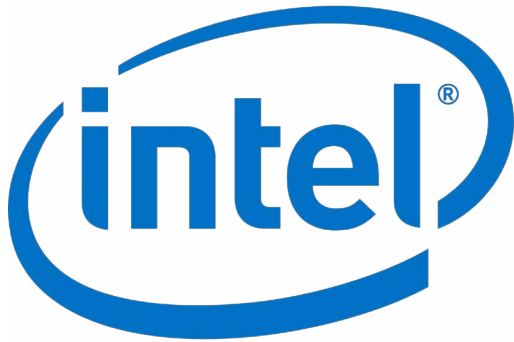


The Contributions of New Americans in Indiana



Partners



The Contributions of New Americans in Indiana

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Demographics

Indiana is one of several states that, in recent decades, have seen a major change in terms of the share of the population comprised of immigrants. As recently as 1990, just 1.7 percent of Indiana's population was foreign-born. By 2010, that figure had almost tripled, reaching 4.6 percent. And by 2014, close to 5 percent of the state's population was made up of individuals born in other countries.

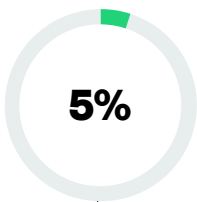
Today, Indiana is home to almost 323,000 foreign-born residents. These new Americans serve as everything from mechanical engineers to carpenters, making them critical contributors to the state's economic success overall. They are also playing a large role helping

Indiana avoid the sort of sluggish population growth that has hurt many other states in recent decades, depriving businesses of customers and cities of the taxpayers they need. Between 2010 and 2014, Indiana's foreign-born population grew by more than 22,000 people, a 7.4 percent increase. The native-born population of Indiana, in contrast, grew by just 1.4 percent during the same period.

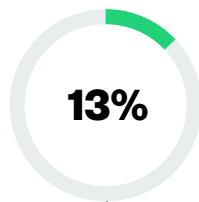
Today, Indiana is home to almost **323,000** foreign-born residents.

322,272

Indiana residents were born abroad.



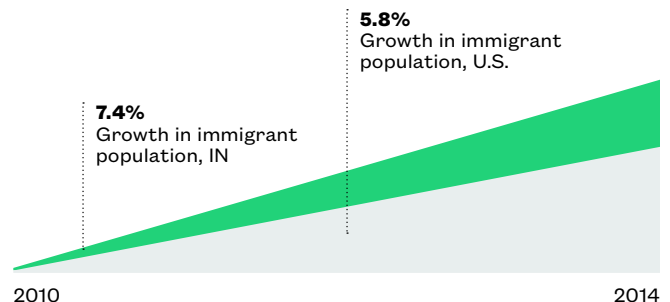
Share of Indiana residents born abroad



Share of U.S. residents born abroad

22,157

people immigrated to Indiana between 2010 and 2014.



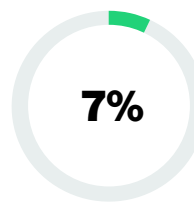
The Role of Immigrants as Entrepreneurs

14,293

immigrants in Indiana are self-employed

Immigrant-owned businesses generated **\$243.9M** in business income in 2014.

Given that the act of picking up and moving to another country is inherently brave and risky, it should be little surprise that immigrants have repeatedly been found to be more entrepreneurial than the U.S. population as a whole.¹ According to The Kauffman Foundation, a nonprofit group that studies entrepreneurship, immigrants were almost twice as likely to start a new business in 2015 than the native-born population.² The companies they founded ranged from small businesses on Main Street to large firms responsible for thousands of American jobs. Recent studies, for instance, have indicated that immigrants own more than half of the grocery stores in America and 48 percent of nail salons.³ Foreign-born entrepreneurs are also behind 51 percent of our country's billion-dollar startups.⁴ In addition, more than 40 percent of Fortune 500 firms have at least one founder who was an immigrant or the child of an immigrant.



Share of entrepreneurs in Indiana who are immigrants

66,753 people in Indiana are employed at firms owned by immigrants.

* This is a conservative estimate that excludes large, publicly owned firms.

The super-charged entrepreneurial activity of immigrants provides real and meaningful benefits to everyday Americans. In 2010, roughly one in 10 American workers with jobs at private firms were employed at immigrant-founded companies.

Such businesses also generated more than \$775 billion in annual business revenue that year.⁵ In Indiana, like the country as a whole, immigrants are currently punching above their weight class as entrepreneurs. Foreign-born workers currently make up 6.5 percent of all entrepreneurs in the state, despite accounting for 4.9 percent of Indiana's population. Their firms generated \$243.9 million in business income in 2014. Indiana firms with at least one immigrant owner also provided jobs to roughly 67,000 Americans in 2007.⁶

Immigrant entrepreneurs have long been a critical part of Indiana’s economic success story. NiSource, a Fortune 500 utilities company, was originally founded by an immigrant. Of the six Fortune 500 firms based in Indiana, it was the only one with at least one founder who either immigrated to the United States or was the child of immigrants. NiSource today is a major employer in the state. It employs nearly 9,000 people globally and brings in \$6.5 billion in revenues each year.

NiSource, an **Indiana**-based Fortune 500 company, was originally founded by an immigrant.

Currently, there is no visa to come to America, start a company, and create jobs for U.S. workers—even if an entrepreneur already has a business plan and has raised hundreds of thousands of dollars to support his or her idea. Trying to exploit that flaw in our system, countries around the world—from Canada to Singapore, Australia to Chile—have enacted startup visas, often with the explicit purpose of luring away entrepreneurs who want to build a U.S. business but cannot get a visa to do so.⁷ Here in the United States, many individuals have gone to great lengths to circumnavigate the visa hurdles. Many entrepreneurs sell a majority stake in their company and then apply for a visa as a high-skilled worker, rather than the owner of their firm. And a few enterprising venture capitalists, led by Jeff Busgang in Boston and Brad Feld in Colorado, have launched programs that bring over foreign-born entrepreneurs to serve as “entrepreneurs in residence” at colleges and universities. Because nonprofit academic institutions are exempt from the H-1B cap, such entrepreneurs can secure their visas by working as mentors at a school, and then build their startups in their free time.

These innovative programs, which are currently available at 13 colleges and universities across the country, are already resulting in meaningful economic

contributions. As of mid-2016, 23 entrepreneurs had secured visas through these programs nationally. The companies they founded had created 261 jobs and raised more than \$100 million in funding.⁸

17%



of **Fortune 500** companies based in Indiana were founded by immigrants or their children.

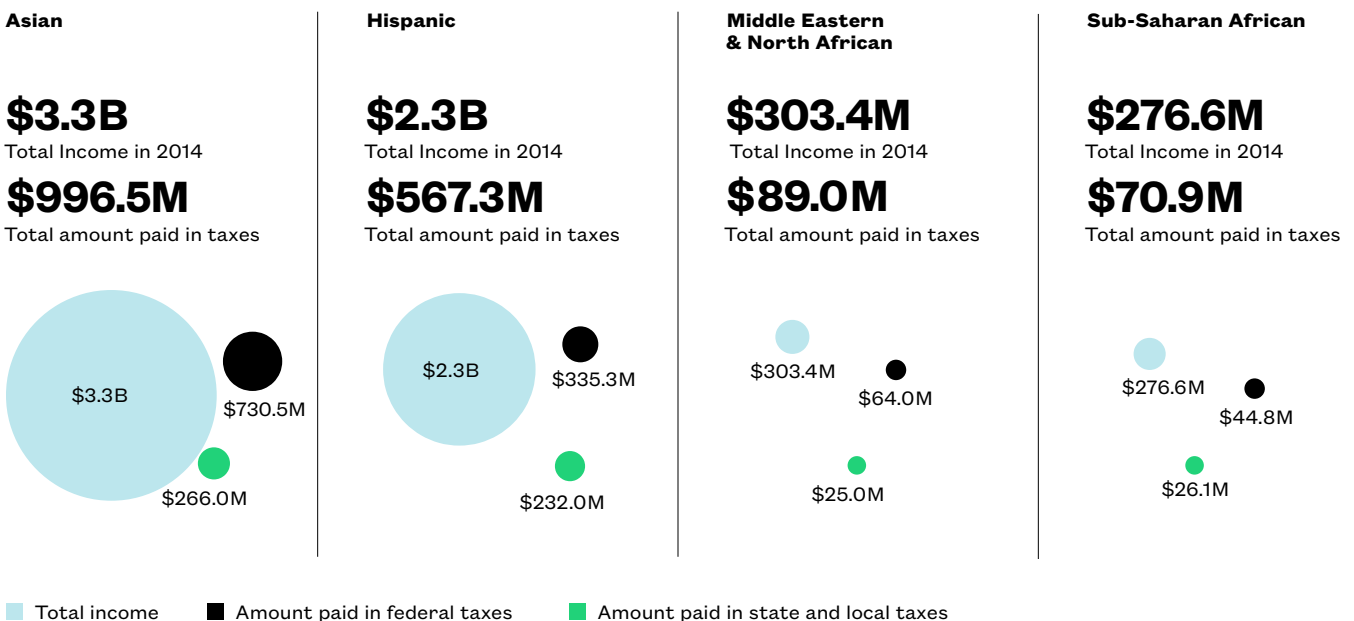
The one firm that this represents generates **\$6.5B** in annual revenue, and employs **8,982** people globally.

Income and Tax Contributions

Immigrants in Indiana play an important role contributing to the state as both taxpayers and consumers. In 2014, immigrant-led households in Indiana earned \$8.1 billion dollars—or 5.0 percent of all income earned by Hoosiers that year. With those earnings, the state’s foreign-born households were able to contribute more than one in every 21 dollars paid by Indiana residents in state and local tax revenues, payments that support important public services such as public schools and police. Through their individual wage contributions, immigrants also paid more than \$1 billion into the Social Security and Medicare programs that year.

By spending the money they earn at businesses such as hair salons, grocery stores, and coffee shops, immigrants also support small business owners and job creation in the communities where they live. In Indiana, immigrants held \$5.8 billion in spending power in 2014, defined in this brief as the net income available to a family after paying federal, state, and local taxes. We highlight the spending power and tax contributions of several subsets of Indiana’s foreign-born population below, including Hispanics and immigrants from Northern Africa or the Middle East.

INCOME AND TAX CONTRIBUTIONS OF KEY GROUPS WITHIN INDIANA'S IMMIGRANT POPULATION, 2014



In 2014, immigrants in Indiana earned **\$8.1B.**



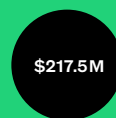
\$702M — Went to state and local taxes...

\$1.6B — Went to federal taxes...

Leaving them with **\$5.8B** in remaining spending.

ENTITLEMENT CONTRIBUTIONS

Indiana's immigrants also contribute to our country's entitlement programs. In 2014, through taxes on their individual wages, immigrants contributed **\$217.5M** to Medicare and **\$815.0M** to Social Security.



\$217.5M

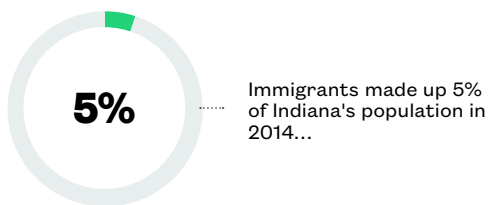
Medicare



\$815.0M

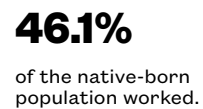
Social Security

The Role of Immigrants in the Broader Workforce



Because they tended to be working-age,

Immigrants were **22%** more likely to work than native-born Hoosiers.

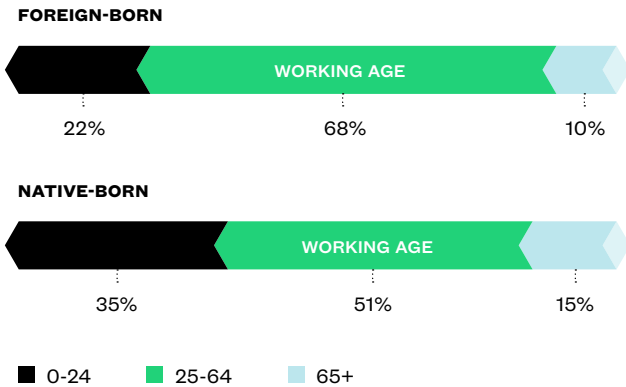


People who come to the United States often come here to work. Because of that, they often have skills that make them a good fit for our labor force—and a strong complement to American workers already here. In the country as a whole, immigrants are much more likely to be working-age than the U.S.-born. They also have a notably different educational profile. The vast majority of Americans—more than 79 percent of the U.S.-born population—fall into the middle of the education spectrum by holding a high school or bachelor’s degree. Immigrants, by contrast, are more likely to gravitate toward either end of the skill spectrum. They are more likely to lack a high school diploma than the native born, but also more likely to have an advanced degree. This makes them good candidates for labor-intensive positions, such as housekeeping, that many more educated U.S.-born

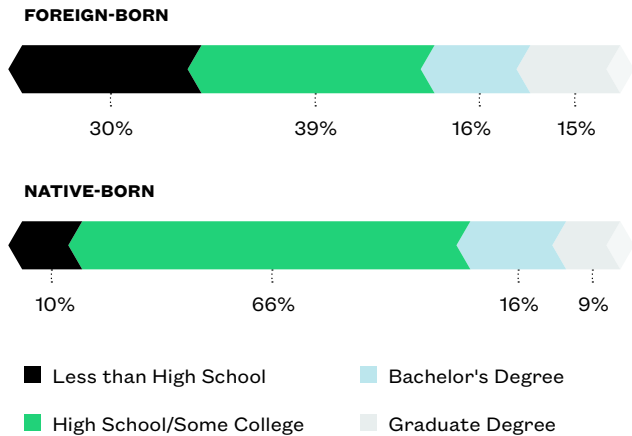
workers are less interested in pursuing, as well as high-level positions that allow innovation-driven firms to expand and add jobs for Americans at all skill levels.

Both these dynamics are strong in the state of Indiana. When it comes to educational attainment, immigrants in the state are 74.5 percent more likely to hold a graduate degree than natives. They are also almost three times as likely to be educated at less than a high-school level. The foreign-born population is also more likely to be of working age, which we define in this brief as ranging in age from 25 to 64. In Indiana, 67.5 percent of the foreign-born population falls into that age band, while only 50.8 percent of the native-born population does. That 16.8-percentage point gap has major implications for the state’s workforce. In 2014, Indiana’s immigrants were 21.5 percent more likely to be actively employed

AGE BREAKDOWN OF INDIANA'S FOREIGN-BORN AND NATIVE-BORN POPULATIONS, 2014



EDUCATIONAL ATTAINMENT OF INDIANA'S FOREIGN-BORN AND NATIVE-BORN POPULATION (AGES 25+), 2014



than the state’s native-born residents—a reality driven largely by the fact that a large share of the native-born population had already reached retirement age. Foreign-born individuals punched above their weight class as workers as well: In 2014, they made up 5.9 percent of all employed individuals in the state, despite accounting for 4.9 percent of Indiana’s overall population.

When it comes to educational attainment, immigrants in Indiana are almost **75%** more likely to hold a graduate degree than natives.

The immigrants who are working in Indiana contribute to a wide range of different industries in the state—many of which are growing and important parts of the local economy. Foreign-born residents make up more than one in five employees in the state’s traveler accommodation industry. They also account for 17.2 percent of the state’s workers in the segment of the manufacturing industry that includes semiconductor production, contributing to Indiana’s sizeable manufacturing industry, which has been the third fastest growing industry in the state in the years since the recession.⁹ Immigrants also frequently gravitate

toward sectors where employers may struggle to find enough interested U.S.-born workers. Immigrants in Indiana, for instance, make up 17.5 percent of workers in landscaping.

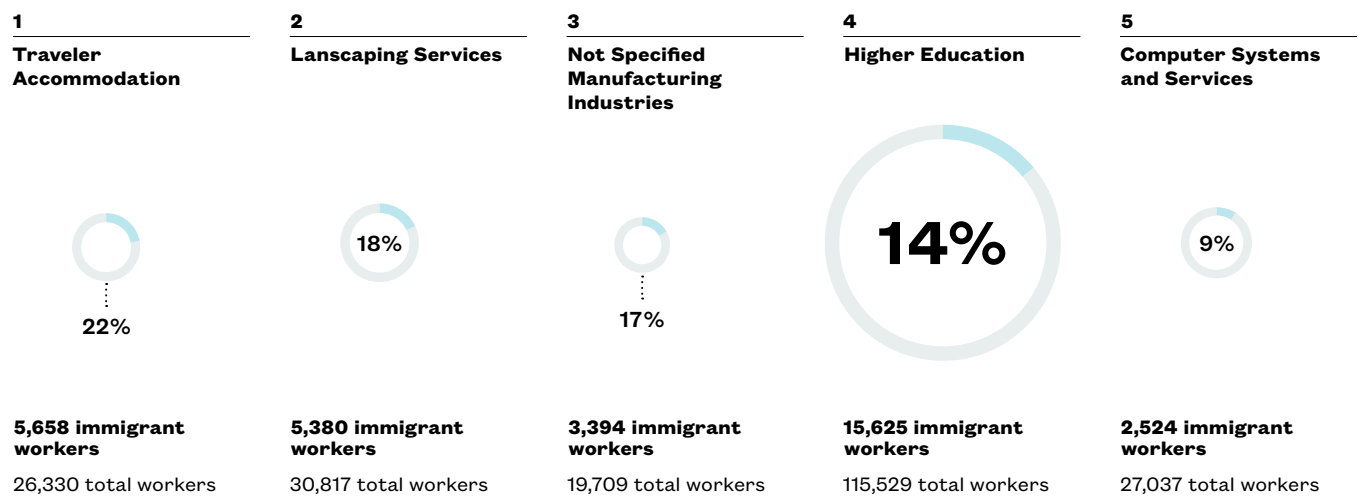
In recent decades, immigrants have also played an important role in Indiana’s manufacturing industry, which ranks as the largest sector in the state’s economy.¹⁰ Studies have found that the arrival of immigrants to a community can have a powerful impact creating or preserving manufacturing jobs. This is because foreign-born workers give employers access to a large and relatively affordable pool of laborers, making it less attractive for firms to move work to cheaper locations offshore. One study by the Partnership for a New American Economy and the Americas Society/Council of the Americas, for instance, found that every time 1,000 immigrants arrive in a given U.S. county, 46 manufacturing jobs are preserved that would otherwise not exist or have moved elsewhere.¹¹

The more than 300,000 immigrants who were living in the state in 2010 were responsible for creating or preserving almost 14,000 manufacturing jobs. Aside from just looking at overarching industry groups, our work also examines the share of workers that are foreign-born in specific occupations and jobs. Immigrants in Indiana, like the country as a whole, are often overrepresented in either high-skilled or particularly labor-intensive positions. While foreign-born workers make up 5.9 percent of the state’s employed population, they account for 25.3 percent of software developers for applications and systems software. They also make up 16.5 percent of workers who package a wide variety of goods for shipment by hand, and 10.5 percent of the state’s mechanical engineers.

The more than **300,000** immigrants who were living in the state in 2010 were responsible for creating or preserving almost **14,000 manufacturing jobs.**

INDUSTRIES WITH LARGEST SHARE OF FOREIGN-BORN WORKERS, 2014

■ Share of workers who are immigrants



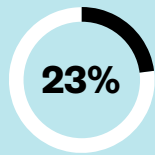
OCCUPATIONS WITH LARGEST SHARE OF FOREIGN-BORN WORKERS, 2014

1
Software Systems and
Developers



2,944 immigrant workers
11,627 total workers

2
Postsecondary Teachers



9,220 immigrant workers
40,705 total workers

3
Physicians and Surgeons



2,290 immigrant workers
12,946 total workers

4
Hand Packers
and Packers



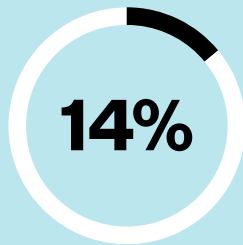
3,593 immigrant workers
21,755 total workers

5
Maids and Housekeeping
Cleaners



5,419 immigrant workers
37,277 total workers

6
Cooks



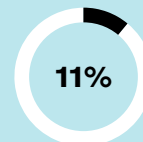
9,732 immigrant workers
71,902 total workers

7
Carpenters



4,091 immigrant workers
32,551 total workers

8
Grounds Maintenance
Workers



4,337 immigrant workers
38,912 total workers

9
Mechanical Engineers



1,274 immigrant workers
12,124 total workers

10
Waiters and Waitresses



6,983 immigrant workers
69,959 total workers

■ Share of workers who are immigrants

SPOTLIGHT ON

Sunny Lu Williams

General Manager of Medical Solutions, Telamon Enterprise Ventures

Today, Sunny Lu Williams is a successful corporate executive who has brokered deals with Google and HTC, but she still remembers the day many years ago when her grandfather—a Chinese rice-farmer and later military man -- spread some colorful banknotes on the table in front of her. The crumpled New Taiwan dollars and American greenbacks represented their family’s story, he told nine-year-old Sunny: his own flight from rural China during Mao’s Cultural Revolution; his efforts to carve out a new life in Taiwan; and his determination to bring the family to America, and to give his children and grandchildren the education and opportunities he’d been denied.

Sunny Lu Williams, an executive who has brokered deals with Google and HTC, says her grandfather "instilled in me the belief that you don't deserve anything until you earn it."

Above all, he said, the crumpled banknotes represented the power and promise of democracy — the ability of individuals to rise above hardship and forge a better future. “His takeaway was that the ethics and the hard work and the determination of the people determine the economic stability of the country,” Williams says. “He instilled in me the belief that you don’t deserve anything until you earn it.”

The old man’s determination paid off: he sent all four of his children to the United States, where they earned PhDs at American universities. Williams’ own parents



made the painful decision to leave their young daughter with her grandparents in Taipei while they pursued advanced degrees in Chicago; when they returned for her, years later, she barely recognized them. “It’s a jarring memory,” she recalls. “But it was very common in the Taiwanese context, because so many of our parents’ generation emigrated to pursue their educations. They really had to sacrifice.”

But this sacrifice also gave Williams a far easier path. Brought to America at the age of three, she attended grade school in Naperville, Ill., and coached her elders — first her grandmother, then her mother — as they prepared for their citizenship tests. Finally, in her sophomore year at Purdue University, Williams took the test herself — the third generation of her family

to be formally adopted by the country she had long considered her home.

Williams earned an MBA from Indiana University's Kelley School of Business and is now General Manager of Medical Solutions at Telamon Enterprise Ventures, a Carmel-based business solutions consultancy and integrator. Among her successes: deals with Google and HTC connected to the launch of the first Android phone; brokering a partnership with a Qatari company to export American health IT solutions to the Middle East; and healthcare innovation programs for linkage to care.

Williams credits much of her professional success to her experiences as an immigrant: having lived in another culture, it's easier for her to build relationships with people unfamiliar with American ways of doing business. "I greatly appreciate my own immigrant journey ... it's one of the things to which I attribute my success," she says. Speaking fluent Mandarin doesn't hurt, either, she notes.

The big takeaway from Williams' family's story, she says, is that immigration isn't just a question of people coming to America in search of work. It's also about people with a deep commitment to democratic values, and a real desire to contribute to American society, finding ways to use their skills in the service of their beliefs. "For me, immigration is about individuals who've already climbed beyond the middle classes in their own countries, and now want to take their skill-sets to a competitive environment that will better foster and grow their opportunities," she says. "That's really the group my parents were in."

As a business leader, Williams is often frustrated by how hard it is to hire skilled immigrant workers. "In every city, there are shortages of skilled workers," she says. "There are jobs, there just aren't the right candidates to be placed into the openings." On the one hand, Williams says, technology companies like Telamon are held back by the fact that American graduates lack skills in coding and other key technical areas; on the other, they're constrained by quota systems that make it impossible to bring in enough skilled workers from

overseas. "We can't grow at the pace we need to grow because we don't have workers with the right skill-sets, so often we partner with other companies instead of hiring," she says.

**"We need to leverage immigrants' expertise to raise the standards, increase education opportunities for local workers, and maximize opportunities for everyone."
Williams says.**

Williams advocates for reform that allows businesses to hire skilled workers, and also cultivates a homegrown workforce that can compete in the modern workplace. The immigration debate "shouldn't be about stemming the flow of immigration, it should be about building a sustainable infrastructure," she says. "As we use immigration to fill the gaps, we need to be more future-focused. We need to leverage immigrants' expertise to raise the standards, increase education opportunities for local workers, and maximize opportunities for everyone."

Science, Technology, Engineering, and Math

Between 2014 and 2024, science, technology, engineering, and math—or “STEM”—fields are projected to play a key role in U.S. economic growth, adding almost 800,000 new jobs and growing 37.0 percent faster than the U.S. economy as a whole.¹² Immigrants are already playing a huge part ensuring that Indiana remains a leading innovator in STEM fields like information technology and research and development.

Despite making up **4.9%** of the state’s population, immigrants represented **10.6%** of all STEM workers in Indiana in 2014.

Our outdated immigration system, however, makes it difficult for STEM employers to sponsor the high-skilled workers they need to fill critical positions. This is problematic because it can slow the ability of firms to expand and add jobs for U.S.-born workers.

It also makes little sense, given the country’s ongoing shortage of STEM talent—an issue that heavily impacts employers here. In 2014, 8.9 STEM jobs were advertised online in Indiana for every one unemployed STEM worker in the state.

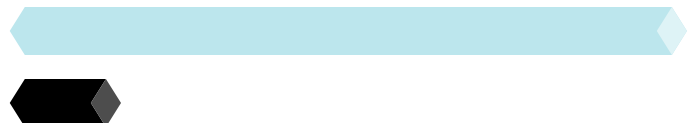
Immigrants, however, are not just a crucial piece of Indiana’s STEM workforce now—they are also likely to power it in the future. In 2014 students on temporary visas made up roughly one out of every three students earning a STEM Master’s degree at Indiana’s universities, and 46.6 percent of students earning a PhD-level degree in STEM. Even after America’s universities invest in their education, however, many of those students struggle to remain in the country after graduation. Creating visa pathways that would make it easier for them to stay would have a major economic benefit to Indiana. A study by the Partnership for a New American Economy and the American Enterprise Institute found that every time a state gains 100 foreign-born STEM workers with graduate-level STEM training from a U.S. school, 262

41,011

available STEM jobs were advertised online in 2014, compared to **4,605** unemployed STEM workers.

The resulting ratio of open jobs to available workers was

8.9 to 1

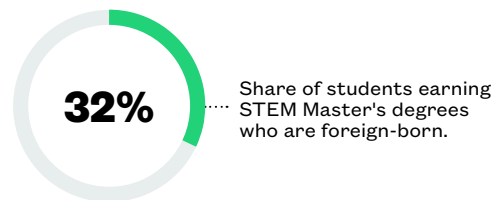


more jobs are created for U.S.-born workers there in the seven years that follow.¹³ For Indiana, that means that retaining even half of the 1,562 graduates earning advanced-level STEM degrees in 2014 could result in the creation of more than 2,000 new positions for U.S.-born workers by 2021.

If half of Indiana's **1,562** advanced level STEM grads on temporary visas stayed in the state after graduation...

2,046

jobs for U.S.-born workers would be created by 2021.



SPOTLIGHT ON

Gerhard Klimeck

Professor of Electrical and Computer Engineering
and Director of nanohub.org

Professor Gerhard Klimeck is a master of the Conte, a huge supercomputer based in Indiana. Rippling with copper wire, Conte is capable of running the sort of design simulations that are responsible for our smaller and sleeker iPhones. Klimeck works in the cutting-edge field of nanotechnology, but he grew up in the Steel Valley, a hardscrabble coal and steel hub in Germany's Ruhr region. In 1988, Klimeck came to the United States for an exchange program at Purdue University. "It was a one-year adventure," he says, but "I saw a huge opportunity at Purdue that I realized I couldn't pursue in Germany." So Klimeck never left. Although he'd come over on a J-1 visa, which requires holders to return home for at least two years after completing their training, Klimeck was able to get that requirement waived. It was an arduous process, but now he is a citizen.

Today, Klimeck has settled in West Lafayette, Indiana—where he's working as both a professor of electrical and computer engineering and an entrepreneur. In the latter capacity, helped to create and currently oversees nanohub.org, an online community that provides engineers and other academics with simulation software they can use to model nanotechnology. The site has over one million users annually and spun out a whole new technology and Purdue Business group entitled HUBzero. HUBzero powers over 40 other hubs and data sharing platforms. As such nanoHUB created 25 jobs for local software professionals, half of whom are American. "This is business creation inside Purdue," Klimeck says, "It puts [the university] on a new playing field."



Four years ago, Klimeck also founded a second firm, NEMOCO, which focuses on marketing the software created in his research group to more commercial clients. Technology giants like Intel and Samsung work directly with NEMOCO to study electron flow through their new devices. "All these business opportunities," Klimeck says, "Come right back to Purdue," Klimeck says he has been fortunate that the university is so supportive of work like his own. Purdue, he says, is "at the forefront of cyber infrastructure." He couldn't have done it without Purdue Discovery Park, an interdisciplinary research incubator, which has built the sort of strong network that helps researchers tap into coveted research grants in engineering.

While Klimeck is proud of what he has built, he believes that one major barrier has slowed the growth of his firm and HUBzero in recent years: the limitations of our country's immigration system. With our current visa system, "it's hard to attract and keep talent in Indiana," he says. One major reason for this is that almost half of the STEM students receiving PhDs in the state are foreign-born, yet there is no clear path for these individuals to stay after graduation—particularly at small startups that may lack the resources to sponsor them for visas. In the years Klimeck has been at Purdue, only two of the 21 PhD students he helped to graduate have been Americans. The other 19 have faced uncertainty surrounding their visa status. "These researchers would gladly stay in Indiana," Klimeck says, "but I don't have the ability to sponsor them for a green card." That represents a loss for Indiana's economy. When such students leave, local businesses miss out on potential customers, and firms like NEMOCO expand more slowly—hurting the service providers that work with them.

Klimeck has a long list of students he's seen face real visa struggles. "One of my first PhD students was from Cyprus," Klimeck remembers. "He had a job offer from Intel doing advanced device engineering." But he couldn't get the visa requirement that he return home for two years waived, so he went back to Europe and now teaches in England. "He's lost," Klimeck says. Another student from Pakistan was forced to leave. He went to Ireland and then settled in Australia. Klimeck also has one student who became a researcher at IBM—in India. "I even have a student who hasn't seen his family for 15 years," Klimeck recalls, because he's worried about the arbitrariness of the visa system. All told, Klimeck has lost six of his 21 research assistants to visa issues.

Klimeck estimates that each time a U.S.-trained STEM student from Purdue is forced to leave, half a million dollars in investment in that person's training is essentially lost. "It's a waste of human capital," he says. Like many academics and policymakers, he would like to see anyone getting a PhD or Master's in a high-tech area receive a green card with his or her diploma.

Klimeck is not alone in his frustration. Klimeck says most of his professor friends at Purdue share his low opinion of our current immigration system. "We make these students' lives harder unnecessarily," he explains, "We are personally invested in these people." Klimeck says it is incredibly hard to see students have to think about leaving the country they worked their whole lives to get to. It hurts him to see "some of them just settle and say they are not going to fight this."

Healthcare

In the coming years, the American healthcare industry is projected to see incredibly rapid growth—adding more new positions from 2014 to 2024 than any other industry in our economy.¹⁴ Already, caregivers are facing near unprecedented levels of demand. Between 2013 and 2015, the number of Americans with health insurance rose by almost 17 million,¹⁵ opening the door for many patients to receive more regular care. The country’s 76.4 million baby boomers are also aging rapidly—at a major cost to our healthcare system. Studies have found that elderly

Americans spend three times more on healthcare services than those of working age each year.¹⁶

In Indiana, a state where more than one out of seven residents is currently elderly, finding enough healthcare workers remains a challenge—and one that will likely worsen in the future. Currently the state has 232.3 practicing physicians per 100,000 people—a figure that ranks it 40th in the country in terms of physician coverage relative to other states. The ratio of practicing psychiatrists per capita is also low. All this comes on

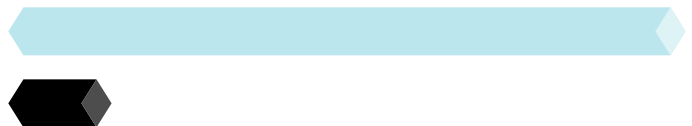
INDIANA HAS A SHORTAGE OF HEALTHCARE WORKERS

45,181

available healthcare jobs were advertised online in 2014, compared to **8,432** unemployed healthcare workers.

The resulting ratio of open jobs to available workers was

5.4 to 1



Additional number of psychiatrists needed now: **181**



Shortage of occupational therapists by 2030: **365**



Shortage of dentists projected by 2025: **318**

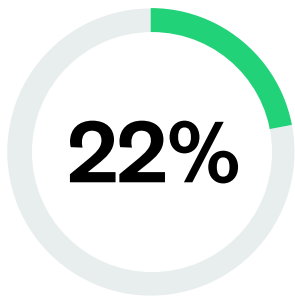


FOREIGN-BORN AND FOREIGN-EDUCATED PROFESSIONALS HELP FILL HEALTHCARE LABOR GAPS

Foreign-Educated

Doctors

3,407 graduates of foreign medical schools



Psychiatrists

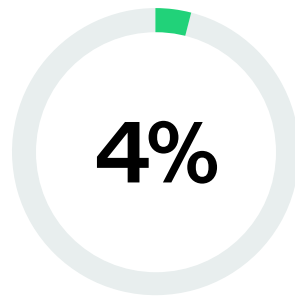
151 graduates of foreign medical schools



Foreign-Born

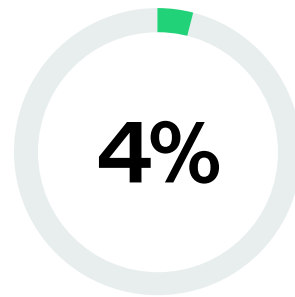
Nurses

2,858 foreign-born workers



Nursing, Psychiatric, and Home Health Aides

2,596 foreign-born workers



top of shortages already impacting the state across the entire healthcare workforce. In 2014, 5.4 healthcare jobs were listed online in Indiana for every one unemployed healthcare worker in the state. As baby boomers age, a variety of other healthcare professions that cater largely to seniors, such as occupational therapists, will feel additional strain.

Immigrants are already playing a valuable role helping Indiana meet some of its healthcare workforce gaps. In 2016, more than one in five physicians in Indiana graduated from a foreign medical school, a likely sign they were born elsewhere. Indiana's share of foreign-educated physicians, in fact, ranks it in the top half of states nationwide. Immigrant healthcare practitioners

also made up 3.8 percent of the state's nurses in 2014, as well as 4.3 percent of those working as physicians, psychiatric, or home health aides.

In 2016, **more than one in five** physicians in Indiana graduated from a **foreign medical school**, a likely sign they were born elsewhere.

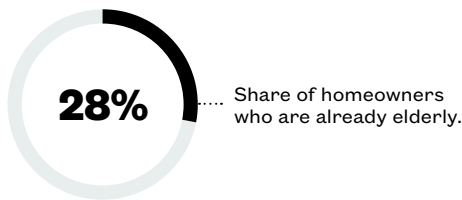
Housing

Immigrant families have long played an important role helping to build housing wealth in the United States. One study released by the Partnership for a New American Economy and Americas Society/Council of the Americas, for instance, found that in recent decades the country's more than 40 million immigrants collectively raised U.S. housing wealth by \$3.7 trillion. Much of this was possible because immigrants moved into neighborhoods once in decline, helping to revitalize communities and make them more attractive to U.S.-born residents.¹⁷

In Indiana, immigrants are actively strengthening the state's housing market. The roughly 70,000 foreign-born homeowners in the state held more than

\$12 billion in housing wealth in 2014. Immigrant-led households also generated 7.3 percent of the state's rental income, even though they led only 5.0 percent of households in the state. Because Indiana's immigrants are more likely to be of working age, they help address another major concern of housing experts as well—that the large wave of baby boomers retiring in the coming years could result in more homes going up for sale than—there are buyers to purchase them. In a state where seniors already own 28.1 percent of homes, immigrant families made up 5.8 percent of new homebuyers from 2010 to 2014—a larger than expected portion given their share of the population.

Immigrants are **bolstering the housing market** by buying the wave of homes coming on the market as the baby boomers retire.



70,623

Number of immigrant homeowners in 2014

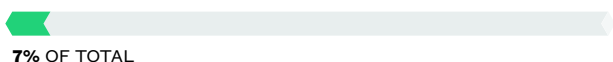
\$12.2B

Amount of housing wealth held by immigrant households



\$43.3M

Amount paid by immigrant-led households in rent



Visa Demand

One key measure of the demand for immigrant workers involves the number of visas requested by employers in a given state. Before an employer can formally apply for many types of visas, however, it must first obtain “certification” from the Department of Labor—essentially a go-ahead from the DOL that the employer can apply for a visa to fill a given job or role. For the H-1B visa, which is used to sponsor high-skilled workers, an employer gains certification by filing what’s known as a Labor Condition Application, or LCA. In the LCA the employer must detail

the position the foreign national would fill, the salary he would be paid, and the geographic location of the job. Firms must also attest that hiring an immigrant will not adversely impact similarly situated American workers. For two other large work visa categories—the H-2A for agricultural laborers and the H-2B for seasonal or temporary needs—employers file what is known as a Labor Certification application, or a “labor cert” for short. To get a labor cert approved, the employer must demonstrate that it is unable to locate an American worker that is available, willing, and able to fill the job.

H-1B

Number of positions:

8,028

Top jobs:

- Computer Systems Analysts
- Computer Programmers
- Software Developers, Applications

GREEN CARD

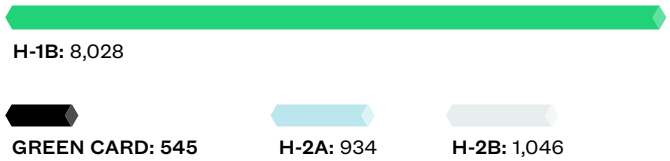
Number of positions:

545

Top jobs:

- Software Developers, Applications
- Mechanical Engineers
- Internists, General

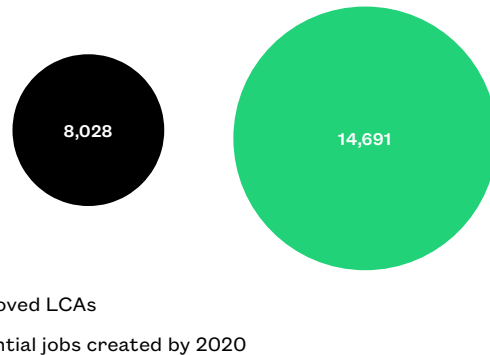
CERTIFIED POSITIONS BY VISA TYPE, 2014



* This includes only employment-based green cards

IF ALL APPROVED LCAs HAD TURNED INTO VISAS...

8,028 LCAs for H-1B workers could have created **14,691 jobs**.



H-2A

Number of positions:

934

Top crops or jobs:

- Corn
- Fruits and Vegetables
- Melons

H-2B

Number of positions:

1,046

Top jobs:

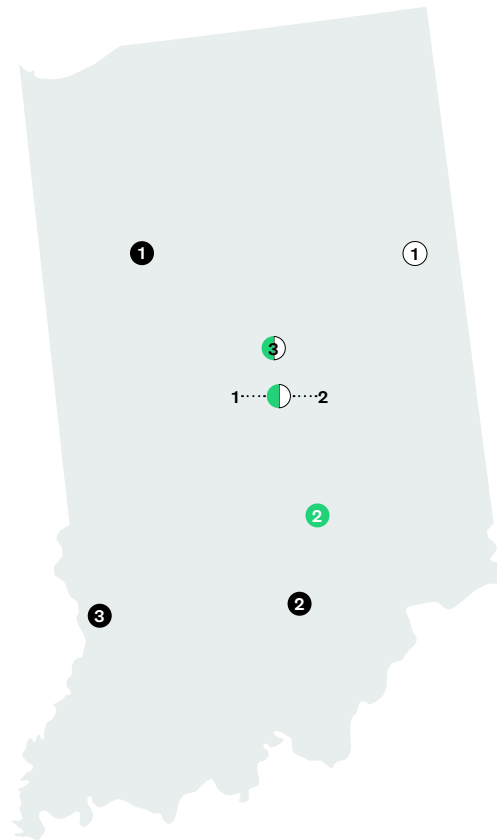
- Amusement and Recreation Attendants
- Landscaping and Groundskeeping Workers
- Combined Food Preparation and Serving Workers

In fiscal year 2014, Indiana employers received DOL certification for almost 11,000 positions, including jobs across a wide variety of occupations and geographies within the state. They included more than 8,000 positions for potential workers on H-1B visas, as well as roughly 900 for H-2A workers. Federal officials also issued more than 1,000 certifications for H-2B visas, which are frequently used to staff places like hotels, fisheries, and stables during the high season. Given that it is expensive and cumbersome for employers to obtain labor certs—and similarly daunting to formally apply for an H-1B visa—the large interest in all these visa categories indicates Indiana employers likely were having real trouble finding the workers they needed on U.S. soil.

Applying for a certification, however, is not the same as receiving a visa. The H-1B program is currently capped at 85,000 visas a year for private sector employers. In the country as a whole, this resulted in almost half of all such applications being rejected in fiscal year 2014 alone. The H-2B program is similarly limited to just 66,000 visas per year. Even permanent immigrants get ensnared in the limitations of our outdated immigration system. Only seven percent of all green cards can go to nationals of any one country in a given year—resulting in backlogs lasting years for many Indian, Chinese, Mexican, and Filipino workers.¹⁸

When companies are denied the visas they need, company expansion is commonly slowed—often at a real and meaningful cost to the U.S.-born population. One study by the Partnership for a New American Economy and the American Enterprise Institute estimated that when a state receives 100 H-2B visas, 464 jobs are created for U.S.-born workers in the seven years that follow.¹⁹ The fact that H-1B visa holders actually create—not take away—jobs from Americans has also been widely supported in the literature. A 2013 paper written by professors at Harvard University looking at the 1995 to 2008 period found that 1 additional young, high-skilled immigrant worker hired by a firm created 3.1 jobs for U.S.-born workers at that same company during the period studied.²⁰ Other academics have tied each

CITIES ARE DEMANDING VISAS ALL OVER THE STATE



H-1B

Top cities:

- 1 Indianapolis
- 2 Columbus
- 3 Carmel

H-2A

Top cities:

- 1 Tippecanoe
- 2 Vallonia
- 3 Oaktown

H-2B

Top cities:

- 1 Farmland
- 2 Indianapolis
- 3 Carmel

H-1B visa award or labor request with the creation of four²¹ or five²² American jobs in the immediate years that follow.

In this brief, we rely on a more conservative estimate of the impact of the H-1B program on the American workforce. Specifically, we use the estimate that every 1 additional H-1B visa awarded to a state was associated with the creation of 1.83 more jobs for U.S.-born workers there in the following seven years.²³ On the first page of this section, we show the number of jobs that would have been created for U.S.-born workers in Indiana by 2020 if all the fiscal year 2014 LCAs for H-1Bs had turned into actual visas. We also show how the large number of H-1B visas denied to the Indianapolis metropolitan area in 2007 and 2008 cost U.S.-born tech workers there in the two years that followed.

HOW THE SMALL SUPPLY OF H-1B VISAS HURTS TECH WORKERS IN THE INDIANAPOLIS METRO AREA

468 H-1B denials for tech workers in the metro area cost computer workers there...

714 ↓

Potential new jobs and **\$7.6M** in aggregate wage growth in the two years that followed.

Naturalization

Indiana’s immigrants are not only living in the state, they are also laying down roots in the state as well. Our analysis found that 39.0 percent of immigrants in Indiana, or over one in three of them, have already become naturalized citizens. Although that figure is lower than the naturalization rate for immigrants in the country as a whole, it still means that almost 126,000 immigrants in the state have taken that important step.

Like almost all parts of the country, Indiana is also home to a population of immigrants who are eligible to naturalize, but haven’t yet done so. Embracing public policies that would help those individuals navigate the naturalization process could have an important economic impact on the state. Studies have found that immigrants who become citizens seek out higher

education at greater rates than non-citizens.²⁴ Because citizenship allows immigrants to pursue a greater range of positions, including public and private sector jobs requiring a security clearance, it also has been found to raise a person’s annual wages. One study by researchers at the University of Southern California pegged the size of that wage increase at 8 to 11 percent.²⁵ If the average non-citizen in Indiana saw a wage boost at the low end of that range, or 8 percent, she would earn more than \$2,400 more per year— money that could be reinvested in the state’s economy through her spending at local businesses. Multiplied by the roughly 100,000 non-citizens in Indiana currently eligible to naturalize, such policy initiatives could collectively boost wages in the state by almost \$250 million.

102,586

Number of non-citizens eligible to naturalize in 2014

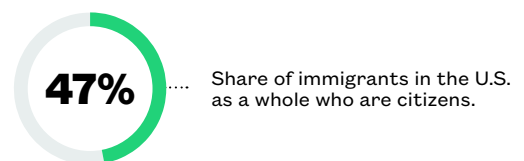
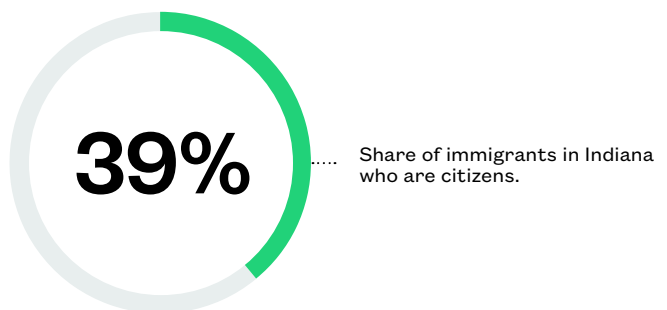


The average non-citizen in Indiana earns **\$30,198** per year. If they naturalized, they each could earn an average of **\$2,416 more** per year.

\$247.8M

Aggregate additional earnings if eligible non-citizens naturalized.

NATURALIZATION RATES IN INDIANA



International Students

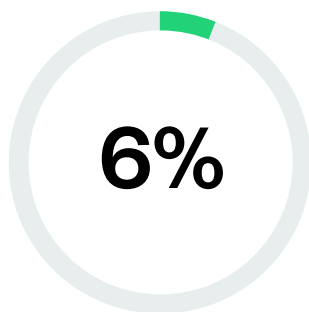
Policymakers are increasingly realizing that international students provide huge benefits to the communities where they live and study. The World Bank has found that an increase in the number of international graduate students studying at American schools leads to large boosts in the number of patents awarded to local research universities in the years that follow.²⁶ Through their tuition payments and day-to-day spending, international students in the broader United States also contributed more than \$30.5 billion to the U.S. economy in the 2014-2015 school year and supported more than 370,000 jobs.

In Indiana, the roughly 25,000 international college students studying on temporary visas make up just 6 percent of all college students in the state. Still, their economic contribution is enormous. They support

almost 11,000 jobs in the state, including positions in transportation, health insurance, and retail.

Through their tuition payments and day-to-day spending, international students in the broader United States contributed more than **\$30.5B** to the U.S. economy in the 2014-2015 school year and supported **more than 370,000 jobs.**²⁷

International students represent a very small portion of all students in Indiana, but they make a big impact...



International students make up only **6%** of all students in Indiana.

\$831.5M

Economic contribution of international students to the state, 2015.

10,847

Jobs supported by international students, 2015.

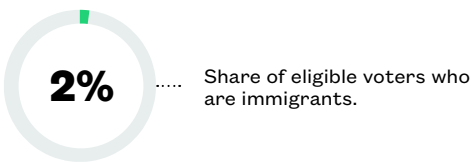
Voting Power

Immigrants in Indiana do not only make a difference to the state's economy, they also play a large role at the voting booth. In 2014, Indiana was home to roughly 114,000 foreign-born residents who were eligible to vote, including an estimated 53,000 foreign-born residents who had formally registered. Those numbers are particularly meaningful given the narrow margins of victory that have decided elections in the state in recent years. In 2012, Republican presidential candidate Mitt Romney won Indiana by less than 268,000 votes. In 2008, however, President Barack Obama carried the state.

The power of immigrant voters is likely to continue to be a large factor in upcoming elections. Based on voting participation patterns in recent years, we would expect roughly 33,000 foreign-born voters to cast formal ballots in the presidential election this year. An additional 24,000 more immigrants will either naturalize or turn 18 by 2020, expanding the pool of eligible new American voters in Indiana to almost 130,000 people.

113,765

Number of immigrants eligible to vote.



53,415

Number of immigrants registered to vote.

267,656

Margin of victory in the 2012 presidential election.

THE GROWING POWER OF THE IMMIGRANT VOTE

- Immigrants who will become eligible to vote by turning 18
- Immigrants who will become eligible to vote through naturalization

2016

6,414

2,769

2020

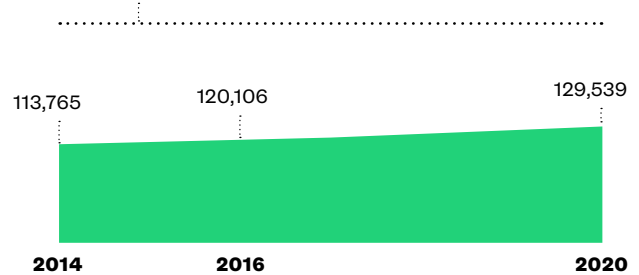
19,243

5,235

PROJECTED POOL OF ELIGIBLE IMMIGRANT VOTERS, 2014-2020

267,656

Margin of victory in the 2012 presidential election



*Margin not drawn to scale

Undocumented Population

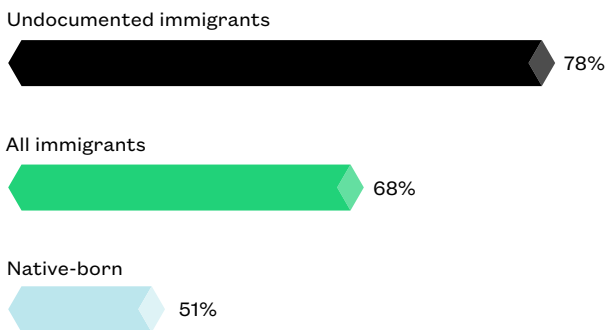
The United States is currently home to an estimated 11.4 million undocumented immigrants, the vast majority of whom have lived in the United States for more than five years. The presence of so many undocumented immigrants in our country for such a long time presents many legal and political challenges that are beyond the scope of this report. But while politicians continue to debate what to do about illegal immigration without any resolution, millions of undocumented immigrants are actively working across the country, and collectively, these immigrants have a large impact on the U.S. economy. One recent study found that 86.6 percent of undocumented males in the country were employed in 2012 and 2013, suggesting that most immigrants who come here illegally do so because of work opportunities.²⁸ And because employers are required by law to gather Social Security numbers for all their hires,

many undocumented individuals are paying into our tax system as well—often under falsified or incorrect Social Security numbers.²⁹ These undocumented immigrants generally lack access to federal aid programs such as Medicaid, food stamps, and Temporary Assistance for Needy Families, so they also draw down far less from these programs than their native-born counterparts.³⁰

One recent study found that 86.6% of undocumented males in the country were employed in 2012 and 2013, suggesting that most immigrants who come here illegally do so because of work opportunities.

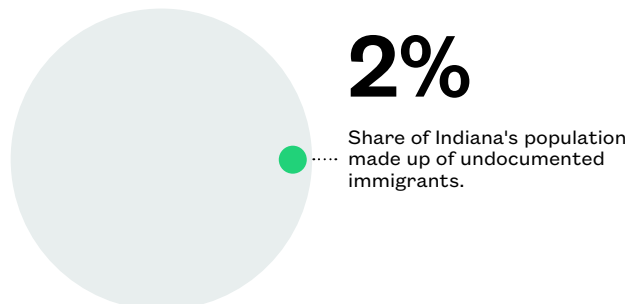
UNDOCUMENTED IMMIGRANTS ARE MORE LIKELY TO BE WORKING-AGED THAN NATIVES OR OTHER IMMIGRANTS

Share of population ages 25-64, 2014



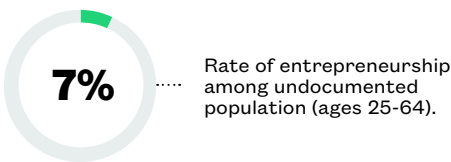
106,590

Estimated number of undocumented immigrants in Indiana.



6,034

Estimated number of undocumented entrepreneurs in Indiana.



\$105.6M

Total business income of self-employed entrepreneurs.

2.7%

Share of all working-age entrepreneurs in Indiana who are undocumented immigrants.

THE INDIANA INDUSTRIES WHERE UNDOCUMENTED IMMIGRANTS MAKE UP THE LARGEST SHARE OF THE WORKFORCE, 2014



Of course, there are many compelling reasons that having a large undocumented population is a problem for a society. It undermines law and order, permits a shadow economy that is far harder to regulate, and is simply unfair to the millions of people who have come here legally. But as the undocumented immigration problem has gone largely unaddressed for the past 30 years, undocumented workers in the country have begun to play an increasingly integral role in many U.S. industries. In some sectors, such as agriculture, undocumented immigrants account for 50 percent of all hired crop workers, making them a critical reason why the industry is able to thrive on U.S. soil.³¹ Many studies have also indicated that these undocumented

workers are not displacing the U.S.-born, but rather, taking jobs few Americans are interested in pursuing. Economists have found that low-skilled immigrants, the group that most undocumented immigrants fall into, tend to pursue different jobs than less-skilled natives. While U.S.-born workers without a high school degree are often overrepresented in forward-facing roles like cashiers, receptionists, and coffee shop attendants, many less-skilled immigrants pursue more labor-intensive work requiring less human interaction, filling jobs as meat processors, sewing machine operators, or nail salon workers.³² This phenomenon exists within industries as well. In construction, for instance, less-skilled immigrants often work as painters and drywall

installers, allowing natives to move into higher paying positions requiring more training, such as electricians, contractors, and plumbers.³³

The challenge of undocumented immigration is becoming increasingly apparent in places like Indiana, which have not historically been home to a large number of such immigrants. But just as with the nation as a whole, as these immigrants spend years and decades in America, they get further integrated into our economy. In Indiana, there is evidence that undocumented immigrants are playing a small but critical role in the workforce. In this section, we estimate the size and the characteristics of the undocumented population in Indiana by conducting a close analysis of the American Community Survey from the U.S. Census. This work uses a series of variables to identify immigrants in the survey who are likely to lack legal status—a method that has recently emerged in the academic literature on immigration.³⁴ (See the Methodology Appendix for more details.)

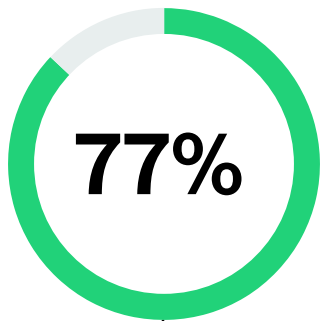
Using this technique, we estimate that Indiana is home to almost 107,000 undocumented immigrants. These individuals are far more likely than the native-born population—or even the broader foreign-born one—

to be in the prime of their working years, or ranging in age from 25-64. They also contribute to a range of industries that could not thrive without a pool of workers willing to take on highly labor-intensive roles. In 2014, for instance, undocumented immigrants made up 9.6 percent of all employees in accommodation and food services, a sector that includes dishwashers, food preparation workers, and short order cooks. They also made up more than one in 4 workers employed in the company management sector, as well as 4.4 percent of workers in administrative, support, and waste management services industry.

Large numbers of undocumented immigrants in Indiana have also managed to overcome licensing and financing obstacles to start small businesses. In 2014, an estimated 7.2 percent of the state’s working-age undocumented immigrants were self-employed—meaning Indiana was the rare state where unauthorized immigrants boasted higher rates of entrepreneurship than either legal permanent residents or immigrant citizens of the same age group. More than 6,000 undocumented immigrants in Indiana were self-employed in 2014, many providing jobs and economic opportunities to others in their community. Undocumented entrepreneurs in the state

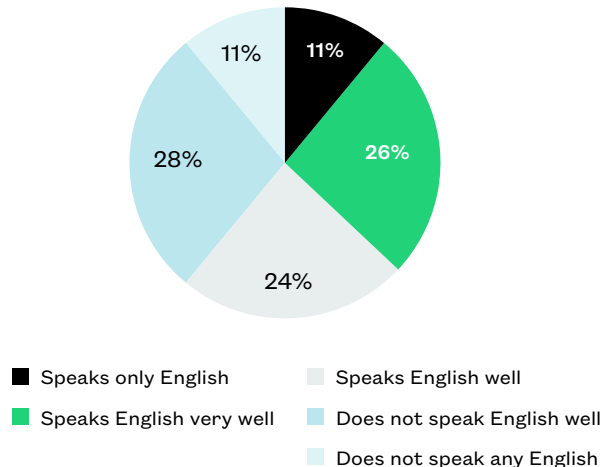
MEASURES OF ASSIMILATION AMONG INDIANA'S UNDOCUMENTED POPULATION, 2014

Time in the United States



Share of undocumented immigrants who have been in the U.S. for five years or more.

English Proficiency (population ages 5+)



In 2014,
undocumented
immigrants in
Indiana earned
\$1.3B.

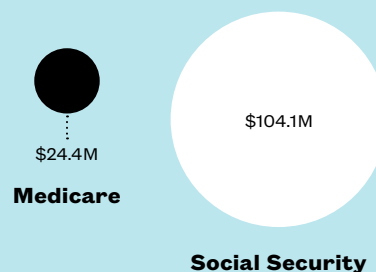
\$64.8M — Went to state and local taxes...

\$84.0M — Went to federal taxes...

Leaving them with **\$1.1B** in
remaining spending.

ENTITLEMENT CONTRIBUTIONS

Undocumented immigrants also contribute to our country's entitlement programs. In 2014, through taxes on their individual wages, immigrants contributed **\$24.4M** to Medicare and **\$104.1M** to Social Security.



also earned an estimated \$105.6 million in business income that year.

The larger political debate around the economic cost or benefits of undocumented immigration tends to focus on the expense of educating immigrant children or the healthcare costs associated with increased use of emergency rooms and other services. These costs are real and can be substantial, but taken alone they paint an incomplete picture of the impact of undocumented immigration. This is because the debate infrequently recognizes that since most undocumented immigrants are working, they make large federal and state tax contributions and frequently are net contributors to many of our most important—and most imperiled—benefits programs. Social Security’s Chief Actuary, for example, has credited unauthorized immigrants with contributing \$100 billion more to Social Security than they drew down in benefits during the last decade.³⁵ Several in-depth studies at the state level have similarly come to the conclusion that undocumented immigrants represent a net benefit to the states in which they live. One paper, from researchers at Arizona State University, estimated that undocumented immigrants in that state pay \$2.4 billion in taxes each year—a figure far eclipsing the \$1.4 billion spent on the law enforcement, education, and healthcare resources they use.³⁶ Another study estimated that, on a per capita basis, Florida’s undocumented immigrants pay \$1,500 more in taxes than they draw down in public benefits each year.³⁷

Although we are currently unable to calculate the amount spent on any public benefits or services used by undocumented immigrant families, we can gain a fairly clear sense of the amount they are paying in taxes each year. A variety of studies have estimated that anywhere from 50 to 80 percent of households led by undocumented immigrants file federal income taxes annually.³⁸ Federal government officials have also estimated that 75 percent of undocumented workers have taxes withheld from their paychecks.³⁹ In this paper, we make the assumption that 50 percent of the country’s undocumented households paid income taxes in 2014. Although many experts would call this share highly conservative, it has been modeled in several academic papers, and also by think tanks that specialize exclusively in the study of U.S. tax policy.⁴⁰

In 2014, we estimate that Indiana households led by undocumented immigrants earned almost **\$1.3B** in income.

In 2014, we estimate that Indiana households led by undocumented immigrants earned almost \$1.3 billion in income. Of that, they paid an estimated \$84.0 million in federal taxes. They also contributed more than \$104.1 million directly to the Social Security program through taxes on their individual wages. Indiana’s undocumented immigrants also made an important impact through their state and local tax contributions—money that many localities use to pay for police forces, public education, and city services like garbage collection and recycling. We estimate that Indiana’s undocumented immigrants paid almost \$64.8 million in state and local taxes in 2014.

Giving legal status to undocumented immigrants would increase their access to a variety of public benefits—resulting in potentially higher costs for federal, state, and local governments. But because legalization is expected to raise the earning power of undocumented immigrants and give them access to a wider array of jobs and educational opportunities, it would have the opposite effect as well, potentially allowing them to spend more as consumers and pay more in taxes each year.⁴¹ Provisions within immigration reform requiring that undocumented immigrants pay any back taxes before normalizing their status would temporarily boost U.S. tax revenues still further.

But while the debate over legalization continues without resolution, the data suggests that the undocumented immigrants in Indiana have largely assimilated into the United States, making it less likely that mass deportation will ever be a realistic option. We estimate that 77.0 percent of the state’s undocumented population has been in the United States for five or more years. Approximately 60.7 percent speak English well, very well, or fluently. Studies show that when immigrants with limited English proficiency learn the language, they see a substantial wage benefit and become less isolated in their communities.⁴² The labor market outcomes and educational levels of their children increase with time as well.⁴³

Methodology

The vast majority of data that appears in this brief was calculated by the Partnership for a New American Economy research team, using a variety of publicly available data sources. Our work relied most heavily on the 2014 American Community Survey (ACS) 1-year sample using the Integrated Public Use Microdata Series (IPUMS) database.¹ Unless otherwise noted this data is weighted using the person weight for analysis at the individual level, and is weighted using the household weight for analysis at the household level.

Demographics

The data points on the foreign-born population in the demographics section are calculated using both the 2010 and 2014 ACS 1-year sample.

Entrepreneurship

The data on self-employed immigrants and the business income generated by immigrant entrepreneurs come from the 2014 ACS 1-year sample. We define immigrants as foreign-born individuals (excluding those that are children of U.S. citizens or born on U.S. territories).

The number of employees at immigrant-owned firms is estimated by using the 2007 Survey of Business Owners (SBO) Public Use Microdata Sample (PUMS),² which is the most recent microdata on business owners currently available. The estimates are weighted using the tabulation weights provided in the dataset. We define immigrant-owned businesses as firms with at least one foreign-born owner. For confidentiality, the data exclude businesses classified as publicly owned firms because they can be easily identified in many states. Based on our own analysis, we believe that many of the publicly owned firms excluded from this data are companies with

500 employees or more. As a result, the final number of employees at immigrant-owned companies in this report is a conservative estimate, and is likely lower than the true value.

Fortune magazine ranks U.S. companies by revenue and publishes a list of top 500 companies and their annual revenue as well as their employment level each year. To produce our estimates, we use the 2015 Fortune 500 list.³ Our estimates in this section build on past work done by PNAE examining each of the Fortune 500 firms in the country in 2011, and determining who founded them.⁴ We then use publicly available data, including historical U.S. Census records and information obtained directly by the firms, to determine the background of each founder. In the rare cases where we could not determine a founder's background, we assumed that the individual was U.S.-born to be conservative in our estimates. Some firms created through the merger of a large number of smaller companies or public entities were also excluded from our analysis. These included all companies in the utilities sector and several in insurance.

To produce the Fortune 500 estimates for each state, we allocate firms to the states where their current headquarters are located. We then aggregate and report the annual revenue and employment of the firms in each state that we identify as "New American" Fortune 500 companies. These are firms with at least one founder who was an immigrant or the child of immigrants.

Income and Tax Contributions

Using the 2014 ACS 1-year data, we estimate the aggregate household income, tax contributions, and spending power of foreign-born households.

To produce these estimates, a foreign-born household is defined as a household with a foreign-born household head. Immigrant sub-groups are defined as follows: 1) Asian immigrants refer to the foreign-born persons who self identify as Chinese, Taiwanese, Japanese, Filipino, Asian Indian, Korean, Native Hawaiian, Vietnamese, Bhutanese, Mongolian, Nepalese, Cambodian, Hmong, Laotian, Thai, Bangladeshi, Burmese, Indonesian, Malaysian, Pakistani, Sri Lankan, Samoan, Tongan, Guamanian/Chamorro, Fijian, or other Pacific Islanders; 2) Hispanic immigrants include those foreign-born persons who report their ethnicity as Hispanic; 3) Immigrants grouped under Sub-Saharan Africa originate from African countries, excluding the North African countries of Egypt, Libya, Tunisia, Algeria, and Morocco ; 4) Middle Eastern and North African immigrants are foreign-born persons from North Africa as well as the following Middle Eastern countries: Iran, Iraq, Bahrain, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arab, Syria, United Arab Emirates, and Yemen.

In this brief, mirroring past PNAE reports on this topic, we use the term “spending power.”⁵ Here and elsewhere we define spending power as the disposable income leftover after subtracting federal, state, and local taxes from household income. We estimate state and local taxes using the tax rates estimates produced by Institute on Taxation and Economic Policy by state income quintiles.⁶ For federal tax rate estimates, we use data released by the Congressional Budget Office in 2014 and calculate the federal tax based on the household income federal tax bracket.⁷

Social Security and Medicare contributions are drawn from taxes on an individual’s wage earnings.⁸ This is far different from a household’s overall income, which may include other revenue streams such as rental income and returns on investments. To account for this difference between overall federal taxes and Social Security and Medicare contributions, we estimate Medicare and Social Security contributions based on wage and salary data provided at the individual level in the ACS. For self-employed individuals, we use the self-employment income as the income base. The amount of earnings that can be taxed by the Social Security

program is capped at \$117,000, while there no such limit for the Medicare program.⁹ We use a flat tax rate of 12.4 percent to estimate Social Security contributions and 2.9 percent for to capture Medicare contributions. This estimates the total amount that immigrants and their employers contributed in 2014.¹⁰

It is also worth noting that half of the amount contributed to Social Security and Medicare (6.4 percent of Social Security tax rate and 1.45 percent of Medicare tax rate) comes from individual workers, while the other half comes directly from their employers. Self-employed workers have to pay the full tax themselves. When estimating Social Security and Medicare contributions, we include all individual wage earners in the households and aggregate the amount paid by state.

Workforce

We use the 2014 ACS 1-year sample to estimate all data points in the workforce segment of the report. We define the working age population as those 25 to 64 years old. When estimating how much more foreign-born persons are likely to be employed than native-born persons, however, we calculate the percentage of native-born and foreign-born residents of all ages who were employed in 2014. The reason why we choose a more inclusive population for that estimate is because we want to make the point that the increased likelihood of being working aged that we see among immigrants leads to higher employment in the vast majority of states.

Because the employment status of people who are 16 years old or younger is not available in the ACS, we assume that these young people are not employed. The employed population also does not include those in the Armed Forces.

To estimate how much more likely immigrants are to be employed than natives, we calculate the percent difference between the immigrant and native-born employment rates. Our estimates on the share of immigrants and natives of different education levels only take into consideration individuals aged 25 or older.

The North American Industry Classification System, or NAICS Industry code, is used to estimate the industries with the largest share of foreign-born workers. All individuals 16 years old and above are included in these calculations. The total number of workers for certain industries in some states is extremely small, thus skewing results. In order to avoid this, we calculate the percentile distribution of the total number of workers per industry per state and drop the industries in each state that fall below the lowest 25th percentile. Estimated occupations with the largest share of foreign-born workers per state also follow the same restrictions—the universe is restricted to workers age 16 and above, and the occupations per state that fall under the 25th percentile benchmark are not included.

Our estimates on the number of manufacturing jobs created or preserved by immigrants rely on a 2013 report by the Partnership for a New American Economy and the Americas Society/Council of the Americas. That report used instrumental variable (IV) strategy in regression analysis and found that every 1,000 immigrants living in a county in 2010 created or preserved 46 manufacturing jobs there.¹¹ We use that multiplier and apply it to the 2010 population data from the ACS to produce our estimates.

Agriculture

We access the agriculture GDP by state from Bureau of Economic Analysis, which includes GDP contributions from the agriculture, forestry, fishing, and hunting industry.¹² The share of foreign-born agricultural workers is estimated using 2014 ACS 1-year sample. Additional data on agriculture output, top three crops per state, and leading agricultural exports come from United State Department of Agriculture (USDA)'s state fact sheets.¹³ When displayed, data on sales receipts generated by the top fresh produce items in each state come the Farm and Wealth Statistics cash receipts by commodity tables available from the USDA's Economic Research Service.¹⁴

The agriculture section uses the Quarterly Census of Employment and Wage (QCEW) to estimate the

percentage of crop farms producing fresh fruits and vegetables, and change in real wage of agricultural workers between 2002 and 2014. The QCEW data uses the North American Industry Classification System (NAICS) to assign establishments to different industries. We identify the following farms as fresh fruits and vegetable farms: other vegetable and melon farming, orange groves, citrus, apple orchards, grape vineyards, strawberry farming, berry farming, fruit and tree nut combination farming, other non-citrus fruit farming, mushroom production, other food crops grown under cover, and sugar beet farming.

The decline in the number of field and crop workers comes from the quarterly Farm Labor Survey (FLS) administered by USDA.¹⁵ Stephen Bronars, an economist with Edgeworth Economics, previously analyzed and produced these estimates for the PNAE report, “A Vanishing Breed: How the Decline in U.S. Farm Laborers Over the Last Decade has Hurt the U.S. Economy and Slowed Production on American Farms” published in 2015. Additional information on those calculations can be found in the methodology section of that paper.¹⁶

Finally, for a small number of states, we also produce estimates showing how growers in the state are losing market share for specific produce items consumed each year by Americans, such as avocados or strawberries. Those estimates originate in a 2014 report produced by PNAE and the Agriculture Coalition for Immigration Reform.¹⁷ The author used data from the USDA's annual “yearbook” for fresh fruits and vegetables, among other sources, to produce those estimates. More detail can be found in the methodology of that report.

Science, Technology, Engineering, and Math

We use the STEM occupation list released by U.S. Census Bureau to determine the number and share of foreign-born STEM workers as well as the number of unemployed STEM workers from 2014 ACS 1-year data.¹⁸ Per U.S. Census classification, healthcare workers such as physicians and dentists are not counted as working in

the STEM occupations. All unemployed workers who list their previous job as a STEM occupation are counted as unemployed STEM workers.

To capture the demand for STEM workers, we use the Labor Insight tool developed by Burning Glass Technologies, a leading labor market analytics firm. Burning Glass, which is used by policy researchers and academics, scours almost 40,000 online sources daily and compiles results on the number and types of jobs and skills being sought by U.S. employers. This search includes online job boards, individual employer sites, newspapers, and public agencies, among other sources. Burning Glass has an algorithm and artificial intelligence tool that identifies and eliminates duplicate listings—including ones posted to multiple job boards as part of a broad search.¹⁹

The data on STEM graduates are from the 2014 Integrated Postsecondary Education Data System (IPEDS) completion survey.²⁰ A study by the Partnership for a New American Economy and the American Enterprise Institute found that every time a state gains 100 foreign-born STEM workers with graduate-level STEM training from a U.S. school, 262 more jobs are created for U.S.-born workers there in the seven years that follow.²¹ We use this multiplier and the number of STEM advanced level graduates on temporary visas to estimate the number of jobs created for U.S.-born workers.

The last part of the STEM section presents data on patents with at least one foreign-born inventor. The data is originally from a study by Partnership for a New American Economy in 2012, which relied on data from U.S. Patent and Trademark Office's database as well as LinkedIn, direct correspondence, and online profiles to determine the nativity of individual inventors.²²

Healthcare

We estimate the number of unemployed healthcare workers using the 2014 ACS 1-year sample. Healthcare workers are healthcare practitioners and technical occupations, or healthcare support occupations as defined by U.S. Census Bureau.²³

Unemployed healthcare workers are individuals who report their previous job as a healthcare occupation, and their employment status as currently not working but looking for work. We took the number of job postings for healthcare workers from the Burning Glass Labor Insight tool, a database that scours online sources and identifies the number and types of job postings. We describe this resource in detail in the section on STEM methodology.

We then delve into specific occupations within the broader healthcare industry. To produce the figures on the total number of physicians and psychiatrists and the share born abroad, we use American Medical Association (AMA) Physician Masterfile data. To give a sense of the supply and demand of physicians and psychiatrists, we also calculate the physician and psychiatrist density in each state by dividing the total number of physicians or psychiatrists by the population estimates in 2015 for each state.²⁴ As for the share of foreign-born nurses and home health aides, we use the 2014 ACS 5-year sample data because data from the 1-year sample is too small to make reliable estimates.

We estimate the shortage of psychiatrists, dentists, and occupational therapists using data from the various U.S. government offices. For example, the shortage of psychiatrists refers to the current lack of psychiatrists per the U.S. government's official definition of a mental health shortage area (1/30,000 residents) in each county, aggregated within each state.²⁵ The shortage of dentists is from an analysis by U.S. Department of Health and Human Services,²⁶ and the shortage of occupational workers is from a journal article published by PM&R, the official scientific journal of the American Academy of Physical Medicine and Rehabilitation.²⁷ For psychiatrists, we project future shortages by accounting for individuals in these occupations as they reach the retirement age of 65.

Housing

The data in the housing section comes from the 2014 ACS 1-year sample. Immigrant homeowners are defined as foreign-born householders who reported living in

their own home. We estimate the amount of housing wealth held by immigrant households by aggregating the total housing value of homes owned by immigrant-led households. We also estimate the amount of rent paid by immigrant-led households by aggregating the rent paid by such families. We then calculate the share of housing wealth and rent that immigrant households held or paid compared to the total population. For characteristics of homeowners, a foreign-born new homebuyer is defined as a household with a foreign-born household head who owned and moved to the current residence within the last five years.

Visa Demand

The data on visa demand are drawn primarily from the 2014 Annual Report produced by the Office of Foreign Labor Certification within the U.S. Department of Labor.²⁸ Our figures on the number of visa requests authorized for each state—as well as the occupations and cities those visas are tied to—originate directly from that report.

In this section, we also present estimates on the number of jobs that would have been created if all the visas authorized in 2014 had resulted in actual visa awards. The multipliers we use to produce these estimates originate in a 2011 report released by PNAE and the American Enterprise Institute. That report, written by the economist Madeline Zavodny, used a reduced-form model to examine the relationship between the share of each state’s population that was immigrant and the employment rate of U.S. natives. More detail on Zavodny’s calculations and the multipliers produced for each visa type can be found in the methodology appendix of that report.²⁹

For purposes of these briefs, we use Zavodny’s finding that the award of 100 additional H-1B visas in a state is tied to 183 additional jobs for natives there in the 7 years that follow. The award of 100 additional H-2B visas creates 464 additional jobs for natives in the state during that same time period. We apply these multipliers to the number of visas in those categories authorized for each state in 2014.

In many of the state reports, we also present figures showing how visa denials resulting from the 2007 and 2008 H-1B lotteries cost the tech sectors of metropolitan areas both employment and wage growth in the two years that followed. The economists Giovanni Peri, Kevin Shih, and Chad Sparber produced these estimates for a PNAE report on the H-1B visa system that was released in 2014. That report relied on Labor Condition Application and I-129 data that the authors obtained through a Freedom of Information Act request, as well as American Community Survey data from 2006 and 2011. The authors did regressions that examined the causal relationship between a “shock” in the supply of H-1B computer workers and computer employment in subsequent years for more than 200 metropolitan areas. More information on those estimates can be found in the methodology appendix of that report.³⁰

Naturalization

Using the ACS 2014 1-year sample, non-citizens eligible to naturalize are defined as non-citizens who are 18 years or above, can speak English, and have continuous residence in the United States for at least five years.

Researchers at the University of Southern California’s Center for the Study of Immigrant Integration published a report in 2012, “Citizen Gain: The Economic Benefits of Naturalization for Immigrants and the Economy,” which concluded that immigrants experience an 8 to 11 percent gain in their individual wages as a result of becoming naturalized. Because this earnings gain phases in over time—and we want to be conservative in our estimates—we model a wage increase of just 8 percent when discussing the possible gains that could accrue due to naturalization.³¹ We use this multiplier and the mean individual wages of non-citizens in each state to estimate the additional earnings that non-citizens would earn if they naturalized. Finally, we calculate the aggregate wage earnings boost by multiplying the total number of non-citizens who are eligible for naturalization by the average increase in wage income per person.

International Students

We obtain the size and share of postsecondary students who are international in each state from the 2014 Integrated Postsecondary Education Data System (IPEDS) fall enrollment data. Those figures are then applied to preexisting work previously done by NAFSA, an organization representing professionals employed in the international offices of colleges and universities across the United States. NAFSA has developed an economic value tool and methodology that estimates the total economic benefit and jobs created or supported by international students and their dependents in each state.³² The economic contributions include the costs of higher education along with living expenses minus U.S.-based financial support that international students receive.

Because the enrollment data from IPEDS that we use in this brief is different from the underlying data used by NAFSA, our figures differ slightly from the NAFSA estimates of the economic contributions made by international students in the 2014-2015 school year.

Voting

The estimates for the number of registered and active voters who are foreign-born are calculated from the Voter Supplement in the Current Population Survey (CPS) for the years 2008, 2010, 2012, and 2014 using the IPUMS database. The sample in CPS includes civilian non-institutional persons only. Foreign-born individuals who stated having voted between 2008 and 2014 are termed active voters.

Using data from the 2014 ACS 1-year sample, we estimate the number and share of foreign-born eligible voters. We define them as naturalized citizens aged 18 or older who live in housing units. Persons living in institutional group quarters such as correctional facilities or non-institutional group quarters such as residential treatment facilities for adults are excluded from the estimation. We also estimate the number of new foreign-born voters who will become eligible to vote in 2016 and 2020, either by turning 18 or through

naturalization, as well as the total number of foreign-born voters in these years. The estimates of newly eligible voters for 2016 include naturalized citizens ages 16 and 17 as of 2014 (thereby becoming of voting age by 2016). Those eligible to vote in 2020 include all naturalized citizens ages 12-17 in 2014. Applicable mortality rates are also applied.³³ In addition, we estimate newly naturalized citizens using data from the Department of Homeland Security, which show the two-year average of new naturalized citizens by state.³⁴ We discount from these numbers the percentage of children below 18 in households with a naturalized householder by state. Estimates of total foreign-born voters include naturalized citizens aged 18 or older in 2014, discounted by average U.S. mortality rates by age brackets, summed to the pool of newly eligible foreign-born voters.

Margin of victory in 2012 refers to President Barack Obama's margin of victory over Republican candidate Mitt Romney in terms of popular vote. The margins are negative in states that Romney won in 2012.³⁵

Undocumented

Using data from the 2014 ACS, we applied the methodological approach outlined by Harvard University economist George Borjas³⁶ to arrive at an estimate of the undocumented immigrant population in the overall United States and individual states. The foreign-born population is adjusted for misreporting in two ways. Foreign-born individuals who reported naturalization are reclassified as non-naturalized if the individual had resided in the United States for less than six years (as of 2014) or, if married to a U.S. citizen, for less than three years. We use the following criteria to code foreign-born individuals as legal U.S. residents:

- Arrived in the U.S. before 1980
- Citizens and children less than 18 year old reporting that at least one parent is native-born
- Recipients of Social Security benefits, SSI, Medicaid, Medicare, Military insurance, or public assistance

- Households with at least one citizen that received SNAP
- People in the armed forces and veterans
- People attending college and graduate school
- Refugees
- Working in occupations requiring a license
- Government employees, and people working in the public administration sector
- Any of the above conditions applies to the householder's spouse

The remainder of the foreign-born population that do not meet this criteria is reclassified as undocumented. Estimates regarding the economic contribution of undocumented immigrants and the role they play in various industries, and tax contributions are made using the same methods used to capture this information for the broader immigrant population in the broader brief. When estimating the aggregate household income, spending power, and tax contributions, we are not able to make reliable estimates for undocumented-led households in Alaska, Maine, Montana, North Dakota, South Dakota, Vermont, and West Virginia due to the small sample size of undocumented-led households in ACS. Finally, the variables giving a sense of the undocumented population's level of assimilation—including their English proficiency and time in the United States—are estimated by examining the traits of the undocumented population in the 1-year sample of the ACS.

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ABOUT

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The Partnership for a New American Economy brings together more than 500 Republican, Democratic and Independent mayors and business leaders who support sensible immigration reforms that will help create jobs for Americans today. Visit www.renewoureconomy.org to learn more.

