

# **New Americans and a New Direction**

The Role of Immigrants in Reviving the Great Lakes Region



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# Executive Summary

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**T**he Great Lakes region, an area often referred to as the “Rust Belt,” once represented the pinnacle of American prosperity. Millions of workers built the global automobile industry and poured hot steel in a booming economy that rewarded them with good pay and benefits. While the region’s economy still plays an important role in the nation’s economy, its economic dominance has waned considerably. With the rise of automation and an increasingly global economy, industries that were once the lifeblood of this region have faced a steady decline. Meanwhile, increased productivity has decreased the number of workers needed and eroded payrolls. These developments led to decades of lackluster economic growth that was felt most acutely by the people once employed by the hardest-hit industries.

The fortunes of the working-class in the Great Lakes region has become a centerpiece of the national conversation on the state of the economy, and was a focus of the 2016 presidential campaign. On the campaign trail, immigration became tied to a larger conversation on the decline of once vibrant industries in this part of the country, making it easy for rhetoric of zero-sum competition between U.S.-born and foreign-born residents to take hold. Although the vast majority of economists agree that immigration helps expand the economy and creates more opportunities for U.S. workers, some politicians have capitalized on the economic angst facing the region and singled out immigrants as the cause.

The reality, however, reflects a very different state of affairs. While the region indeed lost more than one million working-class jobs and saw real wages of workers with less than a bachelor’s degree fall by 6.4 percent between 2000 and 2015, immigrants have actually helped to revitalize and strengthen industries like manufacturing and healthcare, creating jobs for

Americans that once seemed lost forever. In many vibrant Great Lakes metro regions, foreign-born residents have also helped offset decades of population decline, reinvigorating local economies with new businesses, an increased tax base, and consumer spending that has helped drive local growth. These experiences make a strong case that there is tremendous economic growth potential for those Great Lakes metro areas that embrace immigrants.

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*Immigrants help  
**revitalize industries**  
like manufacturing  
and healthcare.*

In this report, we analyze the impact that immigrants are having on the region. We find that despite the bleak tone used in many “Rust Belt” narratives, there are many bright spots in the Great Lakes region’s economy and reasons for optimism for the future. Using data primarily from the American Community Survey for the seven states and 98 metropolitan areas in the region, our research shows that immigration has been and will continue to be key to regional recovery, as immigrants bring with them the talent, labor, entrepreneurial spirit, and spending power needed to help fix the Great Lakes’ economic engine. Far from being the cause of the economic struggles that have set in over the past decades, immigration may in fact provide one of the most promising solutions to them.

## KEY FINDINGS

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### ▶ **Immigration fuels population growth in the Great Lakes region.**

Immigrants accounted for half of regional population growth between 2000 and 2015 and offset population decline in nine out of the top 25 metro areas in the region. The Detroit and Pittsburgh metro areas, for instance, would have shrunk by more than 200,000 and 100,000 people, respectively, if not for the arrival of immigrants.

### ▶ **Immigrants are keeping the region's workforce viable.**

While only 51.1 percent of U.S.-born residents in the Great Lakes region were working-age in 2015, more than 70 percent of the area's immigrants fell into that age band. That allowed immigrants to drive almost two-thirds of regional growth in the size of the working-age population between 2000 and 2015. This was vital for an area facing a rapidly aging population. The number of U.S.-born elderly increased from nine million to 11 million during the same time period.

### ▶ **Immigrants are bringing much needed talent to the region.**

In the Great Lakes region, where only 29.2 percent of the U.S.-born population ages 25 and above have at least a bachelor's degree, 35.3 percent of immigrants have that level of education. Moreover, the foreign-born population has become even more educated in recent years. Between 2010 and 2015, more than half of the net growth in the working-age immigrant population came from those with a bachelor's degree or higher.

### ▶ **Immigrants have helped revive the manufacturing industry.**

Despite popular perception, manufacturing has begun a robust rebound in the Great Lakes region, adding more than 250,000 working-class jobs between 2010 and 2015, the majority of which were filled by U.S.-born workers. This is possible, in part, because immigrants fill the higher-skilled jobs that allow companies to stay local, as opposed to moving offshore. Foreign-born workers made up one out of every seven manufacturing engineers in 2015.

### ▶ **Immigrants have played a critical role powering the region's booming healthcare sector.**

Between 2000 and 2015, more than four out of every five new jobs created in the Great Lakes region—or 80.3 percent—were healthcare positions. This was good news for the U.S.-born working-class, which gained more than 570,000 new healthcare jobs. By filling the high-skilled jobs that allow doctors' offices and hospitals to thrive and expand, immigrants helped make such supersized growth possible. Despite representing 7.3 percent of the region's population, immigrants made up 27 percent of the region's physicians and surgeons in 2015.

## KEY FINDINGS

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### ▶ **Immigrants are helping the Great Lakes region meet its rising labor demand in agriculture.**

Agriculture is a promising source of employment for the region's working-class. The average wages of working-class agricultural workers grew by 17.1 percent between 2000 and 2015, and the number of jobs at that skill level held by U.S.-born workers grew by 9.2 percent. By taking on some of the labor-intensive farm jobs that are less attractive to U.S.-born workers, immigrants help the sector thrive. Immigrants made up one out of every four miscellaneous farmworkers in the region in 2015—including those who harvest crops by hand.

### ▶ **Immigrants play a particularly large role as entrepreneurs.**

The number of immigrant entrepreneurs grew by more than 120,000 between 2000 and 2015, while fewer U.S.-born residents took the risk of starting their own businesses. By 2015, more than one out of every 10 entrepreneurs in the region was foreign-born. Immigrants also made up more than one out of every five of the region's Main Street business owners, operations that created close to 239,000 working-class jobs for U.S.-born workers between 2000 and 2015 alone.

### ▶ **Immigrants' spending power has helped revitalize local businesses.**

Immigrants punch above their weight when it comes to their economic power as consumers. In 2015, they held close to \$130 billion in spending power, or 8.2 percent of the region's total, although they represented just 7.3 percent of the area's overall population. Robust consumer spending by immigrants supports local business owners and keeps local economic corridors vibrant.



Without a doubt, the 27 million U.S.-born working-class residents of the Great Lakes region face significant challenges. This report shows that although immigrants alone will not be able to solve the region's economic problems, they do have an important role to play as the region—and the country as a whole—shifts from traditional manufacturing to more innovation-driven industries, including advanced manufacturing. Without enough high-skilled talent to sustain our changing economy, working-class families will suffer.

While this report demonstrates some promising trends, the area's future will depend on community leaders embracing the 21st-century innovation economy—and also, immigration. Some leaders in local government, chambers of commerce, and non-profit organizations at city, county, and state levels understand this, and have launched economic development programs in places like Cleveland, Detroit, and Pittsburgh that involve attracting more immigrants and the prosperity they can bring. But the federal government's next steps on immigration reform might weigh heavily on the region's future. To inform the immigration debate, this report makes a strong case for federal, state, and local policies that welcome immigrants. By tapping into immigrants' economic contributions, the Great Lakes region will be on track to shake off the remaining “rust” and reclaim its glory as an economic powerhouse, brightening the future of many working-class Americans in a rapidly changing global economy.

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*By tapping into immigrant contributions, the Great Lakes region will be on track to reclaim its glory as an **economic powerhouse**.*

# Background

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**F**ew parts of the country are as closely associated with the working-class as the region sometimes referred to as the Rust Belt. In 2015, one out of every four working-class people in the United States lived in the area, which we refer to as the Great Lakes region throughout this report. The 2016 election threw a spotlight on the economic challenges that have plagued the region for years: Following the rise of technology and automation, the American working-class has struggled, unable to find the ladder to prosperity that was so easily accessible to their parents. Between 2000 and 2015, the number of working-class jobs in the region fell by 1.1 million. On top of that, real wages for that group fell by 6.4 percent.

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*Following the rise of technology and automation, the American working-class has struggled.*

In this report, we explore how immigrants—despite political rhetoric to the contrary—may be helping improve working-class Americans’ economic prospects. To do this, we start with a simple, widely held premise: That the industries that will power the region in the coming decades will look far different from the ones that dominated the past.<sup>1</sup> From 2000 to 2015, only four industries—healthcare, agriculture, professional

services, and the combined oil, gas, and mining sector—both added jobs for the U.S.-born working-class and increased their wages. The rapid growth in oil, gas, and mining appears largely driven by a boom in shale gas extraction, a source of employment that has shrunk considerably since 2015.<sup>2</sup> To understand the future of the region, then, we explore how foreign-born Americans contributed to the other three sectors that are increasingly offering promising opportunities for the working-class.<sup>3</sup> We also discuss the way immigrants are helping to strengthen the manufacturing industry—a sector that has begun to rebound in the years since 2010, largely reinventing itself through high-tech and advanced manufacturing work.

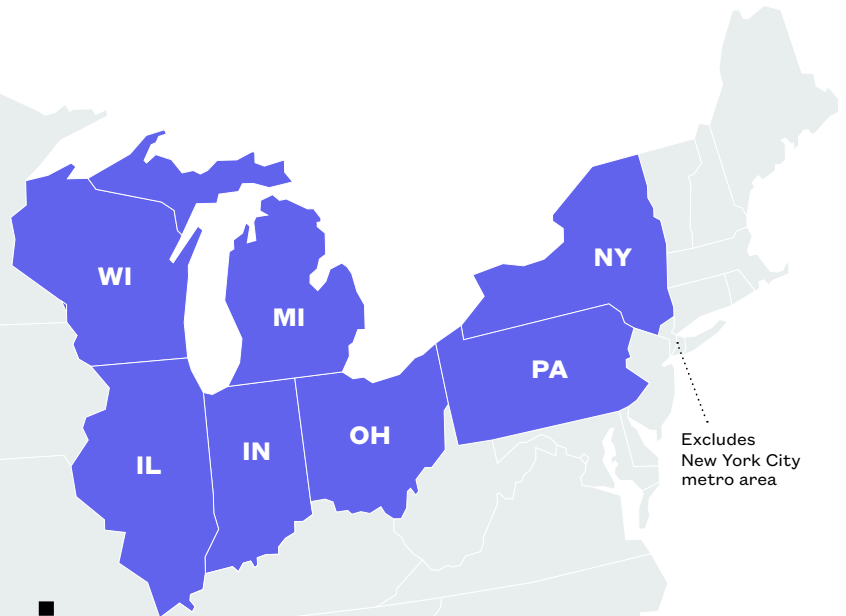
It is important to note that immigrants are still a relatively small portion of the Great Lakes region’s population. In 2015, the region was home to 5.6 million immigrants, a group that made up 7.3 percent of the overall population. The thousands of new immigrants arriving in the region each year, however, play an outside role in reversing population decline, a factor we discuss in detail in this report. They also start new businesses and create opportunities for American workers in startling numbers. The almost \$130 billion foreign-born households have in spending power—or income after taxes—allows their pocketbooks to strengthen both the housing market and the many businesses dependent upon paying customers to survive.

Before getting into our results, however, it is necessary to first establish some definitions and terms. Following much of the academic literature, we define working-class as anyone with less than a bachelor’s degree.<sup>4</sup> Immigrants are individuals who were born abroad to non-U.S.-citizen parents. The Great Lakes region, as we define it, encompasses the historically manufacturing-heavy area largely in the Midwest and Upper Midwest,



FIGURE 1: THE GREAT LAKES REGION

# Wisconsin Illinois Indiana Michigan Ohio Pennsylvania New York



Note: Metropolitan areas may extend beyond borders of these states. For full list of metro areas included in this report, see Data Appendix.

including seven states: Illinois, Indiana, Michigan, upstate New York, Ohio, Pennsylvania, and Wisconsin.<sup>5</sup> For metropolitan areas that extend beyond the borders of these states, such as Minneapolis, Minnesota, which includes parts of Wisconsin, and Louisville, Kentucky, which includes parts of Indiana, our analysis looks at the entire metro area so we can fully capture the economic picture of these communities as a whole. Figure 1 shows the boundaries of the area that is the focus of this report.

In recent years, a variety of cities in the Great Lakes region—from Cleveland to Detroit to Pittsburgh—have

embraced policies that welcome, rather than push away, new Americans and refugees. While political rhetoric might lead one to believe this runs counter to their interests, policymakers in this region frequently argue that immigrants are one of their best hopes to stem population decline, reinvigorate entrepreneurship, and attract the next generation of promising employers. This report provides evidence that such civic leaders are not only right—but steering the region in a promising direction.

PART I

# Population Trends

As factories closed amid the economic downturn in the Great Lakes region, people started to leave for job opportunities elsewhere, such as the rapidly growing Sun Belt. This caused neighborhoods in many cities to fall into decline, adding to the cycle of foreclosures, rising crime, and underfunded and struggling schools and public services. In the past few decades, these scenes have taken place in many Great Lakes cities hit hard by deindustrialization.

Although the situation is improving in many communities like Columbus, Ohio; Milwaukee; and Minneapolis, our research shows that some areas of the region have continued to lose population in more recent years. Eight out of the region’s top 25 metro areas suffered population declines between 2000 and 2015. Detroit, for instance, lost more than 141,000 residents. In Cleveland, the equivalent figure was more than 91,000 people. Outside the cities, the non-metro areas in the region also experienced population decline, with the number of residents there falling by 1.2 percent.

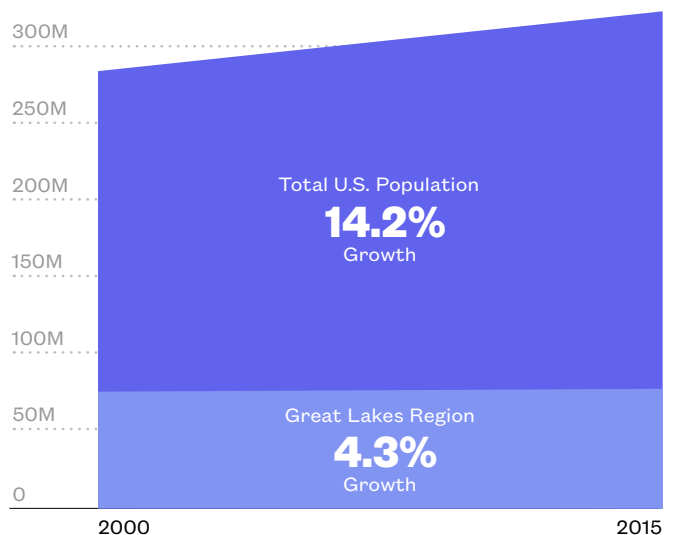
Due to such trends, the overall population growth in the Great Lakes region in recent years has lagged behind the national average. The region’s total population increased by 4.3 percent between 2000 and 2015—a number dwarfed by the overall U.S. population growth rate of 14.2 percent over the same period of time. (See Figure 2.) This is important because a shrinking population hurts local growth prospects: Having fewer residents lowers tax revenues that support municipal services and school systems, dampens consumer spending, reduces job opportunities, and stalls business creation. In the long term, population decline also undermines cities’ political clout and ability to attract government funding and jobs at the state and federal levels.

To break this vicious cycle of depopulation and to spur economic growth, political leaders in the region

are looking for ways to boost their populations. Many chambers of commerce in the region, in fact, cite population decline as their biggest challenge. Without workers and talent, it can be hard to convince companies to set up shop—and stay—in the region.

*Population growth in the Great Lakes region has lagged behind the national trend in recent years.*

FIGURE 2: POPULATION GROWTH IN THE GREAT LAKES REGION LAGS BEHIND THE NATIONAL TREND, 2000-2015

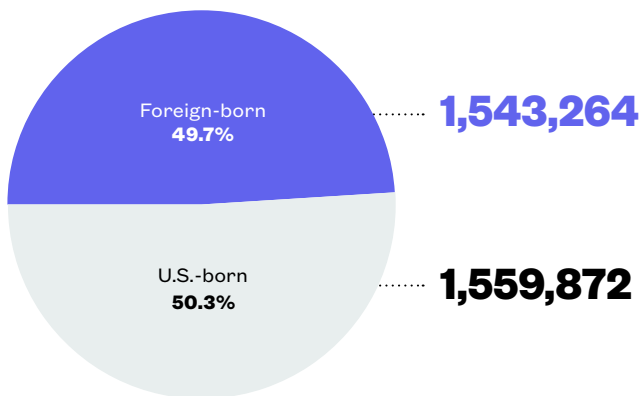


“In most Great Lakes metros, GDP is steadily advancing, as well as job growth,” explains Brandon Mendoza, government affairs manager for the Greater Pittsburgh Chamber of Commerce. “The problem is that large gaps in our high-skilled labor pools are holding back growth rates in places like Pittsburgh, Detroit, and Cleveland. Add to that the general population stagnation in most of the Great Lakes states and metros, and it’s clear our region is missing the natural economic growth that can result from simply adding new people. Realizing this, we have partnered with our Mayor’s office and with the All For All project to make our city welcoming to immigrants.”

Given these concerns, our finding that immigrants have played a key role driving the population growth that has occurred in the region in recent years is particularly meaningful. Between 2000 and 2015, the foreign-born population grew by 1.5 million people, accounting for half of the overall increase in residents in the region during the period. (See Figure 3.) The arrival of immigrants also softened the blow of population decline in several cities.

FIGURE 3: IMMIGRANTS DROVE POPULATION GROWTH IN THE GREAT LAKES REGION BETWEEN 2000 AND 2015

### New Residents 2000-2015

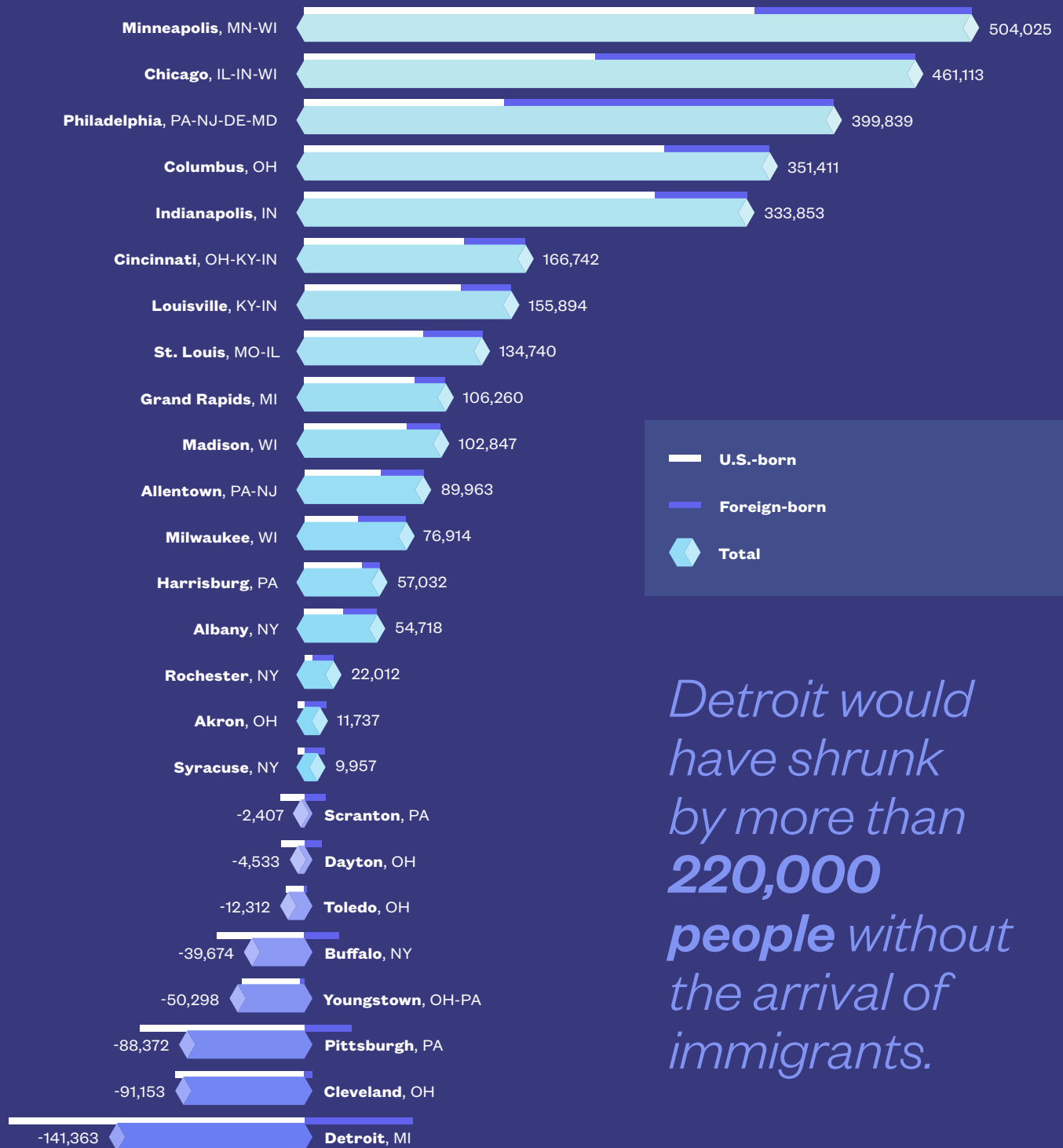


In Figure 4 on the following page, we show the population trends—and how they are impacted by immigrants—in greater detail. Among the top 25 Great Lakes metros, Akron and Syracuse would have seen their populations decline, instead of increase, if not for immigrants. Seven other metropolitan areas, meanwhile, would have experienced more dramatic population losses than actually occurred. Chief among them is Detroit, a city that would have shrunk by more than 220,000 people without the arrival of immigrants. Scranton, Pennsylvania, a city that lost roughly 2,400 people between 2000 and 2015, would have seen a population decline of more than 18,000. Dayton, Ohio, would have seen a decline of more than 17,000.

*The foreign-born population grew by 1.5M people, accounting for half of the overall increase during this period.*

Even in cities with growing populations, it is clear that immigrants helped drive this success. In all of the top metros where population increased, immigrants contributed to more than 20 percent of their overall population growth. For instance, in Philadelphia, the foreign-born population rose by almost 250,000 people. That meant that 62.2 percent of the metro area’s population growth can be explained directly by the arrival of immigrants. A similar pattern holds for Rochester, New York, where 71.2 percent of the metro’s population growth can be attributed to the arrival of more foreign-born residents.

FIGURE 4: POPULATION CHANGE IN TOP 25 GREAT LAKES METROS, 2000-2015



*Detroit would have shrunk by more than **220,000** people without the arrival of immigrants.*

Note: For full population figures, see Data Appendix.

Our analysis also found that immigrant residents have helped to offset decline in more rural communities. The rural portion of the Great Lakes region, or the area not included in any metro area, experienced a 1.2 percent decline in overall population from 2000 to 2015. Without the arrival of immigrants, the number of residents there would have fallen by 1.5 percent, or at least 34,000 more people. (See Figure 5.)

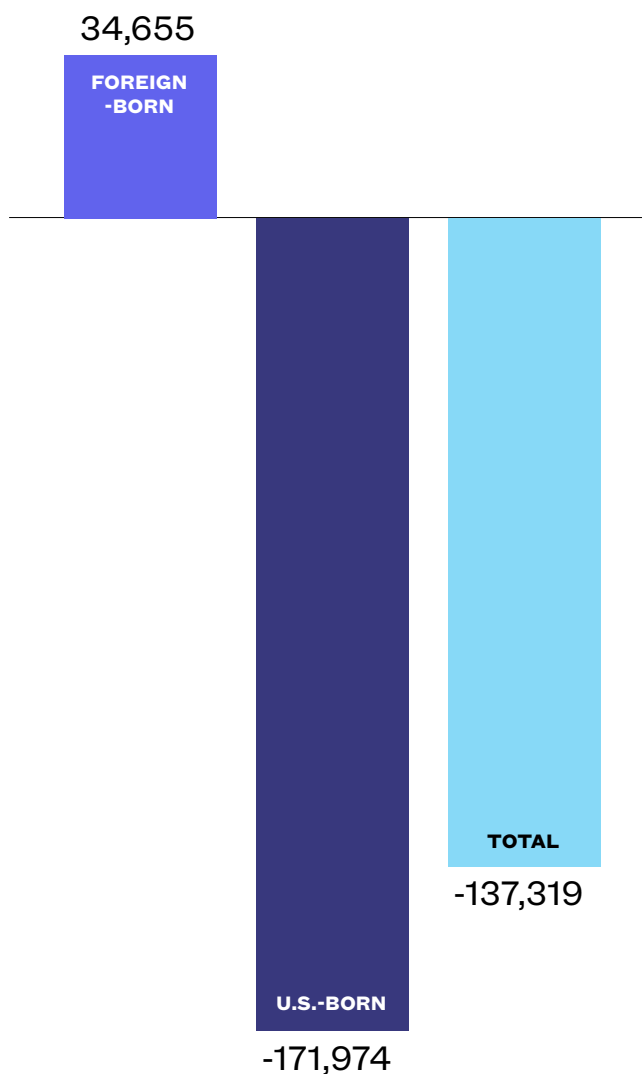
*Without immigrants, the number of residents in the rural areas of the Great Lakes region would have fallen by at least **34,000** more people.*

Although the Great Lakes region still struggles with population decline, it is worth noting that the arrival of immigrants in recent years also likely played some role attracting or at least retaining U.S.-born residents. A 2013 report from New American Economy found that the arrival of immigrants in a community leads to greater demand for goods and services, helping to sustain local businesses, particularly service-oriented businesses like restaurants, hair salons, and grocery stores dependent upon customers. More residents can also give employers ready access to specialized workers and bolster sagging housing values. As a result, our previous study has found that for every 1,000 immigrants moving to a county, 270 U.S.-born people are drawn there in the two decades that follow.<sup>6</sup> Based on that multiplier, we estimate that

the growth in the immigrant population in the Great Lakes region between 2000 and 2015 attracted almost 417,000 U.S.-born residents to the region as well.

FIGURE 5: HOW IMMIGRANTS LESSENERED THE BLOW OF POPULATION DECLINE IN MORE RURAL COMMUNITIES IN THE GREAT LAKES REGION, 2000-2015

### Rural Population Change 2000-2015



PART II

# Demographic Challenges

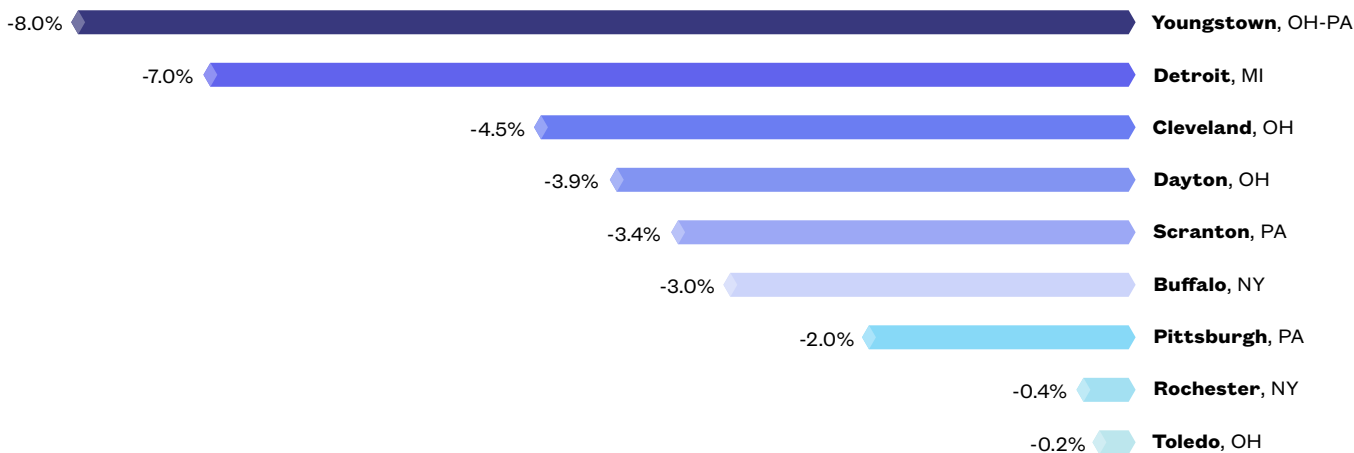
The declining population in the Great Lakes region represents a major challenge to the area’s economic growth. But examining the sheer number of residents in individual cities only tells part of the story. To truly understand why immigrants are so important to the region, it is also useful to look at the demographic profile of the immigrants who have come to call the Great Lakes region home.

In recent years, the country as a whole has faced a host of demographic challenges due to the rapid aging of the baby boomer population. Nationwide, baby boomers are retiring and leaving the workforce at the rate of 10,000 people per day.<sup>7</sup> While the United States was home to 43.7 million adults ages 65 and above in 2012, that figure is projected to almost double by 2050, reaching 83.7 million.<sup>8</sup>

In the Great Lakes region, however, these aging challenges are particularly pronounced. The U.S.-born elderly population, or those ages 65 and above, increased by 21.2 percent from 2000 to 2015, going from 9 million to 11 million. More troubling, the number of U.S.-born working-age adults in the region experienced tepid growth, with the size of that population rising by just 1.9 percent during the same period. In some areas, the problem is even more acute. Among the top 25 metros in the region, nine experienced a decrease in their U.S.-born working-class population between 2000 and 2015. (See Figure 6.)

In this environment, the foreign-born population is uniquely positioned to help. Immigrants in the region are far more likely to be of prime working age than the U.S.-born: In 2015, 70.2 percent of immigrants were

FIGURE 6: METROPOLITAN AREAS IN THE GREAT LAKES REGION THAT EXPERIENCED A DECLINE IN THE NUMBER OF U.S.-BORN WORKING-AGE RESIDENTS, 2000 TO 2015





in that age group, compared with 51.1 percent of the U.S.-born population. Despite their small share of the overall population, immigrants drove two-thirds of the growth in the region’s working-age population between 2000 and 2015. By participating in the labor force, immigrants generate tax revenues that are valuable to states struggling with rising government spending on healthcare and other social assistance for seniors. An influx of working-age immigrants also helps the region fill in workforce gaps that develop as the baby boomers retire.

FIGURE 7: AGE BREAKDOWN OF THE GREAT LAKES REGION POPULATION, 2015

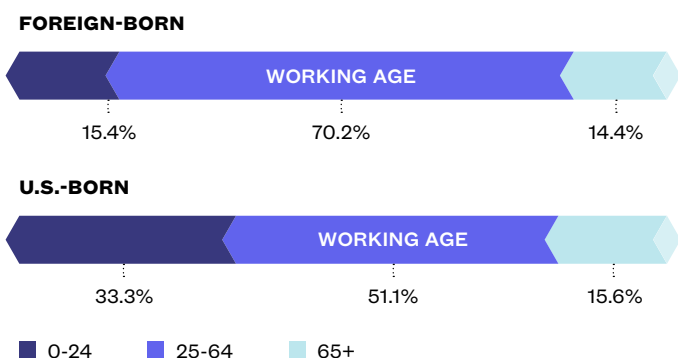
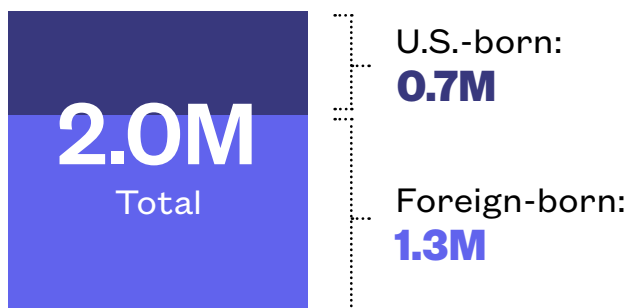


FIGURE 8: IMMIGRANTS MADE UP TWO-THIRDS OF THE GROWTH IN PRIME-AGED POPULATION IN THE GREAT LAKES REGION, 2000-2015

## Prime-Aged Population Growth 2000-2015

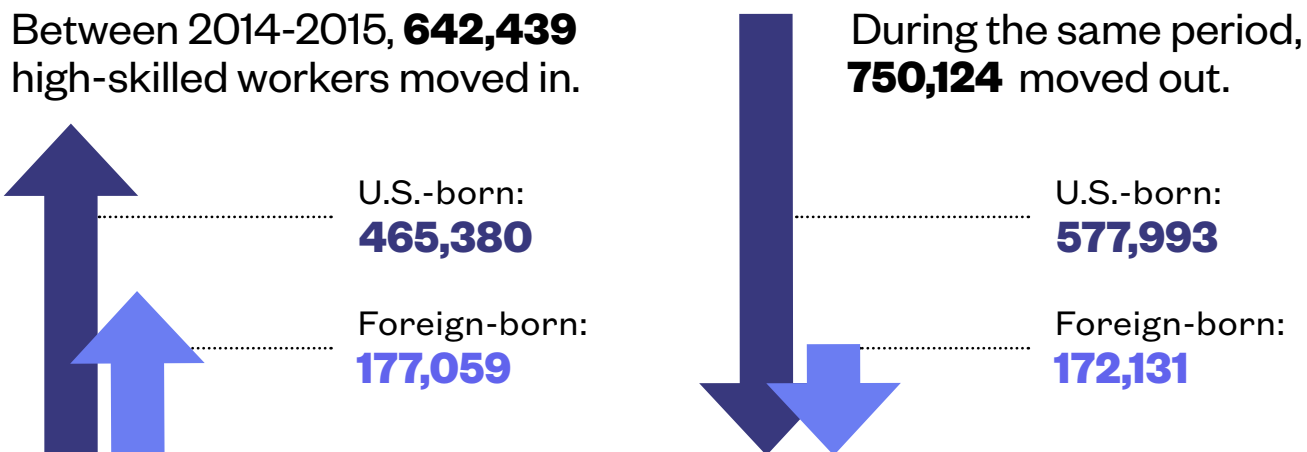


Immigrants are also useful to the Great Lakes region—and its employers—because of their educational levels. In 2015, 29.2 percent of the region’s U.S.-born residents ages 25 and older held at least a bachelor’s degree. What’s more, just 10.8 percent had a graduate degree. This was in sharp contrast with foreign-born residents. In 2015, 35.3 percent of all immigrants ages 25 and older in the region had at least a bachelor’s degree. A full 17 percent had completed a master’s or PhD program.

In recent years, the foreign-born population in the region has become considerably more educated. Between 2010 and 2015, more than half of the net growth in the working-age immigrant population came from those with a bachelor’s degree or higher. In some metro areas, this phenomenon was particularly pronounced. Take Dayton, Ohio, a community that has made attracting skilled immigrants a key part of its public policy in the years since it launched its Welcome Dayton initiative in 2011. In the Dayton metro area, almost 85 percent of the growth in the immigrant population, ages 25 and above, that occurred between 2010 and 2015 was attributed to high-skilled immigrants. In three other metro areas—including Cincinnati as well as Rochester and Buffalo in upstate New York—97 percent or more of the net increase in working-age adult immigration can be explained by the arrival of the highly skilled.

On their own, these trends are impressive, but they gain even more resonance when we consider how they fit into another major problem facing the area: The loss of college-educated residents, a phenomenon known as brain drain. As young people move out, they often take with them the talent that is desperately needed to revive the regional economy. Between 2014 and 2015 alone, the Great Lakes region experienced a net loss of almost 113,000 U.S.-born residents with a bachelor’s degree or above. Immigration helped mitigate this brain drain, as more than 177,000 foreign-born college degree holders moved to the region, outnumbering the ones moving out and leading to a net gain of close to 5,000 high-skilled residents for the region overall. (See Figure 9.)

FIGURE 9: MIGRATION OF HIGH-SKILLED RESIDENTS, 2014-2015



*Between 2014 and 2015, the region lost almost **74,000** U.S.-born college-educated millennials but gained more than **18,000** foreign-born.*

A similar pattern of brain drain occurred among highly educated millennials, those ages 22 to 34, a group particularly important to the area’s long term competitiveness and growth. Between 2014 and 2015, the region lost close to 74,000 U.S.-born college-educated millennials. At the same time, however, it also gained more than 18,000 foreign-born millennials with college degrees. Among the more than 100,000 college-

educated immigrant millennials who moved into the region, 29.1 percent were graduate students pursuing advanced degrees and close to one out of every four were Science, Technology, Engineering, or Math-related (STEM) workers replenishing the high-skilled labor force. Given that immigrants have been found to earn more patents than the U.S.-born, these skilled individuals help increase the level of innovation in the region. One past NAE study found that 74 percent of patents awarded to the University of Michigan and 71 percent of patents awarded to the University of Wisconsin System in 2011 had at least one foreign-born inventor.<sup>9</sup>

While high-skilled foreign-born individuals have helped stem brain drain in the region, many local policymakers have realized they could see even more economic benefits if a larger share of the region’s many international students remained in the country after graduation. The Global Talent Retention Initiative of Michigan, a program of Global Detroit, for instance, has created a registry of employers willing to hire immigrants and international graduates. It also hosts semi-annual job fairs attracting more than 300 graduate STEM students and conducts other on-campus networking opportunities connecting international students directly to relevant employers with unmet talent needs.<sup>10</sup> In St. Louis, a city that has struggled

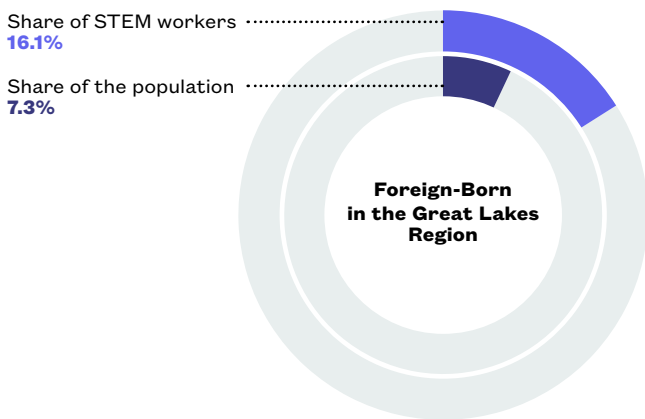
to fill some high-skilled jobs in recent years, a similar program was created to educate international students in interviewing techniques and aide employers trying to navigate the country’s byzantine immigration system on behalf of new hires.<sup>11</sup>

The foreign-born population has helped the region develop a workforce with much-needed skills in STEM. As our economy evolves to be more technology driven, such skills are incredibly important to employers. In the Great Lakes region, however, they are in particularly short supply. Past NAE research has found that in 2015, 21 jobs were advertised online in Indiana for every one unemployed STEM worker in the state.<sup>12</sup> In Michigan,

19.1 STEM jobs were advertised for each unemployed worker. In no state in the region was the ratio of STEM jobs to unemployed workers less than 11:1.

In this environment, immigrants have emerged as a crucial source of STEM talent. In 2015, they made up roughly one out of every six STEM workers in the region, despite making up 7.3 percent of the population overall. In the region’s colleges and universities, they also made up a large share of students graduating with advanced STEM degrees. In the 2015-2016 school year, international students earned 41.2 percent of graduate-level STEM degrees at the region’s most research-intensive universities.

FIGURE 10: THE OUTSIZE ROLE IMMIGRANTS PLAY AS STEM WORKERS IN THE GREAT LAKES REGION, 2015



*In 2015, immigrants made up roughly one out of every six STEM workers in the region.*

PART III

# Manufacturing

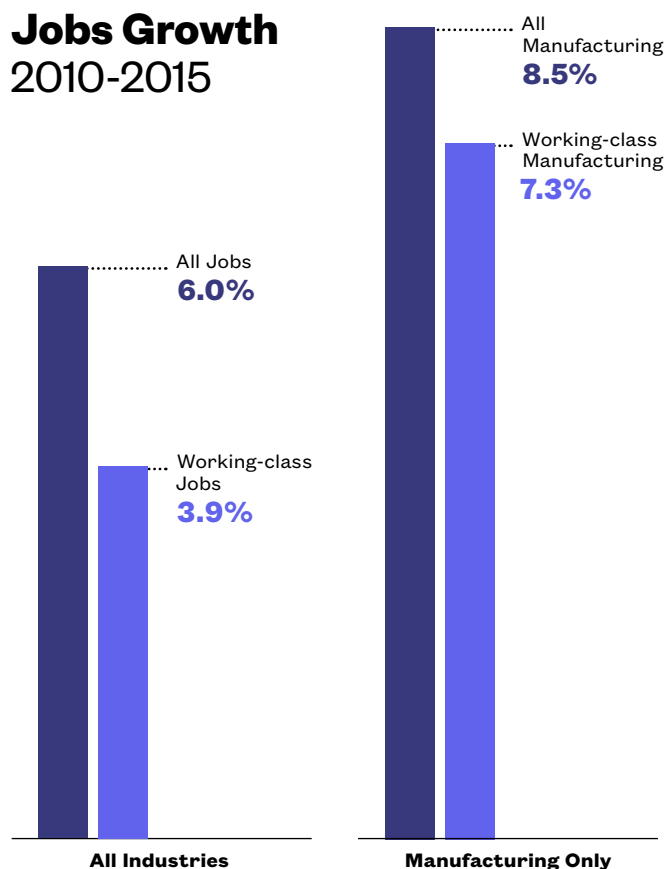
The rise and the fall of manufacturing has greatly shaped the Great Lakes economy as it is today. As mentioned previously, manufacturing employment began declining in the Great Lakes region in the 1970s, driven largely by increasing automation and rising competition from other regions—both domestic and overseas—with cheaper labor costs. The hemorrhaging of jobs continued into the 2000s.<sup>13</sup> Between 2000 and 2010, the Great Lakes region lost almost 1.6 million manufacturing jobs. The bulk of that economic blow fell on workers without bachelor’s degrees: All but 18,000 of the jobs lost during that period were positions that were once filled by working-class individuals.

In more recent years, however, the manufacturing industry has shown signs of a strong comeback. After bottoming out in the Great Recession, the number of people employed in the region’s manufacturing industry actually increased between 2010 and 2015, rising by more than 403,000 workers. This outpaced the region’s broader economic growth. While the number of jobs in the region overall increased by 6.6 percent, jobs in manufacturing grew by 8.5 percent. (See Figure 11.)

*Employed manufacturing workers rose by more than **403,000** between 2010 and 2015.*

The recent trend has brought at least some measure of relief to the large population of displaced former factory workers. Between 2010 and 2015, the unemployment rate among working-class individuals whose last job was in manufacturing fell from 12.9 to 4.8 percent. This was during a period when more than 250,000 working-class manufacturing jobs were created in the region, the vast majority of which, or 92.9 percent, went to workers who were U.S.-born.

FIGURE 11: MANUFACTURING AS A JOB GENERATOR IN THE GREAT LAKES REGION, 2010-2015



CASE STUDY

## An Economy Transforming: **STEM and Main Street in Akron, Ohio**



**L**ike many cities in the Great Lakes region, the economy of Akron, Ohio, rose and fell with the U.S. auto industry. In the 1950s, the city was known as “The Rubber Capital of the World,” due to its role providing tires to U.S. and foreign automakers. Four of the country’s five largest tire suppliers—B.F. Goodrich, Firestone, General Tire, and Goodyear—all were based in the northeastern Ohio city. At its height, the rubber industry supplied jobs to almost 60,000 local workers.<sup>14</sup>

But the tide began to change in the 1980s. Goodrich, Firestone, and General Tire all closed their factories in Akron, leaving behind thousands of acres of abandoned industrial space. Between 1980 and 1990, the metro area’s economic output fell by 38 percent.<sup>15</sup> Just 16,000 people were still employed in the rubber industry by 1990.<sup>16</sup>

As the city searched for new ways to reinvigorate and modernize its economy, one transformative figure emerged: Luis Proenza. A Mexican immigrant, Proenza served as president of the University of Akron from 1999 to 2014.

Like many university presidents, Proenza aimed to draw talent and funding to campus. But he also strongly believed that a university should capitalize on its expertise to drive economic growth for the region it serves—something he came to call the Akron Model.<sup>17</sup> He expanded campus buildings into town, created institutions tasked with linking university research with the needs of industry, and recruited business executives to help.<sup>18</sup> Proenza is now credited with helping to cement Akron’s standing as a world leader in polymer research, a move that created thousands of local jobs.<sup>19</sup>

Polymers are long-chained molecules that, as Proenza explains, “make up virtually everything we know and value, including plastics, rubber, elastomers, coatings, and most of ourselves.”<sup>20</sup> Today, he says, more than 1,800 polymer companies operate in northeast Ohio. “There’s been a huge proliferation of small, medium, and large polymer companies in our area,” he says, “making Ohio the largest employer of polymer-related products in the country, and maybe the world.”

The success of Akron's polymers industry has not only benefitted high-skilled workers, but the U.S.-born working-class population in the metro area as well. Between 2010 and 2015, the number of working-class jobs in Akron's advanced manufacturing industry—the sector that includes most polymer firms—swelled by 17.3 percent. This was more than three times faster than the growth in overall working-class employment in the area during that period. Almost two out of every three of the new working-class jobs in advanced manufacturing were filled by U.S.-born workers.

Advanced manufacturing also proved to be a promising source of wage generation for Akron's working-class. The real wages of U.S.-born workers in the sector with less than a bachelor's degree grew by 6.3 percent between 2010 and 2015 alone.

While Proenza obviously built the polymers industry, many Akron business leaders credit the broader foreign-born population with helping to sustain it. The modern polymers industry is driven largely by high-tech innovations, making it dependent on the existence of researchers skilled in science, technology, engineering, and math, or STEM fields. Here foreign-born experts play an outsized role. In the Akron metro area, immigrants made up just 5.4 percent of the population in 2015, but 10.9 percent of the area's STEM workers that year. And at the University of Akron, 56 percent of all students earning Master's or PhD degrees in STEM fields in 2016 were international students in the country on temporary visas. Given this, it is little surprise that numerous local startups created to test and market medical interventions using polymers derive from the innovations of immigrants. The innovations include a coating that prevents scar tissue from forming over arterial stents (already placed in more than six million patients); a skin-like glue to suture wounds; a flexible screw for use in spinal surgery; and a cancer-fighting drug that can be delivered directly from a prosthetic breast for targeted therapy.<sup>21</sup>

Foreign-born entrepreneurs have also been behind several promising local polymer firms. Akron Polymer Systems, a company that makes distortion-free coatings

for high-definition televisions and instrument panels, was co-founded by an immigrant, as was Akron Ascent Technologies, a firm that has developed an affordable, gecko-like dry adhesive. Adhesive behemoth Velcro has invested in the latter firm, which plans to bring its product to market later this year.<sup>22</sup>

Beyond polymers, immigrant entrepreneurs have also played a role helping Akron with another one of its enduring problems: widespread vacancies downtown. Large numbers of Bhutanese refugees began arriving in the city in 2007. In North Hill, an old neighborhood on the city's northeast side, these refugees have opened more than two dozen groceries, shops, and restaurants, says Jason Segedy, Akron's director of planning and urban development.

The immigrant-fueled revitalization continues a pattern that began during World War I, when new Americans from Italy and, later, Poland moved into the neighborhood. But as immigration rates dropped and people moved to the suburbs, the neighborhood fell into decline. By the turn of the century, housing vacancy rates had climbed to as high as 15 percent, says Segedy. "The neighborhood was looking fairly tired and suffering some blight," he says. Now, thanks to a new wave of foreigners vacancy rates have dropped to two percent and the neighborhood exudes energy. "The perception of North Hill has really picked up," Segedy says. "It's viewed now as an up-and-coming, more vibrant, welcoming place."

One new North Hill business owner is Naresh Subba, a Bhutanese refugee who opened a grocery store with his brothers in 2011. He employs seven people, and added three U.S.-born high school students this summer as part of a county jobs-skills program for low-income teenagers. He shares the neighborhood with a Bhutanese jewelry store, a Nepalese mini bazaar, a Thai market, and many more.

They do far more than merely make the neighborhood more livable, Subba says. Main Street businesses create local jobs, boost city tax revenues, and prop up housing prices. Indeed, the North Hill neighborhood now has one of the fastest-growing housing markets in the city.<sup>23</sup>



Workers in the manufacturing industry also saw meaningful wage gains. The average wage of U.S.-born working-class manufacturing workers rose by 2.3 percent between 2010 and 2015. Although that sounds relatively small, it is almost five times faster than the wage increase experienced by the U.S.-born working-class population in the region overall during that same period.

These promising trends were repeated in many metropolitan areas. Seventeen of the top 25 metros in the region saw growth in the number of U.S.-born working-class individuals working in manufacturing between 2010 and 2015. Albany, New York, took the lead, with a 31.3 percent increase in U.S.-born working-class employment in manufacturing, while Louisville, Kentucky, experienced a 27.5 percent jump in the number of positions. Long known as a national leader in furniture design and manufacturing, as well as the assembly of automotive parts, employers in Grand Rapids, Michigan, have expanded into a variety of other manufacturing subsectors in recent years, such as aerospace.<sup>24</sup> This diversified growth resulted in the

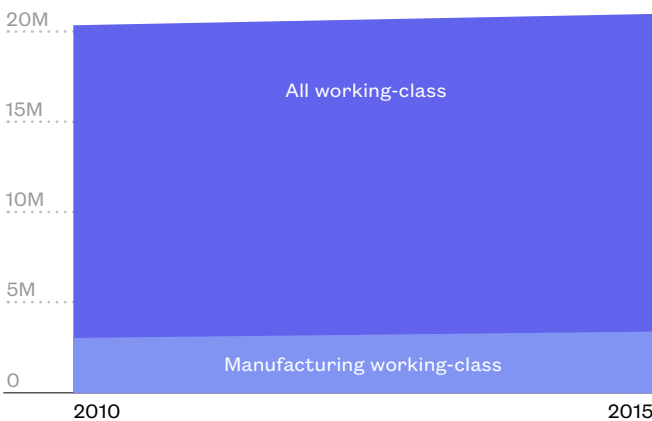
number of jobs in manufacturing held by the U.S.-born working-class rising by 29.1 percent in Grand Rapids between 2010 and 2015 alone.

*Average wage of U.S.-born working-class employees rose almost **five times faster** in manufacturing than overall.*

FIGURE 12: CHANGE IN EMPLOYMENT AND AVERAGE WAGE FOR U.S.-BORN WORKING-CLASS, 2010-2015

### Jobs Growth

Industry	2010	2015	Growth
<b>All working-class</b>	20,009,181	20,694,245	<b>3.4%</b>
<b>Manufacturing working-class</b>	3,141,692	3,378,800	<b>7.5%</b>



### Average Wage Growth

Industry	2010	2015	Growth
<b>All working-class</b>	\$33,677	\$33,854	<b>0.5%</b>
<b>Manufacturing working-class</b>	\$43,302	\$44,287	<b>2.3%</b>

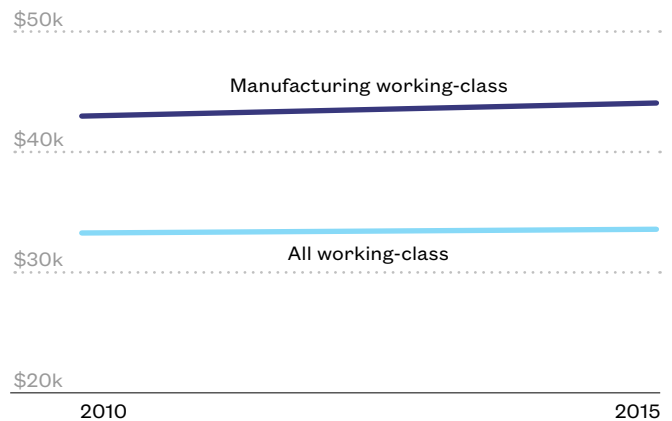
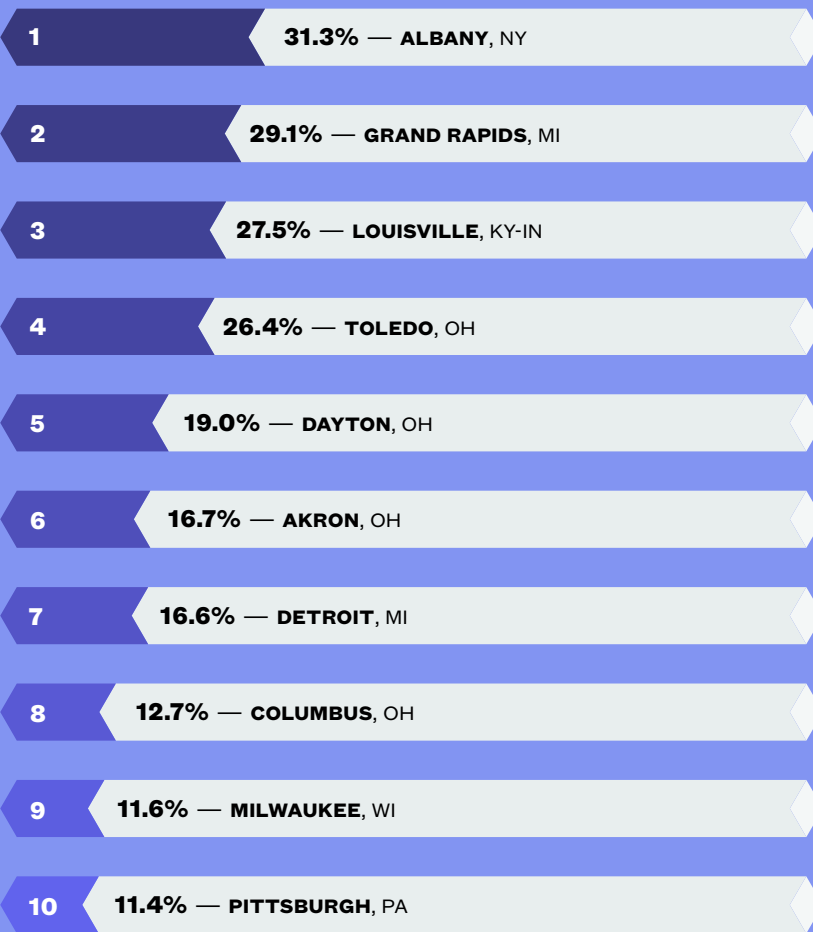


FIGURE 13: TOP TEN GREAT LAKES METROS WITH FASTEST GROWTH IN U.S.-BORN WORKING-CLASS EMPLOYMENT IN MANUFACTURING, 2010-2015

## U.S.-Born Working-Class Employment in Manufacturing Fastest Growing Metros



*Seventeen of the top 25 metros in the region saw growth in the number of U.S.-born working-class individuals working in manufacturing between 2010 and 2015.*

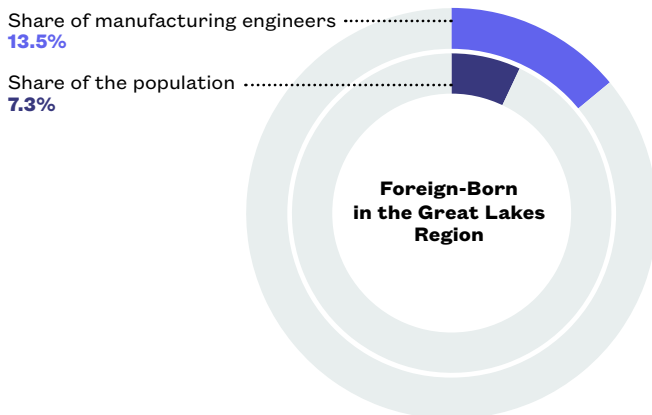
## Average Regional Growth



But how do immigrants play into this narrative? The resurgence of the region’s manufacturing sector is possible, in part, because immigrants often fill the jobs that allow companies in the region to remain competitive in a global economy. In an environment where many highly educated Americans leave the region, immigrants frequently step up to fill high-skilled manufacturing positions and provide companies with the talent they need to keep operations local. One out of every seven manufacturing engineers in the Great Lakes region was foreign-born in 2015—a share much larger than the percent of immigrants in the overall population. (See Figure 14.)

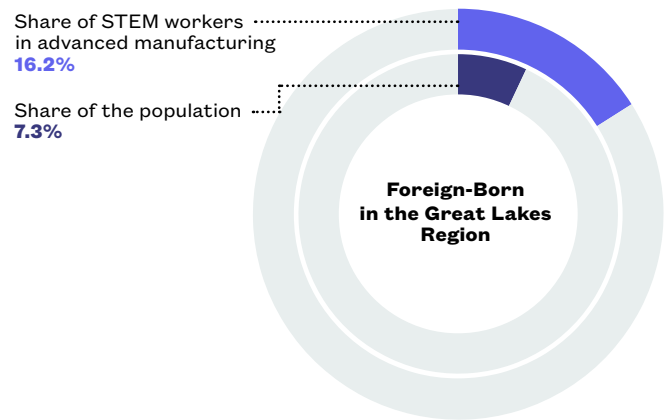
*One out of every seven manufacturing engineers in the Great Lakes region was foreign-born in 2015.*

**FIGURE 14: THE OUTSIZE ROLE IMMIGRANTS PLAY AS MANUFACTURING ENGINEERS IN THE GREAT LAKES REGION, 2015**



Moreover, roughly one out of every three immigrants in the manufacturing sector had at least a bachelor’s degree in 2015. The equivalent figure for the U.S.-born population in the region was just 25.8 percent.

**FIGURE 15: THE OUTSIZE ROLE IMMIGRANTS PLAY AS STEM WORKERS IN ADVANCED MANUFACTURING IN THE GREAT LAKES REGION, 2015**



The unique role played by immigrants in the manufacturing sector is particularly important because of the type of manufacturing firms that are taking root and expanding in the region now. Between 2010 and 2015, two-thirds of the regional growth in manufacturing employment came from the advanced manufacturing industry, or companies that invest a substantial portion of their budgets on research and development. Such firms, which are far different from more traditional manufacturers, typically require a pool of highly skilled workers to thrive.<sup>25</sup> Indeed, between 2000 and 2015, almost 150,000 of the new manufacturing jobs created in the region required workers to have at least a bachelor’s degree. If advanced manufacturing firms making products like medical devices and electronics were unable to find enough talent locally, they could easily base their operations elsewhere—taking thousands of working-class jobs on their assembly lines with them. In 2015, immigrants made up one out of every six STEM workers employed in advanced manufacturing in the region.

This growth in the advanced manufacturing industry has been a lifeline for large numbers of people in the working-class as well. By 2015, almost 1.7 million working-class, U.S.-born individuals held jobs in advanced manufacturing. That figure has been steadily rising: Between 2010 and 2015, the number of working-class jobs in advanced manufacturing rose by 9.6 percent. Of the more than 160,000 new jobs created during that period for workers with less than a bachelor's degree, more than nine out of every 10 were filled by workers born in the United States.

Although much of our research focus was on the role foreign-born workers play filling high-skilled labor gaps in the manufacturing industry, it is important to note that immigrants play an important role at the other end of the skills spectrum as well. Although the vast majority of jobs created for the working-class in manufacturing have gone to U.S.-born workers, as we discussed above, many employers turn to foreign-born workers to fill jobs that often hold less appeal for the U.S.-born. One prime example is in the meatpacking industry, a lesser known subset of the manufacturing industry, which can involve notoriously physical and bloody work. In 2015, foreign-born workers made up 30.7 percent of workers in the animal slaughtering and

## SPOTLIGHT ON

# Robert Henning

## Computer Numerical Control Machinist at Pioneer Steel



One beneficiary of the advanced manufacturing economy—and its critical need for workers—is Robert Henning, an industrial spray painter from Michigan who easily found work after retraining in middle age.

Henning had been having trouble getting a job, despite decades of experience at manufacturers like Milwaukee Sign Company and office-furniture giant Steelcase, both of which experienced employee reorganizations. He was 53, a high-school dropout, and had been unemployed for years due to complications following a kidney transplant. Plus, plenty of young, healthy workers were willing to paint for only \$12 per hour, significantly less than the \$20 per hour he'd last earned.

Then he heard about a retraining program at Grand Rapids Community College. "I felt healthy and I felt I had skills and I wanted to contribute," Henning says. So, he began a long process to become eligible for the program, first earning his GED and then proving he had valuable workplace skills by passing an assessment known as the ACT WorkKeys. Then he applied and gained admission. Funded by the Michigan Coalition for Advanced Manufacturing, the full-time, one-semester course taught him the algebra, computing, and machining skills needed for a career in Computer Numerical Control (CNC) Machining, a job with a projected growth rate of 18.9 percent from 2014 to 2024.<sup>26</sup> Henning had his pick of several jobs before even graduating. "I was really surprised," he says.

Henning now works as a CNC Machinist at Pioneer Steel, where he operates precision automated machinery that makes die sets for automotive manufacturers. He's still in training, but expects to be earning \$18 to \$22 per hour within one or two years with good benefits and ongoing room for growth.

"Every day I learn more," he says. "I like coming to work." For the first time in years, he feels secure. "I feel I have marketable skills and I can possibly not worry about retirement as much," he says. "I feel very fortunate. I have a second chance."

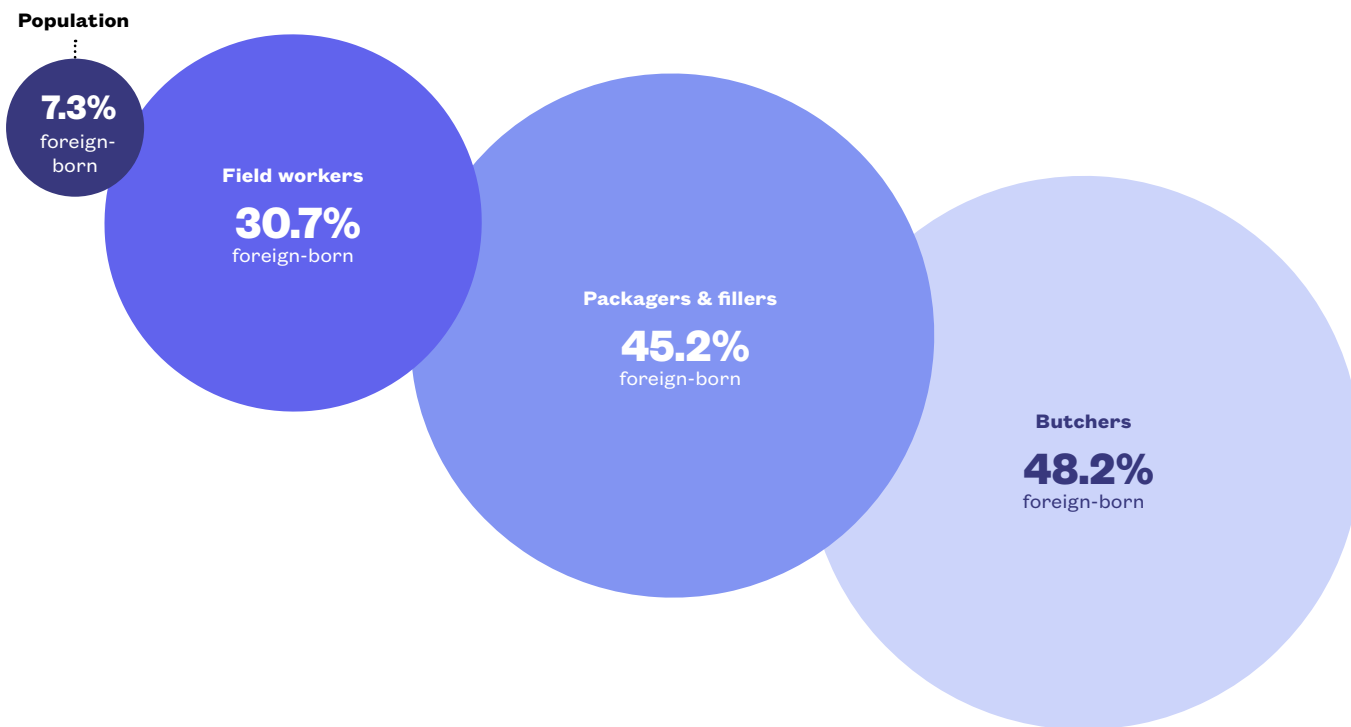
processing industry, despite making up just 7.3 percent of the region’s population overall. In some of the most labor-intensive positions within that industry, they played a particularly outsized role: 48.2 percent of all butchers and meat cutters in the region are foreign-born, as are 45.2 percent of those with packaging and filling jobs, the ones who take raw meat and prepare it for shipment and sale.

Brittany Hibma, a career counselor in the Minneapolis-St. Paul metro area, has seen many of the large employers in her area—Amazon, SkyChefs, and JENNIE-O Turkey, among them—come to rely on one particular type of less-skilled manufacturing worker: The thousands of refugees who have settled in the area in recent years. Having come from countries where many had few opportunities for education or lives disrupted by turmoil, “the refugees we work with are incredibly determined to do a good job, and to become

a valuable part of our society and community,” Hibma explains. Eager to get their foot in the door at a U.S. employer, many of her clients have taken on jobs that firms would have struggled to fill otherwise. These can include meatpacking jobs, janitorial work, or manufacturing jobs on nights or weekends.

Hibma says that many refugees tend to stay in their positions long term. This steady workforce has allowed a whole host of employers, including IWCO Direct, a leading direct mail operator, to remain in the area—a decision that has implications for many working-class Americans, from the truckers who transport their products to the warehouse workers who help store it. Hibma says it is hard to overstate how important refugees have become. “I can think of several companies in our area,” Hibma says, “that would probably struggle to keep their doors open without them.”

FIGURE 16: THE OUTSIZE ROLE IMMIGRANTS PLAY IN ANIMAL SLAUGHTERING AND PROCESSING IN THE GREAT LAKES REGION, 2015



PART IV

# Healthcare

**W**hile manufacturing is experiencing somewhat of a resurgence in the Great Lakes region, the local economy is much different than it once was, with several other industries emerging as the leading drivers of job growth. The most prominent example among them is the region’s \$255-billion healthcare sector. Between 2000 and 2015, more than four out of every five new jobs created in the Great Lakes region, or 80.3 percent, were healthcare positions. That growth means that healthcare has now replaced manufacturing as the leading employer in the Great Lakes region, employing 5.5 million people in 2015.

FIGURE 17: HEALTHCARE EMPLOYS MORE WORKERS IN THE GREAT LAKES REGION THAN MANUFACTURING, 2015



As many cities across the region struggled with deindustrialization in recent decades, they began to expand their economy beyond their manufacturing base; now, with a booming healthcare sector, their efforts are paying off. In Figure 18, we list the metros in the region with the fastest-growing healthcare industries. In Cleveland, healthcare employment increased by 28.4 percent between 2000 and 2015, led by the expansion of the world-renowned Cleveland Clinic. The University of Pittsburgh Medical Center (UPMC) has also embodied the current economic shift: It has replaced U.S. Steel as

Pittsburgh’s top employer and moved its headquarters to the iconic U.S. Steel Tower, the tallest building in the city.<sup>27</sup> In some areas, such as Columbus, Ohio and Harrisburg, Pennsylvania, increases in healthcare jobs have more than offset the declines in manufacturing employment that occurred between 2000 and 2015.

*Between 2000 and 2015, more than **four out of every five** new jobs created were healthcare positions.*

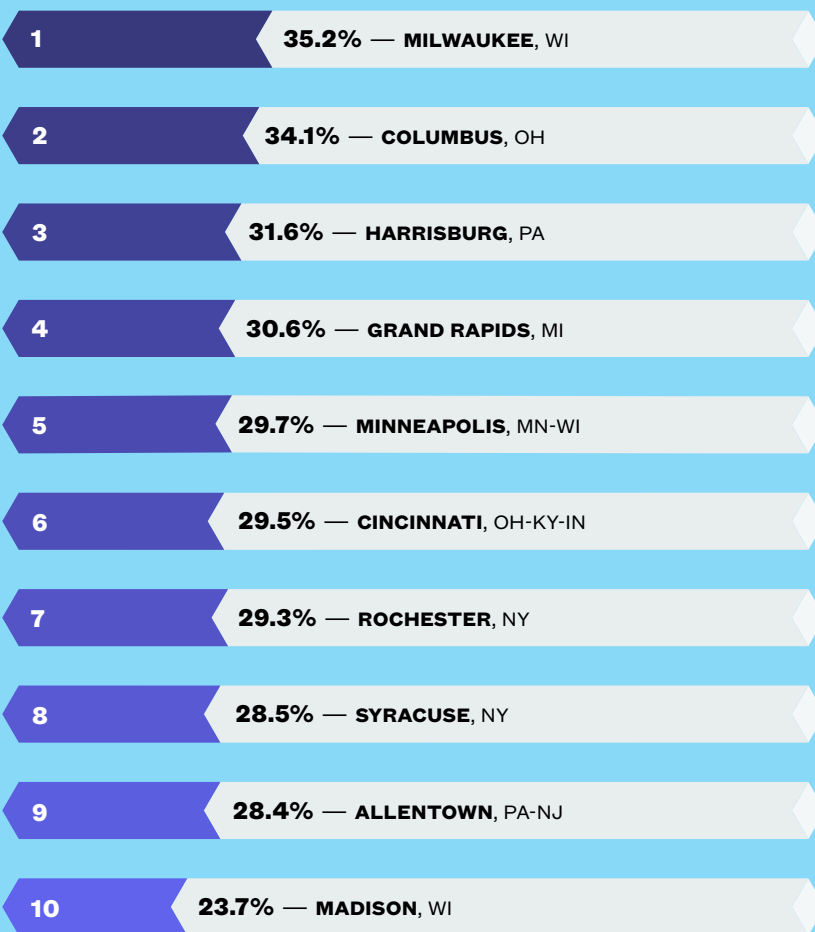
There are many factors—not all unique to the Great Lakes region—that have made healthcare such a powerful engine of economic development. Nationwide, healthcare demand is rising rapidly, due to the aging of the country’s 76 million baby boomers. What’s more, the rate of the population that is uninsured dropped from 17.1 percent to 10.9 percent between late 2003 and 2016, driving the demand for services up still further.<sup>28</sup> The good news is, with its extensive network of hospitals and educational institutions, the Great Lakes region is well positioned to meet this demand. The region as a whole added 1.4 million healthcare jobs from 2000 to 2015 alone.

This healthcare boom has been a blessing for the working-class, particularly those born in the United



FIGURE 18: TOP TEN GREAT LAKES METROS WITH FASTEST GROWTH IN U.S.-BORN WORKING-CLASS EMPLOYMENT IN HEALTHCARE, 2000-2015

## U.S.-Born Working-Class Healthcare Employment Fastest Growing Metros



## Average Regional Growth



*In some areas, such as Columbus, Ohio, and Harrisburg, Pennsylvania, increases in healthcare jobs have **more than offset the declines** in manufacturing employment that occurred between 2000 and 2015.*

## SPOTLIGHT ON

# Kevin Kuczma

## Paramedic



Kevin Kuczma, a Pittsburgh native, is one person who has taken advantage of the surge in job creation in the healthcare industry in recent years. In 2012, at age 38, Kuczma found himself downsized out of a job for the third time since he joined the workforce just after high school. After his first layoff, Kuczma spent eight years at a manufacturer of mass transit vehicles — working his way up from warehouse driver to manager — before his employer opted to move production facilities overseas to better compete for foreign buyers. Kuczma, classified by the state as “displaced due to foreign competition,” had to start over again at the bottom at another manufacturer. After seven years, that company opted to combine

production facilities with another manufacturer, displacing him once again.

But Kuczma had an ace in the hole: After high school, he had spent several years working as an EMT (Emergency Medical Technician), a job that requires about four months of training. Now a friend who owned an ambulance company called him, desperate for EMTs. Kuczma took the job and, while working, spent 18 months studying full time at the Community College of Allegheny County to become a paramedic, a position that would allow him to provide more advanced levels of emergency care. It is a role currently in high demand: Just as an aging population puts stress on ambulatory services, paramedics themselves are retiring at a rapid rate. The United States is projected to add 58,500 paramedic jobs between 2014 and 2024, a 24 percent growth rate that’s much faster than the average for all jobs.<sup>29</sup>

Kuczma’s current hourly rate—between \$14.50 and \$16.50, excluding overtime—is comparable to the rate he made as a warehouse manager. But thanks to the nature of the job, he takes home twice the pay. Paramedics work 16- and 24-hour shifts that typically include waiting, and sleeping, between runs. “My job satisfaction is high,” he says. “I really enjoy the work I do.”

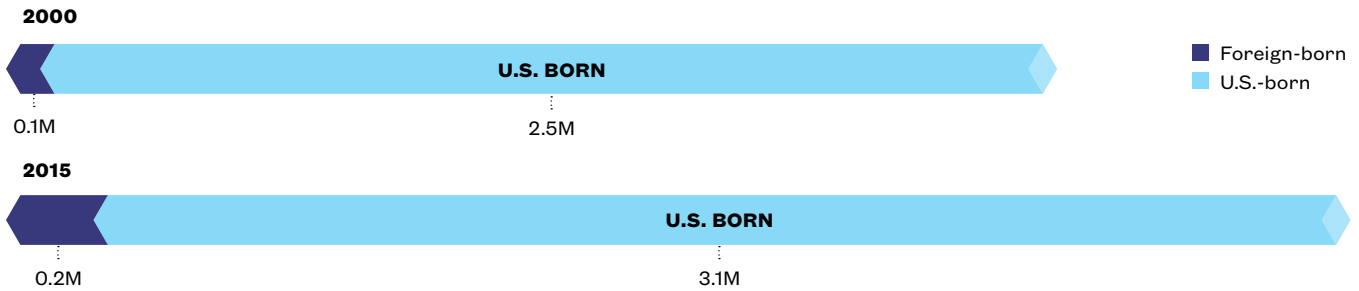
And, he says, the days of worrying about getting laid off are finally behind him. “The one thing about being a paramedic is you’re almost always able to find a job,” says Kuczma, now 43. “Basically, you just say, ‘I’m a paramedic,’ and you get hired because demand is so high.”

States. In 2015, about two-thirds of all healthcare jobs in the region were held by workers with less than a bachelor’s degree. Those jobs, which included a range of positions such as some nursing aides, medical assistants, and medical receptionists, were overwhelmingly filled by U.S.-born workers: They occupied 93.5 percent of all less-skilled healthcare positions in 2015. (See Figure 19.)

The number of healthcare positions for workers with less than a bachelor’s degree in the Great Lakes region also continues to grow rapidly. Between 2000 and 2015, the region added more than 680,000 working-class healthcare jobs. Almost 84 percent of those positions—or almost 571,000 of them—were filled by workers born in America.

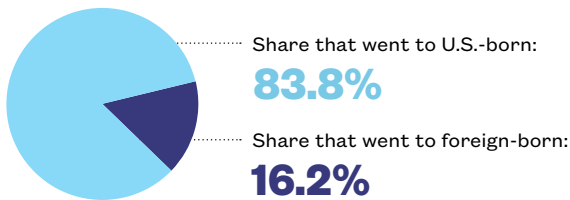
Despite the increase in the number of working-class people opting to pursue jobs in healthcare, the region is still facing a labor shortage. Previous research by NAE has found that in the healthcare sector, more open jobs were advertised online in 2014 than there were unemployed workers available to fill them. This trend held across every state in the Great Lakes region, from Wisconsin, where there were 9.3 healthcare jobs listed for every one unemployed health worker, to New York, where there were

FIGURE 19: THE GROWING NUMBER OF WORKING-CLASS HEALTHCARE JOBS IN THE GREAT LAKES REGION, 2000-2015



### Working-Class Healthcare Jobs Created 2000-2015

**681,277**



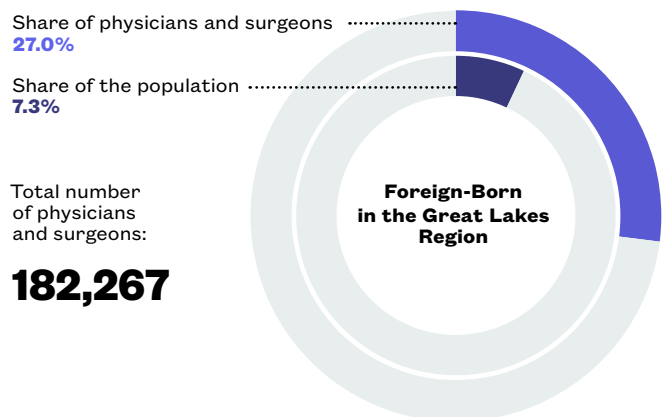
just 2.9.<sup>30</sup> Metropolitan areas have certainly not been immune from such labor challenges. In 2013, there were more than five online job postings for positions in Milwaukee and Minneapolis for every one unemployed health worker there, and more than 3.5 online job postings per worker in Cleveland and Detroit.

The level of labor challenge facing the region’s healthcare sector can be gleaned from recent job creation and wage trends in the industry. Between 2000 and 2015, the number of physicians and surgeons employed in the Great Lakes region increased by 43.9 percent. At the same time, the average wage of physicians and surgeons rose by 19.3 percent—the sort of steep jump that often indicates that employers are competing for a limited pool of talent. In this environment, foreign-born doctors, all of whom have years of medical training, often step in to fill persistent labor gaps. Despite representing just 7.3 percent of the

*The number of healthcare positions for working-class Americans continues to grow rapidly.*

region’s population, they made up more than one out of every four physicians and surgeons in the region in 2015.

FIGURE 20: THE OUTSIZE ROLE IMMIGRANTS PLAY AS PHYSICIANS AND SURGEONS IN THE GREAT LAKES REGION, 2015



CASE STUDY

## An Economy Transforming: Healthcare in Cleveland



In 2000, Cleveland’s economic picture seemed dim. For decades, materials manufacturing jobs had been undergoing a slow and steady exodus. The city’s population had also shrunk by almost half since its peak in 1950. As one local editorial put it, Ohio was “mired complacently in what has been labeled the old economy, characterized by production-line manufacturing.”<sup>31</sup>

In an effort to revitalize the city’s economy, a group of local leaders drafted a plan to build a \$200 million cluster of medical research facilities. It was an ambitious effort to take advantage of the research expertise that already existed at Case Western Reserve University, the Cleveland Clinic, and University Hospitals, a leading nonprofit healthcare system. But some feared it would not succeed. One noted economist warned that Cleveland would be entering the \$600 billion biotech industry too late to even “fill a piggybank.”<sup>32</sup>

It took less than a decade, however, to prove such economists wrong. Today, Cleveland is held up as a model of how a region can reinvent its economy for the 21st-century by innovating around a single industry. Biotech companies now choose to set up in Cleveland’s

1,600-acre Health-Tech Corridor to take advantage of the area’s medical research expertise and related manufacturing experience. And regional manufacturers that once focused on designing auto parts now produce medical parts instead—often with the help of former factory workers who have retrained at local community colleges.

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Cleveland is held up as a model of how a region can reinvent its economy for the 21st century by **innovating around a single industry.**

Such developments are having a meaningful impact on local job creation, particularly for the city’s working-class. In 2015, the biomedical sector—an industry that includes medical device manufacturing, pharmaceuticals, and research and development—

employed more than 12,000 people in the metro area. During a period when the overall employment of working-class residents in the Cleveland metro area declined, the number of working-class Americans with jobs in the broader healthcare sector also rose by 15.6 percent.

Many bioscience entrepreneurs who have come to the area say that immigrants have been a critical part of their success. Dr. Hiroyuki Fujita, a Japanese immigrant, founded a firm called Quality Electrodynamics (QED) in 2006, after earning a physics PhD from Case Western Reserve University. His company, which manufactures radiofrequency coils for magnetic resonance imaging (MRI) scanners, currently employs more than 160 people locally. Roughly 90 percent of QED's product is exported, creating valuable international business links for the city.

When Fujita formed the company, he recruited four of his colleagues — engineers and business professionals — to join him, most of whom were immigrants like himself. Today, about one fifth of Fujita's employees are immigrants in highly-skilled roles.

This highly skilled industry has created a wide variety of employment opportunities. In addition to the research scientists and engineers, about one third of QED's employees work on the production line. The production employees, an integral part of QED's success, are paid competitively with benefits. They receive on-the-job training in all aspects of production, everything from soldering and repairs to packaging and inventory.

The Cleveland metro area has also continued to see an expansion of more traditional segments of the healthcare industry. When it comes to jobs, the healthcare sector is one of the fastest-growing industries in Cleveland, and has overtaken manufacturing as the largest jobs provider in the metro area. Within the industry, hospitals loom large, providing roughly 40 percent of the metro area's healthcare jobs. Here immigrants once again play a huge role. Although foreign-born residents comprised just 5.7 percent of the population of metro Cleveland, they made up 30.1 percent of the area's practicing physicians in 2015.

Having a full staff of physicians and thriving hospital systems is good news for working-class Americans. For every doctor at the Cleveland Clinic, there are 18 employees supporting that individual, according to the clinic's former CEO Toby Cosgrove.<sup>33</sup> This includes everyone from technicians and aides to campus shuttle drivers and electricians, and doesn't even take into account the many more jobs that are created in other industries. When those doctors and drivers regularly spend money at a local coffee shop, for instance, more workers may be needed to serve them.

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## Having a full staff of physicians and thriving hospital systems is good news for working-class Americans.

The positive developments in the healthcare sector have contributed to a more optimistic mood in the area. Venture capital firms and other investors have put \$2.3 billion into biomedical startups in Northeast Ohio since 2003, and many expect the industry to continue expanding.<sup>34</sup> Although the city is still losing overall population, such declines have slowed dramatically.<sup>35</sup> And between 2000 and 2012, Cleveland's percentage gain of young college graduates—a demographic crucial to the region's growth—ranked the third largest in the nation, besting Silicon Valley and Portland, Oregon.<sup>36</sup>

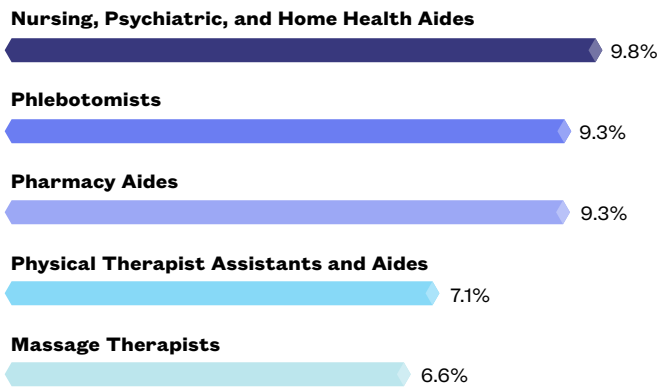
Fujita, the QED founder, says he has an enormous appreciation for the unique virtues of being based in Mayfield Village, a near suburb of Cleveland that is perfectly positioned in the Cleveland health-tech corridor. As QED has grown over the last decade, the company thrice moved to larger facilities. But Fujita never considered leaving Mayfield Village. "Cleveland is one of the meccas when it comes to the healthcare industry," he says. "The supply chain, the ecosystem, it's all here."

As the healthcare sector has expanded in recent years, it has also created some working-class jobs that have been more difficult for employers to fill. These jobs can include everything from home health aide positions, which can be physically challenging with relatively lower pay, as well as medical aides and technicians. Immigrants have helped fill some of these jobs. As nurses and home health aides, they provide care much needed by the region’s seniors. Immigrants also help ease the increasing shortage of psychiatrists, enhancing the productivity of the region’s workers. One recent NAE study, for instance, finds that each month, Pennsylvania alone has more than 163,000 days when its workers suffered from decreased productivity or missed days of work due to inadequate mental healthcare.<sup>37</sup> Figure 21 shows more healthcare support occupations in which immigrants have come to play a particularly a valuable role.

The healthcare sector is expected to be the fastest-expanding industry in the United States between 2014 and 2024, according to the Bureau of Labor Statistics.<sup>38</sup> For the Great Lakes region to maintain its current level of robust healthcare growth, it will need to both retrain displaced manufacturing workers like Kuczma and also rely on immigrants to meet the area’s real and persistent labor needs. With their talent and hard work, the more than 450,000 foreign-born workers employed in healthcare in the region are not only improving the quality of life of residents, but also helping the Great Lakes region build up one of its most promising engines of job growth as well.

FIGURE 21: TOP FIVE HEALTHCARE SUPPORT OCCUPATIONS FOR IMMIGRANTS IN THE GREAT LAKES REGION IN 2015

## Share of workers who are foreign-born:



*As the healthcare sector has expanded in recent years, some working-class jobs have been more difficult to fill. Immigrants have helped with some of these jobs.*



PART V

# Agriculture

The Great Lakes region’s deep agricultural roots are reflected by its millions of acres of farmland, as well as its history of producing well-known crops. Michigan has long held a leading role producing fresh fruits and vegetables, including apples, sugar beets, and blueberries.<sup>39</sup> Illinois and Indiana are the country’s top exporters of corns and soybeans. Wisconsin, also known as the Dairy State, is famed for its milk and cheese.<sup>40</sup> Overall, agriculture is a critical part of the economic landscape in the Great Lakes states, contributing at least \$25 billion to the region’s Gross Domestic Product (GDP) in 2015 alone.<sup>41</sup>

Sometimes overshadowed by other prominent industries in the Great Lakes region, agriculture has emerged in recent years an important source of employment for the working-class. In 2015, half of all agriculture workers in the region had less than a bachelor’s degree. Although foreign-born laborers make up a significant portion of these workers—a factor we discuss in detail later—U.S.-

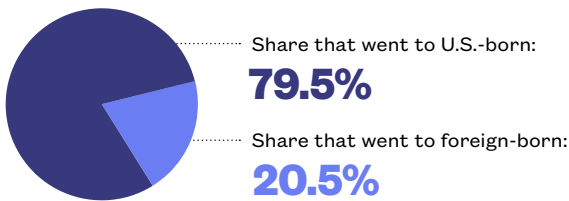
born workers are heavily represented as well. In 2015, almost four out of every five working-class agriculture workers in the region were born in the United States. (See Figure 22.) The sector also experienced slow but steady growth: The Great Lakes region gained 13,000 new U.S.-born working-class agriculture jobs between 2000 and 2015.

Not all of the new jobs for workers without a bachelor’s degree, however, hold appeal for U.S.-born workers. Most fresh fruits and vegetables require workers to pick them by hand during harvest seasons. On dairy farms, entry-level workers do other arduous tasks, including cleaning manure from barns, milking cows in the early morning hours, and overseeing the birthing of calves. Such farm jobs are often physically taxing and seasonal in nature, and employers say they frequently struggle to recruit U.S.-born workers to do them.<sup>42</sup> One previous NAE study found that, even during a time when unemployment stood high at 10.5 percent in North Carolina in 2011, only 268 U.S.-born residents applied for the 6,500 farm job openings, and merely seven stayed until the end of the season.<sup>43</sup> This is a pattern industry groups say is repeated elsewhere, including on fresh produce farms and dairy barns throughout the Midwest.

FIGURE 22: AGRICULTURE IS AN IMPORTANT SOURCE OF EMPLOYMENT FOR U.S.-BORN WORKING-CLASS IN THE GREAT LAKES REGION

## Working-class Jobs in Agriculture, 2015

195,595



*Employers frequently struggle to recruit U.S.-born workers for farm jobs.*

The challenge finding these workers to some degree is reflected in current wage trends. Between 2000 and 2015, the average wage of the region’s miscellaneous farm workers, the broad group that includes those who handpick produce in the fields, rose by 26.5 percent. That sharp of an increase was rare in the region during that time period, a possible indication that farms were competing for a limited and insufficient pool of workers. A shortage of farm laborers of this type has already been well documented nationwide.

In this environment, immigrants have played a critical role filling some of the most labor-intensive farm jobs. While just 7.3 percent of the region’s total population is foreign-born, such workers make up roughly one out of every four miscellaneous farm laborers in the crop production sector. They also make up more than one out of every three workers in animal production, the industry that includes dairy and livestock work. (See Figure 23.)

The willingness of immigrants to fill such labor-intensive jobs helps the industry succeed and create more opportunity for American workers. For instance, when the agriculture industry is thriving, farms often need more managers to oversee production—jobs often filled

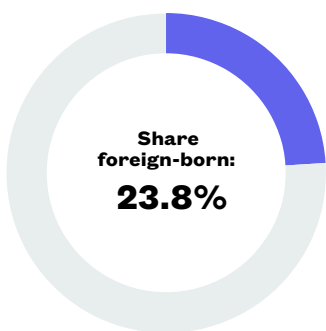
by the working-class. In 2015, the U.S.-born working-class made up two out of every three agricultural managers. Such positions were by many measures attractive: They paid 6.8 percent more than the average wage for the U.S.-born working-class in the region. They also are part of an expanding field. Between 2000 and 2015, the number of agricultural managers without bachelor’s degrees almost doubled, rising from roughly 9,500 positions to more than 18,000. A full 83.9 percent of these newly created jobs went to the U.S.-born.

Of course, the viability of the region’s farms and dairies is important not just to those who are directly employed at them, but to a variety of other workers as well. Nationally, it has been estimated that each on-farm job supports three additional jobs in related industries like transportation, manufacturing, and irrigation.<sup>44</sup> In recent years, such downstream industries have proved to be much-needed generators of jobs for the working-class. Between 2000 and 2015, U.S.-born working-class employment of drivers transporting agricultural products increased by 49.4 percent in the region. Among wholesalers of raw farm products, such employment jumped by 61.1 percent, while the food processing industry created almost 17,000 working-class jobs that

FIGURE 23: THE OUTSIZE ROLE IMMIGRANTS PLAY AS ENTRY-LEVEL FARM LABORERS IN THE GREAT LAKES REGION, 2015

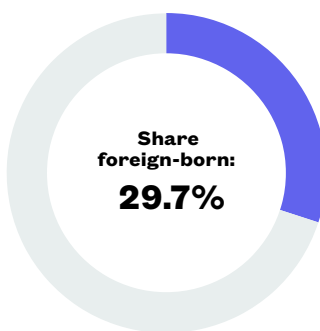
### Farm Workers in Crop Production, 2015

**59,961**



### Animal Production Workers, 2015

**56,997**



went to the U.S.-born population. Once again, the average wages of workers in all these roles were higher than the average working-class wage in the region overall.

Without enough entry-level farmworkers, the agriculture sector would likely have to cut back on its overall production, hurting employment in these farm-related sectors. Taking fresh produce as an example, one previous study by NAE found that the nationwide shortage of farmworkers that existed between 1998 and 2012 cost the country \$3.1 billion in missed agriculture revenues during that period and 41,000 non-farm jobs.<sup>45</sup>

**FIGURE 24: GROWTH IN U.S.-BORN WORKING-CLASS EMPLOYMENT IN FARM-RELATED FIELDS, 2000-2015**

### Drivers in Agriculture

49.4%↑

### Wholesalers in Raw Farm Products

61.1%↑

### New Jobs in Food Processing

16,586

SPOTLIGHT ON

# Laura Rettle

## Milk Parlour Manager at Vissers Dairy



Laura Rettle is one American worker who—to her surprise and joy—found her calling as an agricultural manager on a family farm. At age 38, Rettle had decided to return to the workforce after years as a stay-at-home mother to five children. She had a diploma from a vocational high school in rural Ohio, with a focus on interior design, and experience in retail, in food service, and on the packing line of a frozen-food manufacturing plant. A friend mentioned that Vissers Dairy, about three miles from her home in Hicksville, Ohio, was hiring. “I knew the Vissers were there,” Rettle says. “I just didn’t know that it was a facility that I could get a job at.”

When the owners, an immigrant family from Holland, saw that Rettle didn’t mind the smell of the holding pens, they hired her as a part-time milker, a job that involves prepping the cows and operating the milking machines. She earned the equivalent of her old manufacturing wage, and worked alongside people from Mexico and Puerto Rico. “I didn’t know what to expect before I even went into this job,” she says. “I just knew I didn’t want to get back in the factory.”

When, after one and a half years, Rettle told her employer she was looking for a full-time job, she received a welcome surprise. The couple asked if she’d like to work a full-time, better-paying job there, as milk parlor manager. Rettle grabbed it. Now she manages the labor, tends to any sick cows, takes cultures and assists veterinarians with vaccinations, troubleshoots mechanical issues, and generally keeps the facility running. She’s been in her new position one and a half years—and has no plans of leaving. “I don’t like my job,” she explains. “I love my job.”



## PART VI

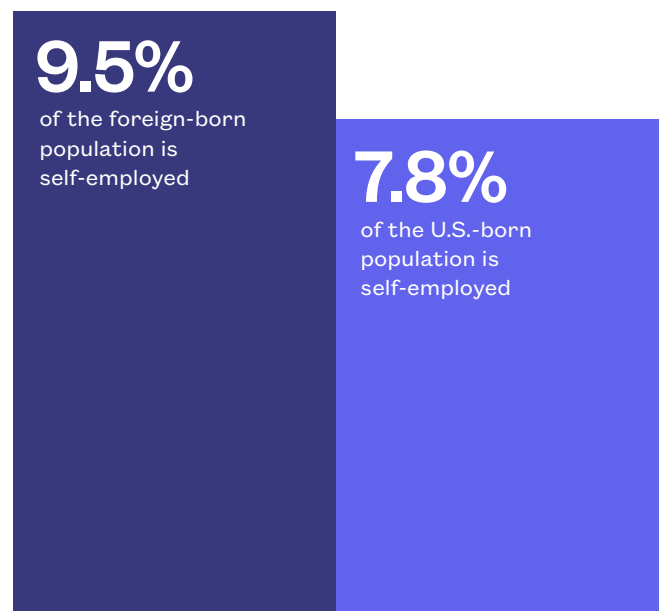
# Entrepreneurship

The Great Lakes region has a long tradition of immigrants moving in and building successful businesses from the ground up. As an immigrant from Scotland, Andrew Carnegie led innovations in steel production and founded the Carnegie Steel Company in Pittsburgh in 1892.<sup>46</sup> Coming from Poland, Maxwell Kohl started his first grocery store in Milwaukee in the 1920s, which later grew into Kohl's, the multi-billion-dollar retail chain.<sup>47</sup> Following the pattern NAE has previously documented for the country as a whole, more than 40 percent of Great Lakes companies on the 2016 Fortune 500 list had at least one founder who was either an immigrant or the child of immigrants.<sup>48</sup> In 2015, those firms generated \$1.3 trillion in revenue and employed more than 3.3 million employees globally.

While many Fortune 500 firms were founded decades ago, the pattern of heavy immigrant entrepreneurship continues in the region today. Foreign-born entrepreneurs have been particularly important to the region in recent years, as fewer U.S.-born residents opted to take the risk of starting their own businesses. In the Great Lakes region, the share of U.S.-born workers who were self-employed entrepreneurs decreased from 8.3 percent to 7.8 percent between 2000 and 2015. This is a troubling trend for the area's economy, given the critical role that young businesses play in job creation. One study found that young firms were responsible for almost all the net increase in employment in the country between 1977 and 2005.<sup>49</sup>

In recent years, immigrants in the Great Lakes region have emerged as a valuable counterweight to the slowing rates of entrepreneurship among the U.S.-born. In 2015, immigrants were more likely to be entrepreneurs than their U.S.-born counterparts. (See Figure 25.): That year 9.5 percent of the region's immigrants were entrepreneurs, compared to 7.8 percent

FIGURE 25: SHARE OF ENTREPRENEURS AMONG THE GREAT LAKES REGION OF FOREIGN-BORN AND U.S.-BORN POPULATIONS, 2015



*The share of U.S.-born workers who were self-employed decreased from 8.3% to 7.8% between 2000 and 2015.*

CASE STUDY

An Economy Transforming:

# Entrepreneurship in Detroit



**T**he legend of the Motor City began with some of America’s greatest entrepreneurs, including Henry Ford. By installing the first moving assembly line in auto factories, Ford made the mass production of cars a reality.<sup>50</sup> Detroit soon became an American engine of innovation, bringing prosperity to millions of its residents: The city had the highest median income among all major American cities in the 1950s.<sup>51</sup>

After the auto industry collapsed, however, Detroit suffered from decades of economic decline and population loss, hitting rock bottom when the city filed for bankruptcy in 2013. Even before then, however, policymakers were beginning to look to immigrants as a potential part of the solution. In 2010, several civic leaders launched Global Detroit, a nonprofit dedicated to attracting immigrants to the region. While the organization cited retaining international students and connecting immigrants to community support organizations among its goals, its core mission was aimed squarely at job creation: It planned to encourage

foreign-born entrepreneurs to start their businesses in Detroit.

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In 2010, several civic leaders launched **Global Detroit**, a nonprofit dedicated to attracting immigrants to the region.

Steve Tobocman, the Director of Global Detroit, says that he was pushed to action after seeing how some neighborhoods in the city had become “extremely distressed.” “After nearly two decades of working in those neighborhoods,” he explains, “I became convinced that immigration represented the most powerful opportunity to make a difference in the lives of struggling working-class neighbors and families.” Prosperus, one of the key programs to launch from the Global Detroit strategy, focused initially on a handful of those struggling neighborhoods—providing



training and support to would-be immigrant or minority entrepreneurs who wanted to start small businesses there. In its first five years, it trained more than 700 Detroit residents, reclaimed thousands of square feet of once-vacant office space, and distributed \$500,000 in microloans, creating more than 100 jobs.<sup>52</sup> Today, foreign-born small business owners are an integral part of the city: Despite making up 9.6 percent of the population, immigrants owned one out of every three Main Street businesses in the Detroit metro area in 2015.

Such entrepreneurs are often creating jobs and opportunities for American workers. Take Albert Yousif, a refugee who arrived in the United States in 1992 from Iraq. Within three years of arriving, he became the owner of the commercial cleaning company A2Z Facility Maintenance, which currently employs 25 workers. He followed that up by starting a second repair and maintenance business this year, which currently employs two more. “There are so many opportunities,” he says, “if you know how to think and invest.”

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**Within three years of arriving as a refugee, Yousif became the owner of the commercial cleaning company A2Z Facility Maintenance, which **currently employs 25 workers.****

Officials in Detroit also focused on attracting entrepreneurs to grow the city’s high-tech sector. Because auto companies once offered stable and reliable jobs, many American workers were unaccustomed to taking the risk of starting their own businesses. As recently as 2015, just 7.5 percent of the metro area’s U.S.-born population were self-employed entrepreneurs, compared to 10.7 percent of immigrants. In this environment, immigrants had long been relied on as a steady source of new business generation, particularly

in innovation-rich fields. Between 1995 and 2005, a third of all high-tech businesses in Michigan were founded by immigrants. That was the third highest such share in the country behind California and New Jersey, a feat for a state where residents were considerably less likely to be foreign-born.<sup>53</sup>

Tel Ganesan, an Indian immigrant, is one of many foreign-born students who has stayed in Michigan and successfully launched a high-tech firm. After graduating from Wayne State University with a degree in mechanical engineering, Ganesan initially secured a job at Chrysler. Unlike his colleagues who took these jobs as their life-long careers, however, Ganesan dreamed of starting his own business. “What’s the worst thing that will happen?” he recalled asking himself. “If I try and I fail, I can always come back and find a job. But if I never try it, I will never know what that will look like.”

So, after working at Chrysler for 13 years, Ganesan started Kybba, a company that provided IT and engineering solutions to local businesses. By 2015, the firm was generating \$55 million in revenues and employing 600 workers in the United States. Kybba today is headquartered in Farmington Hills, a northwest suburb of Detroit.

Low living costs and low barriers to entry have made it easy for immigrants to continue growing businesses in Detroit.<sup>54</sup> It also has helped the city reverse a slowdown in business generation among the U.S.-born population. Between 2000 and 2015, the number of U.S.-born entrepreneurs in Detroit dropped by 8.5 percent. At the same time, the number of foreign-born entrepreneurs was rising quickly, increasing by 38.1 percent.

Such growth has had a powerful impact on many sections of the city. “Immigrants are an important part of the local economy, and I wish we had more,” says Ned Staebler, president and CEO of TechTown, an incubator supporting both tech start-ups and neighborhood small businesses. “The parts of Detroit that have higher proportions of the immigrant population are the ones that are thriving the most.”

of U.S.-born workers. The most common industry occupied by immigrant entrepreneurs was professional services, a broad field that includes those working in roles like lawyers, accountants, and IT consultants. As mentioned previously, this sector was one of the few that both grew wages and added jobs for the U.S.-born working-class between 2000 and 2015. Roughly 84,000 additional working-class jobs were created in this sector during that time period alone.

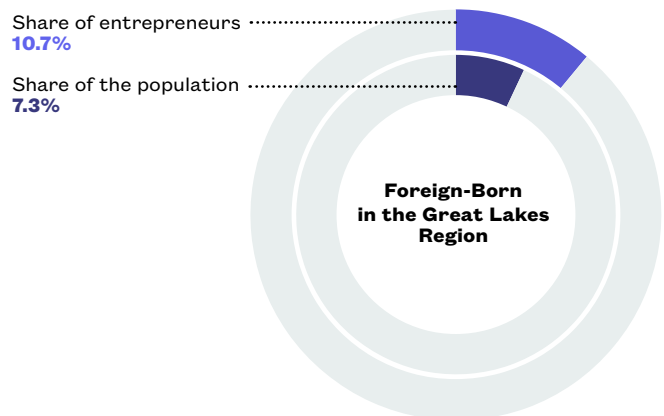
*The most common industry for immigrant entrepreneurs was professional services, one of the few sectors that both **grew wages and added jobs** for the U.S.-born.*

Among the many foreign-born entrepreneurs in the region is Dhiraj Rajaram, who came to the United States for an MBA degree and later founded Mu Sigma, a data analytics firm headquartered in Northbrook, Illinois. That firm today is valued at \$1.5 billion. Another one of the region’s “unicorns”—a name for start-ups valued at more than \$1 billion—is the consumer credit firm Avant. Founded by three immigrants from Uzbekistan and China, the Chicago-based company now employs 850 people.<sup>55</sup> 5-Hour ENERGY, which was founded by an immigrant from India, has a similar story. This beverage giant now employs hundreds of workers at its

manufacturing plants in Wabash, Indiana, an hour east of Fort Wayne.

Given their high rates of entrepreneurship, it is little surprise that the immigrant share of business owners in the Great Lakes region is far larger than their share of the area’s overall population. (See Figure 26.) In 2015, one out of every ten entrepreneurs in the region was born abroad—a notable fact given that they make up just 7.3 percent of the population. Those 310,000 immigrant entrepreneurs earned \$7.1 billion in business income that year.

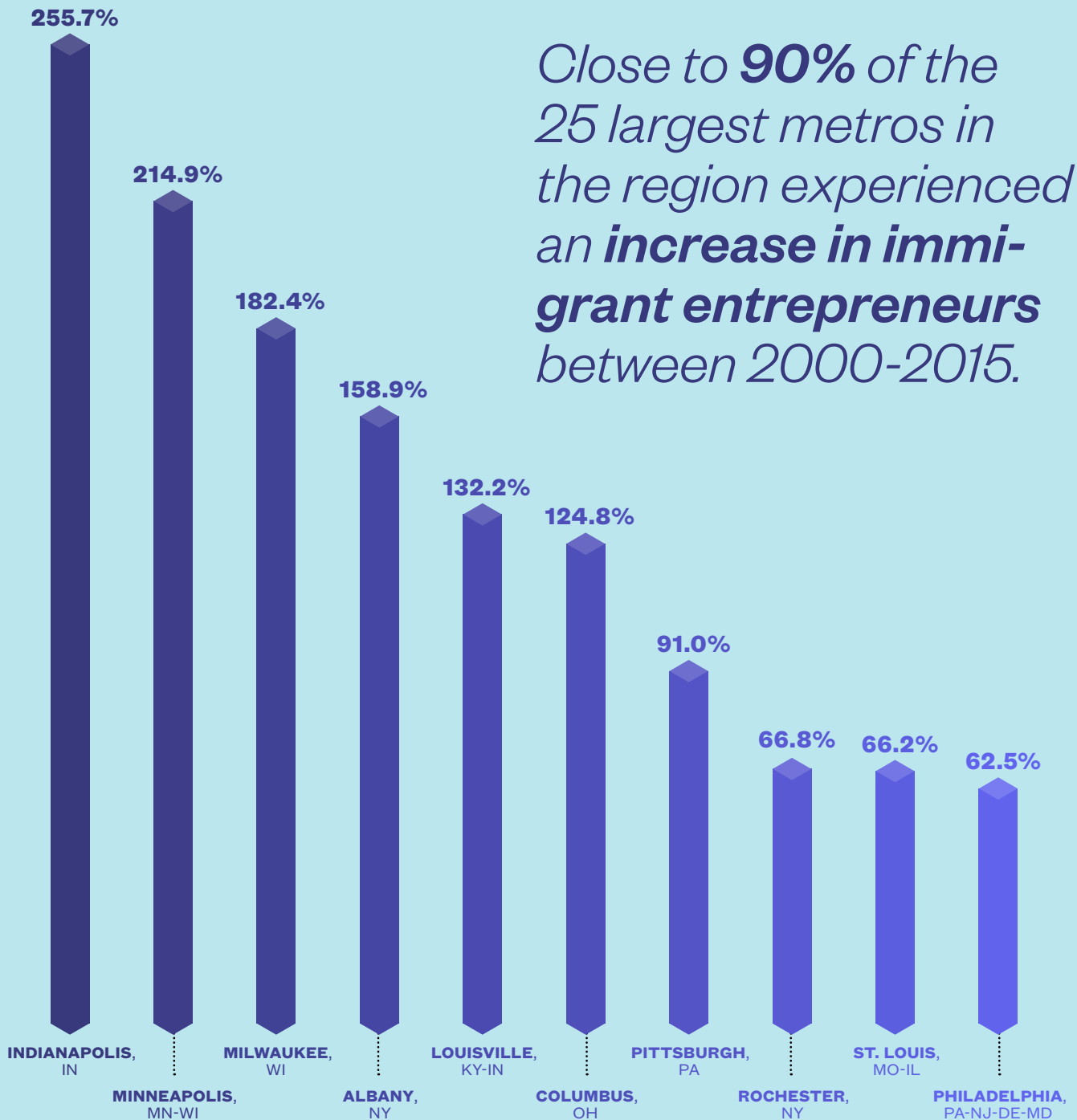
**FIGURE 26: IMMIGRANTS IN THE GREAT LAKES REGION PUNCH ABOVE THEIR WEIGHT CLASS AS ENTREPRENEURS**



*In 2015, the **310,000 immigrant entrepreneurs** from the Great Lakes region earned **\$7.1B** in business income.*



FIGURE 27: TOP TEN GREAT LAKES METROS WITH FASTEST INCREASE OF IMMIGRANT ENTREPRENEURS, 2000-2015



SPOTLIGHT ON

# Basil Bacall

## Founder of Truss Hospitality Development and Management



Basil Bacall, a Chaldean Christian immigrant from Iraq, is one example of a successful Main Street entrepreneur who is actively creating jobs for working-class Americans. In his 20s, Bacall achieved his childhood dream of becoming a pilot in the United States. When he sought a career change for family reasons, however, he and his brother partnered together to buy a mismanaged Quality Inn in Lansing, Michigan. Bacall figured it would be a natural transition: As a pilot, he had stayed at enough hotels to know what high standards should look like.

Today, his Detroit-based company, Truss Hospitality Development and Management, owns or operates 21 hotels, including some of the top-rated Hampton Inns in the country. The firm has invested \$210 million in the properties, building many new hotels from the ground up. “We come to this country. We know what it’s like to not have it. The hunger builds the determination to never be hungry again,” Bacall says. “We are eager to take the calculated risk and give it 110 percent.”

The incredible effort Bacall has put into growing his family business has paid off. Today, the company employs 530 people in Michigan, 90 percent of whom are U.S.-born. Each new hotel Bacall builds costs \$7 to \$10 million, an expenditure that supports the jobs of hundreds of people in other industries. “From underground work to frames, bricks, masonry, electricians, plumbing, driveway and parking lot paving...we use workers from 15 different trades, and each one comes to us as a team,” Bacall says. Most of these trades employ workers without college degrees.

One of those U.S.-born employees is Brandon Tomlinson, 33, who heads sales for the company’s two Hampton Inn properties in Auburn Hills, north of Detroit. Tomlinson was raised in Flint, Michigan, where both his parents worked the production line at General Motors plants. Having seen the devastation that follows job losses in a single-industry town, he feels grateful to have landed in Auburn Hills, which is diverse and growing. In the three years Tomlinson has been with Bacall’s Elite Hospitality Group, the company has added two hotels in town and is building two more.

“It’s always good when the company’s growing. It makes you feel secure at the job,” Tomlinson says. “And it’s not just growing, it’s providing jobs to a lot of local people.” For his part, Tomlinson says he couldn’t be happier. Plus, his salary, which comes with bonuses, is twice what he earned at a previous hotel job.

Many metropolitan areas in the region have benefitted mightily in recent years from immigrant entrepreneurship. Between 2000 and 2015, close to 90 percent of the 25 largest metros in the region experienced an increase in their number of immigrant entrepreneurs. In about half of these metropolitan areas, the number of immigrant entrepreneurs more than doubled. This trend was particularly pronounced in Minneapolis, where in 2000, close to 6,500 immigrants were self-employed. By 2015, that number had more than tripled, reaching roughly 20,000. A similar jump occurred in Indianapolis.

Aside from start-ups, entrepreneurs in the Great Lakes region also help support business growth on Main Street. This can be important because Main Street businesses provide goods and services to American families, as well as drive critical foot traffic to local business corridors. In some communities, immigrant entrepreneurs have played a large role buying up vacant storefronts and revitalizing neighborhoods once in decline. Between 2000 and 2015, the number of U.S.-born entrepreneurs based in the Great Lakes region with Main Street businesses in accommodation, food

FIGURE 28: TOP FIVE MAIN STREET BUSINESSES WHERE IMMIGRANT ENTREPRENEURS CONCENTRATED IN 2015



services, retail, and neighborhood services dropped by at least 30,000.<sup>56</sup> At the same time, at least 15,000 more immigrants founded such small businesses.

In Figure 28, we show some of the types of Main Street businesses where immigrants are particularly well represented. Foreign-born entrepreneurs own more than half of all grocery stores in the region, as well as a substantial share of restaurants, gas stations, dry cleaners or laundromats, and nail salons. Overall, in 2015, foreign-born residents made up one in five Main Street business owners in the region, creating American jobs and making local neighborhoods more attractive places to live and work. Such businesses also generated a meaningful number of jobs for U.S.-born workers. Between 2000 and 2015, Main Street businesses in the

region added more than 400,000 working-class jobs and close to 60 percent went to U.S.-born residents.

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*In 2015, foreign-born residents made up **one in five** Main Street business owners in the region.*

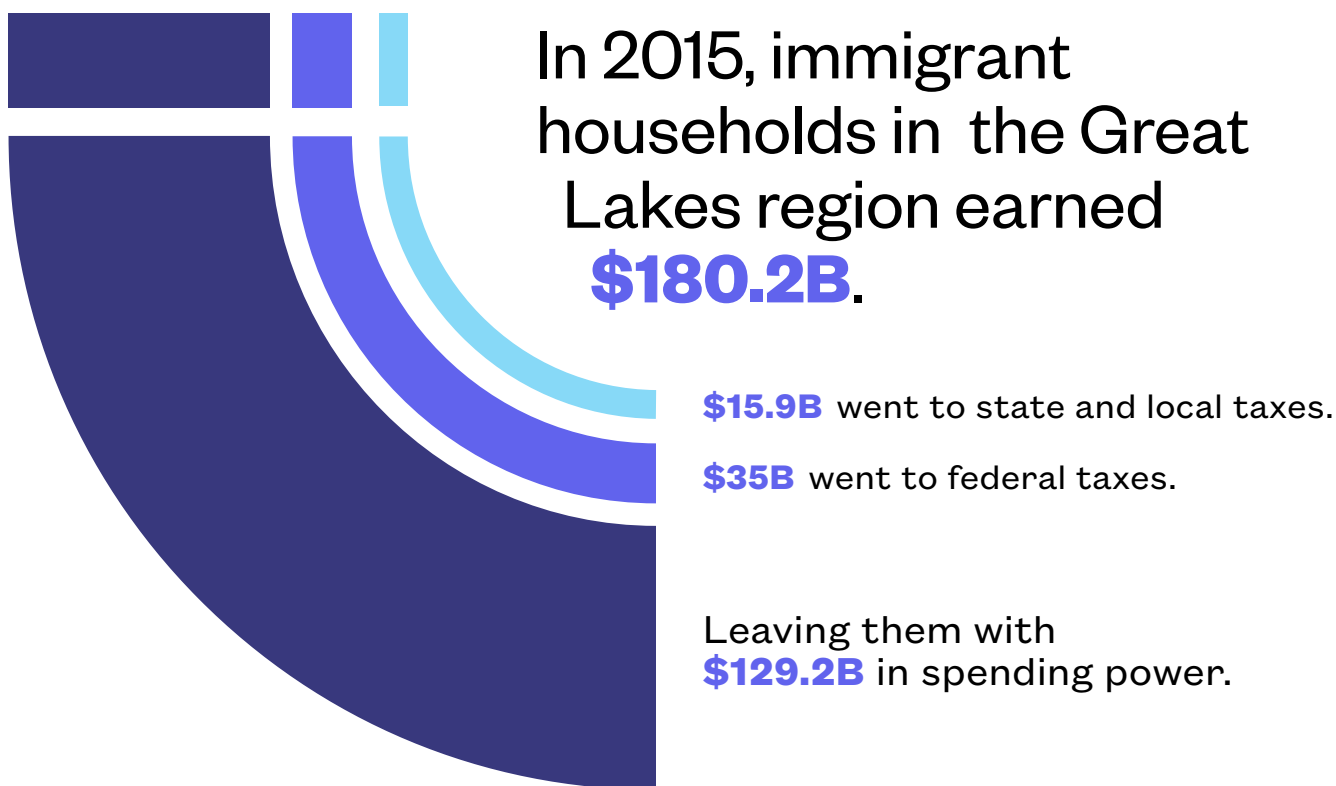
PART VII

# Spending Power, Taxes & Home Ownership

The contributions that immigrants make in the Great Lakes region are not restricted to their role in the labor force. Immigrants are adding to the region’s economy with every dollar they pay in taxes or spend at local businesses. While local communities are struggling to recover from deindustrialization and depopulation, the large amount of consumer spending and tax revenues generated by the region’s immigrants has helped the region get back on its feet.

In 2015, foreign-born workers earned \$180.2 billion in income. That meant that in the region overall, immigrants earned 8.2 percent of all household income—a higher share than the 7.3 percent of the population they represented that year. This pattern of immigrants’ outsize contributions holds for a variety of the indicators we look at in this section. It is hardly surprising though, given that immigrants made up more

FIGURE 29: IMMIGRANTS’ HOUSEHOLD INCOME, TAXES, AND SPENDING POWER IN THE REGION, 2015

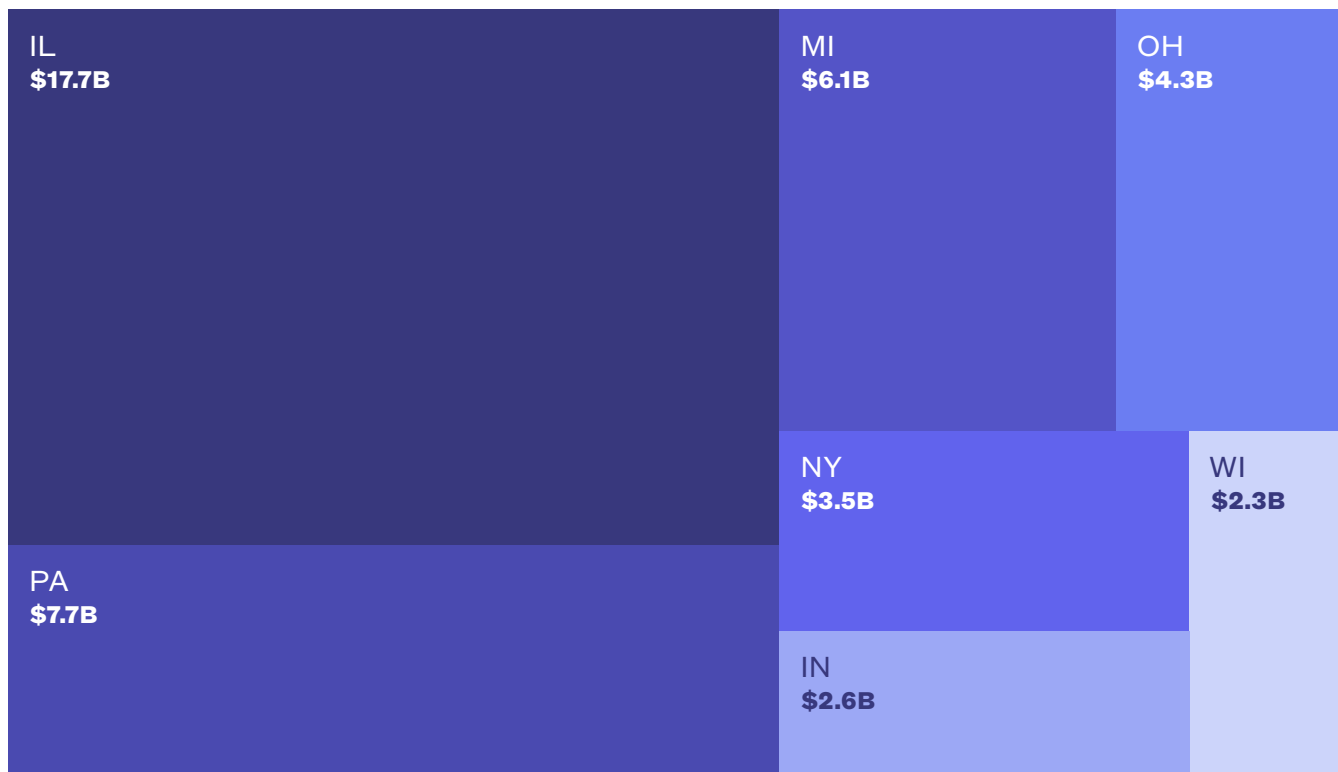


than one out of every 10 high-skilled workers in the region in 2015.

*Immigrant households in the Great Lakes region paid **\$51B** in taxes in 2015.*

Part of the income earned by immigrants goes back to federal, state, and local governments to support their spending on public services like schools, hospitals, and police forces. Immigrant households in the Great Lakes region paid \$51 billion in taxes in 2015, including \$35 billion to the federal government and \$16 billion to state and local governments. Showing their relative importance in the region, immigrants paid an outsize share of taxes in every state in the Great Lakes region. (See Figure 30.) In Michigan, for instance, they paid 8.8 percent of the state’s total tax revenue, despite making up only 6.6 percent of the population. In Illinois, where they make up 14.2 percent of residents, they paid 15.4 percent of all tax revenues in 2015.

FIGURE 30: IMMIGRANTS’ TAX CONTRIBUTIONS AT FEDERAL AND STATE & LOCAL LEVELS IN GREAT LAKES STATES, 2015



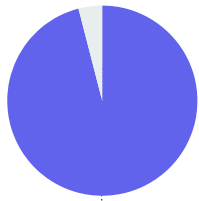
Total Paid by Immigrants in Great Lakes Region: **\$50.9B**

Note: For federal and state and local tax contributions, see Data Appendix.

FIGURE 31: PUBLIC SECTOR JOBS IN THE GREAT LAKES REGION, 2015

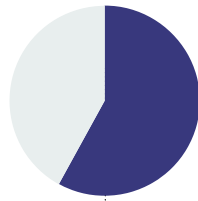
## Workers in Public Administration

**1.4M**  
Total



Share U.S.-born  
**96.2%**

**1.3M**  
U.S.-born



Share working-class  
**57.8%**

*Immigrant-paid taxes help governments afford employees. In the Great Lakes region, more than 1.3M U.S.-born workers hold jobs as police officers, court clerks, and more.*

These tax revenues help governments pay their employees. (See Figure 31.) In the Great Lakes region, more than 1.3 million U.S.-born workers hold jobs in the public sector, many working as police officers or as court clerks. Although employment in the sector has declined a bit in recent years, these jobs are critically important in some parts of the region, particularly for the working class. In 2015, close to three out of every five public sector workers in the Great Lakes region had less than a bachelor's degree. This group saw significant growth in wages, rising by 8.9 percent between 2000 and 2015. This compares to a wage decrease of 6.4 percent for working-class individuals in the region overall.

Immigrants also contribute to Medicare and Social Security through their payroll tax payments to federal governments. The aging population has put these entitlement programs under increasing financial pressure. In 1950, about 16 workers supported each retiree through these entitlement programs, but this ratio is estimated to fall to two workers per retiree by 2035.<sup>57</sup> The immigrant population, which is more likely to be working age than the U.S.-born population, helps the federal government tackle this pressing challenge. In 2015, immigrants paid \$17.5 billion to Social Security and \$4.8 billion to Medicare. Although we are unable to break down results for the Great Lakes region specifically, it is likely that they paid in more to these programs than they drew down in benefits during those years. A previous NAE study found that immigrants contributed \$182.4 billion more to this core trust fund than they drew down in benefits between 1996 and 2011.<sup>58</sup>

After paying taxes, the disposal income immigrants are left with for consumption, savings, and investment is what we call spending power. In 2015, they held \$129.2 billion in spending power, or 8.2 percent of the region's total. Robust consumer spending is particularly important to the services industry, which is made up of businesses like hotels, autobody shops, and doctor's offices, which depend on paying customers and patients to survive. According to the Bureau of Labor Statistics, more than three out of every five U.S. jobs were in the broader services sector in 2014.<sup>59</sup>

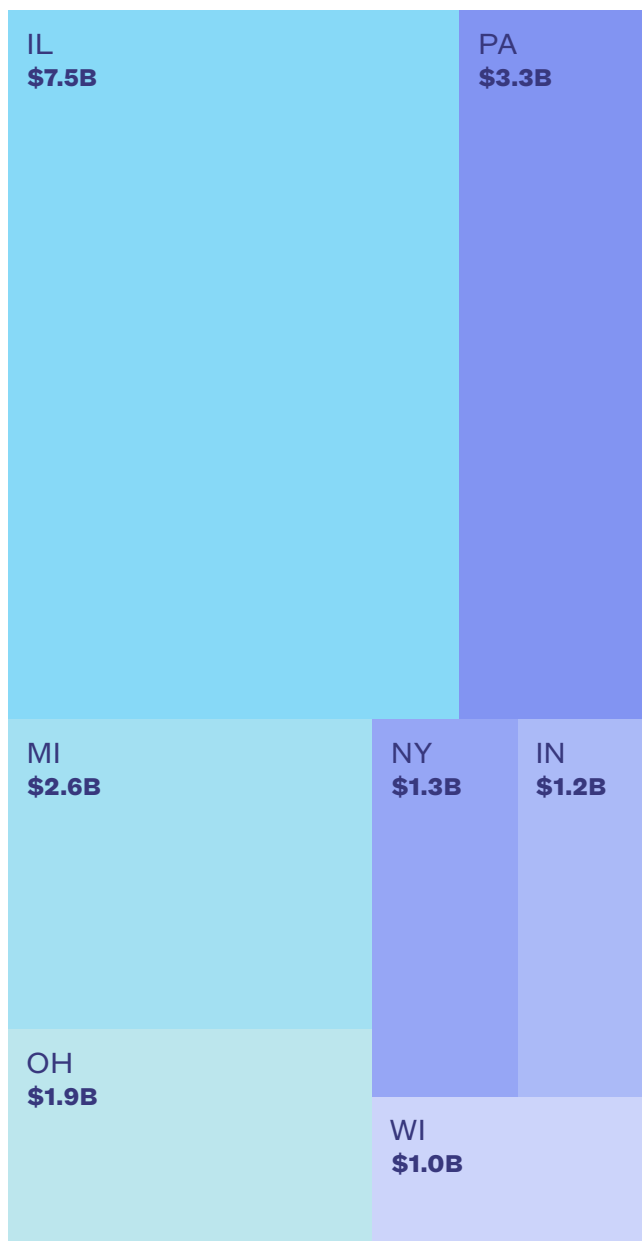
*In 2015, immigrants in the region paid **\$17.5B** to Social Security and **\$4.8B** to Medicare.*

Immigrants are also stepping up in the region as homeowners, an issue of particular importance to cities like Detroit and Cleveland, which have struggled with declining housing values in recent years. A 2016 study found that immigrant renter households were at least as likely to have enough money to purchase and rehab a home as other demographic groups in 22 of the 23 Great Lakes cities studied.<sup>60</sup> Between 2000 and 2015, while the number of U.S.-born homeowners slipped 0.6 percent, the number of foreign-born homeowners increased by 36.5 percent in the region.

By 2015, almost 1.3 million immigrants owned their homes. The large number of immigrant homeowners had an impact on U.S.-born homeowners as well. As immigrants move into declining communities, they help stabilize local property markets and boost housing values. A 2013 report from New American Economy found that each immigrant moving to a local community would raise the price of an average house there by 11.6 cents.<sup>61</sup> Using that figure, we estimate that the increase in the immigrant population that occurred in the Great Lakes region between 2000 and 2015 helped raise the region’s total housing wealth by \$5.6 trillion.

Aspiring immigrant homeowners are also needed due to the changes coming to the housing market. Between 2000 and 2015, the number of U.S.-born homeowners age 65 and above in the region grew by close to one million, or by 19.6 percent. Since immigrants are more likely to be working age and seeking to start a family or improve their living conditions, they can play a key role buying up homes as the region’s baby boomers retire.

FIGURE 32: IMMIGRANTS’ CONTRIBUTIONS TO MEDICARE AND SOCIAL SECURITY, 2015

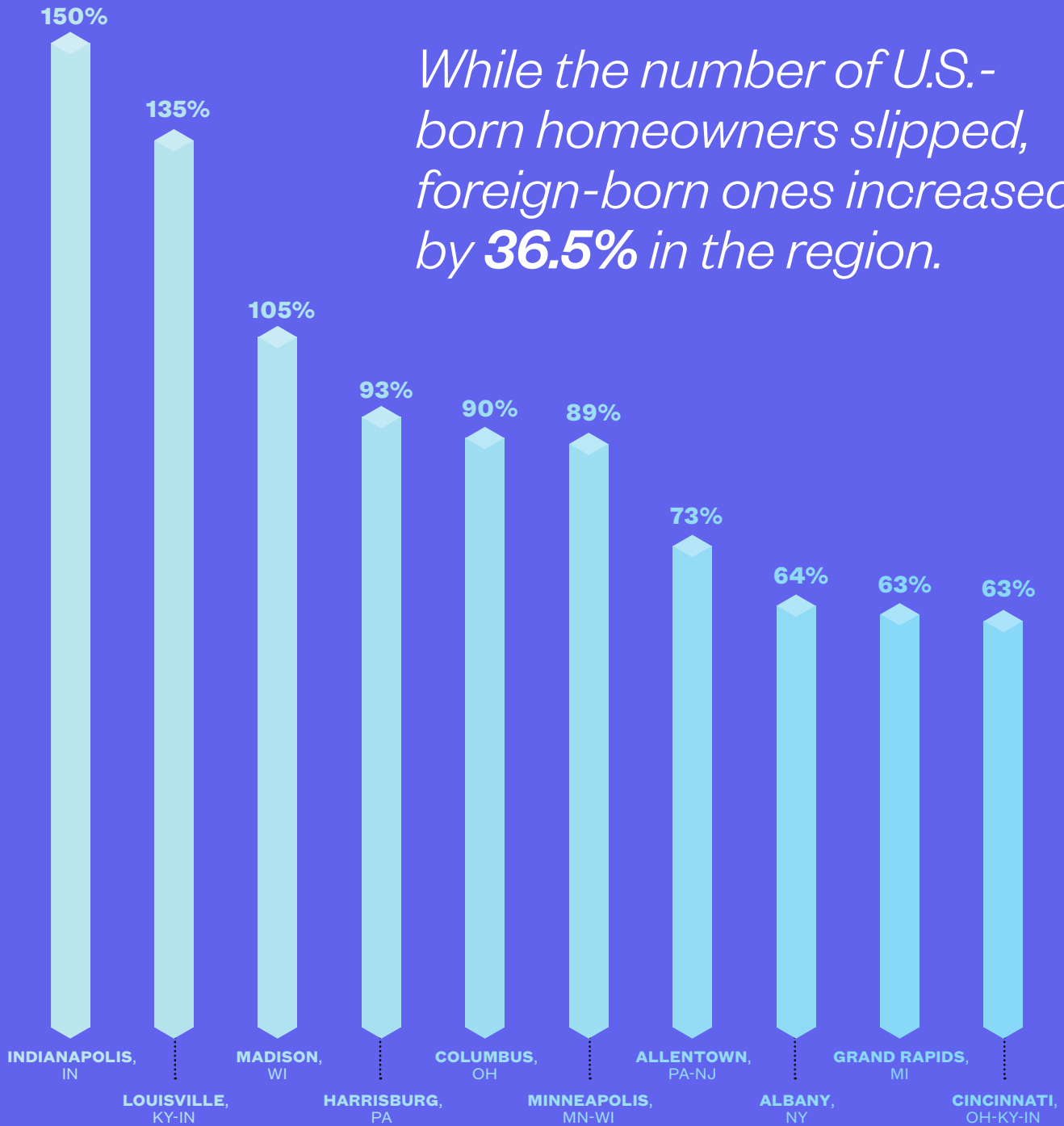


Total Paid by Immigrants in Great Lakes Region: **\$22.3B**

Note: For Social Security and Medicare contributions, see Data Appendix.



FIGURE 33: TOP TEN GREAT LAKES METROS WITH FASTEST INCREASE OF IMMIGRANT HOMEOWNERS, 2000-2015



# Conclusion

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**A**fter decades of rise and fall, traditional manufacturing is no longer the only economic engine capable of powering the Great Lakes region. The fate of the region, as well as the fortunes of its working-class and political leaders alike, very much depends on how fast and how well the area can embrace the 21st century innovation economy. To this end, immigration—and the influx of new, entrepreneurial energy it brings—will be critical to securing the region’s future.

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*The influx of new, entrepreneurial energy that immigration brings will be **critical to securing the region’s future.***

Immigrants have played a critical role in supporting the industries that are booming in the Great Lakes region today. They are engineers leading the transformation from traditional to advanced manufacturing. They are surgeons providing world-class care in fast-growing hospitals, such as the Cleveland Clinic or UPMC in Pittsburgh. They are dairy workers helping to stock our supermarkets. By powering the growth in the advanced

manufacturing, healthcare, and agricultural industries, immigrants help create more job opportunities for U.S.-born residents, especially those in the working-class.

Along with their talent and labor, immigrants also bring their entrepreneurial spirit and spending power to the region. They are business owners keeping Main Street vibrant. They are young college graduates working on the next big idea here in the United States. They are consumers, taxpayers, and new neighbors renovating houses in declining areas. With their economic prowess, immigrants are playing an outsize role revitalizing local communities.

Admittedly, immigration alone is not a panacea for the decades-old challenges facing the Great Lakes, but our research shows immigrants have already become an irreplaceable part of the region’s economic and demographic future. And if immigration is not substantially curtailed in the coming months or years, the future of the Great Lakes region could look particularly bright. A longtime leader in automotive manufacturing and robotics, the region has a chance to lead the self-driving car revolution already underway. Add to that the region’s dominance in energy development and the life sciences, and the area is particularly poised for growth. Achieving these goals, however, will require firms to have access to the young and talented workers they need to become established in the region. Immigration will play a large part in making that possible.

Indeed, many government and business leaders in the Great Lakes region, including local chambers of commerce, economic development agencies, nonprofit leaders, mayors, and governors, fully recognize that immigrants represent a lifeline for their communities, rather than a drain on them. Such leaders have launched more than 20 local economic development programs

specifically designed to welcome, retain, and integrate immigrants into both urban revitalization and economic growth efforts. This is being done largely through the Welcoming Economies Global Network, a program of Welcoming America run in partnership with Global Detroit. Such efforts have put the Great Lakes region far ahead of other parts of the country and made it a powerful example. Indeed, across the United States, many communities are now looking to immigration as a central component of their growth strategy, and making efforts to attract foreign-born talent.

To continue to leverage immigrants as a key piece of the Great Lakes' revival, the region's policymakers must be proactive in welcoming foreign-born residents and integrating them into the local workforce and society overall. Cities like Cincinnati, Cleveland, Dayton, Detroit, Pittsburgh, and St. Louis, among many others, and states like Michigan, have invested resources to ensure that the potential of their immigrant communities is maximized. This can be achieved by mentoring immigrant entrepreneurs, giving foreign-

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*Immigrants help create more **job opportunities** for U.S.-born, working-class residents.*

trained individuals access to professional licensing, or taking steps to retain international talent. Such places have also created a narrative that acknowledges the importance of creating an inclusive, welcoming environment for all. Given the promise immigrants represent to the region—and rising demand for global talent—more cities and states would be wise to do the same.

# Data Appendix

## DATA APPENDIX 1: GREAT LAKES METROPOLITAN AREAS WHOSE BORDERS EXTEND BEYOND IL, IN, MI, NY, OH, PA, AND WI

MSA Code	Metropolitan Area
10900	Allentown-Bethlehem-Easton, PA-NJ
16020	Cape Girardeau, MO-IL
17140	Cincinnati, OH-KY-IN
19340	Davenport-Moline-Rock Island, IA-IL
20260	Duluth, MN-WI
21780	Evansville, IN-KY
26580	Huntington-Ashland, WV-KY-OH
29100	La Crosse-Onalaska, WI-MN
31140	Louisville/Jefferson County, KY-IN
33460	Minneapolis-St. Paul-Bloomington, MN-WI
37980	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
48260	Weirton-Steubenville, WV-OH
48540	Wheeling, WV-OH

## DATA APPENDIX 2: POPULATION CHANGE IN TOP 25 GREAT LAKES METROS, 2000-2015

Metro Area	U.S.-born	Foreign-born	Net Change
Akron, OH	-4,791	16,528	11,737
Albany, NY	29,338	25,380	54,718
Allentown, PA-NJ	57,896	32,067	89,963
Buffalo, NY	-65,823	26,149	-39,674
Chicago, IL-IN-WI	219,534	241,579	461,113
Cincinnati, OH-KY-IN	120,658	46,084	166,742
Cleveland, OH	-97,375	6,222	-91,153
Columbus, OH	272,171	79,240	351,411
Dayton, OH	-17,420	12,887	-4,533
Detroit, MI	-223,029	81,666	-141,363
Grand Rapids, MI	83,260	23,001	106,260
Harrisburg, PA	43,870	13,162	57,032
Indianapolis, IN	264,502	69,351	333,853
Louisville, KY-IN	118,382	37,512	155,894
Madison, WI	77,390	25,457	102,847
Milwaukee, WI	40,766	36,148	76,914
Minneapolis, MN-WI	340,186	163,839	504,025
Philadelphia, PA-NJ-DE-MD	151,316	248,523	399,839
Pittsburgh, PA	-123,880	35,508	-88,372
Rochester, NY	6,334	15,678	22,012
St. Louis, MO-IL	90,128	44,612	134,740
Scranton, PA	-18,331	15,924	-2,407
Syracuse, NY	-5,303	15,260	9,957
Toledo, OH	-14,099	1,787	-12,312
Youngstown, OH-PA	-46,956	-3,342	-50,298
<b>TOTAL</b>	<b>1,298,724</b>	<b>1,310,221</b>	<b>2,608,945</b>

**DATA APPENDIX 3:  
IMMIGRANTS' TAX CONTRIBUTIONS AT FEDERAL AND STATE & LOCAL LEVELS IN GREAT LAKES STATES, 2015**

State	Federal	State and Local	Total Tax Contributions
IL	\$12.0B	\$5.6B	\$17.7B
PA	\$5.4B	\$2.3B	\$7.7B
MI	\$4.3B	\$1.7B	\$6.1B
OH	\$3.0B	\$1.3B	\$4.3B
NY	\$2.2B	\$1.3B	\$3.5B
IN	\$1.8B	\$0.8B	\$2.6B
WI	\$1.5B	\$0.8B	\$2.3B
<b>REGION</b>	<b>\$35.0B</b>	<b>\$15.9B</b>	<b>\$50.9B</b>

**DATA APPENDIX 4: IMMIGRANTS' CONTRIBUTIONS TO MEDICARE AND SOCIAL SECURITY, 2015**

State	Social Security	Medicare	Total
IL	\$5.9B	\$1.6B	\$7.5B
PA	\$2.6B	\$0.7B	\$3.3B
MI	\$2.1B	\$0.6B	\$2.6B
OH	\$1.5B	\$0.4B	\$1.9B
NY	\$1.0B	\$0.3B	\$1.3B
IN	\$0.9B	\$0.3B	\$1.2B
WI	\$0.8B	\$0.2B	\$1.0B
<b>REGION</b>	<b>\$17.5B</b>	<b>\$4.8B</b>	<b>\$22.3B</b>

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