



# EPI BRIEFING PAPER

ECONOMIC POLICY INSTITUTE • MAY 21, 2015 • BRIEFING PAPER #400

## AUTHORIZED STATUS, LIMITED RETURNS

### The Labor Market Outcomes of Temporary Mexican Workers

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#### Introduction and executive summary

Legislators have proposed the increased use of U.S. temporary foreign worker programs, also commonly referred to as “guestworker” programs, as a way to limit unauthorized migration from Mexico. Temporary foreign worker programs allow migrants to enter the U.S. workforce for a designated period, at the end of which workers return to their home countries. Legislators view these programs as a means to channel future, would-be unauthorized migrants through a legal pathway; foreign workers seeking employment in the United States would receive a guestworker visa through an employer rather than surreptitiously cross the border.

Despite a lack of comprehensive immigration reform, guestworker programs have grown over the past few decades. Mexicans who use the guestworker program usually enter on H-2A and H-2B visas: visas provided for temporary workers in agricultural or other lesser-skilled

occupations (U.S. Department of Homeland Security 1987–1996; U.S. Department of State 2014b). In 1990, 6,573 H-2A and H-2B workers from Mexico were admitted into the United States. (Data on H-2 visa issuances before 1997 is not publicly available from the State Department; thus I use H-2 admissions data from the Department of Homeland Security as a proxy for visas issued between 1987 and 1996.) (U.S. Department of Homeland Security 1987–1996). In 2013, the United States issued 111,670 H-2A and H-2B visas to workers from Mexico (U.S. Department of State 2014b).

The H-2A and H-2B temporary foreign worker programs designate beneficiaries with an authorized “lawful” status, which suggests that they have a distinct advantage over unauthorized workers in the labor market. However, the current legal and regulatory framework limits temporary foreign workers’ labor market opportunities by predicating their legal presence on a single employer that petitions for and essentially “owns” the temporary visa. This paper examines how Mexican guestworkers’ legal rights and vulnerabilities shape their employment

outcomes, and how these outcomes compare to those of legal permanent residents (LPRs) and unauthorized workers. The following are the key findings:

- Mexican temporary foreign workers' employment outcomes are as poor as, or even worse than, those experienced by unauthorized Mexican immigrants. Both groups are disadvantaged when compared with LPRs.
- Of the three legal status groups, temporary workers hold jobs of the lowest occupational standing.
  - Temporary foreign workers hold jobs with occupational standing scores ranking 15 and 14 percent below those of LPRs and unauthorized workers, respectively.
  - Visa restrictions on the job mobility of temporary workers prevent advancement. Meanwhile, unauthorized immigrants may switch jobs to move up in their field of work between employers willing to hire unauthorized workers.
- Temporary foreign workers' hourly wages are equivalent to unauthorized workers' wages, and both groups experience wage penalties compared with LPRs.
  - Temporary foreign workers earn about 11 percent less than LPRs, and their wages do not significantly differ from unauthorized workers' wages.
  - Consistent with prior research, there is a wage gap between LPRs and unauthorized workers (Donato and Massey 1993; Kosoudji and Cobb-Clark 2002; Phillips and Massey 1999). Unauthorized workers earned about 13 percent less than LPRs.
  - Wage gaps suggest that employers use fear of deportation to pay lower wages—not just to

unauthorized immigrant workers but to temporary foreign workers as well.

- Among agricultural workers, temporary foreign workers (H-2A workers) benefit from government regulation that requires employers to provide housing at no cost to the worker.
  - H-2A workers' monthly compensation levels, which include the monetary value of housing, are closer to LPRs' monthly earnings, and rank above the monthly earnings of unauthorized workers.
  - Without this form of compensation, H-2A workers' monthly earnings are similar to those of unauthorized workers, and both groups' monthly earnings are less than LPRs' monthly earnings.

The results of these analyses point toward the need for reforming U.S. temporary foreign worker programs. If temporary foreign worker programs are to be a viable alternative to unauthorized immigration, temporary work visas must appeal to potential unauthorized immigrants and must reduce the risk of abuse that workers in these programs encounter. Currently, visa restrictions tying temporary foreign workers to a single employer undermine the economic opportunities available to these workers.

## Background

The nation's immigration laws both constrain and privilege temporary workers. The Immigration and Nationality Act (or INA) categorizes temporary foreign workers as having a lawful "nonimmigrant" status. Legal nonimmigrants are individuals who are legally present in the United States, but can only reside in the United States temporarily.<sup>1</sup>

Among Mexicans, the most common nonimmigrant employment visas issued fall within the H visa classification, specifically, the H-2A visa for agricultural work-

ers and the H-2B visa for low-skill, seasonal, peak load, or intermittent workers in occupations outside of agriculture. To hire H-2A or H-2B workers, employers demonstrate to the U.S. Department of Labor (DOL) that U.S. workers are unavailable to perform the jobs at the locally prevailing wages. If the DOL approves an employer's labor certification, the employer submits a petition to United States Citizenship and Immigration Services (USCIS), a sub agency within the U.S. Department of Homeland Security (DHS). When USCIS approves an employer's petition, the employer often hires labor recruitment companies to locate workers for prearranged terms of employment (Centro de los Derechos del Migrante 2013). Workers who accept the job terms apply for the visas at the U.S. embassy in their home countries, and are interviewed by State Department consular officers there. The State Department may either issue or refuse to issue the visa; if the visa is issued, the worker may use the visa to enter the United States after inspection by U.S. Customs and Border Protection at a point of entry.

Temporary visas are valid for up to one year for H-2A workers<sup>2</sup> and 10 months for H-2B workers,<sup>3</sup> but can be extended for up to three years. A person who has held an H-2 visa for a total of three years must depart and remain outside of the United States for three months before seeking readmission on another visa.<sup>4</sup> H-2 visas are not considered "dual-intent," and therefore do not provide a path to citizenship or legal permanent residence. Individuals entering on these visas have a legal right to work in the United States, but the visas are tied to a particular employer; therefore, they cannot change jobs while in the United States. H-2 workers must be paid at or above a prevailing wage that is set by law and regulation. The DOL requires employers to provide H-2A workers only with written contracts, free housing and cooking facilities, reimbursement for travel costs from their home country, and a guarantee of work for at least three-fourths of the contract period. In April 2015, the DOL

issued new regulations that substantially reform the H-2B program.<sup>5</sup>

Temporary foreign workers are classified as nonimmigrants, which distinguishes them from legal permanent residents (LPRs) who are issued "immigrant" visas (which are also commonly referred to as "green cards"). LPRs are foreign citizens who are allowed to reside indefinitely in the United States. Except for certain federal jobs requiring U.S. citizenship (such as those involving national security), LPRs are allowed to work for any employer and change jobs at will. On the other hand, unauthorized immigrants are individuals who either entered the country without inspection or arrived using a nonimmigrant visa, such as a tourist visa, and violated its terms by working or remaining in the country beyond the authorized period of stay. Unauthorized immigrants, who are technically out of status or never had a lawful status, are thus removable (deportable) under U.S. law and face possible incarceration and/or removal if their presence is detected by government authorities. Unlike temporary foreign workers, unauthorized immigrants do not have the legal right to be employed in the United States, resulting in job searches limited to employers willing to hire unauthorized workers, or otherwise obtaining employment with the use of fraudulent identity documents. However, federal and state labor laws, with the notable exception of the National Labor Relations Act, protect all workers regardless of legal status once they are employed, defending their right to a safe workplace and to be paid for their work, and protecting them against retaliation and discrimination.

**Figure A** illustrates the number of Mexican nationals who were granted LPR status each year from 1987 to 2012. The figure also, for comparison, shows an estimated number of Mexican nationals who entered the United States without authorization each year.<sup>6</sup> Finally Figure A depicts H-2A and H-2B visas issued yearly to Mexicans from 1997 to 2012. The number of visas issued by the State Department is the best available evi-

dence regarding the number of H-2 workers that will be employed in the United States in a given year. Because the State Department's data on H-2 visas issued by nationality were not available before 1997, I use as a proxy the Department of Homeland Security's reported number of yearly H-2A and H-2B admissions into the United States for 1987–1996. Admissions data reflect the number of times H-2 workers entered the United States, rather than the number of individuals who hold an H-2 visa. For example, there were 6,573 H-2 admissions into the United States in 1990, not necessarily 6,573 H-2 workers, because one worker could re-enter the United States multiple times in one year. It should be noted that the number of visas issued by the State Department may overestimate the number of workers who were employed in the United States on H-2A and H-2B visas in a given year because not every worker issued a visa may have entered the United States, and DHS's admissions data may overestimate the number of H-2 workers employed in a given year because of multiple entries into the United States with the same visa by a single H-2 worker.

Temporary foreign workers, especially when compared with LPRs, account for a significant and growing number of Mexican entries. Notably, the combined number of H-2A and H-2B visas issued rose gradually between 1997 and 2007, increasing from around 23,000 in 1997 to a high of about 133,000 in 2007. In 2007, before the U.S. economic downturn, almost as many Mexicans were granted H-2 visas as were granted LPR status, approximately 133,000 to 149,000. With the exception of a sharp increase in the number of green cards issued from 1989 to 1991—a result of the legalization program created by the Immigration Reform and Control Act (or IRCA, signed and passed into law in 1986)—the number of Mexicans granted LPR status averaged about 160,000 per year over the rest of this period. The number of unauthorized entries, while very large, declined during the 2000s. Therefore, assessing the work outcomes of temporary foreign workers is necessary to contribute to our

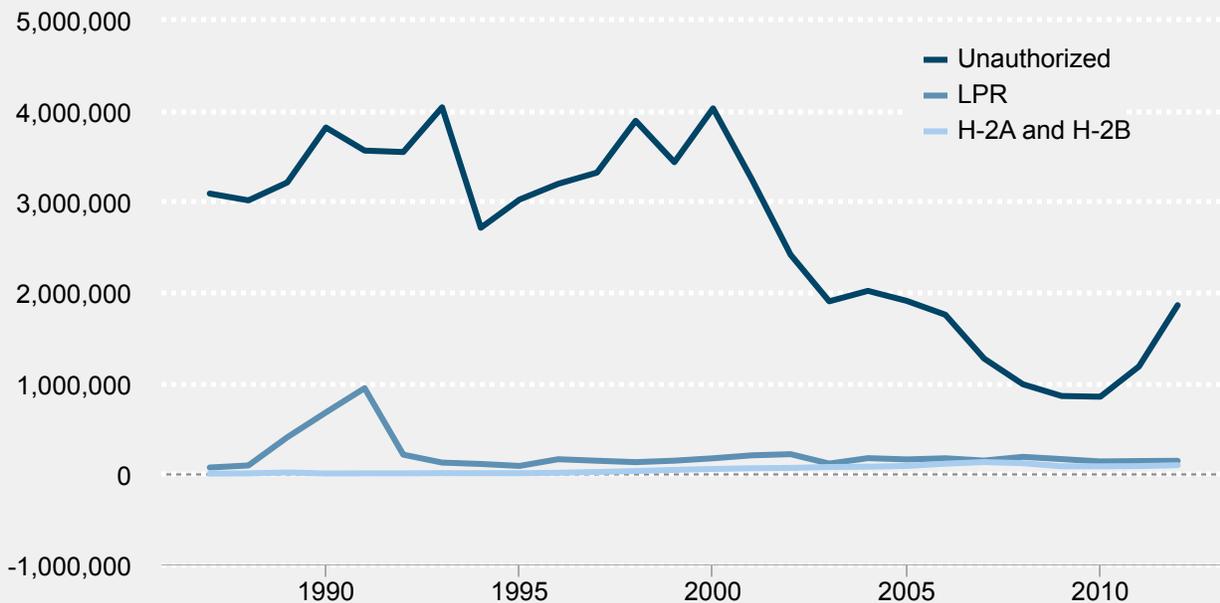
understanding of Mexicans workers' experience in the United States.

Despite their authorization to work in the United States, temporary foreign workers experience workplace exploitation and abuse (Centro de los Derechos del Migrante 2013; Sarathy and Casanova 2008; Southern Poverty Law Center 2013). While in the country of origin, migrants may negotiate with recruiters that employers have contracted to fill their H-2 allotment; however, recruiters do not provide contracts and may promise high wages. Upon H-2 workers' arrival in the United States, employers may pay them a lower rate than promised (Centro de los Derechos del Migrante 2013). If temporary workers do not agree to this rate, they will effectively lose their visa and corresponding legal status, making them susceptible to deportation. Others are cheated out of wages through piece-rate pay schemes, underreporting of work hours, and a failure to pay legally required overtime wage rates (Southern Poverty Law Center 2013). When workers attempt to recover wages owed to them, employers threaten to call U.S. Immigration and Customs Enforcement (ICE) to report that temporary workers "abandoned" their work (making them unauthorized workers) (Southern Poverty Law Center 2013). H-2 workers commonly report that employers confiscate their passports and Social Security cards to ensure that they cannot leave their jobs (Southern Poverty Law Center 2013).

Some evidence suggests that the unauthorized and guest-worker experiences are remarkably similar. In their qualitative comparison of forestry workers from Latin America, Sarathy and Casanova (2008) found that both unauthorized workers and H-2B workers did not receive pay for all of their work, were paid piece-rate rather than hourly wages, and did not receive pay for injuries on the job. Both temporary foreign workers and unauthorized workers feared being fired and deported if they reported violations of labor laws. Unauthorized workers distrusted government officials, in general, due to the

FIGURE A

## Legal permanent resident, H-2A, and H-2B visas issued to Mexican nationals and unauthorized entries into the United States by Mexican nationals, 1987–2012



**Source:** H-2A and H-2B visa issuance data from 1997 to 2012 are from the U.S. Department of State. H-2A and H-2B data for 1987–1996 are from the U.S. Department of Homeland Security’s *Yearbook of Immigration Statistics* and reflect H-2A and H-2B worker admissions into the United States. (Because the State Department’s data on H-2 visas issued by nationality were not available before 1997, the number of H-2A and H-2B admissions into the United States are used as a proxy for the department’s visa issuance data for 1987–1996.) Unauthorized entries are based on Massey and Singer’s (1995) methodology. A probability of apprehension is calculated from border crossings reported in Mexican Migration Project (MMP) data. Its inverse was multiplied by the number of border apprehensions officially reported by Immigration and Customs Enforcement (ICE). Probability of apprehensions and number of border apprehensions are available on the MMP website (MMP 143). LPR visa data are from the U.S. Department of Homeland Security’s *Yearbook of Immigration Statistics*.

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prevalence of ICE raids on workplaces with high concentrations of immigrant workers. Similarly, temporary foreign workers feared reporting workplace issues knowing that they would likely be fired, which would immediately invalidate their visas and thus render them out of status (Sarathy and Casanova 2008).

Temporary foreign workers, therefore, may experience labor market outcomes that are similar to those of unauthorized workers. Other research has illustrated that

unauthorized legal status results in work outcomes poorer than those of LPRs (Bernhardt et al. 2009; Donato and Massey 1993; Donato and Sisk 2012; Donato et al. 2008; Kossoudji and Cobb-Clark 2002; Massey and Gentsch 2014; Massey, Durand, and Malone 2002; Phillips and Massey 1999; Rivera-Batiz 1999). In this paper, I hypothesize that temporary and unauthorized workers may hold jobs in occupations of lower standing than LPRs. That is, they may obtain jobs ranked lower in the occupational hierarchy, as indicated

by the educational level of the workers in those jobs. Temporary and unauthorized workers may hold jobs of lower standing because they cannot easily change employers to find better jobs and move up the hierarchy. Temporary workers may not switch jobs to find better jobs because they are legally bound to their employers. Meanwhile, unauthorized workers may not want to switch jobs because they feel bound to their employer out of fear of detection by government authorities, and the only employers they can switch to have to be willing to employ unauthorized workers or unknowingly accept fraudulent documentation. LPRs' mobility in the labor market enables them to obtain new positions in occupations of higher standing in keeping with their experience.

Furthermore, both temporary foreign workers and unauthorized workers may be paid lower wages than LPRs because their employers rely on their fear of deportation to pay them the lowest possible wages. Employers hold the upper hand when bargaining, and can work around the prevailing wage by paying workers piece rates rather than hourly rates (Sarathy and Casanova 2008). Additionally, some research suggests that the legally defined prevailing wage is already lower than the average wage paid to U.S. workers (Costa 2011). Employers recognize that LPRs do not fear deportation and may be more willing to report wage violations. As such, employers expect LPRs to be less compliant and expect to have to pay wages better suited to LPRs' experience levels.

Yet unauthorized migrants may have some advantages over temporary foreign workers. For example, research on the unauthorized population that legalized under IRCA demonstrates that on average, immigrants improved their occupational standing while they were unauthorized (Kraly, Seltzer, and Powers 2000; Powers, Seltzer, and Shi 1998).

Unauthorized workers may overcome their dependence on a single employer through informal on-the-job training and job "jumping." Once a worker (whether authorized or unauthorized) obtains an entry-level job, that

worker learns new methods through informal observation or mentoring. After mastering these skills, both authorized and unauthorized workers practice *brincando*, or job jumping, to move up the occupational ladder. For example, a co-worker could nominate an individual for a promotion with his or her current employer; another employer could recognize workers' new skills and offer them jobs; or workers could market their new skills and look for higher paying, skilled jobs with a new employer. As long as other employers readily hire unauthorized workers, unauthorized workers can practice *brincando* to avoid some of the exploitation that results from their lack of legal status (Hagan, Lowe, and Quingla 2011).

Temporary foreign workers' visa conditions prevent them from capitalizing on their on-the-job training and jumping to other jobs. Regulation binds temporary workers to the employers and jobs they obtained when entering the country, thereby precluding them from switching jobs for a promotion or higher wages when they have learned new skills. While the minimum wage an H-2A or H-2B temporary foreign worker must be paid is set by regulation, an employer is unlikely to reward the worker's on-the-job training with higher wages—even though the employer is permitted to increase the worker's salary—because the employer knows that the worker cannot feasibly seek employment with another employer. Because previous studies do not directly compare unauthorized workers' and temporary foreign workers' economic positions, we do not know if employer dependence disadvantages temporary workers in the labor market. Therefore, LPRs and unauthorized immigrants could hold jobs in higher-standing occupations and earn higher wages due to their mobility in the labor market. Because temporary foreign workers are tied to their employers, it is possible they could rank below both LPRs and unauthorized workers in terms of their occupational standing and wages.

## Data and methods

These analyses rely on data from the Mexican Migration Project 143 (MIG 143) survey, which capture the U.S. experiences of LPRs, temporary foreign workers, and unauthorized immigrants from Mexico. Mexican Migration Project (MMP) data offer information about household heads' U.S. migration histories, with particulars on their most recent trips to the United States. Major strengths of the MMP are that it directly asks Mexican migrants about their legal status on their most recent U.S. migration and includes a sizeable number of temporary foreign worker respondents in its sample, a population difficult to measure due to its short-term presence in the United States.

For the collection of MMP data, investigators purposefully chose Mexican sites of different sizes, including rural areas, towns, midsized cities, and large metropolitan settings. Within each site, investigators completed a census of dwellings and then randomly selected households from the resulting list.<sup>7</sup> Around 200 households were interviewed within each community. Mexican community data were supplemented by nonrandom surveys of migrants located within the United States. While collecting data in Mexico, interviewers inquired where fellow community members had settled permanently in the United States. Interviewers located and interviewed 10 to 20 household heads that lived in the United States from each Mexican community. Response rates were high, with more than a 90 percent completion rate for each community. Data have been collected from different Mexican sites yearly from 1987 through 2013.

While the MMP data do not collect a random sample of Mexicans who have settled permanently in the United States, they offer a random sample of migrants practicing temporary and recurrent migration. I argue that this is an especially appropriate comparison group for temporary workers. When migrants practice temporary migration, they distinguish between work and their personal identity, viewing work as a means to collect money and

fulfill their role in the home community (Piore 1979). Once settled in the United States, migrants' identities are more strongly tied to the host society, and their aspirations shift to holding stable, permanent jobs and advancing up the occupational ladder (Piore 1979). As temporary workers must practice temporary migration, or else change their legal status, a comparison group of unauthorized workers and LPRs who have not settled permanently in the United States somewhat controls for these differences in identity and motivation.

MMP data include 7,700 Mexican heads of household who had U.S. migration experience, of which 6,691 (86.9 percent) were interviewed in Mexico and 1,009 (13.1 percent) were interviewed in the United States. I limited the sample to male, noncitizen migrants over the age of 16 who were employed on their most recent trip to the United States (not including Puerto Rico), which reduced the sample size to 6,001.<sup>8</sup> Given that the 1986 passage of IRCA increased sanctions against employers hiring unauthorized workers and changed the effect of unauthorized legal status on work opportunities (Donato, Durand, and Massey 1992; Donato and Massey 1993; Phillips and Massey 1999), I restricted my analyses to respondents whose most recent migration occurred after 1986.<sup>9</sup> This eliminated 2,361 respondents from the sample. To stabilize my estimates, I dropped respondents whose most recent trip to the United States was in 2012 because not all legal status groups were present that year ( $n=3$ ). After limiting the data, the sample consists of 3,634 male heads of household.

Missing data are minimal for the predictor variables, which vary in missing data from 0.03 to 5.56 percent. I performed listwise deletion by omitting from analyses the 357 respondents (9.9 percent of the sample) that were missing data on any of the predictor variables. **Appendix A** compares respondents dropped from analyses because they were missing data to respondents included in analyses. While all legal status groups have respondents with missing data, unauthorized workers dropped from analy-

ses are more likely to have fewer years of education, lower English proficiency, and fewer family members in the United States or with U.S. experience. Due to the omission of workers with lower levels of human and social capital, unauthorized workers' outcomes may skew upward; however, Appendix A also shows that the occupational standing and wages of unauthorized workers dropped from analyses were not significantly lower than those who remained in analyses. For one dependent variable, hourly wages, observations are missing for approximately 20 percent of the sample ( $n=665$ ) after listwise deletion.<sup>10</sup> To maximize available data, I allowed the number of respondents in the sample (or the total  $n$ ) to vary across outcomes. Models include 2,608 respondents for wage models and 3,273 respondents for occupational standing models. Models that were run with the same  $n$  for all dependent variables yielded similar results.

### **Dependent variables**

Occupational standing is based on an *occupational education score* representing the proportion of U.S. workers in each occupation who completed one or more years of college. Occupational education scores are based on the respondent's most recent U.S. occupation, or the occupation he most recently worked in if he was still living in the United States, defined by the detailed codes in the Clasificación Mexicana de Ocupaciones.<sup>11</sup> MMP occupational codes were matched with U.S. occupation codes through the IPUMS OCC1990 classification scheme. OCC1990 standardizes the changing U.S. occupation codes from 1980 to 2000, resulting in 389 occupations. MMP occupation codes usually combined several U.S. occupations under one code (for example, MMP code 810 = innkeepers, bartenders, waiters, flight attendants). To determine the education score for the MMP occupation code, I created a weighted average of all U.S. occupations falling within the category. The averages were weighted by the number of foreign-born, non-citizen Mexican men who held that occupation in the United States per the 5 percent sample data sets that are publicly available from the 1990 and 2000 U.S. Cen-

suses and the 2010 American Community Survey. Men who held the occupation during the years between 1987 and 1994 received the 1990 weighted average; those who held the occupation between 1995 and 2004 received the 2000 weighted average; and those who held the occupation between 2005 and 2011 received the 2010 weighted average.<sup>12</sup> The weighted occupational education scores were logged to approximate a normal distribution.

*Hourly wages* captured the amount of money an immigrant earned per hour of work for his most recent job in the United States. For immigrants still living in the United States at the time of the survey, hourly wages were measured as the amount of money an immigrant earned per hour of work for his current or most recent job. Because the MMP data spanned multiple years, dollars were converted to 2010 constant dollars based on consumer price indices (CPI) from the U.S. Bureau of Labor Statistics (MMP 143). Wages were logged to capture variation within the lower dollar values and to limit the influence of outliers on regression estimates.<sup>13</sup>

### **Independent variables**

Documents used by the head of household for his most recent trip to the United States indicated his legal status as a temporary worker, LPR, or unauthorized immigrant. Interviewers collected the person's documentation status upon the termination of his most recent U.S. job experience. For those migrants still living in the United States, legal status was determined by the documents held by the immigrant at the time of the survey. MMP categorized documents as: citizen; legal resident – green card; hired – H-2A; Silva letter<sup>14</sup>; temporal – worker; temporal – tourist; undocumented; and refugee/asylee. *Temporary workers* are immigrants who hold H-2A visas or “temporal – worker” visas ( $n=140$ ; 4.3 percent). While the temporary work visa category does not specifically indicate that these workers were allocated H-2B visas, examination of the occupations and education levels of temporary workers deem it likely that respondents held this visa (see **Appendix B** for further information). *LPRs* are immi-

grants who entered the United States using green cards, who held refugee/asylee status, or who held a Silva letter ( $n=878$ ; 26.8 percent). *Unauthorized immigrants* entered the United States without legal authorization, entered on tourist visas and worked while in the United States, or overstayed their time on a legitimate work visa ( $n=2,255$ ; 68.9 percent). Although immigrants entering on tourist visas held documents, they were not legally allowed to work in the United States, rendering them subject to deportation.

### **Control variables**

I control for variables shown by prior studies to influence immigrants' labor market outcomes so as to isolate the impact of legal status on these outcomes. Scholars have found that wage gaps between documented and unauthorized immigrants decrease when controlling for demographic characteristics (Hall, Greenman, and Farkas 2010). *Years of education* and *age at most recent U.S. migration* control for demographic differences associated with wage gains.<sup>15</sup> As migrants spend time in the United States, they gain skills and knowledge of the host country, which influence labor market outcomes (Phillips and Massey 1999). These migration-specific human capital characteristics are measured by the variables: *total number of trips to the United States*; duration of the migrant's *most recent trip to the United States in months*; and *strong, limited, or no English proficiency*.<sup>16</sup>

Prior research generally finds a positive effect of social capital on migrants' wages. Friends and relatives with migration experience identify high-paying jobs available and pass information on vacancies to migrants; they also provide general information on where to look for jobs, what wages to ask for, and what sorts of work sites to avoid. Unauthorized workers especially benefit from ties with extended family and friends, as opposed to immediate family members, since weak ties link them to a variety of employers willing to hire unauthorized workers. Social capital is controlled through dummy variables indicating if the head of household had *close family* (parents and

siblings) and/or *extended family* (uncles/aunts, nephews/nieces, cousins) *with U.S. experience*, capturing the differential effects of near and extended social ties (Aguilera and Massey 2003).

I also distinguish whether the respondent had *close family* and/or *extended family living in the United States* at the time of the survey, representing those with current knowledge of the job market in the United States. I include dummy variables indicating whether the migrant belonged to an *organization* (including social, religious, or sports organizations) while in the United States, and whether the migrant obtained his job through *referral* from a family member, friend, or fellow community member.

I account for occupational characteristics that influence economic outcomes. Jobs located in states along the U.S.-Mexico border are often subject to greater police and border enforcement, which lowers wages (Donato, Aguilera, and Wakabayashi 2005). The *border state* variable was created by assigning a '1' to a respondent if he lived in California, Arizona, New Mexico, or Texas on his most recent migration to the United States, or if he was living in one of these states at the time of the survey. Following Aguilera and Massey (2003), I control for the occupational sector of the job the respondent last held, as grouped into *agricultural jobs*, *unskilled manual jobs*, *services/sales/office jobs*, and *skilled/professional jobs* (reference group).<sup>17</sup> Occupational sector controls are omitted from occupational standing analyses since occupation itself is the outcome of interest.

Importantly, because the MMP data capture Mexicans' U.S. migration experience between 1987 and 2011, a dummy variable for each *year* controls for time effects. A control variable indicated whether the *interview was conducted in the United States* given that these migrants have settled in the United States. Settlers in the United States may be more active in their search for jobs that are higher in occupational standing and better paid, as these settlers intend to remain in the United States. In con-

trast, respondents who returned to Mexico may not look for better jobs with higher pay; instead, their goal may be to return home after earning a targeted sum of money (Piore 1979).

**Table 1** presents the summary statistics for the sample as a whole and by legal status group. A difference-in-means test (t-test) indicates when legal status group differences are statistically significant. According to these statistics, Mexican temporary workers are distinguishable from Mexican LPRs and unauthorized workers. Temporary workers held the highest levels of education; they averaged seven and a half years of formal education compared to nearly seven for unauthorized workers and nearly six for LPRs. Temporary workers had the least familiarity with the United States because their most recent trip to the United States was short, and they had few prior trips. Temporary workers' most recent trips to the United States averaged one year and six months in duration—shorter than LPRs' and unauthorized workers' two-year-long average trips.<sup>18</sup> Temporary workers also had fewer prior trips to the United States than LPRs (about three trips compared with LPRs' nine). In terms of social capital, only about half of temporary workers had extended family in the United States, whereas almost three-quarters of unauthorized immigrants did, and more than 87 percent of LPRs did. Further, temporary workers were far less likely to hold a job that was referred to them through family or friends.

**Table 2** further investigates the types of occupations Mexican migrants held by listing the most commonly held jobs within each occupational sector by legal status group. The statistic represents the percent of workers in a particular occupation. For example, 12 percent of temporary workers obtained skilled construction jobs. Temporary workers obtained jobs similar to those of unauthorized workers within each occupational sector. In the professional/skilled manual sector, temporary workers and unauthorized workers were most likely to be in a skilled construction trade, whereas LPRs within that sec-

tor were more likely to work in metal production or vehicle repair. In the service/sales sector, temporary workers and unauthorized workers were usually doormen, cleaners, or gardeners. Unskilled manual work usually consisted of unskilled construction work for temporary workers, but “other” unskilled work was common for unauthorized workers and LPRs. All legal status groups usually worked as agricultural workers within the agricultural sector.

### **Analytical strategy**

In the analyses that follow, I begin with baseline models in which labor market outcomes are regressed on legal status groups with dummy year controls. In the second stage of analyses, I add all controls to account for demographic, human, and social capital differences, as well as differences in trip location. By including these controls, I can assess the relationship between the legal status and the labor market outcomes net of these characteristics. In all models, I use Ordinary Least Squares (or OLS) regression, and unauthorized workers serve as the reference category for legal status group comparisons because they are the largest legal status group. Because unauthorized workers serve as the reference group in OLS regression, the temporary worker coefficients presented in Table 3 represent the difference in the outcome variable between temporary workers and unauthorized workers. Similarly, the LPR coefficients presented in Table 3 represent the difference between LPRs and unauthorized workers.

Because the MMP surveyed immigrants within communities across Mexico, the outcomes within each community, or cluster, are likely to be correlated. I adjust for clusters of observations within communities in each analysis. As the process of settlement in the United States is highly selective (Massey and Espinosa 1997), I follow Phillips and Massey (1999) and weight each case. Weights are provided in MMP data and are the inverse of the sampling fraction employed at each site.<sup>19</sup> Although weights do not correct for a nonrandom sample of immigrants who settled in the United States, they do adjust for

TABLE 1

### Characteristics of male heads of households on control variables by immigrant legal status

	All respondents		Unauthorized workers		Temporary workers		Legal permanent residents	
	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD
<b>Human capital</b>								
Years of education	6.5	3.8	6.7	3.9	7.5 <sup>a,b</sup>	3.4	5.8 <sup>c</sup>	3.8
Age at most recent U.S. trip	33.9	10.8	32.3	10.6	35.2 <sup>a,b</sup>	10.5	38.0 <sup>c</sup>	11.4
No. of prior U.S. trips	4.2	5.4	2.4	3	2.9 <sup>a,b</sup>	2.7	9.0 <sup>c</sup>	7.8
Duration of U.S. trip (in months)	25.2	32.5	26.2	54.2	17.7 <sup>a,b</sup>	27.2	23.8	35.1
	% responding "yes"	StdD	% responding "yes"	StdD	% responding "yes"	StdD	% responding "yes"	StdD
<b>English ability</b>								
None (1=yes)	28.9	–	32.7	–	27.1 <sup>b</sup>	–	19.4 <sup>c</sup>	–
Limited (1=yes)	63.9	–	62.4	–	68.6	–	67.0 <sup>c</sup>	–
Strong (1=yes)	7.3	–	5	–	4.3 <sup>b</sup>	–	13.7 <sup>c</sup>	–
<b>Social capital</b>								
Close family w/ U.S. exp.	55.4	–	48.2	–	30.0 <sup>a,b</sup>	–	77.9 <sup>c</sup>	–
Extended family w/ U.S. exp.	78.9	–	75.3	–	51.4 <sup>a,b</sup>	–	92.7 <sup>c</sup>	–
Close family in U.S.	54.8	–	51.8	–	37.9 <sup>a,b</sup>	–	65.0 <sup>c</sup>	–
Extended family in U.S.	75.4	–	72.3	–	51.4 <sup>a,b</sup>	–	87.2 <sup>c</sup>	–
Joined U.S. social org(s)	15.9	–	14.5	–	20	–	18.7 <sup>c</sup>	–
Referred job	65.9	–	69.9	–	37.9 <sup>a,b</sup>	–	60.7 <sup>c</sup>	–
<b>U.S. trip controls</b>								
Interviewed in the U.S.	14.5	–	10.6	–	10.0 <sup>b</sup>	–	25.1 <sup>c</sup>	–

TABLE 1 (CONTINUED)

	All respondents		Unauthorized workers		Temporary workers		Legal permanent residents	
	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD
<b>Work-related controls</b>								
Worked in a border state (1=yes)	59.6	–	68.1	–	22.1 <sup>a,b</sup>	–	69.7 <sup>c</sup>	–
<b>U.S. Occupation</b>								
Professional/skilled (1=yes)	28.7	–	33.3	–	22.1 <sup>a</sup>	–	18.1 <sup>c</sup>	–
Service/sales/office (1=yes)	21	–	26.3	–	23.8	–	19.1 <sup>c</sup>	–
Unskilled manual (1=yes)	24.3	–	20.5	–	9.3 <sup>a,b</sup>	–	24.0 <sup>c</sup>	–
Agricultural (1=yes)	26	–	19.9	–	45.0 <sup>a</sup>	–	38.7 <sup>c</sup>	–
<b>Total N</b>	<b>3,273</b>		<b>2,255</b>		<b>140</b>		<b>878</b>	

<sup>a</sup> Temporary worker versus unauthorized worker difference is significant using two-tailed t-tests ( $p < .05$ ).

<sup>b</sup> Temporary worker versus legal permanent resident difference is significant using two-tailed t-tests ( $p < .05$ ).

<sup>c</sup> Legal permanent resident versus unauthorized worker difference is significant using two-tailed t-tests ( $p < .05$ ).

**Source:** Mexican Migration Project 143; sample was limited to non-U.S. citizen, male heads of households who worked during their most recent trip to the United States when above the age of 16, from 1987 to 2011.

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the proportion of the Mexican community that settled in the United States. Thus, weights produce data demonstrative of binational community, or of the 143 Mexican communities and their counterparts in the United States.<sup>20</sup>

## Results

### Occupational standing

Table 3 presents OLS regressions of occupational education on legal status. In the baseline model of the log of occupational education score, controlling only for year of U.S. trip and legal status, temporary workers held jobs with lower occupational education scores than unautho-

riized workers. More precisely, temporary foreign workers held jobs in occupations with educational scores 13 percent lower than the occupations held by unauthorized workers.<sup>21</sup> The full model of the log of the occupational education score adds all control variables, yet temporary workers' occupational education scores remained lower than those of unauthorized workers when accounting for workers' demographic, human, and social capital characteristics. Temporary workers held jobs in occupations with educational scores about 14 percent lower than unauthorized workers' jobs.<sup>22</sup> The difference slightly increases when human capital controls are added (model not shown), as the baseline model does not account for temporary workers' higher education levels.

TABLE 2

### Most common occupations within each occupational sector by immigrant legal status

Unauthorized workers		Temporary workers		LPRs	
Occupational code	%	Occupational code	%	Occupational code	%
<b>Professional/skilled manual</b>					
Construction, installation, maintenance, and finishing skilled workers	9.8	Construction, installation, maintenance, and finishing skilled workers	12.1	Metal production and treatment skilled workers; vehicle, machinery, and equipment repair	3.4
Food, beverage, and tobacco production skilled workers	7.0	Food, beverage, and tobacco production skilled workers	4.3	Other craftsmen or manufacturing skilled workers	3.4
Other craftsmen or manufacturing skilled workers	6.3	Other operators of heavy machinery and equipment	2.1	Construction, installation, maintenance, and finishing skilled workers	2.8
<b>Service/sales</b>					
Doormen, concierges, elevator operators, bellboys, cleaning workers, gardeners, movers, and dishwashers	12.4	Doormen, concierges, elevator operators, bellboys, cleaning workers, gardeners, movers, and dishwashers	17.1	Innkeepers, bartenders, waiters, and flight attendants	8.3
Innkeepers, bartenders, waiters, and flight attendants	7.5	Innkeepers, bartenders, waiters, and flight attendants	2.1	Doormen, concierges, elevator operators, bellboys, cleaning workers, gardeners, movers, and dishwashers	4.3
Workers in retail establishments (ex: clerks, dispatchers)	2.2	Workers in retail establishments (ex: clerks, dispatchers)	2.1	Workers in retail establishments (ex: clerks, dispatchers)	1.5
<b>Unskilled manual</b>					
Other unskilled workers	11.0	Construction unskilled workers	5.0	Other unskilled workers	19.2
Construction unskilled workers	5.2	Other unskilled workers	2.9	Construction unskilled workers	2.5

TABLE 2 (CONTINUED)

Unauthorized workers		Temporary workers		LPRs	
Occupational code	%	Occupational code	%	Occupational code	%
Food, beverage, and tobacco production unskilled workers	2.5	Food, beverage, and tobacco production unskilled workers	1.4	Chemical, petroleum, oil, and plastics production unskilled workers	0.2
<b>Agricultural</b>					
Agricultural workers	17.9	Agricultural workers	42.9	Agricultural workers	35.0
Husbandry workers	0.8	Fishery or marine workers	0.7	Other agricultural, husbandry, forestry, fishery workers	2.2
Other agricultural, husbandry, forestry, fishery workers	0.6	Forestry workers	0.7	Foremen, overseers, and other control persons of agricultural, husbandry, or fishery activities	1.0

**Source:** Mexican Migration Project 143; sample was limited to non-U.S. citizen, male heads of households who worked during their most recent trip to the United States when above the age of 16, 1987 to 2011.

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To give these occupational education scores context, I use the OLS regression formula presented in Table 3 to estimate the occupational education scores of temporary and unauthorized workers. I multiplied the coefficients by the means or modes of the independent variables (means and modes shown in **Table 1**) in the year 2000 (see endnotes for exact formulas). I then provide examples of occupations with these scores. The predicted occupational education score of an unauthorized worker in 2000, with all other variables set at their means or modes, is .22.<sup>23</sup> This score signifies that unauthorized migrants worked in jobs in which 22 percent of job holders had some college education. Truck drivers are an example of an occupation with a .22 occupational score. In comparison, in 2000, temporary workers might hold a job with an occupational education score of .19, such as an unskilled food worker or tobacco production worker.<sup>24</sup>

Temporary workers also held jobs of significantly lower standing than LPRs. In the baseline model, temporary workers' occupational education scores were about 14 percent less than LPRs' scores.<sup>25</sup> In the full model, temporary workers' occupational education scores were about 15 percent less than LPRs' scores.<sup>26</sup> Again, the difference slightly increases in the full model because education levels are not accounted for in the baseline model. The predicted occupational education score of LPRs in 2000, with all other variables set at their means and modes, is .22.<sup>27</sup> The predicted occupational education score of temporary workers in 2000 is .19.<sup>28</sup> Truck drivers and tobacco production workers also serve as examples of occupations that LPRs and temporary workers might hold.

The occupational standing of LPRs did not significantly differ from that of unauthorized workers, either in the baseline model or the full model. Results must be inter-

TABLE 3

## Linear regression coefficients for labor market outcomes on legal status

	Log of occupational education score				Log of hourly wages			
	Baseline model		Full model		Baseline model		Full model	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
<b>Legal status</b>								
Unauthorized (reference)	–	–	–	–	–	–	–	–
Temporary worker (1=yes)	-.119 <sup>***c</sup>	-0.034	-.135 <sup>***d</sup>	-0.032	-.061 <sup>c</sup>	-0.072	.014 <sup>b</sup>	-0.061
Legal permanent resident (1=yes)	0.011	-0.032	0.002	-0.03	.187 <sup>***</sup>	-0.043	.121 <sup>***</sup>	-0.033
<b>Human capital</b>								
Years of education			.015 <sup>***</sup>	-0.003			.009 <sup>*</sup>	-0.004
Age at most recent U.S. trip			0.004	-0.005			-0.001	-0.007
Centered age-squared			-0.00002	-0.00007			-0.00004	-0.00008
No. of prior U.S. trips			-.007 <sup>*</sup>	-0.003			.010 <sup>***</sup>	-0.003
Duration of U.S. trip (in months)			0.0002	-0.001			.004 <sup>***</sup>	-0.0003
No English (1=yes)			-.222 <sup>***</sup>	-0.031			-.167 <sup>**</sup>	-0.056
Limited English (1=yes)			-.180 <sup>***</sup>	-0.029			-.135 <sup>*</sup>	-0.055
Strong English (reference)			–	–			–	–
<b>Social capital</b>								
Close family w/ U.S. exp. (1=yes)			-0.006	-0.025			-0.021	-0.027
Ext. family w/ U.S. exp. (1=yes)			-0.034	-0.061			-0.063	-0.048
Close family living in U.S. (1=yes)			-0.0002	-0.026			.054 <sup>**</sup>	-0.017
Ext. family living in U.S. (1=yes)			0.004	-0.051			.109 <sup>*</sup>	-0.044
Joined U.S. social org.(s) (1=yes)			0.018	-0.028			0.01	-0.034
Job obtained by referral (1=yes)			0.001	-0.022			-0.001	-0.041
<b>U.S. trip controls</b>								

TABLE 3 (CONTINUED)

	Log of occupational education score		Log of hourly wages					
	Baseline model	Full model	Baseline model	Full model				
Interviewed in the U.S. (1=yes)		0.052	-0.031	.143 <sup>***</sup>	-0.031			
<b>Work-related controls</b>								
Worked in a border state (1=yes)		-0.01	(.026)	-0.027	-0.032			
Professional/Skilled job (reference)		-	-	-	-			
Service/Sales/Office job (1=yes)		-	-	-0.122 <sup>**</sup>	-0.036			
Unskilled manual job (1=yes)		-	-	-0.048	-0.038			
Agricultural job (1=yes)		-	-	-.172 <sup>***</sup>	-0.034			
<i>Intercept</i>	-1.365 <sup>**</sup>	-0.043	-1.367 <sup>***</sup>	-0.173	2.490 <sup>***</sup>	-0.082	2.377 <sup>***</sup>	-0.268
<i>Adjusted R<sup>2</sup></i>	0.104		0.196		0.063		0.38	
<i>N</i>	3,273		3,273		2,608		2,608	

\* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

<sup>a</sup> Models are weighted and standard errors adjusted for 143 Mexican community clusters; all models include dummy variables for year of U.S. trip (1987–2011)

<sup>b</sup> Indicates temporary workers' statistically significant difference from legal permanent residents (p < .10).

<sup>c</sup> Indicates temporary workers' statistically significant difference from legal permanent residents (p < .01).

<sup>d</sup> Indicates temporary workers' statistically significant difference from legal permanent residents (p < .001).

**Source:** Mexican Migration Project 143; sample was limited to non-U.S. citizen, male heads of households who worked during their most recent trip to the United States when above the age of 16, from 1987 to 2011.

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interpreted cautiously, given that MMP data do not include a random sample of Mexicans who settled in the United States. However, this finding is consistent with previous research that demonstrates that unauthorized workers obtained upward mobility in the job market (Hagan, Lowe, and Quingla 2011; Kraly, Seltzer, and Powers 2000). This may be a low estimate of LPRs' occupational standing, as LPRs are more likely to remain in the United States and to be more economically successful (Massey 1987).

Results indicate that of the three legal status groups, Mexican temporary workers held jobs with the *lowest* occupational standing. Temporary workers' jobs had

occupational education scores about 15 and 14 percent below those of LPRs and unauthorized workers, respectively. Supplemental analyses (shown in **Appendix C**) reveal that temporary workers' larger share in agricultural jobs is not driving these results. Among Mexican migrants in nonagricultural jobs, temporary workers still ranked the lowest in occupational standing.

### Hourly wages

Table 3 also shows OLS regressions of the log of wages on the three legal status groups. In the baseline model, Mexican temporary workers' wages are about 6 percent lower than unauthorized workers' wages, although this difference is not statistically significant.<sup>29</sup> After adding

controls to the model, temporary workers' wage levels reach parity with unauthorized workers' wages. All else held constant, temporary workers' wages do not differ significantly from the wages of unauthorized workers. Unauthorized workers and temporary workers earned \$9.04 and \$9.19 per hour, respectively, in 2000, when all other variables are set at their means and modes.<sup>30</sup>

Compared with LPRs, temporary workers show significantly lower wages in the baseline model (28 percent).<sup>31</sup> In the full model, the disparity between LPRs' and temporary workers' wage levels is somewhat accounted for by the control variables, but temporary workers still earned less than LPRs.<sup>32</sup> All else held constant, temporary workers earned about 11 percent less than LPRs.<sup>33</sup> Predicted values indicate that LPRs earned \$10.34 per hour in 2000—\$1.15 more per hour than temporary workers—when other variables are set at their means and modes.<sup>34</sup>

As expected, LPRs show significantly higher wages than unauthorized workers in the baseline model. In the full model, LPRs' wages remain significantly higher than unauthorized workers' wages, but the penalty for unauthorized status is reduced to 13 percent.<sup>35</sup>

Because hourly wages are missing for approximately 20 percent of the sample, I performed diagnostic tests to examine the differences between Mexican migrants for whom wage data are missing and those for whom they are not. The greatest difference between respondents for whom this data are missing and those for whom they are not was place of interview; respondents interviewed in the United States were less likely to have missing wage data than those interviewed in Mexico. I follow Donato and Sisk (2012) and assume that because I control for place of interview and for variables that account for differences between respondents interviewed in the United States and Mexico, missing wage data likely do not bias results.

Analyses show that despite temporary workers' legal authorization to work in the United States, their wages do not statistically differ from the wage levels of unauthorized workers. As expected, LPRs' wages are significantly higher than unauthorized workers' wages in both the baseline and full model. Thus, both temporary workers and unauthorized Mexican workers earn less than LPRs and only earn about \$9 per hour when working jobs in the skilled sector.

## Results for agricultural workers

The previous analyses treated H-2A and H-2B workers as one temporary worker category and compared their wages and occupational attainment with those of unauthorized workers and LPRs. However, within the guest-worker group, H-2A workers possess certain legal rights not allocated to H-2B workers, and these rights may affect their work outcomes to their benefit. For example, the DOL requires employers to provide H-2A workers with housing at no cost to the worker. Housing costs covered by the employer may act as a compensation benefit to H-2A workers, since they do not have to pay for rent. This benefit, when added to H-2A workers' monthly earnings, may boost H-2A workers' compensation levels so that they are higher than unauthorized workers' monthly earnings, and more similar to those of LPRs.

### Sample

To examine the additional benefit given to H-2A workers, I further limit the sample to respondents who worked in agriculture, who were not missing values on any of the previous variables mentioned, and who were not missing on any new outcome variables listed below. My sample size is 639 migrants; 48 percent are unauthorized ( $n=312$ ); 44 percent are LPRs ( $n=285$ ); and 7 percent are H-2A workers ( $n=42$ ).<sup>36</sup>

## Dependent variables

I examine the work outcomes of agricultural workers by their legal status to determine if the rights and benefits offered to H-2A workers affect their relative standing. I consider respondents' *total monthly earnings*, or the amount a worker earned each month. Monthly earnings were calculated by multiplying the amount a worker earned per hour by the number of hours worked per week by four weeks. To capture the added compensation covered by H-2A employers for housing costs, *adjusted compensation* is set equal to workers' monthly earnings. I then added \$155.14 to the monthly earnings of H-2A workers who indicated that they did not spend anything on rent (MMP included a question asking how much a worker spent per month on rent). The amount of \$155.14 was the median monthly rent spent by H-2A workers whose rent was not covered by their employer ( $n=12$ ). Adjusted compensation values remained equal to total monthly earnings for LPRs, unauthorized workers, and H-2A workers whose rent was not paid by their employer. Unfortunately, MMP does not collect data on other types of benefits, such as health insurance or workers' compensation insurance, benefits that could be added to this measure for all legal status groups if the information were available.

Because the MMP data spanned multiple years, dollars were converted to 2010 constant dollars based on CPI from the U.S. Bureau of Labor Statistics (MMP 143). All outcome variables are logged for analyses so as to approximate a normal distribution, capture variation within a lower range, and limit the influence of outliers on estimates.

## Analytical strategy

I begin with baseline models in which labor market outcomes are regressed on legal status groups. Because of the smaller sample size, I could not control for each year of a migrant's most recent trip. Instead, I control for time effects using dummy variables for three-year intervals. The time intervals are: 1991–1993; 1994–1996;

1997–1999; 2000–2002; 2003–2005; 2006–2008; and 2009–2011 with 1987 to 1990 serving as the reference time period. In the second stage of analyses, I add controls to account for human capital differences, as well as trip location, and location of the interview. Because of my small sample size, I do not include all the control variables that were included in previous analyses. In all models, I use OLS regression and report standard errors adjusted for the 143 Mexican communities surveyed. As previously mentioned, I apply weights to adjust for the proportion of the community that settled in the United States.

## Monthly earnings

**Table 4** presents the effects of legal status on the log of monthly earnings and the log of adjusted compensation. In the baseline model, the coefficient for H-2A workers indicates that they earned 13 percent more than unauthorized workers, but this difference is not statistically significant.<sup>37</sup> Once control variables are added to the full model for monthly earnings, the coefficient is reduced to .06, indicating only a 6 percent difference between H-2A workers' and unauthorized workers' monthly earnings. This monthly earnings gap is still not statistically significant in the full model, suggesting that H-2A workers and unauthorized workers have similar monthly earnings.

While H-2A workers' monthly earnings are close to those of unauthorized workers, H-2A workers show significantly lower monthly earnings than LPRs. In the baseline model, H-2A workers earned 26 percent less per month than LPRs.<sup>38</sup> Net of other attributes, the gap closes, but H-2A work status was still associated with significantly lower earnings: H-2A workers earned 22 percent less per month than LPRs.<sup>39</sup>

As expected, LPRs' monthly earnings are significantly higher than unauthorized workers' monthly earnings. In the baseline model, LPRs earn 42 percent more than unauthorized workers, and in the full model they earn 30 percent more.<sup>40</sup> Therefore, with human capital and

TABLE 4

### Linear regression coefficients for agricultural workers' earnings and compensation on legal status

	Log of monthly earnings		Log of adjusted compensation	
	Baseline model	Full model	Baseline model	Full model
<b>Legal status</b>				
Unauthorized (reference)	–	–	–	–
H-2A worker (1=yes)	0.124 <sup>b</sup> (0.105)	0.061 <sup>c</sup> (0.090)	0.212* <sup>c</sup> (0.093)	0.150 <sup>+</sup> (0.078)
LPR (1=yes)	0.346*** (0.072)	0.259*** (0.070)	0.346*** (0.072)	0.260*** (0.070)
<b>Human capital</b>				
Years of education		0.019* (0.010)		0.020* (0.010)
Age at most recent U.S. trip		0.015 (0.015)		0.013 (0.015)
Centered age-squared		>-0.001 (>0.001)		>-0.001 (>0.001)
No. of prior U.S. trips		0.008 <sup>+</sup> (0.004)		0.008 <sup>+</sup> (0.004)
Duration of U.S. trip (in months)		0.003* (0.001)		0.003* (0.001)
No English (1=yes)		-0.357* (0.139)		-0.357* (0.139)
Limited English (1=yes)		-0.313* (0.150)		-0.312* (0.150)
Strong English (reference)		–		–
<b>U.S. trip controls</b>				
Interviewed in U.S.		0.081 (0.076)		0.079 (0.076)
<b>Work-related controls</b>				
Worked in a border state (1=yes)		-0.166* (0.076)		-0.161* (0.076)
<i>Intercept</i>	7.116***	6.909***	7.115***	6.946***
<i>Adjusted R-squared</i>	0.079	0.189	0.081	0.189
<i>N</i>	639	639	639	639

+ p < 0.10, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

<sup>a</sup> Models are weighted and standard errors adjusted for 143 Mexican community clusters, adj. standard errors are in parentheses, all models include three-year interval dummy controls.

<sup>b</sup> Indicates temporary workers' statistically significant difference from legal permanent residents (p < .05).

<sup>c</sup> Indicates temporary workers' statistically significant difference from legal permanent residents (p < .10).

**Source:** Mexican Migration Project 143; sample was limited to non-U.S. citizen, male heads of households who worked in agriculture during their most recent trip to the United States when above the age of 16, from 1987 to 2011.

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trip characteristics held constant, temporary workers and unauthorized workers earned about 26 to 30 percent less

than LPRs. H-2A workers' total monthly earnings were closer to the monthly earnings of unauthorized workers than those of LPRs.

### **Adjusted compensation**

In contrast to monthly earnings measures, compensation measures usually include the total remuneration payable to an employee, such as wages plus the value of any benefits. Because H-2A workers' monthly earnings do not take into account the provision of housing by their employers, the final models in Table 4 consider the monthly compensation of H-2A workers compared to unauthorized workers' and LPRs' monthly earnings. H-2A workers' compensation includes monthly earnings plus housing costs covered by the employer. However, MMP data do not include data on other monetary benefits that other legal status groups could receive. Consequently, I compare H-2A workers' compensation to LPRs' and unauthorized workers' monthly earnings.

In the baseline model, we find that the rent costs covered by employers make a difference for H-2A workers' compensation levels. H-2A workers' compensation levels were about 23 percent higher than unauthorized workers' monthly earnings.<sup>41</sup> Again, I compare H-2A workers' compensation with unauthorized workers' monthly earnings because MMP data do not include questions on other benefits workers receive. This considerable gap closes somewhat after accounting for human capital and trip characteristics. The coefficient suggests that H-2A workers were compensated 16 percent more, and that the gap between H-2A workers' monthly compensation levels and unauthorized workers' monthly earnings remains statistically significant.

The baseline model shows that H-2A workers' monthly compensation is about 15 percent less than LPRs' monthly earnings.<sup>42</sup> However, after accounting for human capital and trip characteristics, H-2A workers' compensation is only about 12 percent less than LPRs' monthly earnings. In the full model, this 12 percent

difference between H-2A workers' monthly compensation and LPRs' monthly earnings is no longer statistically significant. This model also suggests that LPRs earned the most and that unauthorized workers earned the least (with a 30 percent earnings gap, as shown in previous models). Because H-2A workers' rent is covered by their employer, their total monthly compensation is closer to the monthly earnings of LPRs than of unauthorized workers.

### **Discussion and conclusion**

When comparing low-skilled temporary workers' labor market outcomes with those of LPRs and unauthorized workers from Mexico, I find that temporary workers experience some of the poorest socioeconomic outcomes: They have lower occupational standing than both LPRs and unauthorized workers, and their wages are similar to unauthorized workers' wages, which are lower than those of LPRs. Among agricultural workers, I find that H-2A workers' monthly earnings are about the same as unauthorized workers' monthly earnings, and both are lower than LPRs' monthly earnings. However, when we consider the added benefit that H-2A workers receive in the form of employer-provided housing, H-2A workers' compensation is closer to LPRs' higher monthly earnings.

Overall, these findings indicate that benefits from the legal authorization given to temporary workers are offset by the inability of these workers to switch employers while working in the United States. Previous research suggests that unauthorized workers overcome the penalties of unauthorized status through on-the-job skills training and *brincando*, or job jumping, to obtain occupations of higher standing (Hagan, Lowe, and Quingla 2011). Since H-2 visa conditions prohibit *brincando*, temporary workers may be restricted by their authorized status. Despite being able to obtain occupations of higher standing, once obtained, unauthorized workers lose their advantage over temporary workers, and the two groups are paid similar wages. Both legal status groups are sub-

ject to employer exploitation because they fear retaliation and deportation, and employers take advantage of this fear to pay them the lowest possible wages. Temporary workers' low wages may also result from an unfair labor recruitment process that relies on temporary workers' fear of deportation. More specifically, temporary workers may negotiate with recruiters over their employment conditions, then once in the United States, receive whatever pay rate the employer sees fit (Centro de los Derechos del Migrante 2013). Recruiters often do not provide written contracts, making temporary workers susceptible to deportation if they do not agree to the employer's lower wage rate (Centro de los Derechos del Migrante 2013).

When considering agricultural workers, the additional rights granted to H-2A workers translate to higher compensation levels. U.S. law and regulation benefit H-2A workers by requiring that employers provide housing. Housing is a benefit provided to H-2A workers that is not provided to H-2B workers, unauthorized workers, and LPRs.<sup>43</sup> When taking into account the monetary value of housing, H-2A workers are better off than unauthorized workers, and H-2A workers' compensation is closer to LPRs' monthly earnings. However, the removal of this benefit would result in H-2A workers' earnings being closer to those of unauthorized workers (as shown in the monthly earnings models). It is also important to acknowledge that when employers provide housing to H-2A workers, they increase their control over these workers. H-2A workers are not only dependent on their employer for their employment, visa, and legal status in the United States, but are also dependent on their employer for housing. While there is indeed a financial benefit for the worker, the additional power the employer holds over the worker as a result of this requirement may mitigate the benefit.

Some words of caution about the study findings are in order. MMP data are largely limited to Mexican migrants who returned to Mexico, and do not include a repre-

sentative sample of Mexicans who settled in the United States. I assume that the temporary worker experiences in these data represent the average Mexican temporary worker, since they must return to Mexico, or violate their visa conditions, thereby becoming unauthorized. If the LPRs and unauthorized workers who settled in the United States were more successful than the ones who returned to Mexico, then the differences here are conservative estimates (Brownell 2010; Massey 1987), as unauthorized workers and LPRs would obtain jobs of even higher occupational standing than those of temporary workers. Wage gaps between LPRs and temporary workers would increase, and settled unauthorized immigrants' wages would be even higher than those of temporary workers.

Another limitation of this study was its reliance on a relatively small number of temporary workers. A small sample size would be problematic if the MMP sample were not representative of the temporary worker population. Because MMP randomly selected respondents in Mexico, there is no reason to suspect that the experiences of the temporary workers included in this sample do not represent the experiences of the average temporary worker. Additionally, the small sample of temporary workers (and the weak statistical power to reject the null hypothesis) would be an issue if analyses failed to find significant differences between temporary workers and other legal-status group members. Statistical power was not problematic, however, because occupational standing and wage analyses resulted in statistically significant results. When results were not significant, as in the instance between temporary workers' and unauthorized workers' wages, the coefficient was close to zero. Nevertheless, future data collection efforts that oversample temporary workers would allow researchers to more effectively examine legal status differences.

These findings offer important insight as to how the limited rights of temporary workers can hinder their success in the labor market. The results of these analyses point

toward the need for reform in U.S. temporary foreign worker programs. If temporary foreign worker programs are to be a viable alternative to unauthorized immigration, temporary work visas must appeal to potential unauthorized immigrants and reduce the risk of abuses they encounter. Currently, visa restrictions on the job mobility of temporary workers undermine their economic opportunities, preventing advancement that is available to unauthorized immigrants. To address this disadvantage, visas could be issued directly to the temporary worker rather than to the employer. This way, the visa would allow the temporary worker to change employers without applying for a new visa. Alternatively, temporary visas could be made portable (allowing the worker to seek other employment) for the remainder of the authorized period of stay if a claim by a worker against an employer or labor recruiter for a legal violation is found to be bona fide by a local, state, or federal government agency. Furthermore, time could be added to the period of stay authorized by the visa, to make up for time lost if a worker is unemployed after reporting a violation (if he or she is terminated) and while seeking a new position.

The ability to switch employers in these ways could allow temporary workers to improve their occupational standing once they gained the skills necessary to be promoted. Moreover, by not being tied to one employer, workers would not fear the loss of their visas if they reported labor abuses and workplace violations perpetrated by employers and recruiters. Without this key change in the H-2A and H-2B temporary foreign worker visa programs, temporary workers' economic opportunities may continue to fall below those of LPRs and unauthorized workers.

## Author biography

Lauren Apgar is a doctoral candidate in Indiana University's Department of Sociology. Her research interests center on the fields of immigration, stratification, and political sociology. In her dissertation, Apgar studies how state immigration enforcement laws influence U.S.

immigrants' socioeconomic incorporation. Apgar has co-authored several peer-reviewed journal articles, which have appeared in *Population Review* and *Geoforum*.

## Acknowledgments

The author thanks Dr. Jennifer C. Lee, Dr. Peggy Thoits, and Dr. Katharine Donato for their helpful comments on earlier drafts of this paper. The paper also benefited immensely from review by Daniel Costa, Ross Eisenbrey, and Lawrence Mishel. Earlier versions of this paper were presented at the Midwest Sociological Society meeting in 2013 and the American Sociological Association meeting in 2014.

This report was made possible in part by a grant from Carnegie Corporation of New York. The statements made and views expressed are solely the responsibility of the author.

APPENDIX A

Characteristics of respondents with full data compared with respondents with missing data on predictor variables, by immigrant legal status

	All respondents				Unauthorized workers				Temporary workers				Legal permanent residents			
	Full data		Missing data		Full data		Missing data		Full data		Missing data		Full data		Missing data	
	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD
<b>Legal status</b>																
Unauthorized	68.9	-	67.9													
Temporary worker	4.3	-	2.9													
LPR	26.8	-	29.2													
	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD
<b>Human capital</b>																
Years of education	6.5	3.8	6.0	3.8	6.7	3.7	6.1	3.7	7.5	3.4	6.7	3.3	5.8	3.8	5.1	3.6
Age at most recent U.S. trip	33.9	10.8	35.9	11.8	32.3	10.1	33.8	11.0	35.2	10.5	33.6	13.9	38.0	11.4	41.6	12.0
No. of prior U.S. trips	4.2	5.4	4.5	6.1	2.4	2.6	2.4	2.7	2.9	2.7	2.2	1.9	9.0	7.8	10.0	8.6
Duration of U.S. trip (in months)	25.2	32.5	24.1	33.2	26.2	31.6	27.4	35.1	17.7	27.2	14.9	18.7	23.8	35.1	18.1	30.0
	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD	% responding yes	StdD
<b>English ability</b>																
None (1=yes)	28.9	-	32.8	-	28.9	-	40.2	-	27.1	-	37.5	-	19.4	-	15.3	-
Limited (1=yes)	63.9	-	60.8	-	63.9	-	55.2	-	68.6	-	62.5	-	67.0	-	72.9	-
Strong (1=yes)	7.3	-	6.5	-	7.3	-	4.6	-	4.3	-	0.0	-	13.7	-	11.8	-
<b>Social capital</b>																
Close family w/ U.S. exp. (1=yes)	55.4	-	46.3	-	48.2	-	36.3	-	30.0	-	30.0	-	77.9	-	71.9	-
Extended family w/ U.S. exp. (1=yes)	78.9	-	70.2	-	75.3	-	63.6	-	51.4	-	33.3	-	92.7	-	92.4	-
Close family in U.S. (1=yes)	54.8	-	47.1	-	51.8	-	42.2	-	37.9	-	30.0	-	65.0	-	59.8	-
Extended family in U.S. (1=yes)	75.4	-	65.9	-	72.3	-	62.1	-	51.4	-	30.0	-	87.2	-	82.1	-
Joined U.S. social org(s) (1=yes)	15.9	-	11.6	-	14.5	-	11.7	-	20.0	-	33.3	-	18.7	-	11.1	-
Referred job (1=yes)	65.9	-	61.3	-	69.6	-	64.8	-	37.9	-	25.0	-	60.7	-	60.0	-
<b>U.S. trip controls</b>																
Interviewed in the U.S. (1=yes)	14.5	-	8.7	-	10.6	-	5.1	-	10.0	-	0.0	-	25.1	-	18.6	-
<b>Work-related controls</b>																
Worked in a border state (1=yes)	59.6	-	57.1	-	58.1	-	54.2	-	22.1	-	42.9	-	69.4	-	65.3	-
<b>U.S. occupation</b>																
Professional/skilled (1=yes)	28.8	-	25.5	-	33.3	-	30.7	-	22.1	-	11.1	-	18.1	-	15.8	-

APPENDIX A (CONTINUED)

	All respondents				Unauthorized workers				Temporary workers				Legal permanent residents			
	Full data		Missing data		Full data		Missing data		Full data		Missing data		Full data		Missing data	
<i>Service/sales/office (1=yes)</i>	24.3	-	23.5	-	26.3	-	26.0	-	23.6	-	22.2	-	19.1	-	15.8	-
<i>Unskilled manual (1=yes)</i>	21.0	-	18.2	-	20.5	-	17.7	-	9.3	-	11.1	-	24.0	-	21.1	-
<i>Agricultural (1=yes)</i>	26.0	-	32.8	-	19.9	-	25.5	-	45.0	-	55.6	-	38.7	-	47.4	-
<b>Work Outcomes</b>																
<b>Educational score (logged)</b>	-1.5	0.3	-1.5	0.4	-1.5	0.3	-1.5	0.4	-1.6	0.3	-1.7	0.2	-1.5	0.4	-1.5	0.4
<b>Wage (logged)</b>	2.3	0.4	2.4	0.5	2.3	0.4	2.3	0.5	2.3	0.4	2.3	0.3	2.4	0.4	2.5	0.5
<b>Total N</b>	2,608		165		2,225		237		140		10		878		102	

\* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001; significant differences between respondents with full versus missing data

Source: Mexican Migration Project 143; sample was limited to non-U.S. citizen, male heads of households who worked during their most recent trip to the United States when above the age of 16, from 1987 to 2011.

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## Appendix B

While Mexican Migration Project (MMP) data directly indicate which respondents migrated to the United States on H-2A visas, the data do not clearly specify that respondents who used “temporal – worker” visas were allocated H-2B visas. I examine other work visas that MMP respondents could hold, and deem it likely that respondents held H-2B visas. Temporary workers can enter the United States on nonimmigrant employment visas, study visas, or cultural exchange visas. Other employment visas MMP respondents could hold include I visas for foreign media; P visas for athletes, entertainers, performers, or their support personnel; R visas for religious workers; E visas for treaty traders and their employees; L visas for multinational intracompany transfers; and H-1B visas for skilled occupations requiring a college degree. Only one worker in the data set could have been on an I visa because he was a writer/journalist, and another could have been on an H-1B or L visa as a skilled draftsman/equipment technician. While migrants on P and E visas could be working in H-2B-like jobs (such as jobs in the circus industry, or as pipefitters and welders), the numbers are probably small. Additionally, visas that authorize university studies in the United States also legally allow employment (subject to some limitations). However, in MMP data, respondents specified if they were students, which allowed them to be dropped from the sample.

The J-1 nonimmigrant visa allows migrants to work in the United States under a cultural exchange visitor program. Since 2012, J-1 visas fall within 14 subcategories: au pair, camp counselor, college and university students, government visitors, international visitors, physicians, professors and research scholars, high school students, short-term scholars, specialists, summer work travel, teachers, interns, and trainees. J-1 visa holders could work as interns, trainees, or specialists in any occupational category, making it difficult to determine those who held this visa instead of an H-2B visa based on

occupation. Additionally, prior to 2012, the J-1 program permitted work in occupations similar to those held by H-2Bs. However, for J-1 visas, employers are not required to withhold taxes from their workers’ pay, and analyses revealed that 18 temporary workers did not have federal taxes withheld from their paychecks.

Consequently, the majority of temporary workers not entering on H-2A visas probably held H-2B visas. I estimate that at most 20 respondents were on temporary visas other than H-2A or H-2B visas. Models that excluded these workers from the temporary worker group yielded similar results. Significantly, with the exception of H-1B workers, workers on other types of visas, such as the J-1 visa, are all tied to an employer for their legal status, and so may experience similar work outcomes as H-2 workers (U.S. Department of State 2014c).

## Linear regression coefficients for log of occupational education score, non-agricultural workers only

	b	SE
<b>Unauthorized (reference)</b>	.-	.-
<i>Temporary worker (1=yes)</i>	-.074 <sup>+b</sup>	-0.043
<i>Legal permanent resident (1=yes)</i>	0.024	-0.032
<b>Human capital</b>		
Years of education	.012 <sup>***</sup>	-0.003
Age at most recent U.S. trip	-0.00008	-0.006
Centered age-squared	0.00003	-0.00008
No. of prior U.S. trips	-0.003	-0.004
Duration of U.S. trip (in months)	-0.00002	-0.001
No English (1=yes)	-.194 <sup>***</sup>	-0.042
Limited English (1=yes)	-.181 <sup>***</sup>	-0.04
Strong English (reference)	.-	.-
<b>Social capital</b>		
Close family w/ U.S. exp. (1=yes)	0.019	-0.025
Ext. family w/ U.S. exp. (1=yes)	-0.08	-0.052
Close family living in U.S. (1=yes)	-0.028	-0.029
Ext. family living in U.S. (1=yes)	0.049	-0.048
Joined U.S. social org.(s) (1=yes)	0.009	-0.029
Job obtained by referral (1=yes)	-0.01	-0.024
<b>U.S. trip controls</b>		
Interviewed in the U.S. (1=yes)	0.015	-0.025
<b>Work-related controls</b>		
Worked in a border state (1=yes)	0.018	(.025)
<i>Intercept</i>	-1.122 <sup>***</sup>	-0.207
<i>Adjusted R<sup>2</sup></i>	0.234	
<i>N</i>	2,422	

+ p < 0.10, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

<sup>a</sup> Model is weighted and standard errors adjusted for 143 Mexican community clusters; includes dummy variables for year of U.S. trip (1987–2011)

<sup>b</sup> Indicates temporary workers' statistically significant difference from LPRs (p<.05).

**Source:** Mexican Migration Project 143; sample was limited to non-U.S. citizen, male heads of households who worked outside of agriculture during their most recent trip to the United States when above the age of 16, from 1987 to 2011.

## Endnotes

1. All information on temporary workers in this section is from the following sources, unless otherwise noted: U.S. Department of Labor 2015a; U.S. Department of Labor 2015b; U.S. Department of State 2014a; U.S. Department of State 2014c; U.S. Department of State 2014d.
2. 8 C.F.R. § 214.2(h)(5)(viii)(C); 20 C.F.R. § 655.103(d).
3. 8 C.F.R. § 214.2(h)(9)(iii)(B)(1) (A beneficiary shall be admitted to the United States for the validity period of the petition.); 20 C.F.R. § 655.6(c).
4. 8 C.F.R. § 214.2(h)(13)(iv); USCIS, “H-2A Temporary Agricultural Workers,” Period of Stay; “Calculating Interrupted Stays for the H-2 Classifications.”
5. <http://www.dol.gov/opa/media/press/eta/ETA20150772.htm>.
6. The number of unauthorized entries shown is based on Massey and Singer’s (1995) methodology; a probability of apprehension was calculated from MMP data for all border crossings and its inverse was multiplied by the number of border apprehensions officially reported by Immigration and Customs Enforcement. The year 2012 is the most recent for which there are data available. For similar estimates on the number of Mexican entries into the United States by legal status categories, see Massey and Pren (2012).
7. While MMP respondents were not selected as a representative sample of all Mexican migrants, comparisons between this sample and a nationally representative sample, the Mexican government’s Encuesta Nacional de la Dinámica Demográfica (ENADID), demonstrated that the MMP and ENADID migrants were similar with respect to age, sex, education, and trip duration (Massey and Zenteno 2000). This comparison suggests that MMP data represent typical Mexican migrants (Massey and Zenteno 2000).
8. Female immigrants were a small proportion of the head of household sample (4.6 percent) and were not well-represented in the temporary worker category ( $n=16$ ).
9. Other laws have been passed since 1986 that have further intensified the effects of legal status (Donato and Sisk 2012; Gentsch and Massey 2011). For example, in 1996 the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) increased fines for employers caught hiring unauthorized workers, introduced what would become the E-Verify system, and expedited the removal of unauthorized immigrants. Models restricted to after 1996 showed that temporary workers’ occupational standing still fell below the standing of unauthorized workers and LPRs. Models restricted to after 1996 showed that temporary workers’ wages were still not significantly different from unauthorized workers’ wages. However, analyses also showed that LPRs’ wages after 1996 were no longer higher than the wages of the other legal status groups. According to Gentsch and Massey (2011), after IIRIRA, the wage returns to education, U.S. experience, and English-language ability decreased. They argue that LPRs competing in the same labor market as unauthorized migrants and temporary workers with severely constrained rights have few opportunities for better wages or working conditions. Regardless, these analyses show that despite temporary workers’ authorized status, they do not experience occupational or wage advantages.
10. Given that the data are missing for the dependent variable, multiple imputation techniques to recover missing values are unsuitable (Allison 2009).
11. The MMP used an ethnosurvey, which followed a semistructured format. The precise phrasing and timing of question wording varied from interview to interview so as to generate a schedule that was flexible and nonthreatening. Because question wording was not standardized, I presented the general topic of the question and the coded responses as descriptions of my measures.
12. Men who held an occupation between 1987 and 1994 received the 1990 weighted average, and men who held an occupation between 1995 and 2004 received the 2000 weighted average because these were the midpoints of the time intervals. I used midpoints because occupational educational score data were not available yearly until 2001. Men who held an occupation between 2005 and 2011 received the 2010 weighted average. While 2010 is not the midpoint of this interval, I used the 2010 data to keep the intervals between the weighted averages consistent (10 years).

- 13.** Because some respondents reported zero dollars earned for hourly wages, I added one dollar to all respondents' hourly wage rates before taking the natural log. Adding one dollar ensured that respondents who experienced wage theft were included in analyses, as the natural logarithm of zero is undefined, and these respondents would have otherwise been dropped from analyses.
- 14.** Silva letters in effect grant temporary legal residency to unauthorized immigrants in the United States if they had applied to immigrate legally before January 1, 1977 (Los Angeles Times 1981).
- 15.** I do not control for marital status during a respondent's most recent trip to the United States because the question was not introduced to the MMP ethnosurvey until community number 72, resulting in 49 percent of respondents missing data on this question. Supplementary analyses that include alternate codings of a migrant's education (e.g., dichotomous variables that distinguish between less than a primary education, a primary education, and a high school education or higher) do not affect the overall findings.
- 16.** On-the-job training could not be controlled for as no questions were asked about this aspect of human capital.
- 17.** Supplementary analyses that separate skilled jobs from professional jobs do not affect the overall findings. Skilled jobs and professional jobs are collapsed into one category because of the small number of immigrants who held professional jobs ( $n=36$ ). Supplementary analyses that use occupational education score as a control for occupation type result in similar findings. Occupational sector is the preferred measure because it significantly predicts wages, while occupational education score did not.
- 18.** Seventeen temporary workers (12.1 percent of all temporary workers) stated that they remained in the United States longer than three years, which was the legal maximum on temporary worker status. This suggests that MMP might have wrongly classified them as temporary workers, when they instead might have been unauthorized as a result of overstaying their visa. Supplementary analyses omitting these workers found similar results.

- 19.** For interviews in Mexico, the sampling fraction is the number of interviewed households divided by the population of households in the community. For U.S. interviews, the sampling fraction is the number of households interviewed in the United States divided by the total number of households in the United States from a particular Mexican community. This population is estimated by using data on the current location of the household head's offspring who were no longer household members. The MMP calculates the proportion of children who settled in the United States versus those who settled in Mexico and multiplies that proportion by the Mexican community population to estimate the U.S. population for each community.
- 20.** Other authors analyzing MMP data do not use weights (Donato, Aguilera, and Wakabayashi 2005; Donato and Massey 1993; Donato and Sisk 2012; Donato et al. 2008; Massey, Durand, and Malone 2002). Supplementary analyses using clustered standard errors only (no weights) resulted in similar findings as analyses using both clustered standard errors and weights.
- 21.**  $13 = [\exp(.119)-1]*100$
- 22.**  $14 = [\exp(.135)-1]*100$
- 23.** Predicted values were calculated using the following formulas:  
 $-1.367 + (.015*6.5) + (.004*33.9) + (-.00002*0) + (-.007*4.2) + (.0002*25.2) + (-.18*1) + (-.006*1) + (-.034*1) + (-.0002*1) + (.004*1) + (.018*0) + (.001*1) + (-.052*0) + (-.010*1) + (-.153*1) = -1.536; [\exp(-1.536)] = .22$
- 24.**  $.19 = .22 - (.22*.14)$
- 25.** Statistical significance indicated by superscript B in Table 3 determined from models estimated using LPRs as the reference category. These models are not shown. Difference is found by exponentiating the difference between the values of their coefficients in the model ( $b = -.119 - .011 = -.130$ ;  $14\% = [\exp(.13)-1]*100$ ).
- 26.** Difference is found by subtracting the exponentiated values of the coefficients in the model ( $b = -.135 - .002 = -.137$ ;  $15 = [\exp(.137)-1]*100$ ). Statistical significance indicated by superscript B in Table 3 was determined from models estimated using LPRs as the reference category. These models are not shown.

- 27.** Predicted values were calculated using the following formulas:  
 $-1.367 + (.002 * 1) + (.015 * 6.5) + (.004 * 33.9) + (-.00002 * 0) + (-.007 * 4.2) + (.0002 * 25.2) + (-.18 * 1) + (-.006 * 1) + (-.034 * 1) + (-.0002 * 1) + (.004 * 1) + (.018 * 0) + (.001 * 1) + (-.052 * 0) + (-.010 * 1) + (-.153 * 1) = -1.534$ ;  $[\exp(-1.534)] = .22$
- 28.**  $.19 = .22 - (.22 * .15)$
- 29.**  $6 = [\exp(.061) - 1] * 100$
- 30.** Predicted values for unauthorized workers were calculated using the following formulas:  
 $2.377 + (.009 * 6.5) + (-.001 * 33.9) + (-.00004 * 0) + (.010 * 4.2) + (.004 * 25.2) + (-.135 * 1) + (-.021 * 1) + (-.063 * 1) + (.054 * 1) + (.109 * 1) + (.010 * 0) + (-.001 * 1) + (.143 * 0) + (-.027 * 1) + (-.153 * 1) = 2.307$ ;  $[\exp(2.307)] = 10.04$ . One dollar was subtracted from the result because one dollar was added to the natural log measure of hourly wages. Predicted values for temporary workers were calculated using the following formulas:  $2.377 + (.014 * 1) + (.009 * 6.5) + (-.001 * 33.9) + (-.00004 * 0) + (.010 * 4.2) + (.004 * 25.2) + (-.135 * 1) + (.021 * 1) + (.063 * 1) + (.054 * 1) + (.109 * 1) + (.010 * 0) + (-.001 * 1) + (.143 * 0) + (-.027 * 1) + (-.153 * 1)$ ;  $[\exp(2.321)] = 10.19$ . Again, one dollar was subtracted from the result.
- 31.** Temporary workers earned 28 percent less than LPRs ( $28\% = [\exp(.248) - 1] * 100$ ). Statistical significance indicated by superscript C in Table 3 was determined from models estimated using LPRs as the reference category. These models are not shown.
- 32.** Statistical significance was determined from models estimated using LPRs as the reference category. These models are not shown.
- 33.**  $11 = [\exp(.107) - 1] * 100$
- 34.** Predicted values for LPRs were calculated using the following formulas:  $2.377 + (.121 * 1) + (.009 * 6.5) + (-.001 * 33.9) + (-.00004 * 0) + (.010 * 4.2) + (.004 * 25.2) + (-.135 * 1) + (-.021 * 1) + (-.063 * 1) + (.054 * 1) + (.109 * 1) + (.010 * 0) + (-.001 * 1) + (.143 * 0) + (-.027 * 1) + (-.153 * 1)$ ;  $[\exp(2.428)] = 11.34$ . One dollar was subtracted from the result because one dollar was added to the natural log measure of hourly wages.

- 35.**  $13 = [\exp(.121) - 1] * 100$
- 36.** Thirty-nine temporary workers were reported not to be working in agriculture, but holding H-2A visas. On the other hand, 10 temporary workers reported working in agriculture, but holding H-2B visas. For these analyses, a temporary worker working in agriculture was assumed to have H-2A visas, while temporary workers working outside of agriculture were assumed to have H-2B visas. Results from compensation analyses using temporary workers' reported visa status were similar to findings presented here.
- 37.**  $13 = [\exp(.12) - 1] * 100$
- 38.** Difference is found by exponentiating the difference between the values of their coefficients in the model ( $b = .35 - .12 = .23$ ;  $26\% = [\exp(.23) - 1] * 100$ ).
- 39.** Difference is found by exponentiating the difference between the values of their coefficients in the model ( $b = .26 - .06 = .20$ ;  $22\% = [\exp(.20) - 1] * 100$ ).
- 40.**  $42 = [\exp(.35) - 1] * 100$ ;  $30 = [\exp(.26) - 1] * 100$
- 41.**  $23 = [\exp(.21) - 1] * 100$
- 42.** Difference is found by exponentiating the difference between the values of their coefficients in the model ( $b = .35 - .21 = .14$ ;  $15\% = [\exp(.14) - 1] * 100$ ).
- 43.** The Southern Poverty Law Center (2013) reports that housing quality greatly varies, so at times this "benefit" may not serve as much of a benefit at all. H-2A workers' housing at times does not comply with safety and health regulations—housing was overcrowded and did not have clean tap water.

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