide, available at [http://factfinder2.census.gov/faces/nav/jsf/pages/what\\_we\\_provide.xhtml](http://factfinder2.census.gov/faces/nav/jsf/pages/what_we_provide.xhtml).
11. U.S. Census Bureau, American Community Survey, Guidance for Data Users, available at [http://www.census.gov/acs/www/guidance\\_for\\_data\\_users/estimates/](http://www.census.gov/acs/www/guidance_for_data_users/estimates/).
12. Washington State Office of Financial Management, American Community Survey User Guide, May 2012, available at [http://www.ofm.wa.gov/pop/acs/userguide/ofm\\_acs\\_user\\_guide.pdf](http://www.ofm.wa.gov/pop/acs/userguide/ofm_acs_user_guide.pdf).
13. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Location Quotient Calculator, available at [http://data.bls.gov/location\\_quotient/ControllerServlet](http://data.bls.gov/location_quotient/ControllerServlet).
14. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Frequently Asked Questions, available at <http://www.bls.gov/cew/cewfaq.htm#Q14>.
15. Bureau of Labor Statistics, Occupational Employment Statistics, Overview, available at [http://www.bls.gov/oes/oes\\_emp.htm](http://www.bls.gov/oes/oes_emp.htm).
16. Bureau of Labor Statistics, Employment Projections, available at [http://bls.gov/emp/ep\\_table\\_207.htm](http://bls.gov/emp/ep_table_207.htm).
17. Bureau of Labor Statistics, Help & Tutorials, available at [http://www.bls.gov/help/def/lq.htm#location\\_quotient](http://www.bls.gov/help/def/lq.htm#location_quotient).
18. Bureau of Labor Statistics, CPI Research Series Using Current Methods, available at <http://www.bls.gov/cpi/cpirsdc.htm>.
19. Bureau of Labor Statistics, Price Measurement in the United States: a decade after the Boskin Report, Monthly Labor Review, May 2006, available at <http://www.bls.gov/opub/mlr/2006/05/art2full.pdf>.
20. Calculated from the annual averages of the national CPI-U, All items as obtained from <http://www.bls.gov/cpi/data.htm>.
21. Bureau of Labor Statistics, Frequently Asked Questions about the Chained Consumer Price Index for All Urban Consumers, available at <http://www.bls.gov/cpi/cpisupqa.htm>.
22. Bureau of Labor Statistics, Note on the Chained Consumer Price Index for All Urban Consumers, available at <http://www.bls.gov/cpi/superlink.htm>.
23. Calculated from the annual averages of the national Chained CPI-U, All items as obtained from <http://www.bls.gov/cpi/data.htm>.
24. Depository and non-depository institutions alike are covered by HMDA, subject to their asset size, presence in the MSA, and whether they are involved in the business of residential mortgage lending. See page 3 of the HMDA reporting guide (<http://www.ffiec.gov/hmda/pdf/2010guide.pdf>) for details.
25. Subject to asset thresholds updated annually (for example, see: <http://www.ffiec.gov/cra/pdf/Explanation%20of%20the%20Community%20Reinvestment%20Act%20Asset%20Threshold%20Change%20121712.pdf>), all state member banks, state nonmember banks, national banks, and savings associations are required to report. Institutions that do not meet these thresholds have the option of reporting voluntarily.
26. Federal Deposit Insurance Corporation, Summary of Deposits Reporting Instructions, available at [http://www2.fdic.gov/sod/pdf/SOD\\_Instructions.pdf](http://www2.fdic.gov/sod/pdf/SOD_Instructions.pdf), page 1.
27. Federal Reserve Bank of San Francisco, Are credit unions regulated or supervised by the Federal Reserve System?, Dr. Econ blog, March 2005, available at <http://www.frbsf.org/education/publications/doctor-econ/2005/march/credit-unions-regulation-supervision>.
28. Federal Deposit Insurance Corporation, Summary of Deposits Reporting Instructions, available at [http://www2.fdic.gov/sod/pdf/SOD\\_Instructions.pdf](http://www2.fdic.gov/sod/pdf/SOD_Instructions.pdf), page 1.
29. *Ibid*, page 3.
30. For a detailed discussion of how these rates interrelate, please see our guest blog at [http://midwest.chicagofedblogs.org/archives/2011/10/emily\\_engel\\_for.html](http://midwest.chicagofedblogs.org/archives/2011/10/emily_engel_for.html).
31. Lower inventories, however, do not necessarily translate into healthier housing markets. Properties that moved through foreclosure quickly in Michigan, for example, may show up subsequently as real estate owned (REO) by the mortgagee. We do not track post-foreclosure statuses like REO because we're unsure to what extent LPS tracks them.
32. Spatial Structures in the Social Sciences, Brown University US2010 Project, Interpreting a Data Set, available at <http://www.s4.brown.edu/us2010/Data/Explanation.htm>.
33. Population Studies Center, University of Michigan, Racial Residential Segregation Measurement Project, available at <http://enceladus.isr.umich.edu/race/calculate.html>.

United States

Wisconsin

Green Bay

	1970	1980	1990	2000	2010	% change, 1970-2010	1970	1980	1990	2000	2010	% change, 1970-2010	1970	1980	1990	2000	2010	% change, 1970-2010	
<b>Total Population</b>	87,809	87,899	96,466	102,333	104,057	18.50%	4,417,371	4,705,767	4,891,769	5,365,675	5,686,986	28.73%	203,219,265	226,545,805	248,709,873	281,421,906	308,745,338	51.95%	
<b>Age</b>																			
% < 19	41.28%	32.11%	29.00%	28.61%	27.90%	-32.42%	39.74%	32.95%	29.39%	28.56%	26.41%	-35.53%	37.99%	31.98%	28.68%	28.60%	26.97%	-29.02%	
% 20 - 24	8.39%	11.06%	8.19%	8.44%	8.50%	1.35%	7.52%	9.56%	7.45%	6.66%	6.80%	-9.65%	7.93%	9.41%	7.65%	6.74%	6.99%	-11.78%	
% 25 - 44	22.03%	27.28%	34.0%	31.69%	27.70%	25.71%	22.11%	26.61%	31.62%	29.49%	25.45%	15.15%	23.61%	27.68%	32.47%	30.22%	26.60%	12.67%	
% 45 - 64	18.83%	17.59%	16.09%	19.49%	24.50%	30.10%	19.93%	18.89%	18.24%	22.10%	27.67%	38.84%	20.58%	19.64%	18.64%	22.08%	26.39%	28.28%	
% > 65	9.46%	11.96%	12.62%	11.77%	11.20%	18.36%	10.70%	11.99%	13.31%	13.10%	13.67%	27.72%	9.89%	11.28%	12.56%	12.43%	13.04%	31.85%	
<b>Race</b>																			
% White	98.92%	96.77%	94.22%	85.86%	77.90%	-21.25%	96.41%	94.48%	92.25%	88.93%	86.20%	-10.59%	87.42%	83.44%	80.29%	75.14%	72.41%	-17.18%	
% Black	0.07%	0.25%	0.47%	1.38%	3.50%	4628.18%	2.90%	3.89%	5.00%	5.68%	6.32%	115.88%	11.68%	11.69%	12.06%	12.32%	12.61%	13.00%	
% Hispanic or Latino (of any race)	-	-	11.0%	7.1%	13.40%	-	-	-	1.91%	3.60%	5.91%	-	-	-	8.99%	12.55%	16.35%	-	
<b>Education</b>																			
% Less than HS	42.27%	28.52%	19.15%	17.42%	14.81%	-64.96%	45.52%	30.39%	21.40%	14.91%	10.99%	-75.86%	47.66%	33.53%	24.76%	19.60%	15.42%	-67.64%	
% HS Grad	40.00%	44.14%	39.86%	35.28%	35.50%	-11.26%	34.81%	40.42%	37.09%	34.58%	34.29%	-1.51%	31.08%	34.59%	29.99%	28.63%	29.3%	-5.71%	
% Some College & College Grad	17.73%	27.35%	40.99%	47.31%	49.69%	180.29%	19.67%	29.19%	41.51%	50.53%	54.73%	178.25%	21.26%	31.88%	45.25%	51.77%	55.27%	159.95%	
<b>Industry, Employment, &amp; Income</b>																			
% Manufacturing	27.53%	25.06%	22.09%	21.28%	18.77%	-31.82%	31.29%	28.49%	24.48%	22.19%	18.93%	-39.52%	26.10%	22.44%	17.69%	14.10%	11.24%	-56.92%	
Civilian Work Force	34,843	42,877	50,422	55,983	55,587	59.54%	1,774,008	2,263,413	2,517,238	2,869,256	3,060,803	72.54%	80,051,046	104,449,817	123,473,450	137,668,798	152,273,029	90.22%	
% Civilian Unemployed	4.34%	7.08%	5.45%	5.05%	7.24%	67.05%	3.97%	6.38%	5.20%	4.68%	6.12%	54.3%	4.37%	6.52%	6.3%	5.7%	7.20%	64.89%	
Real Median Family Income	\$52,447	\$55,458	\$56,650	\$63,697	\$56,547	78.2%	\$52,920	\$58,540	\$59,561	\$69,256	\$65,676	241.0%	\$49,581	\$55,747	\$59,804	\$65,487	\$63,392	27.86%	
% Families Below Poverty Line	5.45%	6.56%	9.97%	7.43%	11.40%	109.13%	7.40%	6.35%	7.59%	5.64%	7.20%	-2.64%	10.67%	9.58%	9.97%	9.22%	9.90%	-7.68%	
Mean Commute Time	-	-	-	17.00	17.90	-	-	-	-	20.80	21.10	-	-	-	-	25.50	25.20	-	
<b>Household Composition</b>																			
% Married (individuals 15 years and over)	6.00%	54.99%	52.74%	49.31%	44.72%	-26.69%	61.51%	58.38%	56.73%	56.22%	52.78%	-14.20%	61.48%	57.30%	54.79%	54.37%	50.29%	-18.19%	
Average HH size	-	-	-	2.40	2.39	-	-	-	-	2.50	2.45	-	-	-	-	2.59	2.58	-	
Average Family Size	-	-	3.08	3.06	3.06	-	-	-	3.14	3.05	2.99	-	-	-	3.16	3.14	3.14	-	
<b>Housing</b>																			
Total Units	27,061	34,445	39,726	43,161	45,241	67.88%	1,472,466	1,863,897	2,055,774	2,321,144	2,624,358	78.23%	68,699,030	88,411,263	102,263,678	115,904,641	131,704,730	91.77%	
% Owner Occupied	66.99%	60.70%	56.56%	55.92%	56.30%	-15.95%	69.09%	68.23%	66.70%	68.43%	68.06%	-1.50%	62.86%	64.43%	64.20%	66.19%	65.10%	3.57%	
Real Median Value of Owner Occupied Home	\$79,609	\$109,840	\$89,753	\$122,053	\$162,654	66.62%	\$86,745	\$122,457	\$101,073	\$142,038	\$168,842	94.64%	\$85,186	\$119,162	\$127,918	\$151,427	\$188,461	121.25%	
% homes w- 0 Vehicle	12.41%	14.18%	10.54%	8.37%	8.57%	-31.92%	13.80%	12.27%	9.33%	7.87%	6.56%	-52.46%	17.47%	14.75%	11.53%	10.30%	8.80%	-49.62%	
% homes w- 1 Vehicle	56.91%	50.42%	39.48%	38.99%	37.89%	-33.42%	55.62%	49.10%	32.91%	32.53%	31.47%	-41.30%	47.71%	46.57%	33.66%	34.25%	33.31%	-30.36%	
% homes w- 2+ Vehicles	30.88%	35.40%	49.99%	52.65%	53.54%	74.51%	32.38%	38.65%	57.76%	59.61%	61.97%	90.19%	34.83%	38.68%	54.71%	55.46%	57.99%	66.50%	



Cover art by

**Donald K. Lake**

Industry: Chamber  
Transparent Watercolor

For additional information  
about the artist and other  
works by Donald K. Lake  
featured in this publication  
please visit:  
[www.donlakeart.com](http://www.donlakeart.com)