

# On the Clock

How Immigrants Fill Gaps in the Labor Market  
by Working Nontraditional Hours



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## How Immigrants Fill Gaps in the Labor Market by Working Nontraditional Hours

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# Executive Summary

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In today's economy, many workers are finding that the nine-to-five workday popular in past decades is beginning to feel more like a relic. Smartphones make it possible for workers to check—and respond to—emails at all hours. The rise of telecommuting allows workers to sandwich in work between childcare and other personal obligations. Of course, the country is home to millions who have long worked outside of traditional hours—individuals who often make personal sacrifices to work in the evenings, overnight, or on weekends. Everything from stocking store shelves to paving roads, to treating patients in emergency rooms depends on the estimated 30.2 million Americans who perform such odd hours work.

In this report, we examine when people work and quantify the unique role that our country's almost 20.3 million foreign-born workers play filling off hours positions. This research advances our understanding of the unique place occupied by foreign-born workers in the country's broader labor force. While it is often claimed that immigrants fill jobs that Americans will not do, this argument is frequently advanced by pointing to specific jobs—such as the picking of fresh fruits and vegetables—that have failed to draw large numbers of U.S.-born applicants in recent years.<sup>1</sup> This is the only report using current data quantifying how much more likely immigrants are than similar U.S.-born workers to perform another kind of job that may hold little appeal: Those jobs occurring in the evenings, overnight, or on the weekends.<sup>2</sup>

To examine this issue, we analyze data from the American Time Use Survey (ATUS), a national survey from the Bureau of Labor Statistics that is considered one of the most reliable reflections of how survey respondents spend their time. We also examined the American Community Survey (ACS), which has

a considerably larger sample size, to determine the demographic characteristics and occupations of those working unusual hours. After controlling for differences in characteristics between immigrants and natives—such as a person's marital status, location, or whether someone has dependents—we find that immigrants are considerably more likely to work unusual working hours than their U.S.-born peers.

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*Of the **30.2M**  
Americans working  
off-hours positions,  
nearly **5.5M** of them  
are foreign-born.*

This held true across a variety of occupations and skill levels, making the almost 5.5 million foreign-born workers on the clock during unusual working hours an important component of the flexible workforce that allows U.S. employers to thrive and compete.

These findings have important implications for policymakers as they attempt to create immigration policy that helps grow the economy. This research suggests that a richer definition of what workers are needed may be necessary to fully achieve that goal—one that takes into account not only the skills an immigrant may contribute to our economy, but also the hours they are able to work as well.

## KEY FINDINGS

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- ▶ Immigrants are substantially **more likely to work unusual hours** than U.S.-born workers.

In 2015 immigrants were 15.7 percent more likely to work unusual hours than similar U.S.-born workers. This figure rises when we look solely at those working weekend shifts: Foreign-born workers were 25.2 percent more likely to work on the weekends than U.S.-born workers with similar characteristics.

- ▶ Immigrants at **high- and low-skilled ends** of the labor spectrum are more likely to work unusual hours than their peers.

High-skilled immigrants were 10.1 percent more likely to work unusual hours than high-skilled U.S.-born workers. Lesser-skilled immigrants, meanwhile, are 18.2 percent more likely to work odd hours than U.S.-born workers at the same skill level.

- ▶ Immigrants play a particularly large role filling odd hour jobs in **several key sectors** of the economy.

Immigrants working in a variety of healthcare positions are considerably more likely to work unusual hours than their U.S.-born peers. For instance, immigrant healthcare practitioners such as physicians are 20.6 percent more likely to work unusual hours than their peers, while the equivalent figure for immigrant healthcare support workers—such as nursing assistants—is 16.8 percent. Immigrants in education, library services, and related fields are 23.4 percent more likely to take on odd hours work than their peers.

- ▶ **Female immigrants** are considerably more likely to work unusual hours than U.S.-born women.

One major reason why immigrants are more likely to work unusual hours involves the work patterns of foreign-born women. While immigrant men are about 9.6 percent more likely than their U.S.-born counterparts to work unusual hours, immigrant women are 24.2 percent more likely than similar U.S.-born workers to do so.

- ▶ Immigrants and U.S.-born workers who work unusual hours are often **not competing for the same jobs.**

We find that almost a sixth of the increased likelihood of working unusual hours can be explained by immigrants and U.S.-born workers opting to work in different occupations. Among women, occupation explains almost a third of the difference. U.S.-born individuals working unusual hours tend to gravitate towards communication-heavy jobs such as cashiers or wait staff, while immigrants on such shifts are more likely to work as janitors, entry-level agriculture workers, or construction laborers.

# Introduction

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In the three years Mark Barone has been working as a Toys“R”Us manager in upstate New York, he has learned quite a bit about the importance of having some of his staff work during unusual hours. After the store closes each night at 9:00 p.m., floors are cleaned, trucks unloaded, and shelves restocked. There is one type of worker who consistently steps up to fill such critical behind-the-scene roles: The immigrants who work at the store, a group primarily from the Dominican Republic, Haiti, and else where in the Caribbean.

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*Our findings tell a powerful and underappreciated story about how immigrants complement American workers.*

Barone’s story is not an uncommon one. Across the economy, stories abound of immigrants stepping up to occupy critical off hour jobs—from the taxi driver working the night shift to the tech worker willing to monitor the security of a network through the night.

In this brief, we quantify just how much more likely immigrants are to hold jobs during nontraditional working hours. By examining this issue while controlling for a variety of contributing factors—such as education level, race, and marital status—we are able to hone in on how nativity may impact one’s decision to work and take on such important and sometimes challenging roles.

Our results tell a powerful and underappreciated story about how immigrants complement American workers—by being more willing to fill jobs when the U.S.-born are less likely to be working. Our report also undermines a traditional argument frequently made by immigration opponents regarding the jobs that attract foreign-born workers. Because many off hours jobs result in higher wages or pay, the findings of this report cannot be simply dismissed as a product of foreign-born workers being willing to work for lower wages.<sup>3</sup> Instead, like in so many positions—from field and crop workers to some specialized tech jobs—higher wages may instead be a reflection of how difficult such jobs are to fill.

While beyond the scope of this report, there are many hypotheses about why immigrants may be more willing to take on jobs during unusual hours. Immigrants who have uprooted their lives to come here may be more driven to take on a promising job, despite a difficult schedule.<sup>4</sup> Immigrants still mastering English may have anxiety about taking on daytime positions that may require more interaction with customers to succeed.<sup>5</sup> Regardless of the reason, however, many employers like Barone are just grateful to have access to the sort of flexible, foreign-born workforce they need to keep their businesses running. “The majority of my immigrant employees just want to be here and work hard,” Barone says. “And I’m happy to have them.”

PART II

# Background

**B**efore discussing the results of our analysis, it is useful to first provide background on the role that work performed during unusual hours plays in the broader economy. Long after the Fair Labor Standards Act of 1938 made a Monday to Friday, 40-hour workweek the norm, millions of American workers have continued to clock in after the sun goes down or head to work on the weekends. Our data shows that in 2015 roughly one out of every four workers in the United States—or 30.2 million people—worked unusual hours during the workweek, or between the hours of 8:00 p.m. to 6:00 a.m.<sup>6</sup> This figure, while large, likely does not capture the full population of individuals working during such times. Given our concern is with the rank-and-file workers that may be of particular interest to employers, we exclude self-employed entrepreneurs from our analysis, a group that often works around the clock get a new startup, store, or restaurant off the ground. To capture only those who are employed full-time, we also focus only on those working at least 20 hours per week.

Among the population of interest to us, it is clear that immigrants play a critical role. In 2015, almost 5.5 million immigrants were employed in jobs requiring them to work outside of regular hours during the workweek. As a result, immigrants made up 18.1 percent of the unusual-hours workforce—a higher proportion than they made up of the working population overall that year. (See Figure 1.) Immigrants working unusual hours were also represented at both ends of the skill spectrum. A total of about 1.2 million high-skilled immigrants worked unusual hours, as did almost 4.3 million immigrants with less than a bachelor’s degree.

In our economy, it is difficult to imagine several key industries existing without access to a regular supply of workers willing to put in unusual hours. In Figure 3 on

FIGURE 1: SHARE OF WORKERS, FOREIGN-BORN, BY SHIFT 2015\*

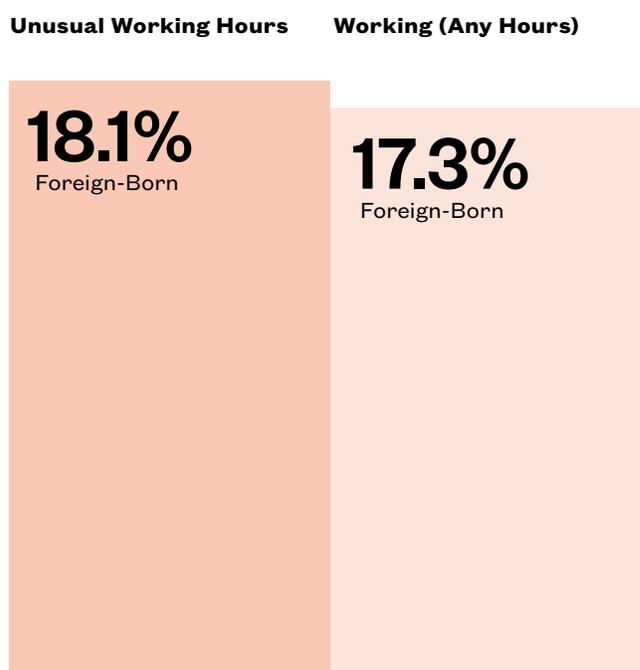
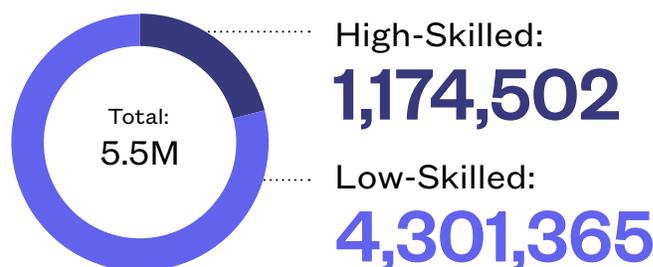


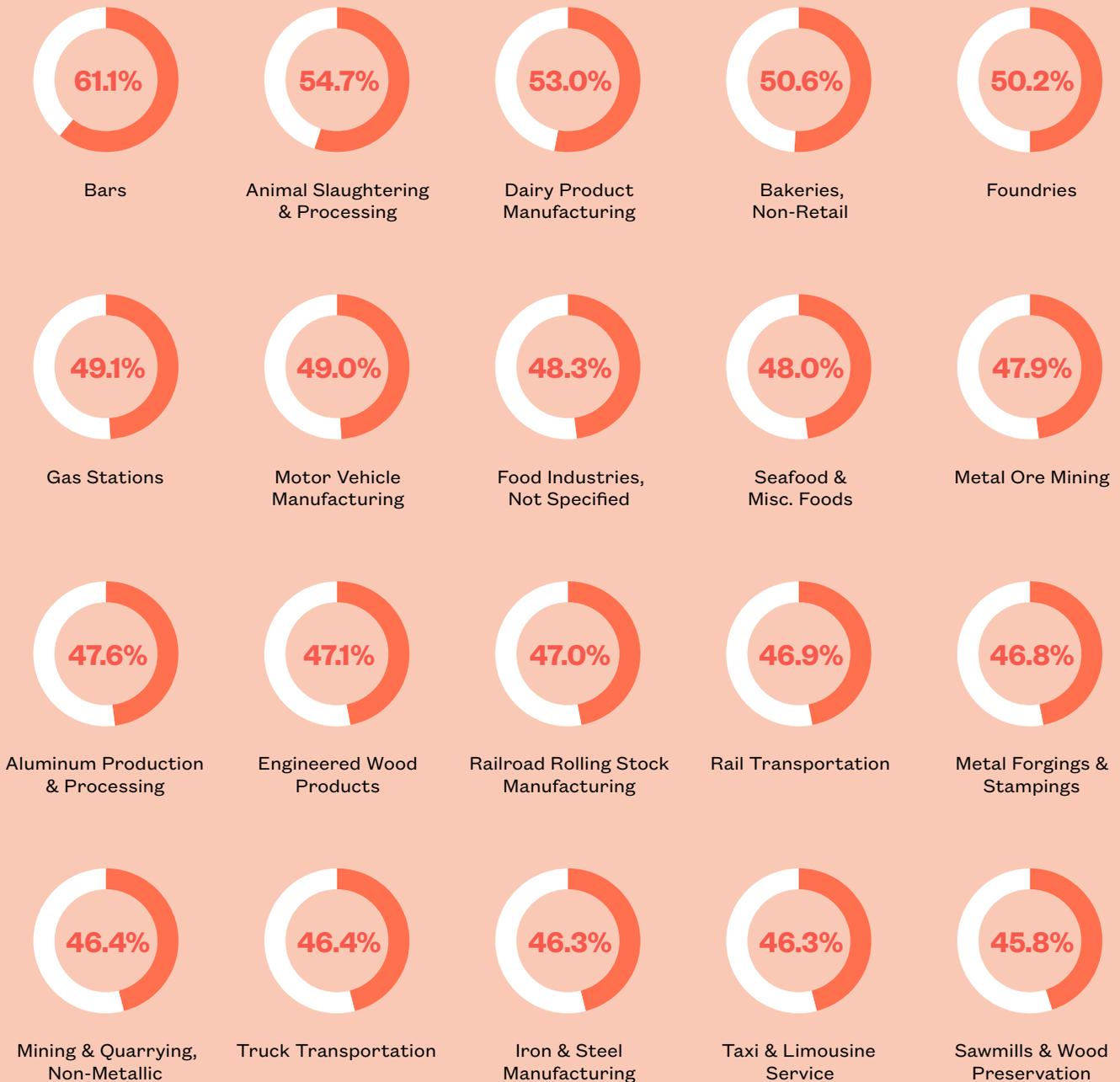
FIGURE 2: FOREIGN-BORN WORKERS WITH UNUSUAL WORKING HOURS BY SKILL LEVEL, 2015\*



\* Sample restricted to those ages 16 to 64 who are not self-employed. Unusual working hours population restricted to those working at least 20 hours per week.

Source: Author’s analysis of the American Community Survey, 2015.

FIGURE 3: INDUSTRIES WITH THE LARGEST SHARE OF WORKERS ON DUTY DURING UNUSUAL HOURS, 2015\*



\* Sample does not include self-employed positions or jobs that require fewer than 20 hours a week of work. Unusual hours are defined as 8:00 p.m. to 6:00 a.m., weekdays only. Individuals born U.S. territories are dropped from the sample. The data is weighted by population weights. Industries where the foreign-born make up less than 5 percent of the workforce are excluded.

the previous page, we show the top industries with the highest proportion of jobs outside of traditional hours. To keep our focus on industries that could theoretically benefit from the propensity of immigrants to work unusual hours, industries where the foreign-born make up less than 5 percent of all workers are excluded.

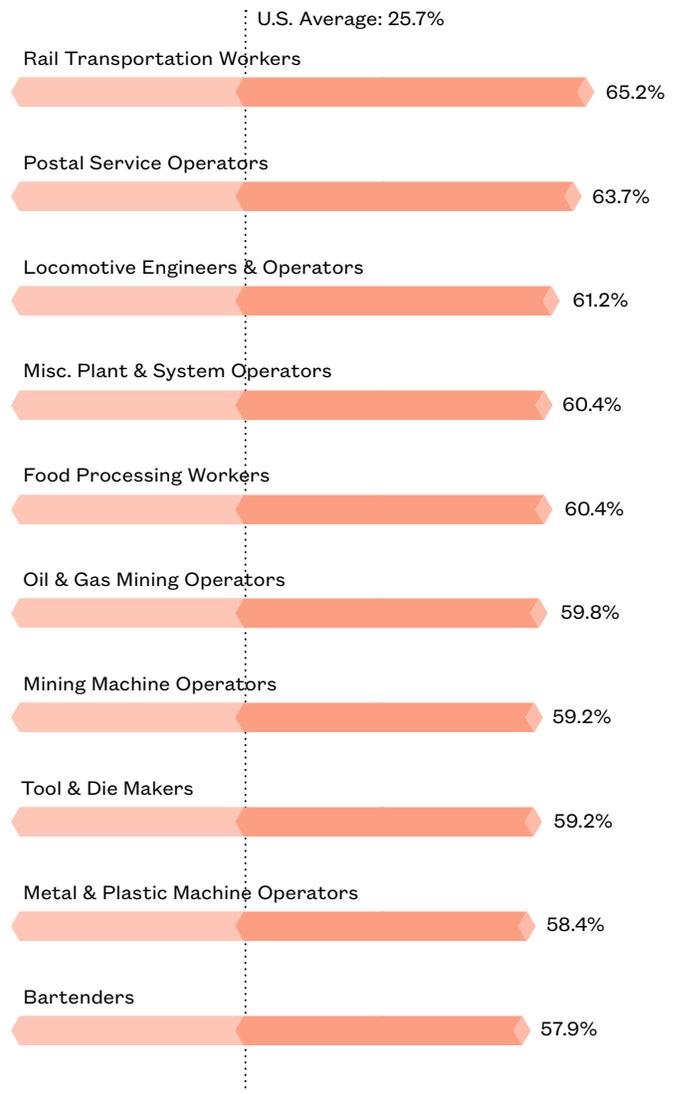
As Figure 4 shows, many manufacturing and food processing industries are heavily reliant on individuals working unusual hours. In the meatpacking industry—also called animal slaughtering and processing—more than half of jobs occur outside of traditional working hours. The same can be said of commercial bakeries and facilities that manufacture dairy products—two industries that typically employ large numbers of immigrants. The presence of so many manufacturing-related industries are not a surprise: In many plants, machines run 24/7 continually to avoid the costs of shutting them down and starting them back up again.

It is important to note, however, that not all unusual hours roles are physically taxing or on a factory floor. Our definition of unusual hours includes individuals employed on the weekend, students working Saturdays and Sundays at a local retail store or amusement park could be included in our sample group—provided they put in at least 20 hours per week. Ticket takers at the local movie theater and evening receptionists at the emergency room would be captured as well. As Figure 3 indicates, the sector most reliant on nontraditional hours is one more closely associated with fun and leisure than manual labor. More than 60 percent of workers in the drinking establishments industry are putting in unusual hours—a sector made up largely of bars and nightclubs.

Drilling down to several specific occupations within each skill level, it is clear that many jobs that are important to the functioning of our cities and communities need individuals capable of performing after-hours or weekend work. Off hours workers, for instance, keep our subways, streetcars, and railways running. Almost two out of every three individuals working in such railway transport roles work outside of the traditional workday. Individuals on the clock during unusual hours also are

needed to deliver our mail and operate our power plants. More than three out of every five mail sorters and plant operators work unusual hours. The top 10 occupations with the largest share of jobs during unusual hours are shown in Figure 4.

**FIGURE 4: OCCUPATIONS WITH THE LARGEST SHARE OF WORKERS ON DUTY DURING UNUSUAL HOURS, 2015\***



\* Sample does not include self-employed positions or jobs that require fewer than 20 hours a week of work. Unusual hours are defined as 8:00 p.m. to 6:00 a.m., weekdays only. Individuals born U.S. territories are dropped from the sample. The data is weighted by population weights. We keep occupations with a sample of at least 100 individuals in 2015.

PART III

# Immigrants More Likely to Work Unusual Hours

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**U**nderstanding the key role that off hours work plays in the functioning of our economy and cities, we turn our attention to an examination of the different work patterns of immigrants and U.S.-born workers in the evenings and on weekends. In this report, our primary research interest is how much more or less likely immigrants are to work unusual hours than U.S.-born workers with similar characteristics. This allows us to zero in on how nativity itself may impact one's likelihood to work off hours.

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*Immigrants are  
**15.7%** more likely to  
work during unusual  
working hours than  
the U.S.-born.*

To answer our primary research question, we rely on linear probability models that control for a variety of factors, including age, sex, education, marital status, and race and Hispanic ethnicity, among other variables. (A more detailed explanation of our methodology can

be found in the Appendix of this report.) We find that immigrants are 15.7 percent more likely to work unusual working hours overall, defined as any time falling between 8:00 p.m. and 6:00 a.m. on weekdays or at any point during a weekend.<sup>7</sup>

Given that among highly educated workers time at work has increased sharply since the 1980s,<sup>8</sup> there is some argument to be made that working in the evenings, or at any point between 8:00 p.m. and 10:00 p.m., is becoming more routine. Indeed, if we opt to define unusual working hours more narrowly, or going from 10:00 p.m. to 6:00 a.m. on the weekdays plus any time on the weekend, we find that the discrepancy between immigrants and the U.S.-born grows larger, with foreign-born workers being 19.4 percent more likely to be on duty than their equivalent U.S.-born peers. This figure rises once again when we look solely at those who put in hours on the weekend, with immigrants being 25.2 percent more likely to work such hours. (See Figure 5.)

Gasha Yemene's story is typical of at least some immigrant workers in the off hours economy. Yemene trained as an accountant after arriving in the United States from his native Ethiopia. His lack of U.S. experience, however, made it difficult to break into his chosen field. While he was able to get temporary accounting jobs, he was never offered permanent full-time work. So Yemene, based in the Washington, D.C. metro area, ultimately quit and joined a group of fellow Ethiopian and Cameroonian town car drivers. For a long time, he would work whenever a customer needed a

FIGURE 5: PROPENSITY TO WORK UNUSUAL HOURS, BY SHIFT AND NATIVITY, 2003-2015\*

Shift	What Share of <b>Immigrant</b> Workers Put in Unusual Hours?	What Share of <b>U.S.-Born</b> Workers Put in Unusual Hours?	<b>How Much More Likely Immigrants Are to Work, Controlling for Other Factors</b>
<b>Unusual Hours Overall</b>	25.9%	22.6%	<b>15.7%</b>
<b>10PM - 6 AM, Weekdays &amp; Weekends</b>	19.2%	16.0%	<b>19.4%</b>
<b>Weekends Only</b>	10.9%	9.7%	<b>25.2%</b>

\* Sample does not include self-employed positions or jobs that require fewer than 20 hours a week of work. Individuals born U.S. territories are dropped from the sample. The data is weighted by population weights. Unusual hours are defined as 8:00 p.m. to 6:00 a.m., weekdays, or any time on the weekend. For a full list of controls, see the Methodology Appendix.

ride. Today, after nearly two decades, he gives himself Sunday off. Although he says working long hours is hard, he says getting up before dawn to shuttle customers to the airport is part of the job. And the money he makes—which is more than he earned as an accountant—is valuable to him and his family. “I have to support myself and my family and pay tuition to college,” Yemene explains. “It’s hard, but this job helps me do it.”

Despite the challenges, however, Yemene knows his commitment has paid off. His eldest daughter recently graduated from the New School in New York City and does advertising for luxury fashion brands, while his younger one is a freshman at Florida State University in Tallahassee. “I feel very proud,” Yemene says, “and blessed.” Many immigrants find, in fact, that even the most difficult off hours work can yield some benefits for the next generation. One study published in 2010 estimated that working off hours results in a worker being paid between 11 and 13 percent more than they would earn otherwise, a range that varies depending on the unemployment level in the labor market.<sup>9</sup> Blue-collar

workers being paid by the federal government similarly enjoy higher compensation for off hours work: For work scheduled between the hours of 11:00 p.m. and 8:00 a.m., workers on the Federal Wage System are paid 10 percent more than their normal hourly rate.<sup>10</sup>

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*Working off hours results in a worker being paid between **11% and 13% more** than they would earn otherwise.*

PART IV

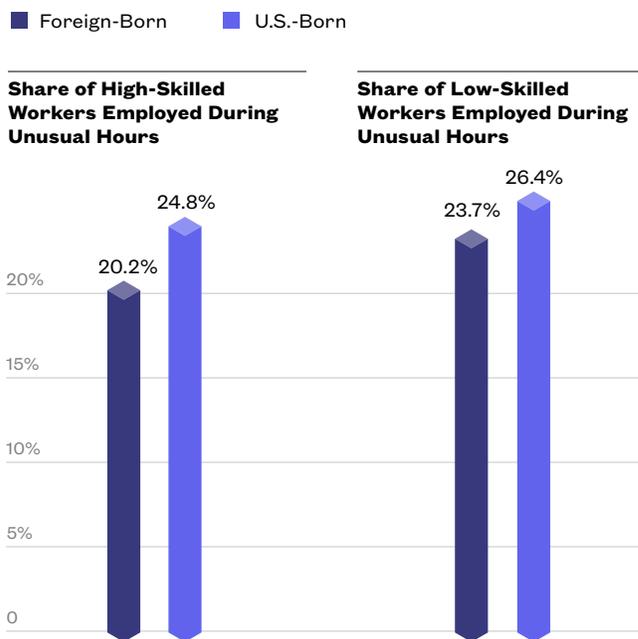
# Unusual Hours, Different Skill Levels, and Occupations

To gain more understanding of the unique role immigrants working off hours play filling niches within our economy, we expanded our analysis to consider whether high-skilled and low-skilled immigrants were more likely to work unusual hours than their similarly educated peers. We define high-skilled as those with at least a bachelor’s degree. We define less-skilled workers, a group often engaged in more labor-intensive tasks, as anyone with less than a college degree.

Once again, after controlling for a variety of factors, we find that both high-skilled and less-skilled immigrants are more likely to work unusual hours than similar U.S.-born workers. This phenomenon is more pronounced at the lower end of the labor market. Our analysis shows that less-skilled foreign-born workers are 18.1 percent more likely to work unusual hours than similar less-skilled U.S.-born workers. Among the college-educated population, immigrants are 10.1 percent more likely to be on the clock outside of regular working hours. (See Figure 6.)

High-skilled immigrants are...  
**10.1%**  
 more likely to work unusual hours than their U.S.-born peers.

FIGURE 6: PROPENSITY TO WORK UNUSUAL HOURS, BY SKILL LEVEL AND NATIVITY, 2003-2015\*



Low-skilled immigrants are...  
**18.1%**  
 more likely to work unusual hours than their U.S.-born peers.

\* Sample is restricted to 16 to 65 year olds not born abroad to U.S.-born parents who are not self-employed and work 20 or more hours a week. Individuals born in U.S. territories are dropped from the sample. The data is weighted by population weights. For a full list of controls, see the Methodology Appendix.

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*During the workweek, immigrant healthcare practitioners—including doctors and nurses—are **20.6%** more likely than natives to put in unusual hours.*

Within these skill levels, of course, foreign-born workers are considerably more likely to work unusual hours in a variety of professions. While the results presented in our study so far derive primarily from ATUS, it is necessary to use the ACS for our occupation analysis, since its larger sample allows us to produce more accurate results. It is worth noting, however, that the ACS does not capture whether or not individuals work on the weekend. In part because of this, its results on our main study question are slightly more muted than they were with the more comprehensive ATUS data. Specifically, when looking at whether immigrants overall are more likely than similar U.S.-born to work the largest definition of unusual hours possible with the dataset—8:00 p.m. to 6:00 a.m. during the workweek—we find that they are roughly 8 percent more likely to do so, a result that is roughly *half* of what we found in the ATUS. That finding should be kept in mind as a benchmark when viewing the individual occupation results.

ACS estimates reveal that immigrants are considerably more likely to work unusual hours than similar U.S.-born workers in several professions of particular importance to the U.S. economy. One prime example

concerns healthcare jobs across a variety of skill levels. After controlling for other contributing factors, we find that immigrant healthcare practitioners and technical workers—a group including doctors, pharmacists, and nurse practitioners, among other highly skilled roles—are 20.6 percent more likely to work unusual working hours during the workweek than similar U.S.-born in their field. Among healthcare support workers, a group that includes nursing assistants, home health aides, and orderlies, the equivalent figure is 16.8 percent.

Similarly, agriculture, fishing, and forestry is a key U.S. industry, contributing more than \$175 billion to our country's GDP in 2015 alone. Our work finds that immigrants are 10.2 percent more likely to work unusual hours than similar U.S.-born workers in the field. The results are even more compelling for those in educational, training, or library roles, where immigrants are 23.4 percent more likely to put in unusual hours than similar U.S.-born workers. Our findings for a selection of high- and less-skilled professional fields can be found in Figure 7.

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*In education, immigrants are **23.4%** more likely than the U.S.-born to put in unusual hours.*

Saad Yousuf is one example of an immigrant working in education who was attractive to an employer because of his willingness to work unusual hours. His employer, Gateway Technical College, was looking for a corporate instructor who could work six days a week, year-round, at its Kenosha, WI campus. Although the job was an exciting one—managing IBM's first e-business

educational program in the United States—filling it was not easy. “The requirements for that particular initiative were pretty strict,” Yousuf says. “They were not able to find a candidate.”

Yousuf, a Pakistani immigrant then teaching math at a Chicago university, had a master’s degree in computer science and experience in corporate training. He was also still in his early 20s, still on his student visa, and perfectly eager to jump at such a great opportunity.

When Yousuf took the job, he became one of the youngest instructors at Gateway, an institution that serves more than 25,000 students throughout southeastern Wisconsin. At age 25, while working up to 65 hours per week while also pursuing his MBA, Yousuf won the school’s outstanding employee award for new faculty. “Saad works all the time,” college President Sam Borden told *The Milwaukee Journal Sentinel* at the time. Despite that, however, Yousuf reveled in his teaching post. “I find it rewarding,” he said, “when you can transfer to other people what you’ve learned.”

FIGURE 7: PROPENSITY OF IMMIGRANTS TO WORK UNUSUAL HOURS COMPARED TO SIMILAR U.S.-BORN, SELECTED OCCUPATIONAL GROUPS, 2015\*

High-Skilled Occupations	How Much More Likely Immigrants Are to Work than U.S.-born	Low-Skilled Occupations	How Much More Likely Immigrants Are to Work than U.S.-born
<b>Healthcare Practitioners &amp; Technical Occupations</b> — Physicians, registered nurses, dentists, physical therapists	20.6%	<b>Healthcare Support</b> — Home health aides, assistants to nurses or physical therapists	16.8%
<b>Business Operations Specialists</b> — Accountants, human resource specialists, insurance underwriters	9.0%	<b>Farming, Fisheries, &amp; Forestry</b> — Field and crop workers, logging workers, commercial fishermen	10.2%
<b>Life, Physical, &amp; Social Science</b> — Psychologists, microbiologists, chemical technicians	15.2%		
<b>Education, Training, &amp; Library</b> — College professors, librarians, special education teachers	23.4%		
<b>Community &amp; Social Services</b> — Social workers, rehabilitation counselors, clergy	18.6%		

\* Self-employed workers and those working less than 20 hours are excluded. Individuals born in U.S. territories are dropped from the sample. Unusual hours defined as 8:00 p.m. to 6:00 a.m., weekdays only. The data is weighted by population weights. Low-skilled occupations defined as those requiring less than a Bachelor’s Degree. For a full list of controls, see the Methodology Appendix.

Source: Author’s analysis of American Community Survey, 2015.

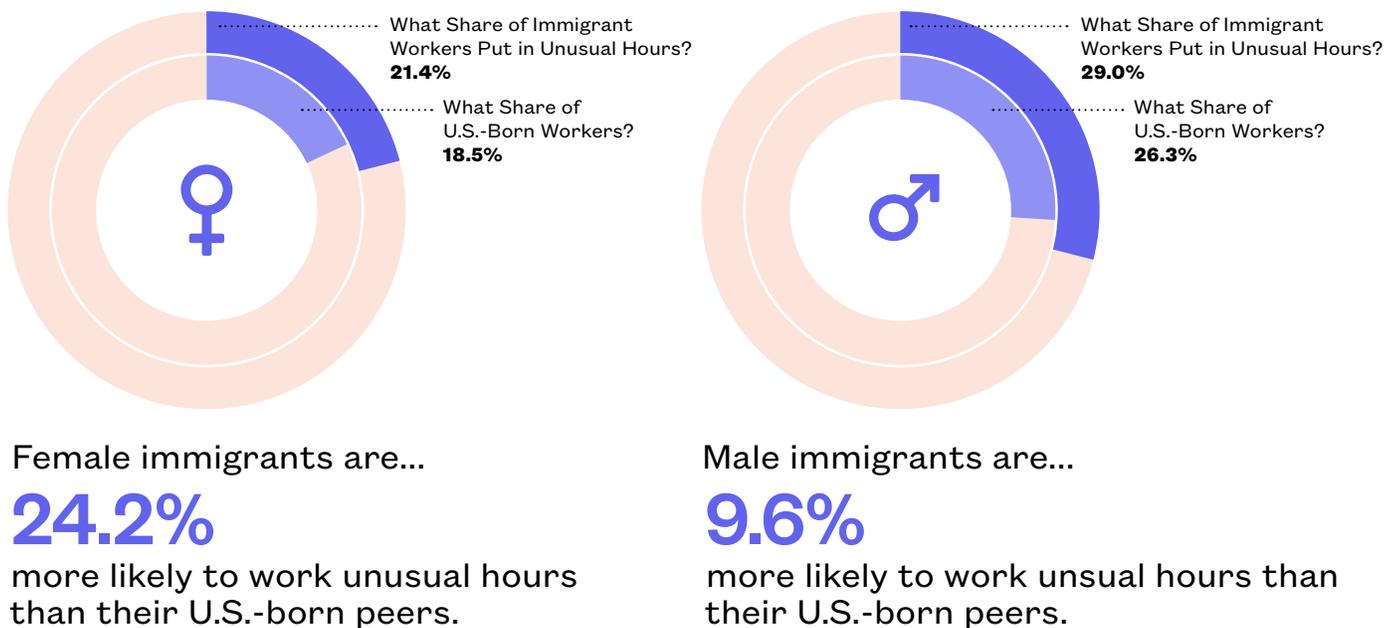
PART V

# The Role of Women

There are many positions in our economy that draw a largely female workforce and rely heavily on workers willing to put in time outside of normal working hours. Home health aides, for instance, frequently tend to patients overnight or on the weekends—helping them with showering, medication, and other needs. That profession, which is projected to create 348,400 new jobs between 2014 and 2024,<sup>11</sup> was 87.3 percent female in 2015.<sup>12</sup> The aging of the country’s 76.4 million baby boomers has also dramatically raised the need for the number of registered nurses and licensed vocational nurses in recent years, jobs that hospitals need staffed around the clock.<sup>13</sup> In both these occupations, women make up almost nine out of every 10 workers.<sup>14</sup>

With an eye to this reality, our analysis considers what role female immigrants specifically play in the unusual working hours economy. According to the ACS, almost two million foreign-born women in the country work unusual hours. How much more likely are those women than their equivalent U.S.-born female peers to work during nontraditional hours? And how much of the added propensity of immigrants to work unusual hours is due to the pattern among women? To gain insight into these questions, we once again rely on the ATUS, conducting a regression analysis that compares immigrant women to U.S.-born women of the same age, ethnicity, and education, among other variables. (See methodology appendix for more details.) Our results show that women indeed are an important driver of the

FIGURE 8: PROPENSITY TO WORK UNUSUAL HOURS BY GENDER AND NATIVITY, 2003-2015\*



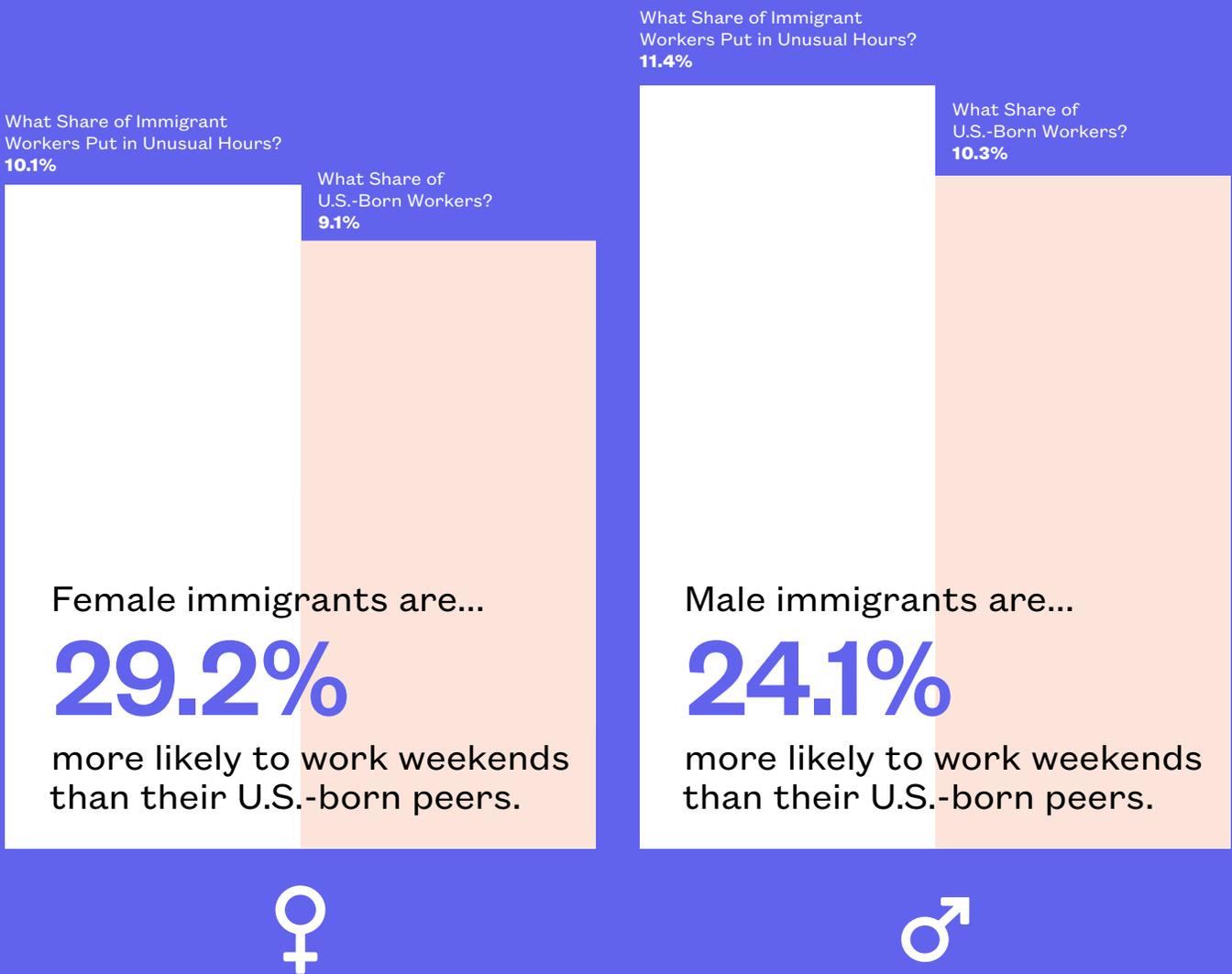
\* Sample is restricted to 16 to 65 year olds not born abroad to U.S.-born parents who are not self-employed and work 20 or more hours a week. The data is weighted by population weights. For a full list of controls, see the Methodology Appendix.

tendency among immigrants to work unusual hours. The data show that female immigrants were 24.2 percent more likely to work unusual hours overall than similar U.S.-born women. The equivalent figure for men was just 9.6 percent. (See Figure 8.)

While our results for unusual hours overall show a large gap between our results for foreign-born men and

women, it is interesting to note that the pattern changes somewhat when we focus solely on those working weekends. We find that female immigrants were 29.2 percent more likely than equivalent U.S.-born woman to work on the weekends. When we look at the pattern among men, we find that foreign-born men are 24.1 percent more likely than U.S.-born men to work on the weekends, controlling for other factors. (See Figure 9.)

FIGURE 9: PROPENSITY TO WORK WEEKENDS BY GENDER AND NATIVITY, 2015\*



\* Sample is restricted to 16 to 65 year olds not born abroad to U.S.-born parents who are not self-employed and work 20 or more hours a week. The data is weighted by population weights. For a full list of controls, see Methodology Appendix.

PART VI

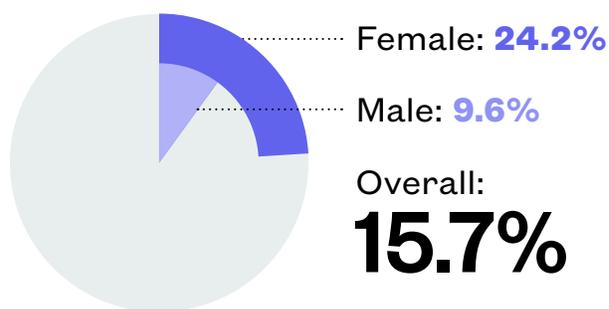
# Immigrants and U.S.-Born Compete for Different Roles

**W**hile evidence that immigrants are more likely to work off-hours than U.S.-born workers suggests that they fill gaps in the job market, there is still more that can be said to support this argument. To investigate further, we revisit our regression and control for occupation to determine how much of our results can be explained simply by an individual’s choice of job. We also examined the occupations of workers of unusual hours, both foreign-born and U.S.-born, to see whether there was significant overlap in terms of the kinds of jobs each group opted to do.

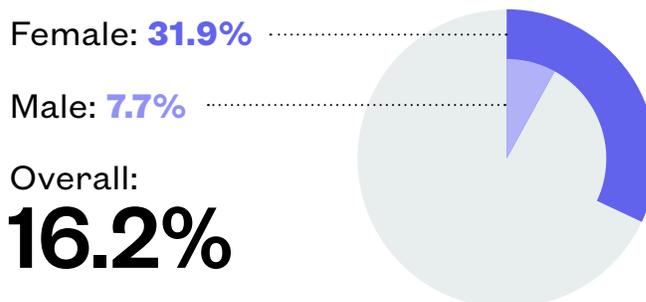
Our results provide compelling evidence that the choice of occupation plays a large role in the added propensity among immigrants to work unusual hours. In 2015, roughly one-sixth of the additional likelihood among immigrants to work unusual hours we document in the ATUS can be explained by foreign-born and U.S.-born workers opting to work in different professions. When we drill down to how this breaks out by gender, we can see that the effect is particularly pronounced among women. Almost one-third of the difference between immigrant women and equivalent U.S.-born women to work unusual hours during the workweek is due to women gravitating towards different roles in the workforce. (See Figure 10.)

**FIGURE 10: THE ROLE OF DIFFERENT OCCUPATIONS IN EXPLAINING INCREASED LIKELIHOOD AMONG IMMIGRANTS OF WORKING UNUSUAL HOURS, BY GENDER, 2003-2015\***

How Much More Likely are Immigrants to Work Unusual Hours?



How Much of that Increased Likelihood is Due to Occupation?



\* Sample is restricted to 16 to 65 year olds not born abroad to U.S.-born parents who are not self-employed and work 20 or more hours a week. The data is weighted by population weights. For a full list of controls, see the Methodology Appendix.

To better understand how this phenomenon looks in practice, we once again make use of the ACS, as we have for other overviews of the unusual hours workforce. On the following page, Figure 11 shows the top 15 occupations for both U.S.-born and foreign-born workers who work unusual hours during the workweek. (Once again, the ACS does not allow us to see weekend work patterns.) Although there is some overlap between the occupations listed, it is notable that three occupations appear on the foreign-born list that are not on the U.S.-born one: Miscellaneous agriculture positions, construction laborers, and maids and housekeepers. These positions require significant amounts of physical exertion. Miscellaneous agriculture jobs are entry-level farm positions, which require workers to handpick fresh produce in the fields. Construction laborers, meanwhile, frequently assist skilled trades workers on construction sites with heavy labor tasks. Their duties often include digging trenches, erecting scaffolding, and cleaning up rubble and debris.<sup>15</sup>

Researchers argue that immigrants gravitate toward such manual jobs because they do not have the same level of English proficiency as U.S.-born workers at the same skill level. At the same time, however, immigrants “possess physical skills similar to those of U.S.-born workers,” write the authors of a 2009 study on task specialization and immigration.<sup>16</sup> “Thus, they have a comparative advantage in occupations requiring manual labor tasks.”<sup>17</sup> Indeed, our results show that U.S.-born individuals working unusual hours tend to gravitate towards some roles requiring high levels of human and customer interaction. U.S.-born workers on duty during unusual hours are more likely to be waiters and waitresses than immigrants working such shifts. They are also more likely to work as retail salespeople or as first-line supervisors in retail sales. The most common job among immigrants working unusual hours, meanwhile, is janitors and building cleaners, another job requiring a substantial amount of physical work.

Richard Naing, a computer systems analyst living in Boise, Idaho, has wound up working unusual-hour roles in part because of his level of English proficiency. Naing, a refugee from Burma, has long been ambitious.

When he arrived in the United States in 2013, he hoped to quickly find a job in a computer field. After going on dozens of job interviews, however, he kept failing to secure an offer. He was not yet proficient in English, and because his professional computer employment occurred in Malaysia, a country where refugees like himself are only allowed to work off the books, potential employers had no way to vet his experience.<sup>18</sup>

Needing to work in some capacity, Naing took a job as a houseman at a hotel, delivering laundry and guest supplies from 3:00 p.m. to 11:00 p.m. While that position helped him pay the bills and practice his English, he still longed to work in his chosen field of information technology (IT). In the IT world, Naing explains, “I keep learning. That feeling is great.” With an eye to that goal, Naing reserved his mornings for job hunting. He also tapped into a reservoir of support — both from his resettlement agency and local nonprofits.

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*Naing was offered a job, provided he was willing to work from 7 p.m. to 7 a.m., four nights a week.*

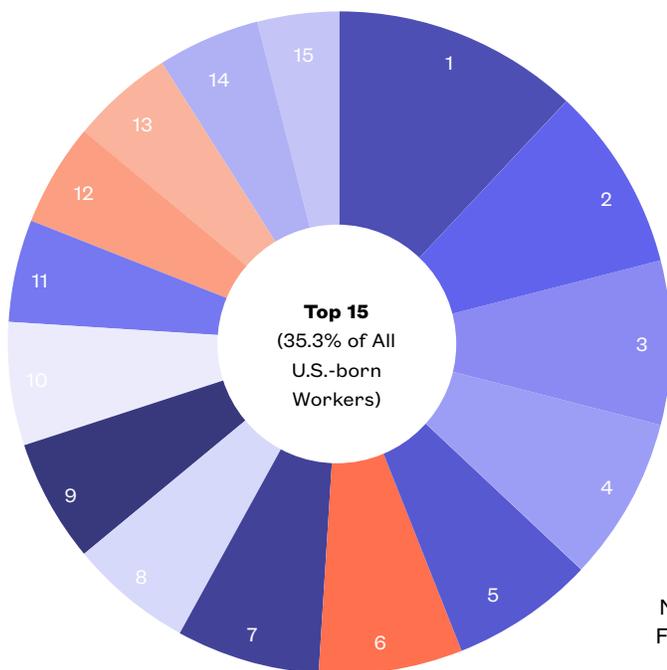
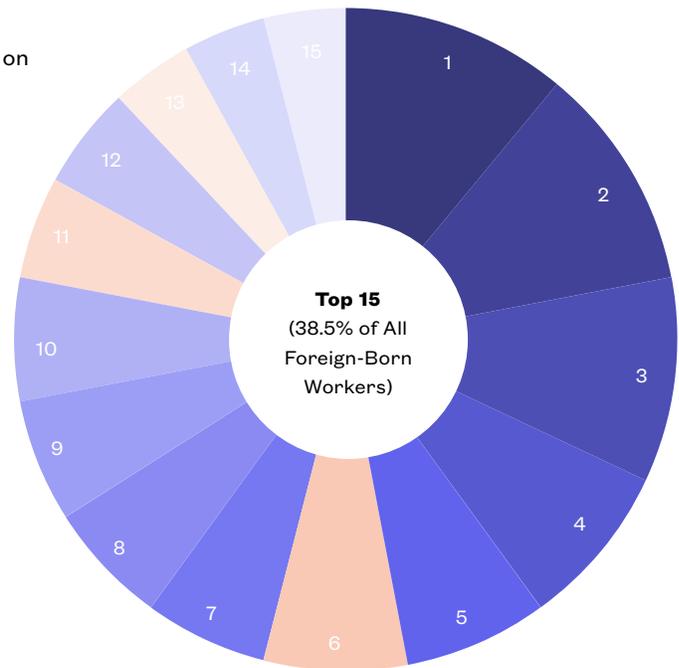
Eventually, his opportunity came. In 2014, Naing was offered a job as a data technician, provided he was willing to work from 7:00 p.m. to 7:00 a.m. four nights a week. He has since moved on to another position, at St Luke’s Hospital, where he works as a systems analyst from 2:30 p.m. to 10:30 p.m., a shift that allowed him to enroll in an intensive English language program at Boise State University in the mornings. He has now graduated, and has retained the swing shift, replacing morning school work with a second, part-time job.

FIGURE 11: TOP 15 OCCUPATIONS OF U.S.-BORN AND FOREIGN-BORN WORKERS ON DUTY DURING UNUSUAL HOURS, 2015\*

### Top 15 Foreign-Born Occupations

1	Janitors & Building Cleaners	4.4%
2	Cooks	4.2%
3	Driver/Sales Workers & Truck Drivers	3.8%
4	Registered Nurses	3.0%
5	Cashiers	2.7%
6	Misc. Agricultural Workers	2.5%
7	Home Health Aides	2.5%
8	Laborers & Freight Stock	2.3%
9	Waiters & Waitresses	2.3%
10	Other Production Workers	2.2%
11	Construction Laborers	2.0%
12	Misc. Assemblers & Fabricators	1.7%
13	Maids & Housekeepers	1.7%
14	Stock Clerks & Order Fillers	1.6%
15	Retail Salespersons	1.6%

Not found on U.S.-Born Top 15



Not found on Foreign-Born Top 15

### Top 15 U.S.-Born Occupations

1	Driver/Sales Workers & Truck Drivers	4.3%
2	Cashiers	3.0%
3	Laborers & Freight Stock	2.7%
4	Waiters & Waitresses	2.7%
5	Registered Nurses	2.6%
6	First-Line Supervisors, Retail Sales	2.4%
7	Cooks	2.4%
8	Stock Clerks & Order Fillers	2.2%
9	Janitors & Building Cleaners	2.0%
10	Retail Salespersons	2.0%
11	Home Health Aides	1.9%
12	Misc. Managers	1.9%
13	Customer Service Representatives	1.8%
14	Other Production Workers	1.7%
15	Misc. Assemblers & Fabricators	1.5%

\* Self-employed workers and those working less than 20 hours are excluded. Individuals born U.S. territories are dropped from the sample. Unusual hours defined as 8:00 p.m. to 6:00 a.m., weekdays only. The data is weighted by population weights.

Source: Author's analysis of American Community Survey, 2015.

## PART VII

# Conclusion

**T**his study demonstrates that even after controlling for other contributing factors, foreign-born workers are considerably more likely to work unusual hours than their U.S.-born counterparts. Specifically, foreign-born workers were 15.7 percent more likely to work unusual working hours than equivalent U.S.-born workers. They were also 25.2 percent more likely to be on duty during the weekends. These findings illustrate the importance of immigrants for whole range of U.S. industries that rely on a flexible workforce to remain competitive. Many of these industries are the backbone of our broader economy, particularly in the industrial Midwest. Meatpacking firms, commercial bakeries, and dairy manufacturing firms all employ a large share of workers during the off hours: In 2015, roughly half of workers in all of those industries were working in the evenings or on the weekends.

One important aspect of this report is that we find meaningful and statistically significant results in two large, yet very different datasets—the American Time Use Survey and the American Community Survey. We rely primarily on the American Time Use Survey because, unlike the ACS, it captures work performed during the weekends. However, the fact that both datasets show that immigrants are more likely to work during unusual working hours than their similar U.S.-born counterparts adds to the certainty of our results. For more technical information on this report, see the methodology section.

While it is beyond the scope of this study to quantify the economic impact of employers having access to this flexible, immigrant workforce, it is likely that the willingness of foreign-born workers to take on off hours jobs has broad economic benefits. In the last two years, as unemployment rates have dropped, news reports have indicated that manufacturing firms in places as varied as Chicago and Pleasant Prairie, WI have had

trouble staffing some of their overnight shifts.<sup>19</sup> Growers of fresh produce have also faced considerable challenges filling jobs, many of which require early morning work.<sup>20</sup> When employers struggle to fill such positions, it can hinder their overall expansion and ability to add jobs at all hours. And that can have a ripple effect on the broader economy. According to Deloitte, every time 100 jobs are created in a U.S. manufacturing facility, 250 jobs are created in other sectors.<sup>21</sup> Similarly, experts have estimated that every on-farm job supports three additional positions, often in higher-paying fields like manufacturing, packaging, irrigation, or transportation.<sup>22</sup>

In light of such interconnectedness, one important piece of future job creation efforts then should involve ensuring that key sectors of our economy have the staff they need around the clock. As this report demonstrates, immigrants play an important role in making that goal a reality.

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*Key sectors of our economy need staff around the clock. Immigrants can play an important role in making that goal a reality.*

# Methodology Appendix

## Our Data

In this report we use two different datasets, the ATUS from 2003 to 2015 and the ACS from 2003 to 2015. Both datasets have their own set of weaknesses and strengths. The ATUS collects data through time diaries, which “forces the total time devoted to primary activities to equal exactly 24 hours per day for each person, and the short recall period minimizes recall bias.”<sup>23</sup> ATUS data, however, suffer from selection and attrition bias. Both of the biases are introduced based on the way the ATUS data is sampled. In order for an individual to be eligible for the ATUS, an individual must complete the full 12 months of the Current Population Survey (CPS) rotation. This sampling procedure introduces attrition bias as the individuals that stayed for the full 12 months are likely to be different than those that did not. The selection bias is introduced into the ATUS data because of the low response rate, which is below 60 percent.<sup>24</sup>

To mitigate some of the selection bias introduced by the nonrandom participation in the ATUS, we reweight the data based on the observable characteristics of the CPS-ASEC (Annual Social and Economic Supplement) respondents. The new population weights are computed to reflect the observable characteristics of a random sample in the CPS by dividing the old population rates by the probability that an individual will take part in the ATUS. The probabilities were estimated from separate logit regressions for gender, nativity, and survey. The probability of ATUS participation was computed based on the following individual characteristics: age and its square, race, indicators for ethnicity, education, state fixed effects, working hours last week, family income,

whether an individual is self-employed, and whether an individual is employed by nationality and sex.

For some of our analysis, specifically the components of the report that drill down to trends within individual occupations, we rely on the ACS. The main benefit of the ACS is that it has a large sample size and provides information on the average weekly hours worked and at what time respondents started their workday. However, the ACS lacks information on whether individuals work over the weekend, and the retrospective questions related to working hours utilized in the ACS may be affected by recall bias and internal inconsistencies.<sup>25</sup>

## Our Regressions

We use regression analysis to understand whether there is evidence that immigrants are more likely to be employed during off hours of the day. We estimate linear probability models of the form:

$$Y_{ist} = \beta + \Omega^*d_{ist} + \Gamma^*I_{ist} + M_t + L_s + e_{ist}$$

where  $Y_{ist}$  indicates unity if an individual  $i$ , works during off hours (different definitions are described in the text) at state  $s$ , and time (year and month) fixed effects  $t$ .  $d_{ist}$  is a set of control variables such as an individual’s age, sex, race and Hispanic ethnicity, individual’s marital status, whether a male is married, and individual education.  $L_s$  and  $M_t$  indicate state, year, and monthly fixed effects, respectively. Finally, when using the ATUS data, we also control for whether there are dependents present in the house, the age of these dependents, as well as the number of adults in a household in order to avoid

spurious correlation since these characteristics were used to partly select ATUS participants.

The coefficient of interest  $I_{ist}$  is an indicator variable for immigrant, coded as 1 for immigrants and 0 for the U.S.-born. The coefficient shows whether immigrants are more or less likely to work during off hours. Since many immigrants with similar education and skill level are underemployed, we also control for individuals' occupation in some models to understand how much of the unusual working hours gap can be explained by differences in occupation. We also run separate models by gender, occupation, and skill level to understand heterogeneity of our estimates.

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ABOUT

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