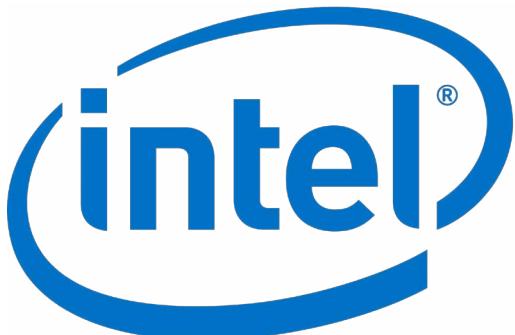


The Contributions of New Americans in Texas



Partners



BRAD
FELD



The Contributions of New Americans in Texas

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Demographics

Texas, our country's second largest state by population, is a giant among even the most immigrant-rich states. From the 1960s to the 1990s, Texas was one of seven states that, together, attracted between 60 to 75 percent of the immigrants arriving to America each year.¹ Today, Texas is home to nearly 4.5 million immigrants, the second largest population of immigrants in the country behind California.

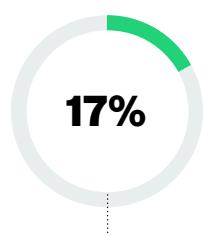
Even though it is already quite large, the foreign-born population in Texas also continues to grow. From 2010 to 2014, Texas's immigrant population swelled by nearly 360,000 people. That meant that the number of immigrants living in Texas grew by 8.7 percent during that period—a larger jump than the increase in the size of the foreign-born population nationally. By 2014,

roughly one in six Texans was foreign-born. These new Americans serve as everything from groundskeepers to software developers, making them valuable contributors to the state's economic success overall.

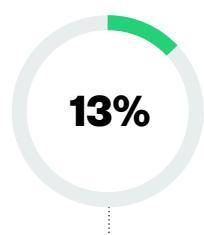
By 2014, roughly 1 in 6 Texans was foreign-born.

4,497,584

Texas residents were born abroad, the **2nd** largest immigrant population in the country.



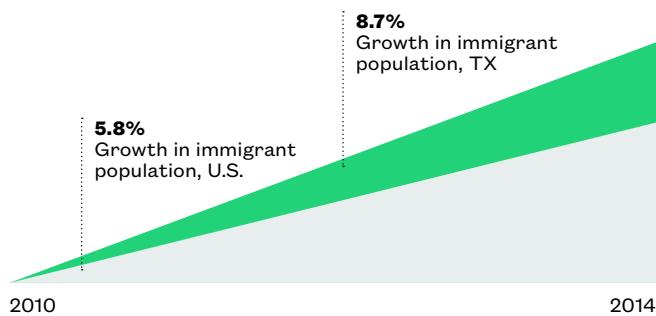
Share of Texas residents born abroad



Share of U.S. residents born abroad

358,172

people immigrated to Texas between 2010 and 2014.

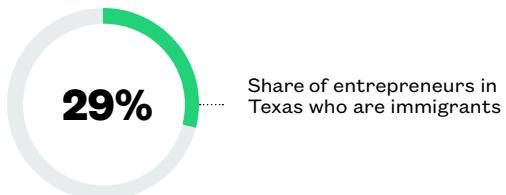


The Role of Immigrants as Entrepreneurs

336,293

immigrants in Texas are self-employed

Immigrant-owned businesses generated **\$7.9B** in business income in 2014.



421,942 people in Texas are employed at firms owned by immigrants.

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

Given that the act of picking up and moving to another country is inherently brave and risky, it should come as little surprise that immigrants have repeatedly been found to be more entrepreneurial than the U.S. population as a whole.² 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.³ 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.⁴ Foreign-born entrepreneurs are also behind 51 percent of our country's billion dollar startups.⁵ 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.

In 2010, roughly 1 in 10 American workers with jobs at private firms were employed at immigrant-founded companies.

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.⁶ In Texas, like the country as a whole, immigrants are currently punching far above their weight class as entrepreneurs. Foreign-born workers currently make up 28.9 percent of all entrepreneurs in the state, despite accounting for just 16.7 percent of Texas' population. Their firms generated \$7.9 billion in business income in 2014. Texas firms

with at least one immigrant owner also provided jobs to roughly 422,000 Americans in 2007.⁷

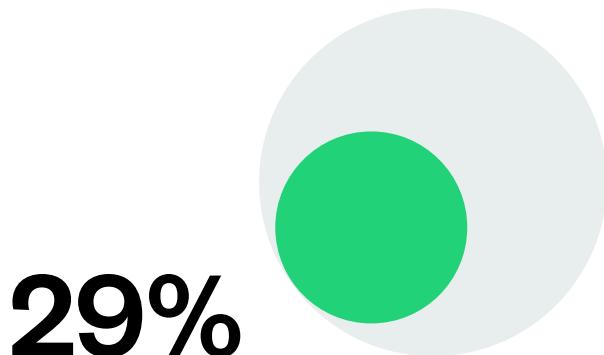
Immigrant entrepreneurs have long been a critical part of Texas' economic success story. Dr. Pepper Snapple Group, a Fortune 500 beverage company based in Plano, Texas, was founded originally by John Courtice Alderton. Alderton, the son of English parents, was the original "Dr. Pepper," the mythic American beverage king.⁸ Fifteen other Fortune 500 firms based in the state—including AT&T and the oil company Phillips 66—had at least one founder who either immigrated to the United States or was the child of immigrants. Together, those 16 companies employ more than 584,000 people globally and bring in almost \$510 billion in revenues each year.

Sixteen Fortune 500 firms based in the state — including AT&T and the oil company Phillips 66 — had at least one founder who either immigrated to the United States or was the child of immigrants.

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.⁹ Here in the United States, many individuals have gone to great lengths to circumnavigate 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 Bussgang 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.¹⁰



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

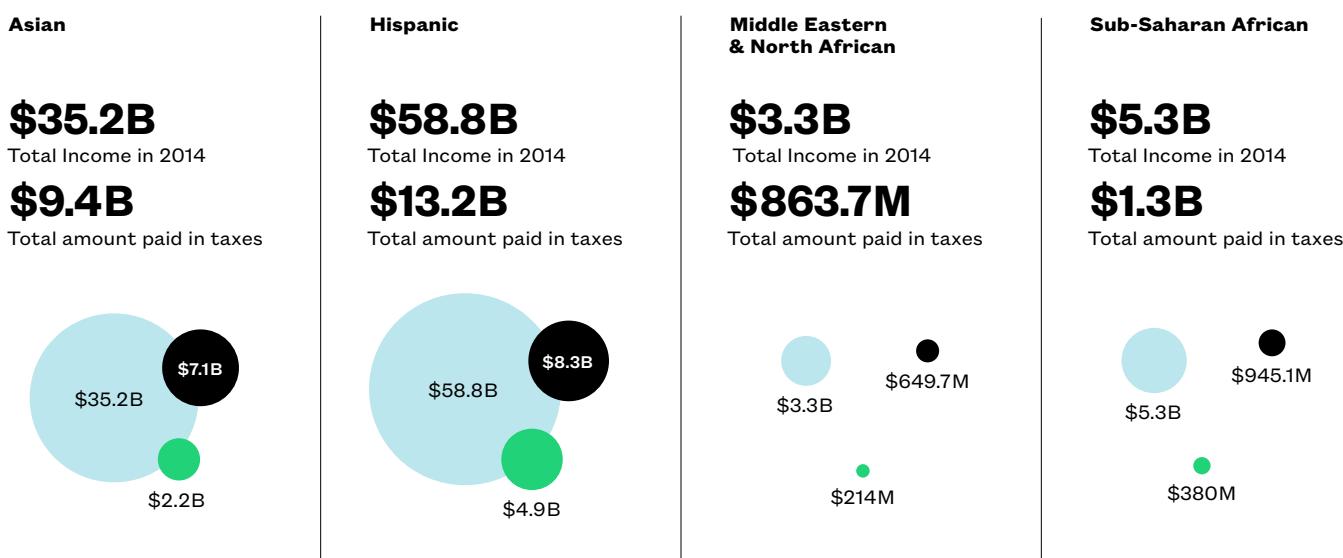
Those firms generate \$510B in annual revenue, and employ 584,881 people globally.

Income and Tax Contributions

Immigrants in Texas play an important role contributing to the state as both taxpayers and consumers. In 2014, immigrant-led households in Texas earned \$ 118.7 billion dollars—or 17.0 percent of all income earned by Texans that year. With those earnings, the state's foreign-born households were able to contribute more than one in every six dollars paid by Texas 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 almost \$ 15.4 billion into 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 Texas immigrants held \$ 89.6 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. Some specific ethnic groups within the immigrant community had particular power as consumers, such as Hispanics and immigrants from Sub-Saharan Africa.

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



■ Total income

■ Amount paid in federal taxes

■ Amount paid in state and local taxes

In 2014, immigrants in Texas earned
\$118.7B.



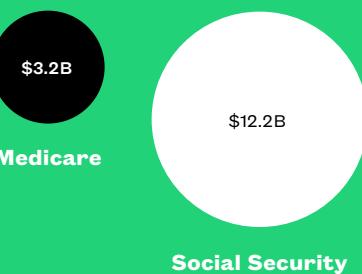
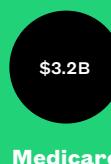
\$8.7B—went to state and local taxes ...

\$20.4B—went to federal taxes ...

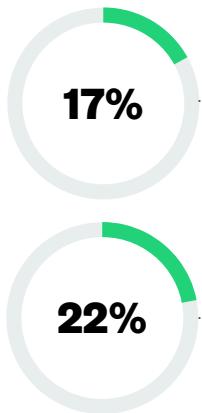
Leaving them with **\$89.6B** in spending power.

ENTITLEMENT CONTRIBUTIONS

Texas' immigrants also contribute to our country's entitlement programs. In 2014, through taxes on their individual wages, immigrants contributed **\$3.2B** to Medicare and **\$12.2B** to Social Security.



The Role of Immigrants in the Broader Workforce



Because they tended to be working-age,

Immigrants were 38.4% more likely to work than native-born Texans.

59.9%

of immigrants of all ages worked in 2014.



43.3%

of the native-born population worked.



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.

In Texas 75.2% of the foreign-born population is working aged, compared to only 47.3% percent of the native-born population.

Immigrants in Texas in many ways resemble the trend in the country as whole. In Texas 75.2 percent of the foreign-born population is working aged, defined in this brief as falling between the ages 25 and 64, compared to only 47.3 percent of the native-born population. That 27.9-percentage point gap, the second largest in the country relative to other states, has major implications

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

FOREIGN-BORN



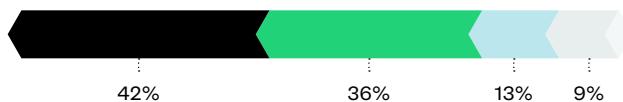
NATIVE-BORN



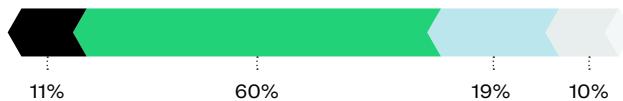
■ 0-24 ■ 25-64 ■ 65+

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

FOREIGN-BORN



NATIVE-BORN



■ Less than High School ■ Bachelor's Degree
■ High School/Some College ■ Graduate Degree

for the state's workforce. In 2014, immigrants in the state were 38.4 percent more likely to be actively employed than the state's native-born residents—a reality driven largely by the fact that a larger than average portion of the native-born population was under the age of 25. Foreign-born individuals punched above their weight class as workers in the state as well: In 2014, they made up 21.7 percent of all employed individuals in the state, despite accounting for 16.7 percent of the Texas' population overall.

When it comes to education, however, Texas differs from the national pattern. Immigrants here are less likely to have either a bachelor's degree or graduate level training than native-born residents. Instead, they are considerably more likely to have less than a high-school education: More than two in five of the state's immigrants fall into that category, compared to 10.8 percent of natives.

Reflecting their unique educational profile, immigrants in Texas make up a large share of workers in a variety of labor-intensive industries. More than half of the employees in the state's landscaping industry are foreign-born, as are 46.7 percent of workers providing services such as extermination and carpet cleaning to

buildings and dwellings. Immigrants also account for 37.4 percent of workers in construction, contributing to the state's massive real estate industry, which contributed almost \$116 billion to the state's Gross Domestic Product (GDP) in 2014.¹¹ Immigrants also frequently gravitate toward sectors where employers may struggle to find enough interested U.S.-born workers. Immigrants in Texas, for instance, make up 53.6 percent of workers in private households, an industry that includes housecleaners and maids.

The more than 4.1 million immigrants who were living in the state in 2010 were responsible for creating or preserving more than 190,000 manufacturing jobs.

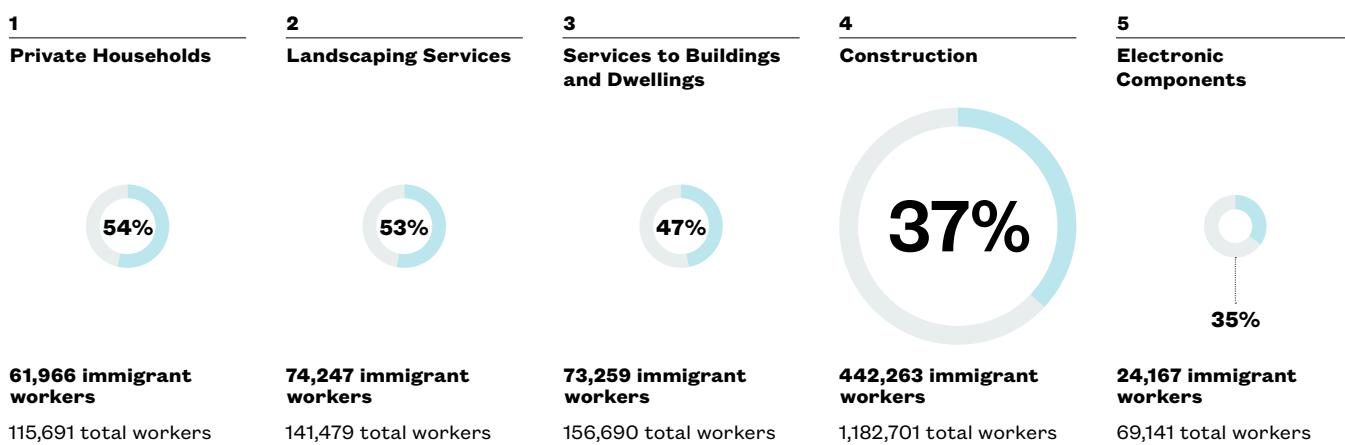
In recent decades, immigrants have also played an important role in Texas' manufacturing industry, which has been the third-fastest growing industry in the state in the years since the recession.¹² Studies have found that the arrival of immigrants to a community can have a powerful impact creating or 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.¹³ The more than 4.1 million immigrants who were living in the state in 2010 were responsible for creating or preserving more than 190,000 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 Texas, like the country as a whole, are often overrepresented in either high-skilled or particularly labor-intensive positions. While foreign-born workers make up 21.7 percent of the state's employed population, they account for 60.4 percent of painters in the construction and maintenance industry. They also make up more than three out of every five maids or housekeepers in the state, and 48.9 percent of carpenters. On the high end, they account for 36.8 percent of software developers for applications and systems software.

INDUSTRIES WITH LARGEST SHARE OF FOREIGN-BORN WORKERS, 2014

■ Share of workers who are immigrants



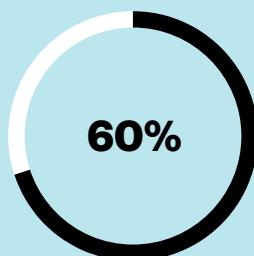
OCCUPATIONS WITH LARGEST SHARE OF FOREIGN-BORN WORKERS, 2014

1
Painters, Construction and Maintenance



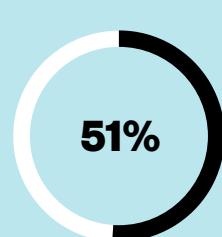
50,758 immigrant workers
84,055 total workers

2
Maids and Housekeeping Cleaners



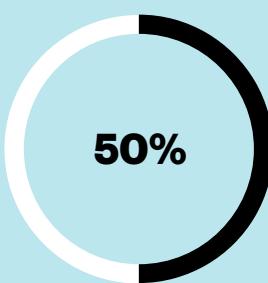
123,853 immigrant workers
205,906 total workers

3
Grounds Maintenance Workers



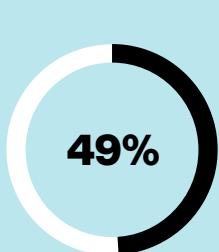
77,852 immigrant workers
152,785 total workers

4
Construction Laborers



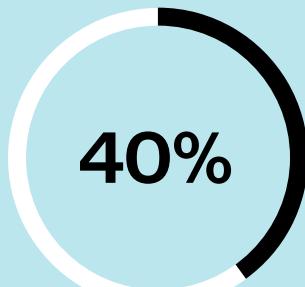
110,702 immigrant workers
222,322 total workers

5
Carpenters



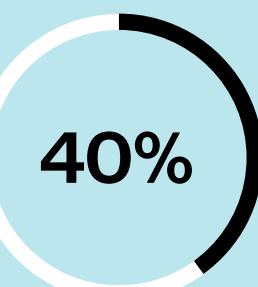
73,088 immigrant workers
149,567 total workers

6
Cooks



118,592 immigrant workers
295,076 total workers

7
Janitors and Building Cleaners



105,258 immigrant workers
266,030 total workers

8
Welding Soldering and Brazing Workers

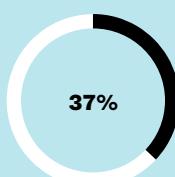


38,940 immigrant workers
101,159 total workers

9
Misc. agricultural workers



23,183 immigrant workers
61,318 total workers



33,201 immigrant workers
90,224 total workers

■ Share of workers who are immigrants

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.¹⁴ Immigrants are already playing a huge part in ensuring that Texas remains a leading innovator in STEM fields like life sciences, aeronautics, and defense. Despite making up just 16.7 percent of Texas' population, immigrants represented 24.5 percent of STEM workers in the state 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, 11.3 STEM jobs were advertised online in Texas for every one unemployed STEM worker in the state.

Despite making up just **16.7%** of Texas' population, immigrants represented **24.5%** of all STEM workers in the state in 2014

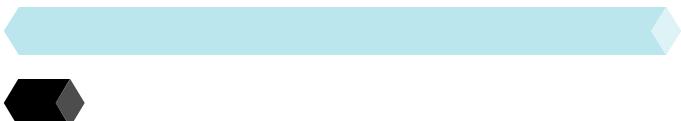
Immigrants, however, are not just a crucial piece of Texas' STEM workforce now—they are also likely to power it in the future. In 2014 students on temporary visas made up roughly one out of every three students earning a STEM Master's degree at Texas' universities, and 48.1 percent of students earning a PhD-level degree in STEM. Even after America's universities invest in their education, though, 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 Texas. 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

212,212

available STEM jobs were advertised online in 2014, compared to **18,698** unemployed STEM workers.

The resulting ratio of open jobs to available workers was

11.3 to 1

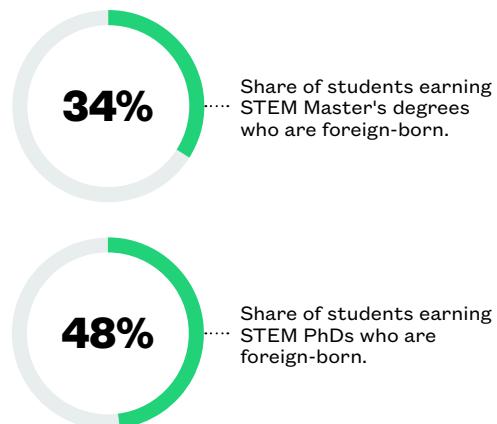


If half of Texas' **5,459** advanced level STEM grads on temporary visas stayed in the state after graduation...

7,151
jobs for U.S.-born workers would be created by 2021.

more jobs are created for U.S.-born workers there in the seven years that follow.¹⁵ For Texas, that means that retaining even half of the 5,459 graduates earning advanced-level STEM degrees in 2014 could result in the creation of over 7,150 new positions for U.S.-born workers by 2021.

Texas' immigrants also contribute to the state's economic growth and competitiveness by earning patents on cutting-edge research and products. In 2011, the University of Texas System earned 134 patents, placing it among the top 10 most productive in the country. Almost 74 percent of those patents had at least one foreign-born inventor. Such patents are licensed to existing companies or used as foundations for new companies, creating American jobs and revenue along the way.



UNIVERSITY PATENTS WITH FOREIGN-BORN INVENTORS, 2011

University of Texas System



█ Share of patents with at least one foreign-born inventor
█ Total number of patents produced

SPOTLIGHT ON

Karen Lozano

Chief Technology Officer, FibeRio Technology Corporation

Karen Lozano, a Mexican-born scientist/engineer, immigrated to the United States in the 1990s to enroll in graduate school at Rice University. Upon earning her doctoral degree in 1999, Lozano became a professor at the University of Texas Rio Grande Valley in the mechanical engineering department.

Lozano and a colleague developed a machine that produce nanofibers 900 times faster than any other solution on the market."

She developed a strong expertise in the area of nanoreinforced polymer systems while promoting education in the Rio Grande Valley area. In 2005, she focused her considerable intellect on a new challenge. As an expert in nanotechnology, Lozano and her colleagues were tired of the painfully slow process of making nanofibers in the lab—as well as the unhealthy chemical solvents that went into making them. Lozano then partnered with another foreign-born colleague to make a true breakthrough: She and her partner invented a machine that used the spinning motion of a centrifuge to produce nanofibers. This method also broadens the type of materials that can be made into fiber form while providing an unprecedented yield of nanofibers. The machine they developed was more than 900 times faster than any other solution then on the market.¹⁶

Lozano is the true embodiment of a serial inventor: She's developed more than 30 patents and patent applications. Her inventions gave rise to FibeRio Technology Corporation, where she served as chief



technology officer. Her technology has received prestigious awards such as the R&D 2011 award and the "Innovations That Could Change the Way You Manufacture" granted by the Society of Manufacturing Engineers, 2010. Lozano has also received several awards and recognitions, last year Lozano was named "Engineer of the Year" by Great Minds in STEM (GMiS), which has been honoring the country's top Hispanic engineers and scientists for almost three decades. Only two other women had previously been honored with this distinction, making Lozano's achievement even more significant.

Lozano says one of the best aspects of her award is that it provides a platform for her to encourage young students, particularly women, to follow a path similar to

hers. “I see it as a great opportunity to motivate young students, to encourage them to work hard and start making the right academic decisions now,” she says.

Lozano’s success is just one example of the many immigrant-led innovations being developed in Texas and across America. In 2011, 76 percent of patents awarded to the top ten patent-producing universities in the United States had at least one foreign-born inventor.

Today, Lozano’s work is helping McAllen, Texas, in the Rio Grande region of South Texas, home to a population of over 1.3 million, as it evolves to meet the needs of America’s increasingly technology-focused economy. FibeRio has recently been acquired by a large, public U.S. corporation that is incorporating nanofibers into filtration and apparel products. Lozano has other ideas and projects that could soon result in a new start-up to further promote the long-term transformation of the Rio Grande Region.

Today's Lozano's work is helping McAllen, Texas, a city in the Rio Grande region of South Texas, **evolve to meet the needs of America's increasingly technology-focused economy.**

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.¹⁷ 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,¹⁸ 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.¹⁹

In Texas, a state where more than one out of every nine residents is currently elderly, finding enough healthcare workers is a challenge—and one that will likely worsen in the future. Currently the state has 239.6 practicing physicians per 100,000 people—a figure that ranks it 38th 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

TEXAS HAS A SHORTAGE OF HEALTHCARE WORKERS

193,380

available healthcare jobs were advertised online in 2014, compared to **34,702** unemployed healthcare workers.

The resulting ratio of open jobs to available workers was

5.6 to 1



Additional number of psychiatrists needed now: **957**



Shortage of dentists projected by 2025: **490**



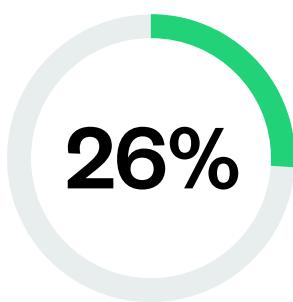
Shortage of occupational therapists by 2030: **5,675**



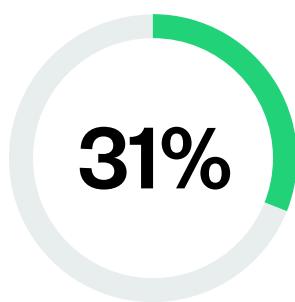
FOREIGN-BORN AND FOREIGN-EDUCATED PROFESSIONALS HELP FILL HEALTHCARE LABOR GAPS

Foreign-Educated

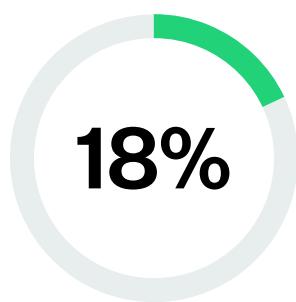
Doctors
16,842 graduates of foreign medical schools



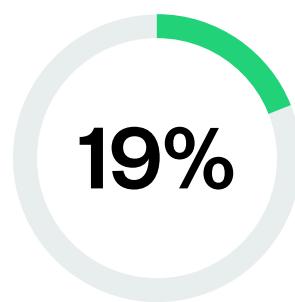
Psychiatrists
832 graduates of foreign medical schools

**Foreign-Born**

Nurses
43,418 foreign-born workers



Nursing, Psychiatric, and Home Health Aides
44,126 foreign-born workers



top of shortages already impacting the state across the entire healthcare workforce. In 2014, 5.6 healthcare jobs were listed online in Texas 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.

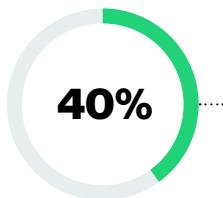
Immigrants are already playing a valuable role helping Texas meet some of its healthcare workforce gaps. In 2016 more than one in four physicians in Texas graduated from a foreign medical school, a likely sign they were born elsewhere. In fact, Texas is among the top 15 states in the country with the largest share of physicians educated abroad. Immigrant healthcare practitioners also made up 18.4 percent of the state's nurses in 2014, as well as 19.4 percent of those working as nursing, psychiatric, or home health aides.

In 2016 more than 1 in 4 physicians in Texas graduated from a foreign medical school, a likely sign they were born elsewhere.

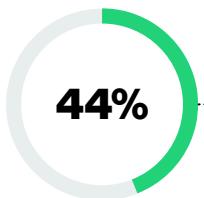
Agriculture

\$11.2B

Amount agriculture contributes to Texas' GDP annually.



Share of miscellaneous agriculture workers on farms who are immigrants.
(This is the occupation made up largely of laborers who hand pick crops in the field.)



Share of hired farmworkers in the state who are immigrants.

One sector of the economy of particular importance to Texas is agriculture. In 2014, the agriculture industry contributed \$11.2 billion to Texas' GDP—the third largest such contribution in any state in the country. It also provided jobs to more than 100,000 Texans. Within that massive industry, fresh fruits and vegetables played a prominent role. In 2014, growers in the state generated \$601.9 million in farm receipts from the sale of fresh fruits, vegetables, and nuts. Two vegetables grown in the state, potatoes and onions, each had sales topping \$100 million that year.

Texas' leading role as a fresh produce producer makes the state's agriculture industry inherently reliant on immigrants. Fresh fruits and vegetables—unlike commodity crops such as corn, soybeans, and wheat—almost always must be harvested by hand. In the case of potatoes, farmers are often able to use machines to get the crop out of the ground. Individual workers, however, do large amounts of work manning conveyer belts, picking out bruised or deformed potatoes that cannot be sold. In Texas, immigrants make

up more than two thirds of all the agriculture workers employed in such grading and sorting roles. That has made foreign-born workers a huge reason why farmers are able to thrive in the state. In 2014, two out of every five hired farmworkers in the state were born abroad.

Texas also ranks among the top 10 states in the country in terms of the amount of milk it produces each year.²⁰ In recent years, the dairy industry has become increasingly reliant on immigrant laborers. One 2015 study found that 51 percent of the laborers on U.S. dairy farms were immigrants. What's more, roughly 70 percent of the dairies that hired immigrant workers reported having "low" or "medium" levels of confidence in the authenticity of their workers' documents—indicating that such establishments are vulnerable to immigration raids or uncertainty surrounding their ability to find sufficient workers in the future.²¹ In Texas, more than one out of every four workers in the animal production industry, the field that includes dairy, were foreign-born in 2014.

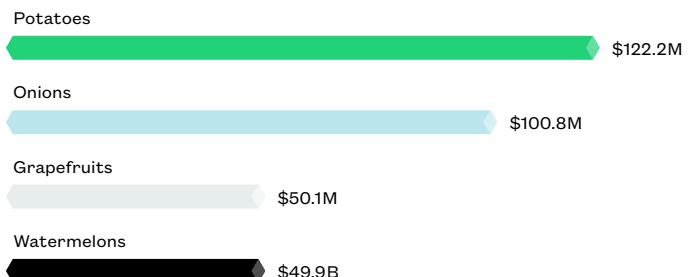
\$601.9M

Farm receipts generated from the sale of fruits, vegetables, and nuts in 2014.

Texas' leading agricultural exports include cotton, other plant products (including sweeteners, and planting seeds), beef and veal.

The current visa system for agriculture presents many problems for states like Texas. The H-2A visa program, which is designed to bring in temporary farm laborers, is too expensive and burdensome for many U.S. farms—and it excludes dairy establishments altogether.²² Growers frequently complain that delays issuing H-2A visas result in workers arriving weeks late, which can lead to crop loss. The visa's lack of portability also means that growers must often commit to pay workers for a longer period than they actually need them. For Texas growers, the lack of a workable visa—coupled with a huge drop-off in the number of farmworkers who have immigrated in recent years—has led to a labor picture that is increasingly untenable. Between 2002 and 2014, the number of field and crop workers in Texas and

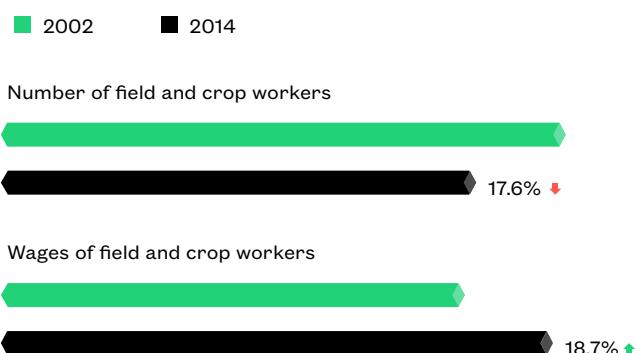
TOP FOUR FRESH PRODUCE ITEMS PRODUCED IN THE STATE, AS MEASURED BY FARM RECEIPTS



Oklahoma decreased by 17.6 percent. As indicated by wage trends, that decline caused a major labor shortage on Texas farms: Real wages for field and crop workers jumped by 18.7 percent during the period.

Many farmers say a **shortage of manpower has forced them to either **cut back on the acres** devoted to labor intensive crops or **abandon expansion plans** altogether.**

THE SUPPLY OF FIELD AND CROP WORKERS IN TEXAS IS DECREASING, LEADING TO LABOR SHORTAGES



5,669

Decline in the number of field and crop workers in Texas and Oklahoma from 2002-2014

When farms lack enough field and crop workers, they often are unable to complete their harvest, leading to crop loss in the fields. Wages go up as well, as growers struggle to compete for the small pool of workers remaining.

The shortage of qualified field and crop workers has made it difficult for many farmers in Texas to keep pace with rising consumer demand for fresh fruits and vegetables. Between the 1998-2000 and 2010-2012 time periods, for instance, the share of produce consumed by Americans that was imported from other countries grew by 79.3 percent. Labor issues explain an estimated 27 percent of that market share loss. Many farmers say a shortage of manpower has forced them to either cut back on the acres devoted to labor intensive crops or abandon expansion plans altogether.²³ Such moves, in

Texas and elsewhere, cost the U.S. economy. If labor shortages had not been an issue, the country would have been home to an estimated 24,000 additional jobs by 2012, including 17,000 in fields outside agriculture like transportation and irrigation. The U.S. economy would have had \$1.3 billion in additional farm income by 2012 as well.²⁴

SPOTLIGHT ON

Bruce Frasier

President, Dixondale Farms

For many people in the agriculture industry, Bruce “Onionman” Frasier is synonymous with the onion business. His 2,200-acre farm, Dixondale Farms, has been operating in rural South Texas for four generations. In addition to cantaloupes, it grows more than 60 different types of onions each year—from the jumbo white varieties to the Candy Red Apple, a red onion famed for its sweetness. Dixondale Farms also is the largest producer in the country of onion bulbs, which it sells to small farms, nurseries, and backyard gardeners nationwide. “About 80 percent of the nursery onion plants in this country,” Frasier says, “come from right here on our farm.”

“About 80% of the nursery onion plants in this country,” Frasier says, “come from right here on our farm.”

But in recent years, the success of Dixondale farms has been jeopardized by a difficult labor situation. Picking onions requires specialized skills: Laborers spend hours hunched over a crate, rubber-banding the leaves of the onion plant, pulling it out of the ground, and then scraping off the excess stem using a license plate. A worker experienced in this technique can easily earn \$100 dollars a day, putting in just five or six hours of work. Such laborers, however, are in short supply these days. And that makes things difficult for Frasier’s farm, and the many surrounding it in South Texas. “When the onions in our region are ripe,” Frasier explains, “they just can’t wait.”



Frasier says that one reason why he’s struggled in recent years is that the number of young immigrant farm workers coming over the border each year is dwindling. And although Frasier has been able to pick up some native-born workers laid off from nearby oil fields in the last year, they prefer to harvest cantaloupe, a job done partially by machine. “I haven’t had a new laborer join my onion crew in years,” Frasier says. That has left him relying on a group of increasingly older immigrant workers that grows smaller each year. Today, Frasier estimates that 65 percent of the onion workers on his farm are older than age 50, and one in five is 60 plus. “We love our workers and have tons of respect for them,” Frasier says, “but as they get older, their capacity starts

to diminish.” Frasier says some of his older workers put in just two or three hours before heading home to rest. That includes “Sarge,” a Vietnam War veteran in his eighties who still comes out each year to help, attracted mostly by the camaraderie and companionship on the farm.

Such workforce realities have led to some tough seasons for Dixondale Farms in recent years. Two years ago, Frasier lost 25 to 30 percent of his onion plants in the field. “It’s hard to describe the feeling until you experience it,” Frasier says, “but it felt like a state of depression.” This year, he started off his onion harvest with just 100 of the 125 workers he needed. He managed to get by without losing too much only thanks to Mother Nature: Hailstorms wiped out nearby fields just after his harvest started, freeing up some laborers to take on more work. “If it had been a normal season,” Frasier says, “it would have been a real struggle.”

Frasier says his situation is particularly maddening because demand for his crops keeps growing. Today, he turns away about 15 percent of orders he receives online. “Because the work we need is so specialized,” he says, “I am hesitant to even try to expand. We wouldn’t have the people to help us.” For years, Frasier has advocated for immigration reform that would create a workable guest worker program for agriculture, and allow farms near to the border like his own to hire day-crossers from Mexico interested in doing the work. But Frasier says he’s starting to lose hope a consensus will be reached. “I don’t want a government big enough to round up 12 million people,” he says, “but I also understand that Republicans worry immigration reform will create a lot of Democratic voters.” Frasier says he thinks it will take food shortages to get Congress’s attention, but agriculture imports make that unlikely. “There will always still be food on the shelves,” Frasier says, “but the trouble is, most of it will be coming from somewhere else—like South America or Mexico.”

“Because the work we need is so specialized,” he says, “I am hesitant to even try to expand. **We wouldn’t have the people to help us.**”

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.²⁵

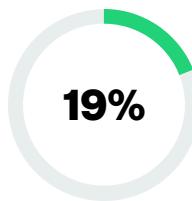
In Texas, immigrants are actively strengthening the state's housing market. In 2014, immigrant-led

households held more than \$171 billion in housing wealth in Texas, or more than one out of every six dollars concentrated in real estate that year. They also paid 21.4 percent of the money Texans spent on rent, despite making up just 20.1 percent of the state's households. Because Texas' 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 26.0 percent of homes, immigrant families made up more than one in five new homebuyers from 2010 to 2014.

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



Share of homeowners who are already elderly.



Share of homebuyers in the last four years who were foreign-born.

\$1,036,752

Number of immigrant homeowners in 2014

\$171.2B

Amount of housing wealth held by immigrant households



16% OF TOTAL

\$713.6M

Amount paid by immigrant-led households in rent



21% OF TOTAL

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:

84,612

Top jobs:

Computer Systems Analysts
Computer Programmers
Software Developers, Applications

GREEN CARD

Number of positions:

6,298

Top jobs:

Software Developers, Applications
Computer Systems Analysts
Computer and Information Systems Managers

CERTIFIED POSITIONS BY VISA TYPE, 2014



* This includes only employment-based green cards

IF ALL APPROVED LCAs HAD TURNED INTO VISAS...

84,612 LCAs for H-1B workers could have created **154,840 jobs**.

H-2A

Number of positions:

2,511

Top crops or jobs:

Livestock
Grains
Melons

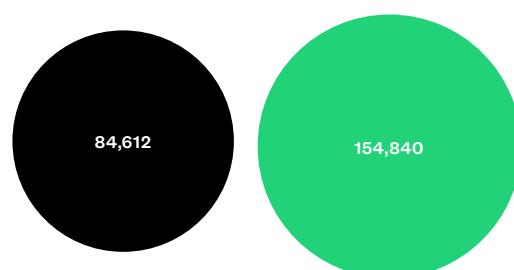
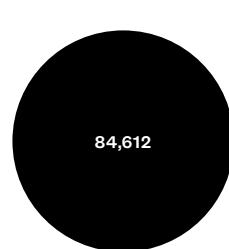
H-2B

Number of positions:

14,517

Top jobs:

Landscaping and Groundskeeping Workers
Construction Laborers
Fishers and Related Fishing Workers



■ Approved LCAs

■ Potential jobs created by 2020

In fiscal year 2014, Texas employers received DOL certification for almost 108,000 positions, including jobs across a wide variety of occupations and geographies within the state. They included more than 84,600 positions for potential workers on H-1B visas, as well as roughly 2,500 for H-2A workers. Federal officials also issued more than 14,500 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 Texas employers likely were having real trouble finding the workers they needed on U.S. soil.

Applying for 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 7 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.²⁶

When companies are denied the visas they need, company expansion is typically 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.²⁷ 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 one 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.²⁸ Other academics have tied each H-1B visa award or labor request with the creation

CITIES ARE DEMANDING VISAS ALL OVER THE STATE

H-1B

Top cities:

- 1 Houston
- 2 Dallas
- 3 Irving

H-2B

Top cities:

- 1 Austin
- 2 Brownsville
- 3 San Antonio

H-2A

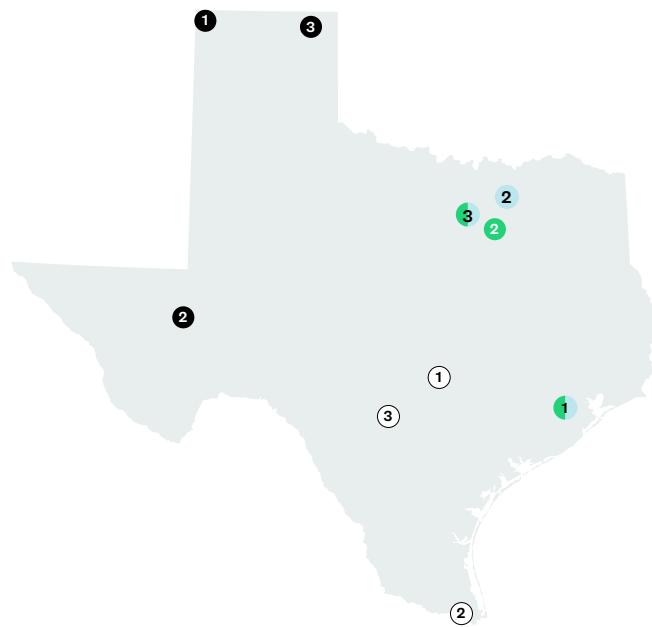
Top cities:

- 1 Dalhart
- 2 Coyanosa
- 3 Perryton

GREEN CARDS

Top cities:

- 1 Houston
- 2 Plano
- 3 Irving



of four²⁹ or five³⁰ 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 one 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.³¹ On the previous page, we show the number of jobs that would have been created for U.S.-born workers in Texas by 2020 if all the LCAs certified for H-1Bs had turned into actual visas.

We also show how the large number of H-1B visas denied to the Dallas, Houston, and Austin metropolitan areas in 2007 and 2008 cost U.S.-born tech workers in those cities in the two years that followed.

CITIES ARE DEMANDING VISAS ALL OVER THE STATE

DALLAS & FORT WORTH

7,640 H-1B denials for tech workers in the metro area cost computer workers there...

10,688 

Potential new jobs and **\$112M** in aggregate wage growth in the two years that followed.

HOUSTON

3,178 H-1B denials for tech workers in the metro area cost computer workers there...

3,894 

Potential new jobs and **\$40.7M** in aggregate wage growth in the two years that followed.

AUSTIN

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

987 

Potential new jobs and **\$14.6M** in aggregate wage growth in the two years that followed.

Naturalization

Texas' immigrants are not only living in the state, they are laying down roots there as well. Our analysis found that 34.8 percent of immigrants in Texas, about 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 1.6 million immigrants in the state have taken that important step.

Like almost all parts of the country Texas 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.³² 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.³³ If the average non-citizen in Texas saw a wage boost at the low end of that range, or 8 percent, she would earn approximately \$2,300 more per year—money that could be reinvested in the state's economy through her spending at local businesses. Multiplied by the roughly 1.6 million non-citizens in Texas currently eligible to naturalize, such policy initiatives could collectively boost wages in the state by almost \$3.8 billion.

1,615,400

Number of non-citizens eligible to naturalize in 2014

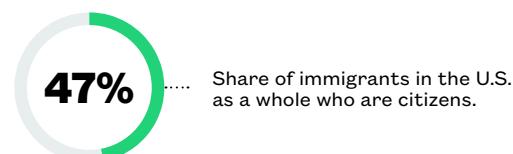
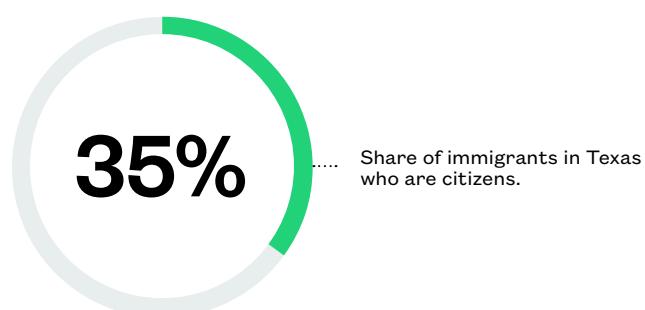


The average non-citizen in Texas earns **\$29,359** per year. If they naturalized, they each could earn an average of **\$2,349 more** per year.

\$3.8B

Aggregate additional earnings if eligible non-citizens naturalized.

NATURALIZATION RATES IN TEXAS



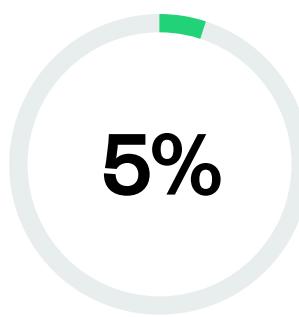
International Students

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.³⁴ Through their tuition payments and day-to-day spending, international students in the broader United States contributed more than \$30.5 billion to the U.S. economy in the 2014-2015 school year and supported more than 370,000 jobs.³⁵

In Texas, the roughly 66,000 international college students studying on temporary visas make up just 4.5 percent of all college students in the state. Still, their economic contribution is enormous. They support almost 19,000 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**.

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



International students make up only **5%** of all students in Texas.

\$1.5B

Economic contribution of international students to the state, 2015.

18,903

Jobs supported by international students, 2015.

Voting Power

Immigrants in Texas do not only make an impact on the state's economy, they also play a role at the voting booth. In 2014, Texas was home to more than 1.5 million foreign-born residents who were eligible to vote, including an estimated roughly 790,000 foreign-born residents who had formally registered. Although few would call Texas a swing state today, the sheer size of the state's immigrant voting bloc means it has the potential to powerfully impact which way the state votes in national and state elections. In 2012, for instance, Republican presidential candidate Mitt Romney won Texas by almost 1.3 million votes—a smaller vote tally than the current number of eligible immigrant voters in the state.

1,502,146

Number of immigrants eligible to vote.



..... Share of immigrant population who are eligible to vote.

790,403

Number of immigrants registered to vote.

1,261,719

Margin of victory in the 2012 presidential election.

The power of immigrant voters in Texas is also poised to continue growing rapidly. Based on voting participation patterns in recent years, we would expect more than 520,000 foreign-born voters to cast formal ballots in the Presidential election this year. An additional 272,000 more immigrants will either naturalize or turn 18 by 2020, expanding the pool of eligible new American voters in Texas to almost 1.7 million people. If this group comes out to vote at similar rates to eligible voters in the state overall, Texas could easily become competitive in the coming elections.

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

 80,573

 13,125

2020

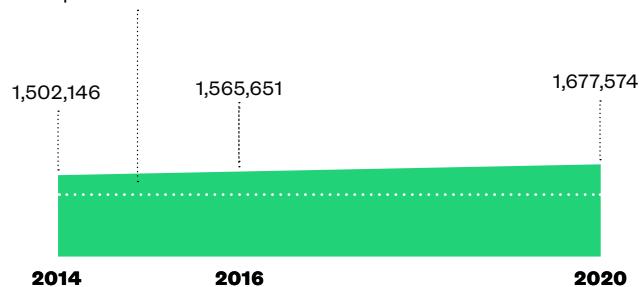
 241,718

 30,361

PROJECTED POOL OF ELIGIBLE IMMIGRANT VOTERS, 2014-2020

1,261,719

Margin of victory in the 2012 presidential election



Undocumented Population

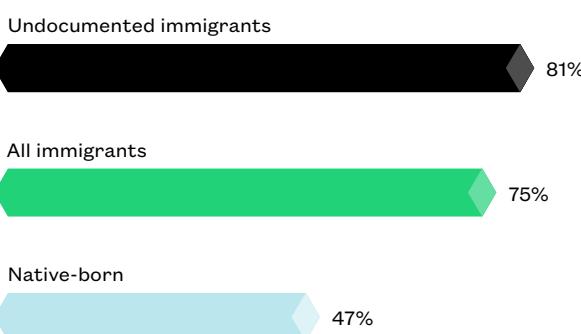
The United States is currently home to an estimated 11.4 million undocumented immigrants, the vast majority of whom have lived in the United States for more than five years. The presence of so many undocumented immigrants in our country for so long a time presents many legal and political challenges 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.³⁶ 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.³⁷ 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.³⁸

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

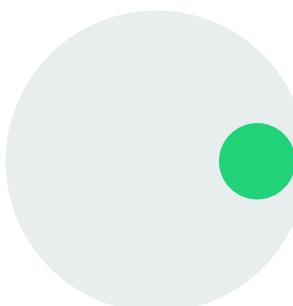


1,792,500

Estimated number of undocumented immigrants in Texas.

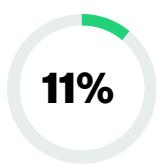
7%

Share of Texas' population made up of undocumented immigrants.



158,348

Estimated number of undocumented entrepreneurs in Texas.



11%
Rate of entrepreneurship
among undocumented
population (ages 25-64).

\$3.0B

Total business income of
self-employed entrepreneurs.

13.6%

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

Of course, there are many compelling reasons why 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.³⁹ Many studies

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



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.⁴⁰ 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.⁴¹

The challenge of undocumented immigration is particularly evident in Texas, which is home to one of the largest undocumented populations in the country. 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, and in Texas, there is evidence that undocumented immigrants are playing an important role in the workforce. In this section, we estimate the size and the characteristics of the undocumented population in Texas 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.⁴² (See the Methodology Appendix for more details.)

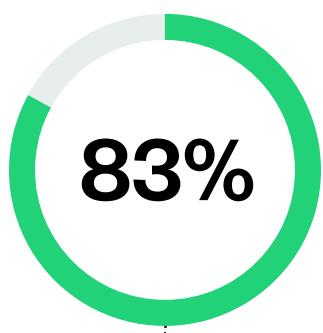
Using this technique, we estimate that Texas is home to almost 1.8 million undocumented immigrants. These individuals are far more likely than the native-born

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 almost one out of every four workers in Texas's accommodation and food services industry, a sector that includes dishwashers, food preparation workers, and short order cooks. They also accounted for 28.8 percent of workers in the construction sector, as well as 22.0 percent of workers in agriculture. In Texas, a state that grows large amounts of potatoes, onions, and other fresh produce items, many farming jobs involve handpicking crops in the field.

Large numbers of undocumented immigrants in Texas have also managed to overcome licensing and financing obstacles to start small businesses. In 2014, an estimated 10.9 percent of the state's working-age undocumented immigrants were self-employed—meaning Texas was a rare state in which unauthorized immigrants boasted higher rates of entrepreneurship than either legal permanent residents or immigrant citizens of the same age group. Roughly 158,000 undocumented immigrants

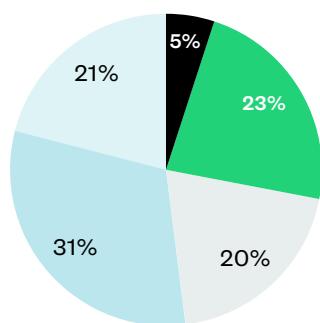
MEASURES OF ASSIMILATION AMONG TEXAS' UNDOCUMENTED POPULATION, 2014

Time in the United States



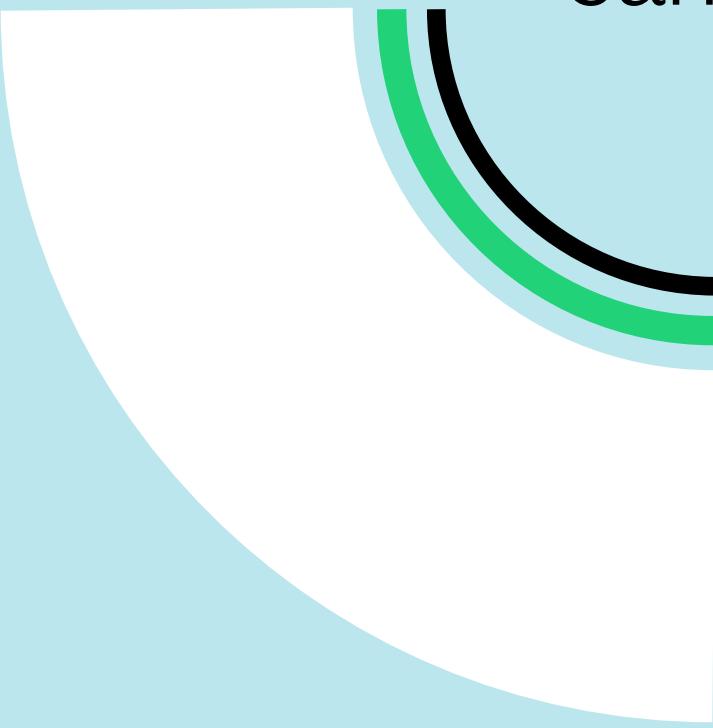
Share of undocumented immigrants who have been in the U.S. for five years or more.

English Proficiency (population ages 5+)



■ Speaks only English ■ Speaks English well
 ■ Speaks English very well ■ Does not speak English well
 ■ Does not speak any English

In 2014,
undocumented
immigrants in Texas
earned **\$25.4B**.

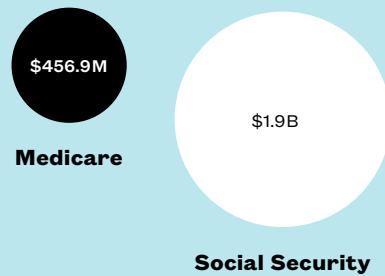


\$1.1B—went to state and local taxes ...
\$1.7B—went to federal taxes ...

Leaving them with **\$22.6B**
in spending power.

ENTITLEMENT CONTRIBUTIONS

Undocumented immigrants also contribute to our country's entitlement programs. In 2014, through taxes on their individual wages, immigrants contributed **\$456.9M** to Medicare and **\$1.9B** to Social Security.



in Texas were self-employed in 2014, many providing jobs and economic opportunities to others in their community. Undocumented entrepreneurs in the state also earned an estimated \$3.0 billion in business income that year.

In 2014, Texas households led by undocumented immigrants paid an estimated \$1.7B in federal taxes.

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. The debate infrequently recognizes that because 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.⁴³ 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 written by 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.⁴⁴ 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.⁴⁵

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.⁴⁶ Federal government officials have also estimated that 75 percent of undocumented workers have taxes withheld from their paychecks.⁴⁷ 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.⁴⁸

In 2014, we estimate that Texas households led by undocumented immigrants earned more than \$25.3 billion in income. Of that, they paid an estimated \$1.7 billion in federal taxes. They also contributed almost \$1.9 billion directly to the Social Security program through taxes on their individual wages. Texas'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 Texas's undocumented immigrants paid almost \$1.1 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.⁴⁹ 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 Texas have largely assimilated into the

United States, making it less likely that mass deportation will ever be a realistic option. We estimate that 83.3 percent of the state's undocumented population has been in the United States for five or more years. More than 46.7 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.⁵⁰ The labor market outcomes and educational levels of their children increase with time as well.⁵¹

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 is 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 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 States 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 citizen 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

Endnotes

- 1** Aaron Terrazas, "Immigrants in New-Destination States," Migration Policy Institute, 2011, <http://www.migrationpolicy.org/article/immigrants-new-destination-states>.
- 2** Vivek Wadhwa et al., "America's New Immigrant Entrepreneurs: Part I," SSRN Scholarly Paper, Social Science Research Network, 2007, <http://papers.ssrn.com/abstract=990152>; Robert Fairlie, "Open For Business: How Immigrants Are Driving Small Business Creation In The United States," Partnership for a New American Economy, 2012, <http://www.renewoureconomy.org/research/open-for-business-how-immigrants-are-driving-small-business-creation-in-the-united-states-2/>.
- 3** Arnobio Morelix et al., "The Kauffman Index 2015: Startup Activity | State Trends," SSRN Scholarly Paper, Social Science Research Network, 2015, <http://papers.ssrn.com/abstract=2614598>.
- 4** David Dyssegård Kallick, "Bringing Vitality to Main Street: How Immigrant Small Businesses Help Local Economies Grow," New York: Fiscal Policy Institute and Americas Society/Council of the Americas, 2015, <http://www.as-coa.org/articles/bringing-vitality-main-street-how-immigrant-small-businesses-help-local-economies-grow>.
- 5** Stuart Anderson, "Immigrants and Billion Dollar Startups," NFAP Policy Brief March, 2016, <http://nfap.com/wp-content/uploads/2016/03/Immigrants-and-Billion-Dollar-Startups.NFAP-Policy-Brief.March-2016.pdf>.
- 6** Robert Fairlie, "Open For Business: How Immigrants Are Driving Small Business Creation In The United States"
- 7** This is the most recent year for which data on employment is available.
- 8** "History of Dr. Pepper," Dr. Pepper Museum, 2007
- 9** Somini Sengupta, "Countries Seek Entrepreneurs From Silicon Valley," The New York Times, 2013, http://www.nytimes.com/2013/06/06/technology/wishing-you-and-your-start-up-were-here.html?_r=0.
- 10** Craig Montuori, email message to author, June 23, 2016.
- 11** U.S. Bureau of Economic Analysis (2014), "Gross domestic product (GDP) by state (millions of current dollars)," 2016
- 12** Ibid.
- 13** Jacob Vigdor, "Immigration and the Revival of American Cities," Partnership for a New American Economy, 2013, <http://www.renewoureconomy.org/issues/american-cities/>.
- 14** Based on author's analysis of the U.S. Bureau of Labor Statistics, employment projections, 2014-2024. Accessed May 19, 2016, available here: http://www.bls.gov/emp/ep_table_107.htm.
- 15** Madeline Zavodny, "Immigration and American Jobs," The Partnership for a New American Economy and the American Enterprise Institute, 2011, http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf.
- 16** Telephone Interview with Karen Lozano (March 7, 2012).
- 17** "Employment Projections: 2014-24 Summary," Bureau of Labor Statistics Economic News Release, last updated December 8, 2015. Available here: <http://www.bls.gov/news.release/ecopro.nr0.htm>.

18 Katherine Grace Carman, Christine Eibner, and Susan M. Paddock, "Trends in Health Insurance Enrollment, 2013-15," *Health Affairs*, 2015, http://www.rand.org/pubs/external_publications/EP50692.html.

19 Sean P. Keehan et al., "Age Estimates in the National Health Accounts," *Health Care Financing Review* 26, No. 2, 2004

20 U.S. Department of Agriculture, Economic Research Service, "Milk Cow Production by State and Region," Accessed June 24, 2016, available here: <http://www.ers.usda.gov/data-products/dairy-data.aspx>.

21 Flynn Adcock, David Anderson, and Parr Rosson, "The Economic Impacts of Immigrant Labor on U.S. Dairy Farms," Center for North American Studies, 2015, <http://www.nmpf.org/files/immigration-survey-090915.pdf>.

22 Patrick O'Brien, John Kruse, and Darlene Kruse, "Gauging the Farm Sector's Sensitivity to Immigration Reform via Changes in Labor Costs and Availability," WAEES and the American Farm Bureau Federation, 2014, <http://oppenheimer.mcgill.ca/Gauging-the-Farm-Sector-s>.

23 Stephen Bronars and Angela Marek Zeitlin, "No Longer Home Grown: How Labor Shortages Are Increasing America's Reliance on Imported Fresh Produce and Hampering U.S. Economic Growth," Partnership for a New American Economy, 2014, <http://www.renewoureconomy.org/wp-content/uploads/2014/03/no-longer-home-grown.pdf>.

24 Ibid.

25 Jacob Vigdor, "Immigration and the Revival of American Cities," Partnership for a New American Economy, 2013, <http://www.renewoureconomy.org/issues/american-cities/>.

26 "Visa Bulletin for May 2016," U.S. Department of State, last modified April 12, 2016.

27 Madeline Zavodny, "Immigration and American Jobs," The Partnership for a New American Economy and the American Enterprise Institute, 2011, http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf.

28 Sari Pekkala Kerr, William R. Kerr, and William F. Lincoln, "Skilled Immigration and the Employment Structures of U.S. Firms," NBER Working Paper No. 19658, National Bureau of Economic Research, Cambridge, MA, 2013.

29 Matthew J. Slaughter, "Job Clocks Backgrounder," Hanover, NH, 2013, http://faculty.tuck.dartmouth.edu/images/uploads/faculty/matthew-slaughter/jobs_clock.pdf.

30 "NFAP Policy Brief: H-1B Visas by the Numbers," National Foundation for American Policy, Washington, DC, March 2009.

31 Madeline Zavodny, "Immigration and American Jobs" These positive benefits have been documented despite well-known problems regarding the H-1B visa system. The safeguards to protect American workers have not been updated since 1998, opening the door to increased use of the visa by a small number of outsourcing firms. This has left many U.S. companies with no reliable avenue to bring in the top talent they need to grow. PNAE has long advocated for legislation that would reform the H-1B program, including the recently introduced Protect and Grow American Jobs Act. Read more here: <http://www.renewoureconomy.org/uncategorized/press-release-statement-of-partnership-for-a-new-american-economy-on-the-protect-and-grow-america-jobs-act/>.

32 Jacob L. Vigdor, *From Immigrants to Americans: The Rise and Fall of Fitting In* (Rowman & Littlefield, 2010); Bernt Bratsberg, James F. Ragan, Jr., and Zafar M. Nasir, "The Effect of Naturalization on Wage Growth: A Panel Study of Young Male Immigrants," *Journal of Labor Economics* 20, No. 3 (2002)

33 Manuel Pastor and Justin Scoggins, "Citizen Gain: The Economic Benefits of Naturalization for Immigrants and the Economy," 2012, <http://www.immigrationresearch-info.org/report/university-southern-california-citizen-gain-economic-benefits-naturalization-immigrants-and-e>.

34 Aaditya Mattoo, Gnanaraj Chellaraj, and Keith E. Maskus, "The Contribution of Skilled Immigration and International Graduate Students to U.S. Innovation", The World Bank, 2005, <http://documents.worldbank.org/curated/en/2005/05/5800523/contribution-skilled-immigration-international-graduate-students-innovation>.

35 NAFSA, "NAFSA International Student Economic Value Tool," accessed May 17, 2016

36 George J. Borjas, "The Labor Supply of Undocumented Immigrants," NBER Working Paper (National Bureau of Economic Research, 2016), <https://ideas.repec.org/p/nbr/nberwo/22102.html>.

37 Lisa Christensen Gee, Matthew Gardener, and Meg Wiehe, "Undocumented Immigrants' State & Local Tax Contributions," The Institute on Taxation and Economic Policy, 2016, <http://www.immigrationresearch-info.org/report/other/undocumented-immigrants-%E2%80%99-state-local-tax-contributions>.

38 Ryan Honeywell, "How Language Fits Into the Immigration Issue," Governing, 2012, <http://www.governing.com/topics/public-workforce/gov-how-language-fits-into-the-immigration-issue.html>.

39 Thomas Hertz, Zahniser Steven, "USDA Economic Research Service - Immigration and the Rural Workforce," United States Department of Agriculture Economic Research Service, 2014, <http://www.ers.usda.gov/topics/in-the-news/immigration-and-the-rural-workforce.aspx>.

40 Maria E. Enchaitegui, "Immigrant and Native Workers Compete for Different Low-Skilled Jobs," Urban Institute, 2015, <http://www.urban.org/urban-wire/immigrant-and-native-workers-compete-different-low-skilled-jobs>.

41 Scott A. Wolla, "The Economics of Immigration: A Story of Substitutes and Complements," Page One Economics Newsletter, 2014.

42 George J. Borjas, "The Labor Supply of Undocumented Immigrants," NBER Working Paper (National Bureau of Economic Research, 2016), <https://ideas.repec.org/p/nbr/nberwo/22102.html>.

43 Roy Germano, "Unauthorized Immigrants Paid \$100 Billion Into Social Security Over Last Decade", VICE News, 2014, <https://news.vice.com/article/unauthorized-immigrants-paid-100-billion-into-social-security-over-last-decade>.

44 Judith Gans, "Immigrants in Arizona: Fiscal and Economic Impact", Udall Center for Studies in Public Policy, University of Arizona, 2007

45 Emily Eisenhauer et al., "Immigrants in Florida: Characteristics and Contributions," Research Institute on Social and Economic Policy, Florida International University, 2007, https://risep.fiu.edu/research-publications/immigration/immigration-in-florida/2007/immigrants-in-florida-characteristics-and-contributions/immigrants_spring_2007_reduced.pdf.

46 Laura E. Hill and Hans P. Johnson, "Unauthorized Immigrants in California: Estimates for Counties," Public Policy Institute of California, 2011, <http://www.ppic.org/main/publication.asp?i=986>.

47 Eduardo Porter, "Illegal Immigrants Are Bolstering Social Security With Billions," The New York Times, 2005, <http://www.nytimes.com/2005/04/05/business/illegal-immigrants-are-bolstering-social-security-with-billions.html>.

48 Aaron Williams and Michael Cassidy, "Undocumented, But Not Untaxed," The Commonwealth Institute, 2016, <http://www.thecommonwealthinstitute.org/2016/01/08/undocumented-but-not-untaxed/>.

49 Sherrie A. Kossoudji and Deborah A. Cobb-Clark, “Coming out of the Shadows: Learning about Legal Status and Wages from the Legalized Population,” *Journal of Labor Economics* 20, No. 3, 2002; Raul Hinojosa-Ojeda, “Raising the Floor for American Workers: The Economic Benefits of Comprehensive Immigration Reform,” *Immigration Research and Information*, 2010, <http://www.immigrationresearch-info.org/report/immigration-policy-center/raising-floor-american-workers-economic-benefits-comprehensive-immi>.

50 Hoyt Bleakley and Aimee Chin, “Age at Arrival, English Proficiency, and Social Assimilation Among U.S. Immigrants,” *American Economic Journal: Applied Economics* 2, No. 1, 2010; Barry R. Chiswick and Paul W. Miller, “Immigrant Earnings: Language Skills, Linguistic Concentrations and the Business Cycle,” *Journal of Population Economics* 15, No. 1, 2002

51 Jill H. Wilson, “Investing in English Skills: The Limited English Proficient Workforce in U.S. Metropolitan Areas,” The Brookings Institution, 2014, <http://www.brookings.edu/research/reports/2014/09/english-skills>.

Endnotes: Methodology

1 Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. Integrated Public Use Microdata Series: Version 6.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2015.

2 U.S. Census Bureau, Survey of Business Owner and Self-Employed Persons Data Sets. <http://www.census.gov/programs-surveys/sbo/data/data-sets.html>

3 "Fortune 500," Fortune, 2015, <http://fortune.com/fortune500/2015/>.

4 "The 'New American' Fortune 500," Partnership for a New American Economy, 2011, <http://www.renewoureconomy.org/wp-content/uploads/2013/07/new-american-fortune-500-june-2011.pdf>.

5 "The Power of the Purse: The Contributions of Hispanics to America's Spending Power and Tax Revenues in 2013," Partnership for a New American Economy, 2014, <http://www.renewoureconomy.org/research/page/2/>.

6 "Who Pays? A Distributional Analysis of the Tax Systems in All 50 States (5th edition)," Institute on Taxation and Economic Policy, 2014, http://www.itep.org/whopays/full_report.php.

7 "The Distribution of Household Income and Federal Taxes, 2011", Congressional Budget Office, Washington, D.C., 2014, <https://www.cbo.gov/publication/49440#title0>.

8 Office of Retirement and Disability Policy U. S. Social Security Administration, "OASDI and SSI Program Rates & Limits," 2014, https://www.ssa.gov/policy/docs/quickfacts/prog_highlights/RatesLimits2014.html.

9 Ibid.

10 Ibid.

11 Jacob Vigdor, "Immigration and the Revival of American Cities," Partnership for a New American Economy, 2013, <http://www.renewoureconomy.org/issues/american-cities/>.

12 Bureau of Economic Analysis, <http://www.bea.gov/regional/index.htm>

13 United States Department of Agriculture, "State Fact Sheets, Economic Research Service" 2016, <http://www.ers.usda.gov/data-products/state-fact-sheets.aspx>

14 United States Department of Agriculture, Economic Research Service, "Cash Receipts by Commodity, 2010-2015," <http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/cash-receipts-by-commodity.aspx>.

15 United State Department of Agriculture, "Farm Labor Survey", https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Farm_Labor/

16 Stephen Bronars, "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," Partnership for a New American Economy, 2015, http://www.renewoureconomy.org/wp-content/uploads/2015/08/PNAE_FarmLabor_August-3-3.pdf.

17 Stephen Bronars, "No Longer Home Grown: How Labor Shortages are Increasing America's Reliance on Imported Fresh Produce and Slowing U.S. Economic Growth", Partnership for a New American Economy, 2014, <http://www.renewoureconomy.org/wp-content/uploads/2014/03/no-longer-home-grown.pdf>.

18 U.S. Census Bureau, "STEM, STEM-related, and Non-STEM Occupation Code List 2010," 2010, <https://www.census.gov/people/io/files/STEM-Census-2010-occ-code-list.xls>

19 "About Us," Burning Glass, accessed July 1, 2016, available here: <http://burning-glass.com/labor-insight/>.

20 National Center for Education Statistics, "Integrated Postsecondary Education Data System," <http://nces.ed.gov/ipeds/>

21 Madeline Zavodny, "Immigration and American Jobs," The Partnership for a New American Economy and the American Enterprise Institute, 2011, http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf.

22 "Patent Pending: How Immigrants Are Reinventing The American Economy," Partnership for a New American Economy, 2012, <http://www.renewoureconomy.org/research/patent-pending-how-immigrants-are-reinventing-the-american-economy-2/>.

23 U.S. Census Bureau. "2010 Occupation Code List," https://www.census.gov/people/io/files/2010_OccCodeswithCrosswalkfrom2002-2011nov04.xls

24 U.S. Census Bureau, "Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015," http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2015_PEPANNRES&prodType=table

25 U.S. Department of Health and Human Services, "Shortage Designation: Health Professional Shortage Areas and Medically Underserved Areas/Populations," <http://www.hrsa.gov/shortage/>

26 National Center for Health Workforce Analysis, U.S. Department of Health and Human Services, "National and State-Level Projections of Dentists and Dental Hygienists in the U.S., 2012-2025", 2015, <http://bhpr.hrsa.gov/healthworkforce/supplydemand/dentistry/nationalstatelevelprojectionsdentists.pdf>.

27 Vernon Lin, Xiaoming Zhang, and Pamela Dixon, "Occupational Therapy Workforce in the United States: Forecasting Nationwide Shortages," *PM & R: The Journal of Injury, Function, and Rehabilitation* 7, No. 9, 2015: 946-54, doi:10.1016/j.pmrj.2015.02.012.

28 "2014 Annual Report," Office of Foreign Labor Certification, Employment and Training Administration, United States Department of Labor, 2014, https://www.foreign-laborcert.dolceta.gov/pdf/oflc_annual_report_fy2014.pdf.

29 Madeline Zavodny, "Immigration and American Jobs," The Partnership for a New American Economy and the American Enterprise Institute, 2011, http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf.

30 Giovanni Peri, Kevin Shih, Chad Sparber, and Angela Marek Zeitlin, "Closing Economic Windows: How H-1B Visa Denials Cost U.S.-Born Tech Workers Jobs and Wages During the Great Recession," 2014, http://www.renewoureconomy.org/wp-content/uploads/2014/06/pnae_h1b.pdf.

31 Manuel Pastor and Justin Scoggins, "Citizen Gain: The Economic Benefits of Naturalization for Immigrants and the Economy," 2012, <http://www.immigrationresearch-info.org/report/university-southern-california-citizen-gain-economic-benefits-naturalization-immigrants-and-e>.

32 NAFSA, "International Student Economic Value Tool," http://www.nafsa.org/Explore_International_Education/Impact/Data_And_Statistics/NAFSA_International_Student_Economic_Value_Tool/#stateData

33 U.S. Department of Health and Human Services, “National Vital Statistics Reports, Deaths: Final Data for 2013”, 2016, http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf

34 Department of Homeland Security, “Yearbook of Immigration Statistics: 2014 Naturalizations, Table 22 - Persons Naturalized by State or Territory of Residence: FY 2005 to 2014”, <https://www.dhs.gov/yearbook-immigration-statistics-2014-naturalizations>

35 Federal Election Commission. “Federal Elections 2012: Elections for the President, the U.S. Senate and the U.S. Representatives”, 2013, <http://www.fec.gov/pubrec/fe2012/federalelections2012.pdf>.

36 George J. Borjas, “The Labor Supply of Undocumented Immigrants,” NBER Working Paper (National Bureau of Economic Research, Inc, 2016), <https://ideas.repec.org/p/nbr/nberwo/22102.html>.

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