

WATERLOO



INDUSTRIAL CITIES INITIATIVE

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.

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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?’

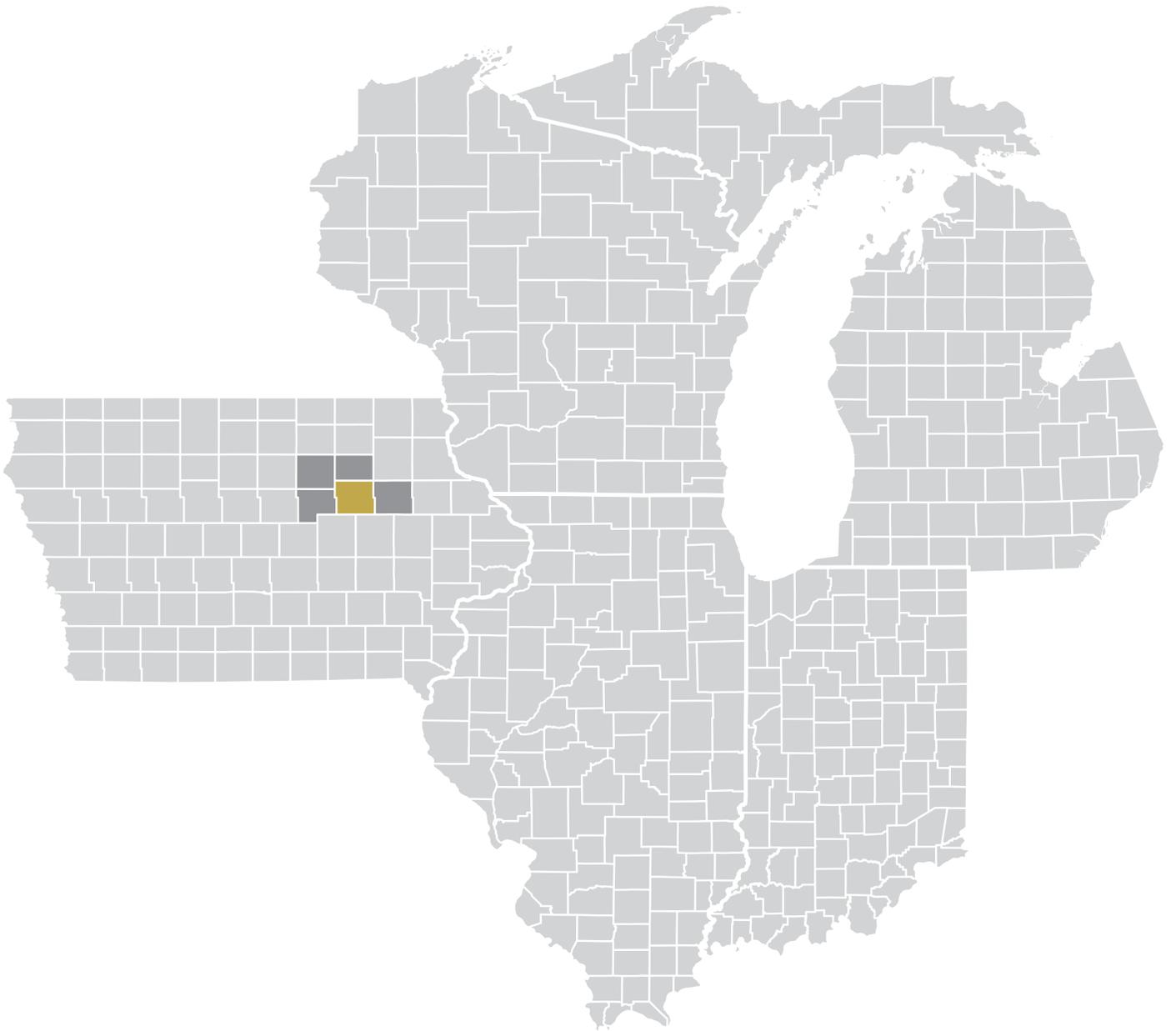
The effort to improve the economic and social well-being of these cities and their residents occurs in an environment shaped by:

- **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) 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.



WATERLOO, IA

Overview

Waterloo is located in the eastern third of Iowa on the Cedar River. Waterloo is the county seat of Black Hawk County and is part of the Waterloo-Cedar Falls, Iowa, Metropolitan Statistical Area (MSA), which consists of Black Hawk, Bremer, and Grundy counties.

Sturgis Falls and Prairie Rapids were two early settlements on the Cedar River, which was a source of power for the milling companies that were sprouting in the region. As those settlements grew into cities, Sturgis Falls became Cedar Falls and Prairie Rapids became Waterloo. Already competitors in the milling industry, the two cities vied to become the county seat in 1853. Waterloo won the county seat by vote, and the stage was set for a rivalry between the two cities that persists today.¹

Although the rapids of the Cedar River originally attracted settlers for their power generation potential, the river was too low to be a meaningful transportation advantage. However, with the arrival of the railroads in 1861, the cities found another reason to compete. In 1870, the Illinois Central Railroad chose Waterloo over Cedar Falls for the site

of its repair shop. Historians point to this decision as setting Waterloo on its path to becoming a major industrial center.²

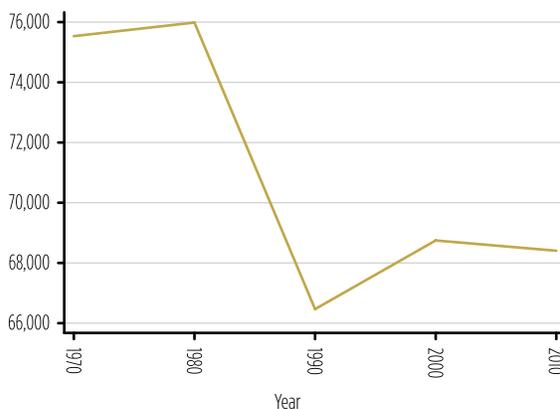
Cedar Falls decided to develop a different identity by opening the Iowa State Normal School, a teacher's college that would eventually grow to become the University of Northern Iowa (UNI). As Cedar Falls became a college town, it earned the nickname "the Lawn City," while Waterloo was known as "the Factory City."³

The Cedar River divides Waterloo into east and west sides. Residents fought over the site of the courthouse, separate school districts were established (and existed until 1942), and the small town was served by two libraries – one on each side of the river.⁴

The city grew quickly around the turn of the 20th century. Population increased five-fold between 1890 and 1920, while the number of factories increased from 28 to 144 between 1881 and 1914. Chief among these was John Deere and Company, which bought the Waterloo Gasoline Engine Company in 1918. "Another major employer was the Rath Packing Plant, one of the largest meat packers in the nation at the time."⁵

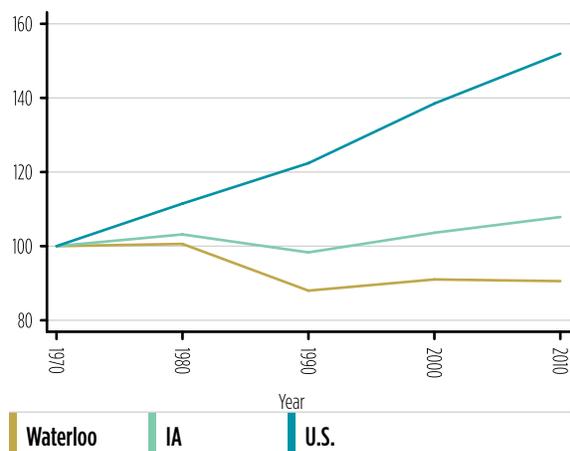
This industrial growth brought waves of immigrants – largely Croatians and other Eastern Europeans, as well as Blacks from the American South. Both Deere and

Chart 1. Total population: Waterloo, 1970-2010



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

Chart 2. Total population (indexed, 1970=100): Waterloo and comparison areas, 1970-2010



Rath workers were leaders in organized labor and both labor forces were organized in 1942.⁶

The 1980s were challenging for Waterloo. During the decade, John Deere drastically cut its workforce and Rath closed in 1985 and the city lost almost 10,000 residents (chart 1).⁷

The agricultural economy was also turbulent due to low market prices leading to farm foreclosures. IBP (a meat packing company bought in 2001 by Tyson Foods) succeeded Rath Packing but paid wages that were much lower, leading to a second wave of immigration from Latin America and Bosnia.⁸ Today the city is still an industrial center with almost 20 percent of its jobs in manufacturing. Increasingly diverse, with growing Black, Hispanic, and Bosnian populations, the city remains more than 75 percent White.⁹ Nevertheless, the population of Waterloo is not keeping pace with state and national growth rates (chart 2).

Regional presence

The region that includes Waterloo – most narrowly defined – encompasses a 50-mile radius around the city from which it draws its workers, otherwise known as its labor shed. Thus, Waterloo’s labor shed encompasses several counties and extends almost to Ames to the west and Dubuque to the east. Included in this labor shed definition of “region” – locally referred to as the Cedar Valley – is Waterloo’s relationship with surrounding towns and counties that encourage or impede economic development and business attraction or retention.

With respect to a broader midwestern region, Waterloo is located within an approximately five-hour drive of Chicago, St. Louis, Milwaukee, Minneapolis, and Omaha. In interviews, some leaders were concerned about Waterloo’s relationships with these other Midwest cities. They believe that for Waterloo to remain competitive, leaders must build partnerships with businesses in Chicago and other large cities, not just those economic and educational hubs in Iowa.

Even more broadly – and perhaps most importantly – is Waterloo’s relationship with global markets. The city’s primary employer, John Deere, is a multi-national corporation and thus the vitality of the city remains very much tied to the fate of this one company and its relationship with global markets.

Waterloo is also dependent on far flung places for workers – both skilled and unskilled. Trends in immigration and migration have pushed workers and their families to Waterloo since its inception, as it presented opportunities for good jobs. Today, however, Waterloo is in the challenging position of having to pull workers to its region to fill many of the high-skilled engineering and technical jobs in demand by its major employers that it cannot fill locally. Attracting, understanding, assimilating, tolerating, and retaining these individuals, who come from all regions of the world, is important to the future of Waterloo and surrounding towns.

Interviewees noted three significant barriers to realizing a regional mindset around economic development. The first was a persistent desire to preserve an agrarian way of life often couched in a desire to retain green space. The second was the notion that, because the Waterloo-Cedar Falls MSA is dominated by a single industrial partner, coordinated economic development is either not needed or pointless. A final cited barrier was a zero-sum mentality that drives cities and towns to lure companies away from each other rather than collaborating to grow the larger regional economy.

There are several organizations working to overcome these barriers by providing incentives and programs that support economic development in the greater Waterloo region. Among these are the Greater Cedar Valley Alliance & Chamber, Black Hawk Economic Development, Inc., the UNI Regional Business Center (RBC), and Cedar Valley TechWorks. These organizations cover a spectrum of economic development activities from ensuring that Cedar Valley is recognized as a global destination for businesses and talent to supporting existing businesses to addressing the needs of entrepreneurs and start-ups.

The Greater Cedar Valley Alliance & Chamber strives to increase economic vitality and job creation in Iowa’s Cedar Valley, and to compete in the global marketplace for business investment and talent. The City of Waterloo has been supportive of the Alliance’s efforts by offering financial incentives for businesses looking to relocate.¹⁰ There are still competing interests, however, at both the local and county levels that tend to obstruct progress. For example, interviewees described the county governments as having historically argued against expanded urban development in order to preserve green space in Cedar Valley.

Black Hawk Economic Development, Inc. (BHED) – This organization was formed in 1978 to secure federal funding to help Rath Packing avoid bankruptcy. Despite these efforts, Rath Packing was liquidated in 1985. The organization recovered \$2 million during a subsequent auction sale, and – in an effort to make the region less dependent on a small number of large employers – used it to establish a revolving loan fund that provided financing to over 200 local small businesses as of 2004.¹¹

BHED makes loans in multiple counties surrounding Waterloo. In addition to the revolving loan fund, BHED also provides technical and financial assistance to borrowers seeking Small Business Administration (SBA) loans for machinery and equipment, and to purchase or construct new facilities.¹² The organization also offers an Intermediary Relending Program (IRP) that provides gap financing to small business in rural communities, as well as participates in the SBA 504 program.¹³

Regional Business Center (RBC) – The UNI, which is located in Cedar Falls, offers three small business development services at its RBC.¹⁴ First, there is a business incubator on the campus of the UNI. The Innovation Incubator provides new ventures with services, technology, and space. In addition, it includes a coworking facility that encourages entrepreneurs to collaborate and support each other.¹⁵ Second, the UNI Small Business Development Center is part of a network of 15 regional centers that serves a nine-county region in eastern Iowa with technical assistance or training at low or no cost.¹⁶

Cedar Valley TechWorks “brings together leaders in the field of biotechnology, serving as a center of activity for farmers, researchers, investors, and business owners.”¹⁷ Through an initial donation from John Deere, Cedar Valley TechWorks opened in 2006, with the mission of building a hub that firmly places Waterloo as a leader in the growing global “bioeconomy.”¹⁸ The TechWorks Manufacturing Cluster includes “flexible office and manufacturing space for new businesses looking to establish themselves in the marketplace for bioproducts and bioenergy,” and the opportunity to participate in “a forum for bringing together varied expertise, skills, and processes available in Iowa and the Midwest to create new products and new business for the region.”¹⁹ Over \$21 million in funding has been raised thus far.²⁰ The Cedar Valley TechWorks campus is located across the street from the John

Deere Campus in Waterloo, and is surrounded by over 20 acres of land available for development, with two connections to the highway.²¹

Economic development

Downtown Waterloo was first revitalized in the 1970s, and areas surrounding the airport and the former home of Rath Packing were also redeveloped. During the same time period, the city made important investments in its infrastructure, including a “massive levee system.”²²

While the levees helped mitigate much of the damage from the 2008 flooding some 30 years later, they also prevented water from draining back into the Cedar River in some areas of the city. In response to this exposed weakness in the system, millions of federal dollars are being spent on huge pumps to ensure water could be returned to the river in the event of a similar future flood. Five years later, the affected areas are showing signs of recovery. Where damaged buildings had been razed, a new \$26 million Cedar Valley SportsPlex is being built using private donations.²³ In the long term, those who know the city believe that the negative impact from the flood will be minimal as most areas are recoverable. However, one interviewee noted Waterloo had not “rebounded” as well as it could have by not taking advantage of an opportunity to diversify its industry base.

The city of Waterloo utilizes several methods to spur economic development through seven designated revitalization areas. The city government uses new permit valuations as a measure of economic performance. By that measure, the city has reached its main economic development goal in six of the previous eight years, indicating that recovery continues after the 2008 flood.²⁴

Waterloo’s leaders understand that, in addition to creating opportunities through workforce development and business development strategies, it was important to improve quality of life factors, including the elimination of slum and blighted areas. Therefore, the city has made efforts to redevelop the waterfront to encourage development and has maintained roads and other essential infrastructure to foster growth.²⁵

Despite those efforts, some believe that, in order for Cedar Valley to remain competitive, it must adjust its thinking towards a more regional perspective by

Table 1: Top 5 industries in Black Hawk County, IA by 2011 location quotient

Industry	Black Hawk County, IA						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)
Machinery manufacturing	8.27	11.63	6,157	7,107	11.33%	1.45%	-3.80%	-0.20%	-1.10%	3.50%
Furniture and related product manufacturing	n/a	6.03	n/a	1,224	1.95%	n/a	-6.30%	0.90%	-2.60%	2.10%
Warehousing and storage	1.01	4.31	282	1,618	2.58%	19.09%	2.00%	2.40%	2.60%	3.60%
Food manufacturing	3.60	3.65	3,066	3,081	4.91%	0.05%	-0.70%	0.20%	0.60%	1.40%
Sports, hobby, music instrument, book stores	1.42	1.80	531	606	0.97%	1.33%	-0.60%	1.20%	1.30%	3.70%
Total, top 5 industries by location quotient			10,036	13,636	21.74%	3.11%				
Total, all industries			59,811	62,729	100.00%	0.48%				

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

Table 2: Top 5 industries in Black Hawk County, IA by 2011 employment

Industry	Black Hawk County, IA						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)
Machinery manufacturing	8.27	11.63	6,157	7,107	11.33%	1.45%	-3.80%	-0.20%	-1.10%	3.50%
Food services and drinking places	1.08	1.00	4,901	5,576	8.89%	1.30%	1.30%	0.90%	1.40%	2.50%
Food manufacturing	3.60	3.65	3,066	3,081	4.91%	0.05%	-0.70%	0.20%	0.60%	1.40%
Administrative and support services	0.88	0.69	3,584	2,936	4.68%	-1.97%	-1.10%	2.00%	0.90%	3.40%
Ambulatory health care services	0.82	0.78	2,007	2,779	4.43%	3.31%	3.30%	3.70%	3.40%	3.30%
Total, top 5 industries by employment			19,715	21,479	34.24%	0.86%				
Total, all industries			59,811	62,729	100.00%	0.48%				

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

building partnerships with businesses in Chicago, for example, rather than Des Moines. Organizations, such as the Midwest Intellectual Property Management Institute (IP Institute) – serving parts of both Iowa and Illinois – have begun to flourish using retirees’ intellectual property to encourage new business development. The IP Institute then hopes to use creative

engineering to foster growth and job development through innovation or other entrepreneurial efforts.²⁶

The Isle Casino and Hotel opened in Waterloo in June of 2007. The Casino cost over \$100 million to develop and includes a hotel with 195 rooms. The Casino is a major employer, with a staff of over 550.²⁷

Interviewees view the Casino and its leaders as good corporate citizens. They note that the leadership serves on many local boards of directors, and that the Casino itself – in addition to providing employment opportunities – makes charitable contributions to local nonprofit agencies.²⁸

The city of Waterloo offers several economic development incentives and services, typical to older cities, including Tax Increment Financing (TIF), Local Industrial Tax Abatements, access to New Market Tax Credits allocates and expedited permitting. Waterloo also subsidizes land costs.²⁹

Industry analysis

Historically, Waterloo has been known as a significant metal fabricator, as well as a large producer of gasoline engines and meat packing. However, each of these industries declined significantly during the 1980s. Today, four of the top five industries in Black Hawk County, as measured by location quotient (LQ), remain in the manufacturing and warehousing of goods (table 1).

Jobs in Black Hawk County remain concentrated in the machinery manufacturing industry (table 2). However, employment growth in the industry nationwide is projected to be almost flat, even as output picks up following contraction over the past decade.

This concentration reflects the fact that John Deere is the county’s largest employer. The company maintains large facilities for engine design, global drive train development, and large tractor design.³⁰ John Deere continues to make investments in Waterloo, including a \$70 million expansion of its Waterloo Works that, while not expected to create manufacturing jobs, nevertheless signifies the company’s ongoing commitment to the region.³¹

Production jobs continue to dominate the Waterloo landscape (table 3). Of the jobs in the MSA, 14 percent are production jobs. The MSA’s location quotient for production is 2.14, further indicating the concentration in the area. The second highest concentration of occupations is in administration and support services, which represents 14 percent of all jobs in the MSA. However, with an LQ of 0.82, administration and support services jobs are less concentrated in Waterloo when compared with the national economy, indicating

Table 3. Top 5 occupational groups in the Waterloo–Cedar Falls, IA CBSA by 2012 employment

Occupational Group	Total Employment	Percent of Total	Location Quotient	Hourly Median	Annual Median
Production	12,540	14.13%	2.14	\$16.00	\$33,290
Office and administrative support	11,980	13.50%	0.82	\$13.85	\$28,810
Sales and related	9,510	10.72%	1.01	\$11.08	\$23,060
Food preparation and serving related	7,880	8.88%	1.00	\$8.94	\$18,590
Transportation and material moving	6,670	7.52%	1.12	\$14.85	\$30,880
All occupations	88,730	100.00%	1.00	\$15.18	\$31,560

Note: Hourly and annual medians expressed in terms of May 2012 constant dollars. *Source:* U.S. Bureau of Labor Statistics (A-2).

that they are tied to and dependent on factors within the local economy. Further, the median wage for both of these occupations is less than the living wage of \$18.54 per hour or \$38,556 per year.³²

A major factor in John Deere’s continued success in Waterloo was the negotiations between Deere and the United Auto Workers (UAW) for a two-tiered compensation system, with new employees receiving lower wages and benefits. As part of the agreement, senior workers agreed to forego wage increases to benefit newer workers and all employees receive cost of living allowance (COLA) increases.³³ Lower total wages, combined with improvements in technology and productivity, have improved the company’s bottom line and the firm remains the largest employer in Waterloo, adding 1,100 union jobs between 2009 and 2012.³⁴ Deere’s success has benefitted its suppliers. Companies such as Waterloo Industries and Viking Pump, and other metal fabricators and paint specialists that have contracts with John Deere have also expanded as a result of its growth.

Other firms besides Deere, such as Ferguson Enterprises³⁵ (distributor of pipes, valves, and fittings, and other plumbing equipment), Ryder Integrated Logistics³⁶ (truck, supply chain, and fleet management), and DENSO International America, Inc.³⁷ (a Japan-based global supplier of advanced automotive technology with strong ties to Deere) have also chosen to locate facilities in Waterloo.

Human capital

Educational attainment of Waterloo residents has improved over the past 40 years. The percentage of people without a high school diploma decreased to 13 percent, slightly below the national level of 16 percent.

College attainment – as measured by the percent of residents 25 and over who have attended college – also improved, albeit not to the same extent as the state and nation. Specifically, college attainment increased from 20 percent in 1970 to 49 percent in 2010. Still, the improvement did not keep pace with broader state and national trends; between 1970 and 2010, the gap in college attainment between Waterloo and the nation increased from about one percentage point to about five percentage points (chart 3).

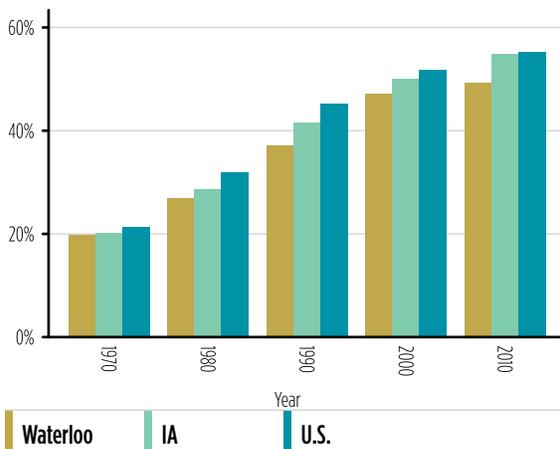
Moreover, most of this almost 30 percentage point gain in college attainment occurred between 1980 and 2000, during which attainment increased from 27 percent to 47 percent. Progress during the most

recent decade was comparatively muted, with only a two percentage point improvement (chart 4).

Further, Waterloo is not keeping up with its peers in terms of its graduation rates or academic proficiency levels. For example, Waterloo’s graduation rate of 74 percent is more than 20 points below that of neighboring Cedar Falls (96 percent) and 15 points below the state of Iowa’s 89 percent graduation rate.³⁸ Waterloo’s 11th grade reading and math proficiency levels are consistently 10 points or more below those of Cedar Falls (charts 5 and 6). For individuals, these discrepancies represent a disadvantage in competing for jobs. For employers, lack of preparedness of the local population represents an added cost to the extent that talent must be found elsewhere.

In the early 1980s Iowa Governor Terry Branstad asked that universities be more involved in community and economic development. In 1983, the state of Iowa began to implement innovative programs to help improve Iowa’s workforce skills. The Iowa New Jobs Training Program supports costs of training new employees at expanding companies or new start-ups. Training costs covered by the program include basic adult education, training equipment, books, and travel expenses. The program is offered through the community college system and financed through bonds repaid over a ten-year period by diverted employee withheld taxes. Tax credits are also available

Chart 3. Percent some college and college grad: Waterloo and comparison areas, 1970-2010



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

Chart 4. Percentage point changes in educational attainment: Waterloo, 1970-2010

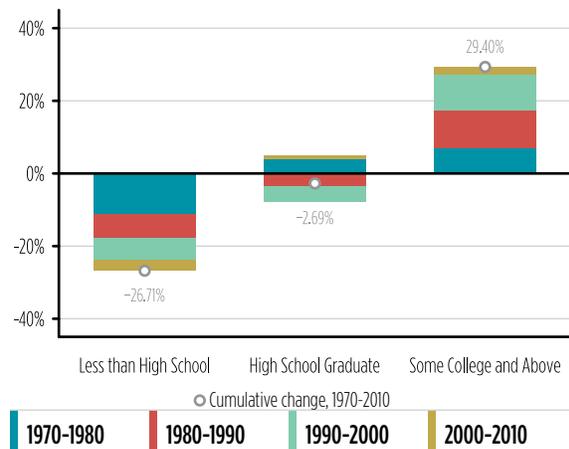


Chart 5. Percent of students proficient- 11th grade reading - 2-year moving average, 2003-2009

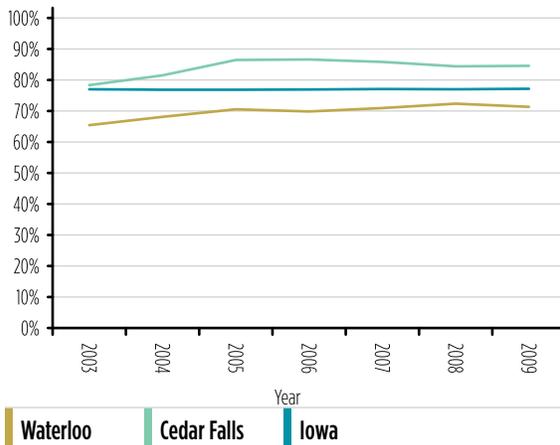
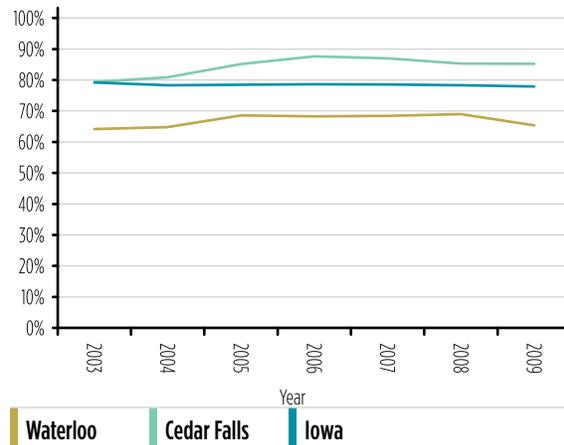


Chart 6. Percent of students proficient- 11th grade math - 2-year moving average, 2003-2009



Source: Iowa Department of Education School Profiles.

for growing companies if their employment in Iowa increases by 10 percent.³⁹ In 1999, the state developed “Accelerated Career Education Program Agreements,” which review workforce needs of businesses “engaged in interstate or intrastate commerce for the purpose of manufacturing, processing, or assembling products; construction; conducting research and development; or providing services.” The state’s funding for this program requires a 20 percent match from employers and is paid for by withheld wage taxes.⁴⁰ Allocations are divided evenly between the 15 community colleges in Iowa.

Allen College and Hawkeye Community College (HCC) are higher education institutions in Waterloo. In addition, the University of Northern Iowa (UNI) is in Cedar Falls, which is northwest of the city. Allen College, with about 500 students, is a specialized school that awards associate’s, bachelor’s and master’s degrees in the areas of nursing and health sciences.⁴¹ HCC is located west of the river near the southeast corner of Waterloo. There are about 6,200 students attending classes. The college offers more than 45 one-year and two-year programs that focus on “specialized training geared toward business and industry.”⁴² The UNI has an enrollment of over 12,000 students and is located in Cedar Falls.⁴³ The school offers programs in business administration; education; social and behavioral sciences; humanities, arts and sciences; and

graduate studies. Most students live in campus facilities and about 4 percent are international students.⁴⁴

Interviewees noted that local colleges and universities play an important role in meeting the strong demand for skilled labor, especially from John Deere. HCC, for example, offers practical programs in industrial technology, healthcare, trucking, renewable energies, and electrical work,⁴⁵ many of which are developed in cooperation with local employers.⁴⁶ Likewise, Allen College prepares its students for jobs in the region’s growing health care sector.

Race and diversity

Racial and ethnic minorities came to Waterloo lured by promises of jobs. The first Blacks were recruited as strikebreakers by the Illinois Central Railroad in 1911. They brought their families and stayed for the industrial jobs although many companies, including John Deere and Rath Packing, did not hire Blacks until the 1920s. Early arrivals, most migrating from the south, settled on the northeast side of Waterloo and, despite racial barriers and prejudice, found conditions preferable to the ones they had left.⁴⁷

Today, although much more diverse than the state as a whole, Waterloo remains predominantly White, with less than 20 percent of its population made up of racial or ethnic minorities. The real median family

Table 4: Waterloo selected tract-level characteristics

Tract #	Tract name	NE/SW	Population	% total pop	% Minority	Median household income	Median single family home value
	Waterloo-City		66,351		21%	\$38,779	\$97,700
1	Downtown East-West	Both	2,026	3%	55%	\$12,424	\$67,800
17.01	Hwy 63-St. Mary's	NE	1,911	3%	63%	\$20,601	\$48,600
7	Near Downtown East	NE	1,269	2%	62%	\$25,938	\$60,300
18	Near Northeast Side	NE	1,371	2%	93%	\$28,404	\$64,900
17.02	Hwy 63-Allen	NE	2,206	3%	50%	\$30,877	\$82,200
8	Rath-Maywood	NE	4,101	6%	25%	\$31,206	\$59,000
5	Fairview Cemetary	NE	1,623	2%	42%	\$34,244	\$63,300
16	Cedar Bend-Greenbrier	NE	2,690	4%	15%	\$34,489	\$81,200
19	Highland-City View	NE	2,358	4%	47%	\$37,750	\$70,600

Source: City of Waterloo Housing Needs Assessment. Community Planning and Development (Fall 2011) as obtained through the 2005-09 ACS.

income of Blacks was \$27,015, while the real median family income for Hispanics was \$30,147 compared to \$53,413 for Whites. The percent of White families living in poverty is eight percent, compared to more than 34 percent for Black families and 28 percent for Hispanic families.⁴⁸ Further, unemployment among Black men is 19 percent and among Black women 13 percent, over 2.5 and 1.8 times higher than the citywide rate, respectively.⁴⁹

As shown by table 4, which represents all census tracts on the northeast side of Waterloo, racial and ethnic minorities remain concentrated on the northeast side of the city, where median single family home values and median family incomes are below city medians in all census tracts (as highlighted in blue).⁵⁰

The foreign-born population in Waterloo is slightly higher than that of the state, as a whole. Seven percent of Waterloo residents are foreign-born compared to four percent for the state as a whole.⁵¹ Noted in the city's Housing Needs Assessment was the presence of immigrants from the former Yugoslavia, comprising more than ten percent of residents in two census tracts.⁵²

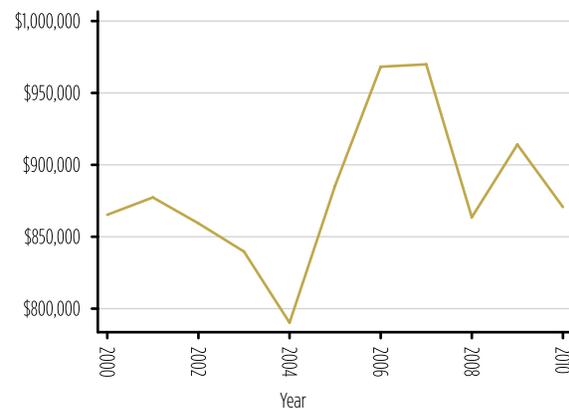
The Iowa Center for Immigrant Leadership and Integration at UNI offers multiple resources to guide new immigrants, their neighbors, and employers regarding the opportunity and challenges of being a "new Iowan." Devoted to the immigrant experience

statewide, Center leadership estimates that more than 30 different languages are spoken in Waterloo's public schools.

Banking and lending

The number of banks operating in Waterloo did not change between 2002 and 2012. Two-thirds of these institutions have their headquarters in the state of Iowa. However, the market is dominated by two national institutions, which account for almost half of the Waterloo deposit market share.⁵³ Deposits in

Chart 7. Total deposits (thousands of real \$, 2010=100): Waterloo, 2000-2010



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

Chart 8. Number and value of CRA loans (thousands of real \$, 2010=100): Waterloo, 2005-2011

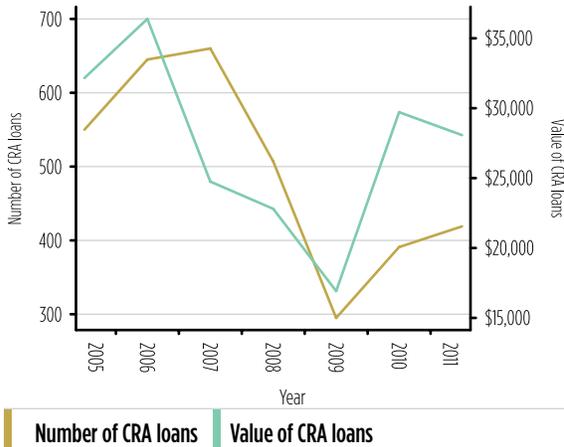
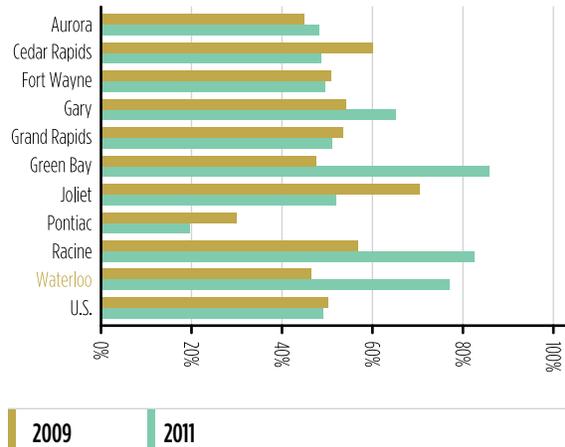


Chart 9. Value of CRA loans (thousands of real \$, 2010=100) in all case study cities as a percentage of 2006 levels



Source: CRA (A-5).

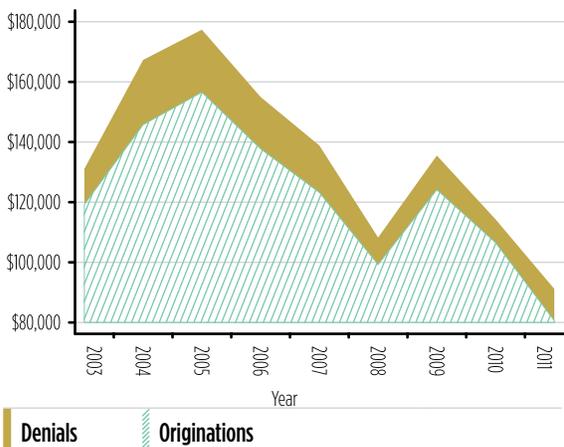
Waterloo have fluctuated over the past decade, while population has remained relatively flat (chart 7).

Small business and home mortgage lending in Waterloo – like the rest of the nation – dropped markedly during the recession. The number and value of CRA small business loans started to rebound

beginning in 2010, with loan values increasing sharply post-recession before flattening (chart 8). Nevertheless, the post-recession rebound has returned total small business lending values in Waterloo to almost 80 percent of their pre-recession levels – much higher than the national percentage and most of the other profiled cities (chart 9).

Home mortgage loans in Waterloo are still below their 2005 peak. Lending rebounded slightly in 2009 but has declined since then. Applications and originations track each other indicating that low lending levels are driven by a lack of demand (chart 10).

Chart 10. Value of HMDA loan originations and denials (thousands of real \$, 2010=100): Waterloo, 2003-2011

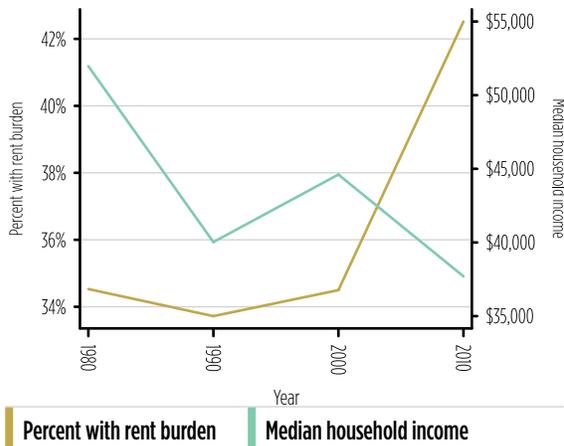


Source: HMDA (A-4).

Housing

According to the City of Waterloo’s Housing Needs Assessment Plan, the city has an “aging, deteriorating” housing stock. More than 80 percent of the homes are more than 35 years old.⁵⁴ While most of Waterloo (and Iowa) was not heavily affected by the housing crisis, there were concentrations of subprime lending. In particular, authors of the plan estimate that nearly half of all mortgages in the Near Northeast Side (census tract 18) originated between 2004 and 2007 were subprime and that “approximately 13 percent of home owners in this tract are seriously delinquent on their mortgage payments.”⁵⁵

Chart 11. Rent burden and median household income (real \$, 2010=100): Waterloo, 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).

Given the demographic trends in Waterloo – aging, increased diversity, lower incomes – the city recognizes a growing need for affordable housing. Over 40 percent of all home owners and renters are cost-burdened; in one tract – Hwy. 63-St Mary’s, CT17.01 – this rises to an estimated 76 percent. Chart 11 depicts an increase in rent burden in conjunction with decline in real household income since 1980, representing a need for affordable housing.

Striking a balance between a need for affordable housing and housing that meets the needs of both an aging population and young families remains a challenge for city leaders.

Conclusion

Waterloo remains heavily concentrated in manufacturing dependent and associated industries - in particular John Deere – and has not diversified much beyond non-traded services that rely on a healthy manufacturing sector. Fortunately, John Deere continues to invest in the city, which bodes well for the future, to the extent Waterloo’s infrastructure and amenities can support this growth. It remains uncertain, however, whether these investments will lead to higher employment, or whether growth will primarily assume the form of higher output.

The city’s ability to attract and retain talent remains a challenge for the community. Although, traditionally a destination for immigrants in search of work, the development of local talent is lacking with subpar rates of educational proficiency and low graduation rates in a hiring environment that demands strong math and literacy skills, as well as some post-secondary education or training. The fact that Waterloo’s neighbor – Cedar Falls – appears to maintain high educational standards only highlights the vulnerability of Waterloo’s younger workers.

Waterloo and its surrounding counties are beginning to think and act regionally, although the lack of a cohesive vision for the region undermines some efforts, and historical competition remains, according to interviewees.

Nevertheless, Waterloo has some significant assets: it is well located and provides easy access to major markets. The UNI is a stabilizing presence as a source of jobs and workers. Despite being primarily located in Cedar Falls, the University maintains important resources in the city of Waterloo. Cost of living and doing business is low and Waterloo can offer a quiet, small town way of life. Truly leveraging these assets will require improving school performance, upgrading the housing stock and embracing its role within a larger region.

Notes

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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

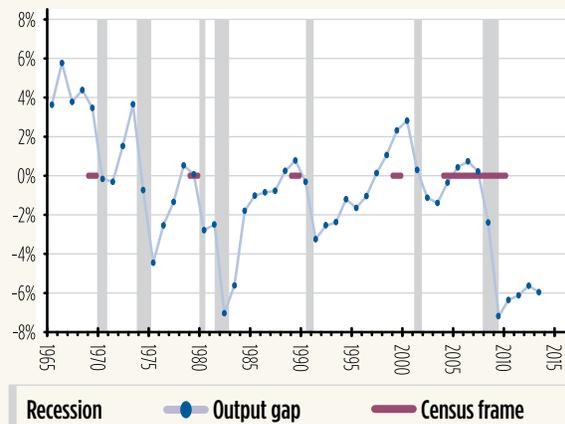
For most characteristics, observed changes over time neatly capture the long-term trends that interest us. For a handful of characteristics, however, historically meaningful structural changes may be somewhat obscured by short-term fluctuations in the business cycle. To illustrate, Census data indicate 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.¹

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.² 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.⁴ The post-enumeration survey for the 2010 Census did not find a significant percent net undercount or overcount for the household population.⁵

[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.”^{9, 1}

[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 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.)¹¹

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."¹²

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/).

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 2009.¹ 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/).

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.¹⁶

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).
- 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 1978.¹ 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.²⁰

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).²¹ 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.²³

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.²⁵

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.²⁷

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.²⁹

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.³⁰

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.³¹

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 MI 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 IA ID KY LA MT ND NE NM OR SC SD UT
4	>180	DE HI IL IN ME NJ NY OH OK PA WI

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.³² 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:³³

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

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/.
5. U.S. Census Bureau, Census Coverage Estimation Report, May 2012, available at 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/.
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/.
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.
10. U.S. Census Bureau, What We Provide, available at 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/.
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.
13. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Location Quotient Calculator, available at 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.
16. Bureau of Labor Statistics, Employment Projections, available at 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.
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, 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, 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.
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>.

	Waterloo					Iowa					United States					% change, 1970-2010		
	1970	1980	1990	2000	2010	% change, 1970-2010	1970	1980	1990	2000	2010	% change, 1970-2010	1970	1980	1990		2000	2010
Total Population	75,533	75,985	66,467	68,747	68,406	-9.4%	2,824,376	2,915,808	2,776,755	2,926,324	3,046,355	7.86%	203,271,926	226,545,805	248,709,873	281,421,906	308,745,358	51.9%
Age																		
% < 19	39.78%	32.09%	28.87%	27.54%	26.50%	-33.39%	38.33%	32.33%	29.03%	28.29%	26.93%	-29.74%	37.99%	31.98%	28.68%	28.60%	26.97%	-29.02%
% 20 - 24	6.79%	9.96%	6.59%	7.69%	7.60%	11.86%	7.12%	9.34%	7.07%	6.96%	7.00%	-1.64%	7.93%	9.41%	7.65%	6.74%	6.99%	-11.78%
% 25 - 44	21.79%	26.92%	29.82%	27.46%	26.40%	21.17%	21.66%	25.80%	29.67%	27.62%	24.53%	13.25%	23.61%	27.68%	32.47%	30.22%	26.60%	12.67%
% 45 - 64	21.06%	19.20%	19.07%	21.97%	25.50%	21.10%	20.49%	19.23%	18.88%	22.22%	26.67%	30.19%	20.38%	19.64%	18.64%	22.01%	26.39%	28.26%
% > 65	10.58%	11.84%	15.65%	15.34%	13.90%	31.42%	12.40%	13.30%	15.35%	14.91%	14.87%	19.95%	9.89%	11.28%	12.56%	12.43%	13.04%	31.85%
Race																		
% White	90.96%	87.83%	86.63%	81.61%	77.30%	-15.02%	98.55%	97.51%	96.63%	93.93%	91.31%	-7.33%	87.42%	83.44%	80.29%	75.14%	72.41%	-17.88%
% Black	8.67%	11.05%	12.14%	13.86%	15.50%	78.69%	1.15%	1.45%	1.73%	2.11%	2.93%	153.56%	11.16%	11.69%	12.06%	12.32%	12.61%	13.00%
% Hispanic or Latino (of any race)	-	-	0.80%	2.63%	5.60%	-	-	-	1.18%	2.82%	4.97%	-	-	-	8.99%	12.55%	16.35%	-
Education																		
% less than HS	39.95%	28.77%	22.09%	16.19%	13.23%	-66.87%	41.05%	28.47%	19.91%	13.90%	10.37%	-74.75%	47.66%	35.53%	24.76%	19.60%	15.42%	-67.64%
% HS Grad	40.21%	44.34%	40.82%	36.63%	37.32%	-6.68%	38.73%	42.90%	38.52%	36.08%	34.85%	-10.01%	31.08%	34.59%	29.99%	28.03%	29.31%	-5.71%
% Some College & College Grad	19.85%	26.90%	37.09%	47.18%	49.25%	148.14%	20.22%	28.63%	41.57%	50.03%	54.78%	170.87%	21.26%	31.88%	45.25%	51.77%	55.27%	159.95%
Industry, Employment, & Income																		
% Manufacturing	32.95%	35.50%	22.28%	20.67%	19.54%	-40.69%	20.15%	20.24%	17.49%	17.01%	15.31%	-24.00%	26.10%	22.44%	17.69%	14.10%	11.24%	-56.92%
Civilian Work Force	30,700	36,202	30,768	34,115	33,694	9.75%	1,127,453	1,373,914	1,403,883	1,554,722	1,625,628	44.19%	80,051,046	104,449,817	123,473,450	137,668,798	152,273,029	90.22%
% Civilian Unemployed	6.55%	6.37%	7.24%	5.97%	7.11%	8.50%	3.47%	5.04%	4.53%	4.17%	4.92%	41.80%	4.37%	6.52%	6.31%	5.77%	7.20%	64.89%
Real Median Family Income	\$52,157	\$60,687	\$50,590	\$55,915	\$49,042	-5.97%	\$47,404	\$56,125	\$53,750	\$62,817	\$61,889	30.56%	\$49,581	\$55,747	\$59,804	\$65,487	\$65,292	27.86%
% Families Below Poverty Line	7.64%	7.91%	14.26%	10.10%	12.60%	65.00%	8.91%	7.53%	8.41%	6.06%	7.30%	-18.07%	10.67%	9.58%	9.97%	9.22%	9.90%	-7.26%
Mean Commute Time	-	-	-	15.60	15.70	-	-	-	-	18.50	18.30	-	-	-	-	25.50	25.20	-
Household Composition																		
% Married (individuals 15 years and over)	63.30%	58.20%	55.08%	52.83%	49.52%	-21.77%	63.78%	61.46%	59.54%	57.88%	55.21%	-13.43%	61.48%	57.30%	54.79%	54.37%	50.29%	-18.19%
Average HH size	-	-	-	2.39	2.35	-	-	-	-	2.46	2.41	-	-	-	-	2.59	2.58	-
Average Family Size	-	-	3.00	2.97	2.95	-	-	-	3.05	3.00	2.97	-	-	-	3.16	3.14	3.14	-
Housing																		
Total Units	25,301	29,545	29,023	29,479	30,723	21.43%	964,060	1,131,299	1,143,669	1,232,511	1,336,417	38.62%	68,679,030	88,411,263	102,263,678	115,904,641	131,704,730	91.77%
% Owner Occupied	72.69%	70.01%	65.42%	67.09%	65.50%	-9.89%	71.70%	71.84%	70.03%	72.34%	72.09%	0.54%	62.86%	64.43%	64.20%	66.19%	65.10%	35.7%
Real Median Value of Owner Occupied Home	\$78,457	\$10,344	\$64,363	\$82,804	\$99,313	26.58%	\$70,279	\$102,283	\$142,228	\$104,454	\$117,712	67.49%	\$85,186	\$119,162	\$127,918	\$151,427	\$188,461	121.23%
% homes w- 0 Vehicle	14.10%	11.31%	10.77%	10.22%	8.89%	-36.95%	11.98%	10.28%	7.07%	6.41%	5.52%	-53.91%	17.47%	14.75%	11.53%	10.30%	8.80%	-49.62%
% homes w- 1 Vehicle	47.80%	47.72%	34.92%	35.02%	36.89%	-22.03%	53.15%	51.20%	31.20%	30.53%	29.46%	-44.58%	47.71%	46.57%	33.76%	34.25%	33.21%	-30.38%
% homes w- 2+ Vehicles	38.10%	40.97%	54.30%	54.75%	54.22%	42.33%	34.87%	38.52%	61.72%	63.06%	65.02%	86.48%	34.83%	38.68%	54.71%	55.46%	57.99%	66.50%



Cover art by

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