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Labor Market Effects of Immigrant Legalization**

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## ABSTRACT

### **Did Employer Sanctions Lose Their Bite? Labor Market Effects of Immigrant Legalization\***

Taking advantage of the ability to identify immigrants who were unauthorized to work prior to obtaining Legal Permanent Resident status, we use the New Immigrant Survey to examine whether lacking legal status to work in the U.S. constrains employment outcomes of illegal immigrants. With the exception of high-skilled unauthorized immigrants, the data fail to reveal evidence of improved employment outcomes attributable to legal status. In light of evidence that unauthorized immigrants experienced increased wages as a result of receiving amnesty through the 1986 Immigration and Reform Control Act during the 1990s, we interpret the results as evidence of ineffective employer sanctions.

JEL Classification: J8, J15, J18, J31, J61

Keywords: unauthorized, illegal, undocumented, immigration, legalization, amnesty

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## 1. Introduction

In 1986 Congress enacted the Immigration Reform and Control Act (IRCA) with the intention of curtailing the inflow of unauthorized immigrant workers. The framers of IRCA pursued a three-pronged strategy. First, a general amnesty for those unauthorized workers meeting certain residence or work requirements wiped the slate clean for the millions of undocumented immigrants already established in the country. Second, the legislation imposed sanctions on employers that hire unauthorized immigrants, attempting to remove the lure of higher-paying employment for would-be unauthorized workers. Third, the legislation provided more funds for border enforcement, in an effort to make it more difficult to enter the country without proper documentation. By all measures, IRCA failed to achieve its key objective. Since IRCA's enactment, the undocumented immigrant population has grown from about 3 million to close to 12 million in 2008 (Passel and Cohn, 2009).

The general public is deeply—and often vociferously—concerned about the effects unauthorized immigrants may have on the economy. Policymakers continue to face difficult decisions about whether and how to legalize some of these immigrants, weighing the costs and benefits of doing so. As with IRCA, an important factor in their consideration is the effect that legalization will have on employment outcomes. Earnings are likely to be lower and job opportunities limited if legal status cause undocumented workers to face difficulties in obtaining jobs which effectively utilize their skills. Removing these barriers would then lead to higher earnings and possibly productivity gains.

A consistent picture of employment gains to legalization emerges from the research based on IRCA, although the magnitudes of the effects vary substantially. Estimates of the wage effect (as measured in 1992, about four years after receiving legal status) using survey data from the Legalized Population Survey (LPS) find gains for men of between 6 and 15 percent (Rivera-Batiz, 1999; Kossoudji and Cobb-Clark, 2002 and Amuedo-Dorantes, Bansak, and Rafael, 2007). Wage gains are also found in recent studies using the 1990 Census; Pan (2010) puts the wage legalization benefit among men at about 12 percent while Barcellos (2010) provides a more modest estimate of about 6 percent. Further evidence that lacking legal status impedes employment outcomes is provided by Kossoudji and Cobb-Clark (2000) who finds indication of upward occupational mobility among unauthorized immigrant men who received amnesty.

Not surprisingly given the abundance of evidence of legalization employment gains, many assume that if a new amnesty were to be granted to today's working population of unauthorized immigrants, these workers would generally enjoy higher earnings and better job matches as a result, with the potential for a widespread economic boost (Hinojosa-Ojeda, 2010 and Pastor et al, 2010). However, some new research based on more recent survey data suggest that caution for such optimism is warranted. For example, in a study of agricultural workers, Pena (2010) concludes that "that a new legalization program would have minimal effects on the earnings of currently undocumented farm workers as they transition to legal employment' (p.2). Furthermore, both Pan (2010) and Barcellos (2010) provide evidence that the positive wage effects among workers who obtained legal status through IRCA dissipated over time. However, the latter two studies rely on data from sources such as the Census, American Community Survey (ACS) and the Current Population Survey (CPS) which do not contain information on legal status. In sum, the effects of legal status on employment outcomes in today's labor market are unclear.

In this paper we take advantage of new data that allows for direct identification of unauthorized immigrant workers to assess whether unauthorized immigrants are likely to experience upward occupational mobility or wage gains from receiving legal status. We argue that the IRCA based estimated employment effects may not provide a good basis for which to base our expectations of the labor market effect of a new legalization program for two reasons. First, relying on IRCA to identify the causal labor market impact of legalization is challenging since relevant comparison groups are themselves likely to be affected by the large scale amnesty and employer sanctions and that the earnings of unaffected groups, i.e. natives, may grow differently over time. Second, and maybe more importantly, it is also possible that the role of employer sanctions has changed and that it is no longer an effective deterrent. This may be due to lax enforcement combined with widespread availability of false work authorization documents.

We analyze how receiving Legal Permanent Resident (LPR) status affects occupational mobility and wages of individuals who previously worked illegally in the U.S. and whether LPR status allow them to obtain jobs in more desirable occupations and/or to increase wages. To do so we use recent data from the New Immigrant Survey (NIS) and explore whether such potential effects differ between workers who crossed the border illegally and workers who violated the

terms of a temporary visa. Importantly the NIS sample is rich enough to allow for tests of differences in legalization effects by skills and is not restricted to Mexican and Central American immigrants. Although legal status is not exogenously determined in the NIS sample we provide numerous robustness checks of our results and discuss the directions of potential biases in our estimates.

We find that improvements in employment outcomes from a new legalization program are likely to be small, and possibly zero—at least in the short run. Specifically, the employment outcomes of immigrants who cross the border without documentation do improve over time, but none of these improvements are attributable to gaining legal status. These immigrants are typically low-skilled workers with little education and lacking proficiency in the English language. On the other hand, those immigrants who gain legalization after violating the terms of a temporary visa are likely to demonstrate some occupational mobility that may be related to acquiring legal status. On average, these workers are more highly skilled than those who cross the border illegally. The differences we observe in occupational earnings growth between these two groups of unauthorized immigrants are specifically attributable to their differences in skill: We find that highly skilled immigrants in both groups exhibit occupational improvements after gaining legal status.

The paper is organized in the following way. We discuss relevant existing research in section 2, introduce our data in section 3 and show descriptive statistics in section 4. The empirical method is presented in section 5, results are discussed in section 6 and lastly, in section 7 we provide a summary with our conclusions.

## **2. Previous Research**

Most of the existing studies have in common that they take advantage of the 1986 Immigration Reform and Control Act (IRCA) and that they find an earnings penalty for undocumented status and an increase in earnings resulting from legalization, often with varying results by gender and differing returns to English skills and other human capital. Studies have applied various methods utilizing mostly the Legalized Population Survey (LPS), a panel dataset of formerly undocumented immigrants who received legal status under IRCA. These data have the advantage that survey respondents are observed in the working population before and after legalization. One challenge faced, though, is how to construct a suitable comparison group of

legal immigrants whose earnings can be meaningfully compared to those of the newly legalized group.

Rivera-Batiz (1999) uses the LPS to examine the earnings of undocumented Mexican workers. He then uses the 1990 census to compare these with the earnings of the overall Mexican-born working population in the U.S. This analysis reveals a wage penalty of 14 and 26 percentage points for men and women, respectively, vis-à-vis the comparable legal working population. He goes on to compare the earnings of legalized immigrants earnings pre- and post-IRCA, finding an increase of 13 percentage points for men and 17 for women.

Kossoudji and Cobb-Clark (2002) also examine the effect of the IRCA legalizations, employing the LPS to focus on the earnings of Mexican and Central American men. They use the National Longitudinal Survey of Youth (NLSY) to construct a comparison group of Latino men, and estimate the wage penalty for unauthorized status to be between 14 and 24 percent. They estimate the earnings benefit of legalization to be a rather modest six percent, and they attribute these gains to increased occupational mobility – in particular, an enhanced ability to secure employment that rewards human capital such as English or formal education.

Amuedo-Dorantes, Bansak and Raphael (2007) also use the LPS and NLSY to estimate the legalization effects of IRCA – in particular, what role occupational mobility and a change in the reservation wage might play in the labor force attachment of newly legalized immigrants. They consider the experience of both sexes and find a decrease in employment rates for men of five percent and a decrease in labor force participation by women of nearly seven percent. Like Kossoudji and Cobb-Clark, however, they find that legalization enhances the value of immigrants' human capital – particularly English skills – in commanding higher earnings.

Both Pan (2010) and Barcellos (2010) use IRCA's January 1, 1982 residency requirement in the Legally Authorized Workers (LAW) program to identify the effects of legalization. Unlike previous research which relied on LPS data, they utilize large nationally representative survey data to compare outcomes of pre-1982 arrivals to those of later arrivals. Both studies find positive legalization wage effects in the 1990s but also evidence that these effects diminished over time. Primarily due to the inability to directly identify unauthorized workers in the data, it is unclear whether the identified effects reflect legalization.

Attributing the wage growth of the previously unauthorized to legalization may be challenging in the case of previous research. IRCA legalized nearly 3 million low-skilled

workers, and in doing so, dramatically increased the supply of workers who were both low skilled and legal. At the same time, new employer sanctions against the hiring of unauthorized workers were toughened. Each of these actions could have affected both the targeted group (the formerly unauthorized) and the likely comparison groups: (1) the low-skilled workers who were legal before and after IRCA and (2) the low-skilled immigrant workers who remain unauthorized after IRCA.

Comparing wages of formerly unauthorized low-skill workers to those of low-skill workers who were legal both before and after IRCA might make wage growth appear greater than it is. Because IRCA legalized so many immigrants, the supply of legal low-skilled workers may have increased sufficiently that, at least theoretically, the average wages of the group that was legal before IRCA might have actually fallen after IRCA. Thus, the gap between the two groups appears smaller, but in part because wages of one group have fallen while the wages of the other have risen. Not all can be attributed to growth in absolute wages of the formerly unauthorized.

Similarly, the introduction of employer sanctions against the hiring of unauthorized workers makes employers less willing to pay unauthorized workers what they would receive in absence of sanctions, making this group an inappropriate comparison group as the relatively higher wages of previously unauthorized workers at least partly represents the worsening conditions for unauthorized workers. In both instances, the result would also be an overestimation of the effect of legalization. An alternative approach of using a group not affected by the amnesty may seem like a reasonable strategy. However, this group may differentially be affected by changes in the economy or other relevant factors that may change over time.

Not surprisingly, the results of previous studies are sensitive to the choice of comparison group, as seen in the wide range of relative gains reported above. The study that compares earnings for unauthorized immigrants after legalization to, arguably, the most appropriate group (relatively young Latino men with limited labor market experience) finds the smallest effects of legalization on wages (Kossoudji and Cobb-Clark, 2002). However, even this group may have been negatively affected by IRCA through statistical discrimination (Bansak and Rapahel, 2001), and the downward pressure on the comparison group may thus lead to overstating the benefits of acquiring legal status.

Our research examines legalization in an economic environment where legalization could be expected to have minimal effects beyond a relatively small group of immigrants experiencing a



change in legal status—approximately 240,000 out of an estimated 7.9 million unauthorized immigrants in 2003 (Passel and Cohn, 2009). Recognizing that labor markets change over time we use more recent data from the NIS which provide a relevant comparison group in the same dataset – continuously legal immigrants. This group attained LPR status at the same time, and has the same set of demographic, human capital, employment, and immigration-related information, all of which is measured and reported in the same way as for the unauthorized worker groups. Furthermore, the unauthorized population has changed since the 1980s and now includes many who are not from Mexico and Central America and whose skills vary to a greater extent. Our sample includes workers of both genders, in various occupations, from a wide range of countries, who arrived in the U.S. at various points. This variety allows us to extrapolate our results to a wider swath of the immigrant population, more closely reflecting the current population of unauthorized immigrants most likely to be eligible for a future amnesty.

### **3. Data**

The data utilized in this paper come from the New Immigrant Survey (NIS). The NIS seeks to provide a nationally representative public-use dataset on adults and their families who have recently gained legal permanent residence in the United States. The NIS takes as its sampling frame the USCIS administrative records of all foreign-born persons admitted to LPR status. From this universe, a stratified sample is drawn and detailed interviews are conducted. The first full cohort surveyed as part of this project used a target population of 289,478 adult immigrants granted LPR status between May and November of 2003 (Jasso et al., 2006).

The 2003 NIS gathered details about historical and current employment (for example, dates, occupation, industry, and earnings), including for U.S. jobs held before admission to LPR, and work authorization attained, migration history as well as standard socioeconomic information. To determine each immigrant’s legal status prior to earning LPR status, we look at migration and employment history. If a respondent reports having arrived with no documents, or with falsified documents, he or she is classified as a illegal border crosser or “crosser” for short. If, instead, a respondent reports having worked while on a visa that did not permit employment, he or she is classified as visa abuser or “overstayer” for short. Otherwise, the respondent is classified as having worked legally on that pre-LPR job and is referred to as continuously legal. From these

detailed data we are able to observe immigrants in their first U.S. jobs and soon after earning green cards (between 3 and 14 months). We can thus measure gains for the unauthorized relative to the documented in earning LPR status.

Our analysis begins with the full sample of 8,573 completed interviews. We eliminate records for which key information is missing – namely, age, sex, marital and household status, education, and whether the respondent worked for pay before or after gaining LPR status – and retain 7,522 records. We then restrict our sample to individuals between the ages of 18 and 65 with valid responses for occupation in pre-LPR and post-LPR jobs, and who reported working in both periods. These restrictions yield 4,486 individuals for our occupational mobility analysis. Finally, requiring valid calculable wage information for both pre-and post-LPR jobs, we winnow down the dataset to 2,660 observations for examining hourly wages. To analyze the economic benefits of receiving legal status, we focus on two outcomes – median gender and occupation specific annual earnings and hourly wages.

The objective with the first measure is to evaluate whether the data provides evidence that previously unauthorized immigrants experience upward occupational mobility as a result of removing the potential barrier of lacking legal status. To do so, we use gender-specific median earnings of foreign-born individuals by occupation, as recorded in the 2000 census, as an outcome measure. For each job under consideration, a census occupation code is provided. Using the 5% 2000 census Public Use Microdata Sample File (PUMS) data, we calculate the median gender-specific earnings for foreign-born persons in each occupation, then assign these earnings data to each job performed by each respondent. In this way, we can compare changes between pre- and post-LPR earnings, among former overstayers, crossers, and continuously legal workers. As mentioned above, the analysis using this measure may best be viewed as one of occupational mobility, but we frequently refer to this measure “occupational earnings.”

This measure fails to capture earnings growth within the same occupation, or similarly remunerated occupation, as a result of legalization. Hence, similarly to previous research (e.g. Kossoudji and Cobb-Clark, 2002), we also examine hourly wages. Although there are several advantages of using this outcome measure, there are a few potential drawbacks.

First, the data only allows us to reliably generate earnings or wages for about 60 percent of the sample of individuals who meet our sample restriction criteria. The reasons are either missing earnings information or missing information that would allow us to determine the time period the

reported earnings refer to (i.e. per year, month or week). When we compare the sample of those who have reported their hourly wages to the larger sample for whom we have occupation data, we find little difference between the two (Hill, Lofstrom and Hayes, 2010).

Second, because the pre-LPR status period for about one-quarter of our sample is more than five years prior to the interview date, we are uncertain as to whether the reported historical earnings information, i.e., pre-LPR wages, is accurate. Our extensive sensitivity analyses discussed below, addressing both the differences in the occupational earnings and wage samples as well as potential drawbacks with our labor market outcome measures, provide no indication that these issues alter the conclusions drawn in the report.

#### **4. Descriptive Statistics**

We begin our analysis by comparing our sample of recent immigrants by legal experience in the U.S. Table 1 shows that slightly more than one-half of our occupation sample (those individuals who reported working in both the pre- and post-LPR period) were employed without authorization in the U.S. in the pre-LPR period. The percent who abused a visa, 27.6 percent, is just slightly greater than the proportion of illegal border crossers, 25.9 percent.

Illegal border crossers appear to earn substantially less than their counterparts. Their group's median annual earnings in their last reported U.S. occupation prior to earning LPR status average about \$15,000, more than \$4,500 less than the visa abusers, and nearly \$9,000 less than the continuously legal group. A similar pattern holds for the first reported post-LPR occupation: the formerly illegal workers earn roughly \$18,000 on average, compared to \$23,000 for former visa abusers and over \$25,000 for the legal group. A simple comparison of the earnings differences, pre- and post-LPR, suggests that the two groups of formerly unauthorized workers stand to gain substantially more from earning green cards than do their always-legal counterparts – their earnings rise by an average of \$3,100 (illegal border crossers) and \$3,700 (visa abusers), compared to \$1,700 for the continuously legal group.

Immigrants in our three legal groups differ in many dimensions of observable characteristics. For example, Table 1 shows that illegal border crossers are less likely to be female, less likely to be married, and have more children than do their counterparts. Close to 90 percent of illegal border crossers come from Latin America and the Caribbean, with slightly more than 38 percent

from Mexico. In the legal sub-group, Asian immigrants constitute nearly 40 percent, while only three percent are Mexican. The class of admission used to gain LPR status also varies greatly across the three groups. While family preferences are the most common way of receiving legal permanent resident status for each group, employment preferences are much more commonly used by continuously legal immigrants (21.0 percent) than by visa abusers (11.4 percent) or illegal border crossers (3.6 percent). A similar, if less pronounced, pattern emerges in the use of the diversity lottery. Illegal border crossers are the most likely group to employ the “legalization” option – 37.3% obtained LPR status this way. This not a program, but rather a collection of special legislation and other instances in which illegal residents qualified to have their deportation orders canceled. The legalization category includes those who qualified for the Nicaraguan Adjustment and Central American Relief Act of 1997.

The illegal border crossers group displays low levels of education, as reflected in the mean total years of education (9.5 years) and the profile of educational attainment – 61.7 percent do not have a high school diploma, compared with 22.9 and 20.8 percent of visa abusers and continuously legal immigrants, respectively. Similarly, only 7.2 percent of illegal border crossers have a bachelor’s degree, while more than a third of the visa abusers and nearly half of strictly legal respondents do. English ability also varies across the three groups with visa abusers appearing to be the most fluent group. Forty-five percent of illegal border crossers report that they speak and understand English either “not well” or “not at all,” compared with only about a third of each of the other groups, and only 14.4 percent report top levels of speaking and comprehension, as compared with roughly a third for visa abusers and continuously legal respondents. We also observe differences in the time elapsed between the beginning of that pre-LPR occupation and the eventual NIS interview – illegal border crossers had been in the U.S. for an average of 11.0 years since taking that job, compared with 5.9 years and 2.7 years, respectively, for the visa abusers and the strictly legal immigrants.

To better understand occupational mobility, we examine occupations by legal status group. Table 2 displays for each group the top ten *pre*-LPR occupations and their representation. The second column shows what percentage of these job-holders stayed in the same occupation in their post-LPR job. The last column shows each of the top ten pre-LPR period job’s representation in the post-LPR era. A few patterns emerge.

First, the jobs most commonly held by former illegal border crossers tend to be in low-skill occupations. Many of these occupations appear as well among the jobs reported by former visa overstayers, the new additions being retail salespersons, waiters and waitresses, and nursing, psychiatric, and home health aides. Some of the same jobs appear near the top of the list for continuously legal workers as well, but now the additions are in more conspicuously high-skill occupations: computer software engineers and postsecondary teachers.

Almost without exception, the most commonly held occupation in the post-LPR job is the one held in the pre-LPR job. (The two exceptions are dishwashers, who predominantly took other jobs in the food service industry, and child care workers, who were only slightly more likely to take jobs as maids and housekeeping cleaners than to stay in their previous occupation.)

Third, the two groups of formerly unauthorized workers show a greater propensity towards occupational mobility than does the group of consistently legal workers. In just this sample of the ten most common occupations for each group, the former illegal border crossers stayed in their pre-LPR occupations about 26 percent of the time. The former visa abusers maintained their pre-LPR occupations 36 percent of the time. But the consistently legal immigrants stayed in their pre-LPR occupations 62 percent of the time. This may be largely a result of the aforementioned differences in recent U.S. experience – both formerly illegal groups report much more time spent here since beginning the pre-LPR job than do the consistently legal immigrants.

## **5. Empirical Model**

Our empirical strategy is to compare employment outcomes of unauthorized workers to immigrants with no unauthorized immigration history. Clearly we need to address the endogeneity, or selection, concerns stemming from the possibility that individuals sort themselves into the three groups partially based on factors related to employment outcomes. It should be pointed out that we do not view the comparison of outcomes across groups as a quasi-experimental exercise since the distinction across groups is arguably due to unobservable personal decisions and characteristics which may also be linked to earnings. Our approach is to as carefully as possible control for these factors in our empirical models by including variables that serve as proxies.

Immigrants can obtain LPR status through different classes of admission. The most common pathway is through family already present in the U.S. Close to 2/3 of immigrants who received a green card in our sample used these close family relations to obtain LPR status. The next most common pathways are through refugee/asylum status (11.5 percent) and employment preferences (11.4 percent).

Although it is well known that immigrants in different class of admission groups differ in observable skills, they may also differ with respect to unobservable earnings related factors. For example, it may be that immigrants obtaining LPR status through employment preferences possess more of these characteristics, say motivation, ambition or ability, than immigrants who receive a green card through family. It is also possible that immigrants receiving a green card through family preferences benefit from existing family networks to a greater extent than other immigrants. Controlling for eventual class of LPR admission may then serve to address the role of unobservable earnings related characteristics. In addition, the inclusion of country of origin fixed effects will further control for such factors, which are unobserved by the econometrician.

We use ordinary least squares (OLS) to estimate the following regression model of pre-LPR status log-annual earnings and log-hourly wages,  $y_i^{\text{Pre-LPR}}$ , of individual  $i$  from country  $j$  who arrived at time  $t$ .

$$y_{ijt}^{\text{Pre-LPR}} = \alpha_1 IBC_i + \alpha_2 OS_i + \mathbf{X}_{it}^{\text{Pre-LPR}} \beta + \mathbf{W}_i \gamma + \delta_j + \tau_t + e_{ijt} \quad (1)$$

Where  $IBC$  and  $OS$  are indicator variables for border crossers and overstayers and;

$\mathbf{X}_{it}^{\text{Pre-LPR}}$  = Matrix containing demographic characteristics such as age, gender, family composition, educational attainment and geographic location

$\mathbf{W}_i$  = Matrix containing network proxies represented by class of admission and whether post-LPR job was obtained with the help of family or relative and whether the person works for a relative.

$\delta_j$  = Country of origin fixed effects

$\tau_t$  = Year of entry fixed effects

An analysis of labor market outcomes at first U.S. job potentially provides information on the penalty of lacking legal status. A concern with interpreting this as a legalization effect in a cross sectional regression is that it may well be due to unobservable factors correlated with legal

status. Instead, we view this as a starting point, arguing that if the lack of legal status is a barrier to good employment outcomes, removing this barrier should lead to better outcomes for this group, holding other individual factors constant, and comparing those changes to those of continuously legal.

To do so, we specify a model of the changes in outcomes between the pre- and post-LPR periods. The specification contains the above factors as well as information on post-LPR English ability and education obtained in the U.S. These post-LPR factors are added to the X matrix, now labeled  $\mathbf{X}_{it}^{\text{Post-LPR}}$ .

$$\Delta y_{ijt}^{\text{Post-Pre}} = \alpha_1' IBC_i + \alpha_2' OS_i + \mathbf{X}_{it}^{\text{Post-LPR}} \beta' + \mathbf{W}_i' + \delta_j' + \tau_t' + \varepsilon_{ijt} \quad (2)$$

The parameters of interest in specifications (1) and (2) are  $\alpha_1$ ,  $\alpha_2$ ,  $\alpha_1'$ , and  $\alpha_2'$ . Under the assumptions that  $E[e_{it} IBC | \mathbf{X}_{it}^{\text{Pre-LPR}}, \delta_i, \tau_t] = 0$  and  $E[e_{it} OS | \mathbf{X}_{it}^{\text{Pre-LPR}}, \delta_i, \tau_t] = 0$ , i.e., conditional on  $\mathbf{X}_{it}^{\text{Pre-LPR}}$ ,  $\delta_i$  and  $\tau_t$ , the disturbance term is uncorrelated with legal status, OLS will yield unbiased estimates of the employment effect of legalization. Similar assumptions are necessary for OLS estimates of  $\alpha_1'$  and  $\alpha_2'$  to be unbiased, although these are arguably more tenable given the focus on changes. A limitation to our OLS approach is that there is no formal test for whether these assumptions hold. Unfortunately, we are not aware of an appropriate instrument for legal status in the pre-LPR period in our data. Nonetheless, we believe that the above factors, which also include potentially important controls for unobservable factors like networks, time-of-arrival macro economic conditions, assimilation and transferability of human capital, substantially reduce the concerns of endogeneity of legal status.

Also if, among our NIS sample, the above factors fail to capture employment related unobservable factors correlated with legal status (such as ability, motivation and networks), these factors are likely to be positively correlated with authorized status, exacerbating the differences between legal and illegal workers and hence leading to an upward bias of the OLS estimated legalization benefits. From this perspective, the presented results below are upper bounds of the employment gains to adjusting to legal status.

However, it is also possible that our NIS sample is not representative of the general unauthorized population in the country. It seems plausible that the unauthorized immigrants who

find a way to obtain a green card are positively selected, compared to those who do not. If lacking legal status can be overcome more easily among the positively selected unauthorized immigrants in the NIS data by using, for example, their network of friends and family, our estimates understate what the true employment gains to legalization are. That is, our results cannot be expected to be the same for the general population of unauthorized immigrants residing in the United States unless the two groups are similar and operate in similar labor markets.

Comparing the same sample of unauthorized in the NIS as the one used in this paper to Passel's (2009) CPS estimates of the characteristics of the unauthorized working age population in general, Hill, Lofstrom and Hayes (2010) show that the distributions of educational attainment and occupations are very similar across samples. One noticeable difference is that the NIS sample is slightly older and has been in the U.S. longer than the overall population of unauthorized immigrants. This is not surprising but is also of policy relevant since, like with IRCA, a new amnesty is very likely to include a length of residency requirement, meaning that the most recent arrivals will not qualify for receiving legal status. Overall, a comparison of observable factors fail to reveal evidence that the NIS sample is substantially different from the population of unauthorized immigrants who are most likely to qualify for any future amnesty.

## **6. Empirical Results**

### *Occupational Earnings and Mobility*

We begin our discussion of the empirical results with an analysis of pre-LPR median earnings by occupation. Before doing so, a reminder on our terminology is warranted. For simplicity, we will frequently refer to our foreign born gender-specific median annual earnings by occupations simply as "occupational earnings", particularly in the pre-LPR analysis.

### *Pre-LPR Status Occupational Earnings Differences*

Unauthorized workers are employed in occupations with substantially lower earnings than are legal workers. Model 1 in Table 3 shows that the pre-LPR period unadjusted occupational earnings differences between crossers and individuals authorized to work are approximately 31



and 28 percent respectively for men and women.<sup>1</sup> The unadjusted unauthorized occupational earnings penalty for overstayers is substantially smaller, 13 percent for men and 10 percent for women.

The observed pre-LPR occupational earnings differences may not be related to legal status but may instead be a consequence of differences in earnings-related factors. We next investigate how much of the unauthorized occupational earnings gaps are due to differences in demographic characteristics. The Model 2 results indicate that roughly between  $\frac{1}{4}$  and  $\frac{1}{2}$  of the lower occupational earnings among unauthorized workers are due to differences in factors such as age, family composition, geographic location and years of schooling. A closer look reveals that among these factors education differences drive the results. In fact, we obtain adjusted gaps of the same magnitudes as those reported for Model 2 using a model specification where we only add years of schooling to the Model 1 specification.<sup>2</sup>

We find that differences in year of arrival are somewhat important factors contributing to the observed pre-LPR unauthorized occupational earnings differences (Model 3). Furthermore, differences in the country of origin composition across the three legal status groups help explain the lower occupational earnings among unauthorized immigrants. The Model 4 specification results show that roughly three to five percentage points of the lower earnings of unauthorized immigrants can be attributed to differences in the country of origin composition.

We next investigate whether differences in class of admission or use of family-specific networks matters. Results are presented as Model specification 5. We find that these variables help explain the pre-LPR occupational earnings gap somewhat beyond the ones already taken into account. Comparing observationally similar crossers to continuously legal immigrants, we estimate that the pre-legalization earnings penalty, based on median occupational earnings, of being a crosser is about 12 percent for men and 8 percent for women. For male overstayers the penalty is approximately 10 percent and even less for women, about 7 percent.

The finding that unauthorized immigrants work in occupations with lower median annual earnings than observationally similar legal workers in the pre-LPR period is consistent with unauthorized status limiting their labor market opportunities. As discussed above, these differences may be due to other factors than legal status and a more reliable approach to estimate

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<sup>1</sup> We use  $e^b - 1$ , where  $b$  is the estimated coefficient, to convert the log point estimates into percentages.

<sup>2</sup> The results are not presented in the table but are available upon request.

the legalization effect is to see whether legal status opens the doors to occupations that allow previously unauthorized immigrants to find jobs that are better aligned with their skills, and hence better paid. Consequently, we next address the issue whether obtaining legal status leads to greater upward occupational mobility, as measured by occupational earnings, and whether legalization allows pre-LPR status unauthorized workers to catch up with their continuously legal counterparts.

### *Occupational Mobility - Pre-Post Changes in Occupational Earnings*

Between the pre- and post-LPR periods, the annual occupational earnings of male immigrants who were unauthorized to work in the pre-LPR period increased by roughly 13 percent more than did the occupational earnings of continuously legal immigrants, Table 4. The unadjusted differences are roughly the same for males who crossed the border illegally or violated the terms of a visa. The occupational earnings growth differences among women are smaller. Female overstayers' and crossers' occupational earnings grew by about six and four percent respectively more than the earnings of continuously legal women. These unadjusted occupational earnings growth differences are shown as Model 1 in Table 4. We next turn to an analysis of whether, and to what extent, these differences are due to factors other than legalization.

The estimates using Model specification 2 in Table 4 indicate that differences in the demographic composition between the three legalization groups are not major factors explaining the relatively higher earnings growth among pre-LPR unauthorized workers. However, the Model 3 results show that the observed greater increase in earnings among immigrants who were not authorized to work in the pre-LPR period, compared to immigrants who were authorized, is to a large extent due to the fact that they have been in the U.S. for a longer time.<sup>3</sup> This appears to be particularly relevant to crossers for whom we do not find any greater increase in occupational earnings once this factor is accounted for. In fact, the subsequent addition of controls for country of origin, class of admission or family network differences across groups do not change the estimated occupational earnings growth differences greatly compared to the ones shown for Model 3.

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<sup>3</sup> Note that given that all post-LPR status interviews took place within a few months, the arrival year fixed effects captures assimilation, or put differently, years in the U.S. effects on earnings. They also capture potential long lasting effects of the macro economic conditions present at the time of arrival in the U.S.

The results indicate that overstayers benefited significantly from obtaining LPR status. Although they worked in occupations with lower earnings in the pre-LPR status period than their otherwise observationally similar legal immigrant counterparts, they work in equally well paid occupations after receiving their green cards.<sup>4</sup> This holds for both men and women and suggests that legalization opened the door to labor market opportunities they could not access without authorization to work. Crossers, on the other hand, are not as fortunate and do not improve their occupational earnings appreciably after receiving LPR status. We fail to find evidence that the earnings of immigrant men or women in this legal status group increase at all in response to obtaining green cards, relative to those of their observationally similar continuously legal counterparts.

Our empirical results point towards years in the U.S. as a major determinant in explaining occupational earnings growth differences between unauthorized workers and continuously legal immigrants. However, as Table 2 indicates, few of the workers in the latter group have been in the U.S. for a very long time, the average years since first U.S. job is less than 3 years, compared to 11 years for illegal border crossers. This is not surprising since temporary work visas, such as H-1B, are issued for three years (renewable once for a total of six years). Given the limitations of how long continuously legal workers can work legally in the U.S. without adjusting their status to LPR, we estimated the occupational earnings models for the sub-sample of immigrants who have spent no more than five years since their first U.S. job. The results, shown in Appendix Table A1, are similar to the ones we obtain with our larger unrestricted samples of immigrants. The magnitudes of the legal status parameters are somewhat smaller, and not surprisingly less precisely estimated, and imply that receiving legal status leads to greater upward occupational mobility only for visa overstayers.

### *Exploring the Role of Skills*

Why do overstayers benefit from legalization while crossers do not? A look at Table 1 reveals that these two groups differ in terms of skills. Over 60 percent of crossers have less than a high school diploma, while the same is true for a much smaller share of overstayers, 23 percent. Also, over 30 percent of overstayers report excellent English ability, while only 14

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<sup>4</sup> We fail to reject the hypotheses of equal earnings between observationally similar overstayers and continuously legal immigrants in post-LPR status earnings regression model, results not shown but available upon request.

percent of crossers do. It is possible that for the relatively more highly skilled group, overstayers, lack of legal status might suppress earnings opportunities, whereas for the less skilled it does not.

One approach to test whether relatively higher-skilled unauthorized immigrants are more constrained by their legal status than their less-skilled counterparts is to look for differences in the impact of receiving a green card for unauthorized workers by educational attainment. To do so, we defined indicator variables for schooling level (less than high school, high school graduate, some college or college graduate) and interacted these variables with legal status. The pre-post occupational mobility results, presented in Table 5, quite clearly show that upward mobility as a result of receiving legal status is limited to unauthorized workers with at least some college education. The estimates indicate that unauthorized workers, both overstayers and crossers, who arrived in the U.S. with no more than a high school degree, experienced no greater occupational mobility than observationally similar legal workers. These results suggest that the finding that overstayers benefitted from receiving legal status while crossers did not is driven by the relatively higher levels of skill and education among overstayers.

Many unauthorized immigrants are low-skilled and work in low-skilled jobs, as can be seen in Table 2. It is of course possible that it is the lack of legal rights to work in the U.S. that constrains these workers to low-skilled occupations. Table 2 also reveals that a higher proportion of unauthorized workers leave their pre-LPR occupation than continuously legal immigrants. An alternative way to determine the labor market benefits of receiving LPR status is to restrict the analysis to immigrants who were observed in low-skilled occupations in the pre-LPR period.

We hypothesize that if unauthorized status limits some workers to these low-skilled occupations, we would expect to see a higher proportion of unauthorized immigrants moving to occupations with higher earnings once they receive LPR status. To test this, we analyze occupational mobility of a subset of our occupational earnings sample restricted to immigrants who reported working in specific low-skilled occupations in the period before receiving legal status. The subset is limited to occupations for which we have representation from all three legal status groups, wherein the typical worker has less than a high school degree, and that are among the most common low-skilled occupations for unauthorized workers. These restrictions yield the following low-skilled occupations; maids and housekeeping cleaners, janitors and building cleaners, cooks, dishwashers, construction workers, child care workers and agricultural workers. The low-skill occupation sample represents approximately 20 percent of our full occupational

earnings sample and consists of 37 percent continuously legal immigrants, 22 percent overstayers and 41 percent crossers.

The results limited to the sub-sample of immigrants working in low-skilled occupations in the pre-LPR period, shown in Table 6, show that previously unauthorized immigrants moved up to more remunerative occupations than did continuously legal immigrants (Model 1). However, once we control for our full set of observable characteristics, Model 5, we find no evidence that unauthorized immigrants moved to more high paying occupations than did continuously legal immigrants. The results fail to reveal any differences across the three legal status groups in occupational earnings in the post-LPR period.

These results suggest that the relatively skilled unauthorized workers for whom we found benefitting from receiving a green card were not limited to these common low-skilled occupations in the pre-LPR period – if these existed in any meaningful numbers, we would expect to see higher earnings among the unauthorized immigrants in the post-LPR period – we do not. Also, the results imply that the greater occupational mobility that we observe in Table 2 among unauthorized immigrants in low-skilled occupations is mostly not associated with moves to higher paying occupations.

So far we have relied on an outcome measure using gender-specific median annual earnings among immigrants. We next turn to an analysis in which we rely on individuals' reported hourly wages.

### *Results Using Self-Reported Wages*

As with our occupational median earnings measure, we observe substantially lower wages among unauthorized workers, as compared to continuously legal workers. Model 1 in Table 7 shows that the pre-LPR period unadjusted wage differences between crossers and individuals authorized to work are approximately 42 and 41 percent respectively for men and women. The unadjusted unauthorized earnings penalty for overstayers is substantially smaller, 12 percent for men and 10 percent for women.

The wage differences are likely to be at least partially due to some of the differences in demographic characteristics such as family composition, education and geographic location, shown in Table 1. The results in Model 2 show that these factors explain much of the lower earnings among unauthorized workers. In fact, these factors alone explain the lower wages

among overstayers, relative to continuously legal workers.<sup>5</sup> Furthermore, once we add country of origin and year of arrival fixed effects, we fail to find a pre-LPR earnings penalty among crossers.

We next explore whether receiving legal status allowed for greater wage growth among unauthorized workers. Given that we do not find a pre-LPR wage penalty for unauthorized workers, we do not expect to find higher wage growth among the unauthorized once our set of control variables is taken into account. Nonetheless, we examine the possibility of such differences by estimating regressions of pre-post-LPR changes in hourly wages and present the results in Table 8. Hourly wages increased substantially more between the pre- and post-LPR periods among unauthorized workers compared to continuously legal workers. However, as with our occupational mobility analysis, the greater growth is mostly due to demographic factors and the greater time spent in the U.S. by previously unauthorized workers.

Above, we tested the hypothesis that if unauthorized workers are restricted to low-skilled occupations in their first job in the U.S. we would expect that they are more likely to move to better paid occupations after receiving a green card than observationally similar continuously legal immigrants in the same pre-LPR low-skilled occupations. Although we found no support for this notion, it is possible that there was greater upward mobility within occupations among the previously unauthorized workers. That is, some of these workers may not change their occupation but upon receiving a green card they obtain better paid position in the same occupation (for example, going from a non-unionized to unionized janitorial job). Our occupational earnings analysis would fail to reveal such a pattern. To address this concern, we re-estimate the models in Table 6 using instead of the post-LPR occupational annual earnings the reported post-LPR wages. Utilizing this outcome measure addresses the concern of within occupational improvements in remuneration. The results from this sensitivity analysis are shown in Appendix Table A2 and also provide no evidence of higher post-LPR wages among the previously unauthorized low-skilled occupation workers compared to their observationally similar continuously legal counterparts.

Our estimates may underestimate the impact of legal status if continuously legal immigrants benefit from adjusting to permanent legal status (for example, for H-1B holders the adjustment

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<sup>5</sup> Controlling only for years of schooling reduces the earnings gap between continuously legal workers and crossers by half, relative to the unadjusted differences.

removes the attachment to a particular employer). To address this concern, we looked at pre- to post-LPR wage gains among the continuously legal sample. Although the unadjusted gains to adjustment to LPR status are positive and significant (27 percent) once we account for potentially relevant factors such as the number of years between the first job and the post-LPR job, we find no statistically significant effect of adjusting to legal status for the continuously legal sample.<sup>6</sup> The results suggest that the unadjusted wage gains are primarily due to labor market assimilation and not due to change in status.

Overall, the results using hourly wages are consistent with our median occupational earnings measures. A noteworthy difference is that these results more strongly indicate that the labor market benefits, as measured by hourly wages, to gaining legal status are very limited and possibly zero. In our occupational mobility analysis we found some evidence that overstayers benefitted from gaining legal status. There is a concern that the lack of a wage effect even among these previously unauthorized workers may be due to the smaller, more restrictive sub-sample for which we have valid wage information. To address this concern we re-estimated key model specification using the median annual occupational earnings measure limited to the smaller wage sample. The results, presented in Appendix Table A3, are very similar to the full occupation sample results and do not reveal any meaningful sensitivity of the specific sample used. Although we are not able to determine the reason for the differences in pre-LPR results between occupational based earnings and hourly wages, we note that it may be due to recall bias. The pre-LPR period for unauthorized workers was several years earlier on average than it was among continuously legal immigrants. It is possible that because of this, they recall pre-LPR wages with greater error than legal immigrants do.

As discussed above, there is a concern that individuals do not accurately recall wages from the first job held in the U.S. as for many this was more than five years ago. However, we believe that the reported occupation of their first job in the U.S. and current wages at the time of the interview closely reflect their actual labor market outcomes. Furthermore, the main conclusions that there are no labor market benefits of obtaining legal status for most unauthorized immigrant workers, do not depend on the outcome measure used. Overall, the broad sensitivity analyses we provide suggest that our results are robust to the employment measure used.

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<sup>6</sup> The estimated adjusted wage change is about -4 percent with a t-statistic of -0.88. The results are not shown in the tables but available upon request from the authors.

## 7. Summary and Conclusions

Nearly 12 million unauthorized immigrants live in the United States (Passel and Cohn, 2009). Currently, legislators in Washington, D.C., are considering comprehensive reform in federal immigration policies, including legalizing unauthorized immigrants. Many observers, supported by the findings of the 1986 IRCA based research, believe that the economic effects of a legalization program could be substantial, significantly improving employment outcomes among the workers restricted in their opportunities due to lack of legal status (Hinojosa-Ojeda, 2010).

In this paper we use recent data from the New Immigrant Survey (NIS) to assess whether a new legalization program is likely to lead to upward occupational mobility or wage gains. Importantly, the rich NIS data allow us to identify immigrant workers who were unauthorized to work prior to obtaining LPR status and to distinguish between different types of illegal immigration experience – those who crossed the border without proper documentation and those who violated the terms of their visa. We use the group of continuously legal immigrants as a comparison group in our empirical approach.

We find that legalizing unauthorized immigrants is unlikely to lead to dramatic changes in the labor market outcomes of most unauthorized immigrants. This is especially true for low-skilled workers, for whom any improvement is likely to be small at best. For immigrants who cross the border without documentation, employment outcomes do improve over time—but none of these improvements are attributable to gaining legal status. For those who gain legalization after overstaying a temporary visa, the outlook is slightly better. In these cases, we do see some upward occupational mobility, which may be related to acquiring legal status. However, this finding is specifically attributable to skill level: We find that highly skilled immigrants, regardless of how they arrived in the United States, exhibit occupational improvements after gaining legal status.

These findings differ from the influential research based on IRCA, which consistently found evidence of employment gains (e.g. Rivera-Batiz, 1999; Kossoudji and Cobb-Clark, 2002 and Amuedo-Dorantes, Bansak, and Rafael, 2007). This research was limited to Mexican and Central American immigrants and did not separately identify effects for crossers and overstayers. However, we do not believe that the differences are driven by these factors since the only



noticeable gains found in our study are, regardless of illegal status group, among the relatively few most educated unauthorized immigrants (a small number of whom originate in Mexico or Central America).<sup>7</sup> What are then the most likely reasons for the discrepancy?

One noticeable difference between our study and the IRCA research is that we only observe outcomes among the previously unauthorized immigrants during the first year after adjusting status while the LPS collects the information about four years after becoming legal. It is plausible that one year is not enough time for the employment legalization benefits to materialize. If unauthorized immigrants are receiving below market wages for legal workers, it is reasonable to expect that they would also be more likely to search for new employment than continuously legal immigrants after obtaining LPR status. However, Hill, Lofstrom and Hayes (2010) find no evidence supporting this. They also find no support for greater investments in human capital among the previously unauthorized, which would lead to future improvements in labor market outcomes. Lastly, the period between receiving legal status and the NIS interview was sufficiently long for us to detect gains among high-skilled previously unauthorized immigrants, for whom we would expect that it would take longer time to find new suitable employment than low-skilled workers. This is not conclusive but suggests that the differences may not be due to short-run versus medium-run.

Our findings of small or no gains are however consistent with recent research relying on more recent data. For example, Pan (2010) and Barcellos (2010) provide evidence that the positive wage effects among workers who obtained legal status through IRCA dissipated over time and are no longer noticeable. It appears that the labor market for low-skilled unauthorized immigrants may have changed and that employer sanctions may have lost their bite.

Immediately following IRCA's implementation, employers of all types were probably concerned about the employer sanctions that were part of the legislation. In the current era, it seems likely that employment law violations are more likely anticipated among the employers of the highly skilled than among those employing low-skilled workers. This should then impact the wages and occupational opportunities for the high-skill and low-skilled unauthorized workers differently.

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<sup>7</sup> Recent studies estimate that the group with a bachelor's degree or more comprise a relatively small share of the unauthorized immigrant population, about 15 percent in 2008 (Passel and Cohn 2009).

Employers of low-skilled workers probably correctly assess the very low probability that they will be caught or fined for having hired unauthorized workers. Thus, the relatively ineffective employer sanctions mean that they do not differentiate pay to low-skilled laborers based on legal status. In the period immediately following IRCA, employers likely did expect that the newly approved employer sanctions for hiring unauthorized workers would have teeth. That does not appear to be the case now. Indeed, because we find that there are no real differences in occupational mobility or reported wages among low-skilled unauthorized immigrants, when compared to continuously legal immigrants it appears that labor markets function competitively for low-skilled unauthorized workers.

The labor market for high-skilled workers may on the other hand be monopsonistic, with fewer and larger employers than the low-skilled labor market. The cost of detection and fines (including reputational cost) and of losing a trained employee because of employment law violations might be too great for high-skill employer, and they might avoid hiring unauthorized workers in the first place. After a high-skilled unauthorized immigrant gains legal status, he or she could successfully apply for jobs that were formerly closed off. Because we separate high-skill workers from low-skill workers, we may be in a position to observe an effect of employer sanctions on the occupational mobility and reported wages of unauthorized high-skill workers after they become legal.

Lastly but importantly, the results in this paper have strong policy relevance. Comprehensive immigration reform will need to include a newly effective employment verification system, possibly mandating the use of the federal government's E-Verify program for all new hires, as well as sanctions for employers with teeth in order for the reform to act as a deterrent to future unauthorized immigration.

## References

- Amuedo-Dorantes, Catalina, Cynthia Bansak, and Steven Raphael, "Gender Differences in the Labor Market: Impact of IRCA's Amnesty Provisions," *American Economic Review; Papers and Proceedings*, May 2007.
- Bansak, Cynthia and Steven Raphael (2001), "Immigration Reform and the Earnings of Latino Workers: Do Employer Sanctions cause Discrimination?" *Industrial and Labor Relations Review*, 54(2): 275-295.
- Barcellos, Silvia Helena, "Legalization and the Economic Status of Immigrants" RAND Working Paper, March 2010.
- Bratsberg, Brent, James F. Ragan Jr., and Zafar M. Nasir, "The Effect of Naturalization on Wage Growth: A Panel Study of Young Immigrants," *Journal of Labor Economics*, 2002, 20(3).
- Gass Kandilov, Amy and Ivan Kandilov, "The Effect of Legalization on Wages and Health Insurance: Evidence from the National Agricultural Workers Survey," 2009.
- Hill, Laura E., Magnus Lofstrom and Joseph M. Hayes, "Immigrant Legalization: Assessing the Labor Market Effects" Public Policy Institute of California, Research Report, April, 2010.
- Hinojosa-Ojeda, Raúl, "Raising the Floor for American Workers: The Economic Benefits of Comprehensive Immigration Reform" Center for American Progress/Immigration Policy Center Report, January 2010.
- Hoefler, Michael, Nancy Rytina, and Bryan C. Baker, "Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2007," Population Estimates, Office of Immigration Statistics, Department of Homeland Security, September, 2008.
- Jasso, Guillermina, Douglas S. Massey, Mark R. Rosenzweig, and James P. Smith, "The New Immigrant Survey 2003 Round 1 (NIS-2003-1) Public Release Data," March 2006.
- Kaushal, Neeraj, "Amnesty Programs and the Labor Market for Undocumented Workers," *Journal of Human Resources*, 2006, 41(3): 631-647.
- Kossoudji, Sherrie A. and Deborah A. Cobb-Clark, "IRCA's Impact on the Occupational Concentration and Mobility of Newly-Legalized Mexican Men" *Journal of Population Economics*, 2000, 13: 81-98.
- Kossoudji, Sherrie A. and Deborah A. Cobb-Clark, "Coming out of the Shadows: Learning about Legal Status and Wages from the Legalized Population," *Journal of Labor Economics*, 2002, 20(3): 598-628.

Pan, Ying, "The Impact of Legal Status on Immigrants' Earnings and Human Capital: Evidence from the IRCA 1986", Louisiana State University, Working Paper 2010-02, 2010.

Passel, Jeffrey. Unpublished tabulations from March CPS, Pew Hispanic Center, 2009.

Passel, Jeffrey and D'Vera Cohn," Trends in Unauthorized Immigration: Undocumented Inflow Now Trails Legal Inflow," Report, Pew Hispanic Center, October 2, 2008.

Passel, Jeffrey, and D'Vera Cohn, "A Portrait of Unauthorized Immigrants in the United States" Pew Hispanic Center, April 14, 2009.

Pastor, Manuel, Justin Scoggins, Jennifer Tran, and Rhonda Ortiz, "The Economic Benefits of Immigrant Authorization in California", Center for the Study of Immigrant Integration Report, University of Southern California, January 2010.

Pena, Anita Alves, "Legalization and Immigrants in U.S. Agriculture." *B.E. Journal of Economic Analysis & Policy* 10 (1): Article 7, 2010.

Rivera-Batiz, Francisco, "Undocumented Workers in the Labor Market: An Analysis of the Earnings of Legal and Illegal Mexican Immigrants in the United States," *Journal of Population Economics*, 1999, 12(1): 91-116.

**Table 1.** Descriptive Statistics by Legal Status Group

<b>Variable</b>	<b>Illegal Border Crosser</b>	<b>Visa Overstayer</b>	<b>Continuously Legal</b>
<i>Annual Occupational Earnings</i>			
Pre-LPR Job	\$15,160	\$19,727	\$23,913
Post-LPR Job	\$18,272	\$23,418	\$25,613
Change	\$3,112	\$3,692	\$1,700
<i>Demographic traits</i>			
Share of Sample	25.9	27.6	46.4
Percent Female	36.8	45.8	44.4
Percent Married	67.8	80.7	75.5
Mean Number of Children	2.3	1.6	1.2
Mean age at NIS interview	35.8	37.1	35.0
Mean age first worked during last U.S. trip	24.8	31.2	32.3
Mean duration of pre-LPR job (years)	3.8	2.5	1.4
Mean time elapsed since start of pre-LPR job (years)	11.0	5.9	2.7
<i>Country of Origin</i>			
Mexico	38.5	16.4	3.0
Other Latin America & the Caribbean	50.1	29.0	18.5
East Asia, South Asia & the Pacific	4.5	18.0	38.8
Sub-Saharan Africa	0.8	8.3	8.2
Europe & Central Asia	2.5	18.7	22.1
Middle East & North Africa	1.0	5.4	5.0
All Other	2.6	4.1	4.4
<i>Class of admission</i>			
Spouse of Citizen	33.1	53.0	30.4
Child of Citizen (<21, unmarried)	1.6	1.7	1.9
Parent of Citizen	2.5	4.3	1.9
Child of Citizen (21+ and/or married)	1.7	1.4	0.9
Spouse of LPR	3.3	0.8	0.9
Sibling of Citizen	0.9	2.1	7.3
Employment Preference	3.6	11.4	21.0
Diversity Lottery	0.7	4.8	14.3
Refugee/Asylee	8.2	11.5	8.6
Legalization	37.3	3.6	0.5
Other	7.1	5.5	12.3

Helped by a Relative to Get Current Job	18.3	11.1	18.7
Current Employer is a Relative	2.3	3.2	3.9

*Human Capital*

Total number of years of education	9.5	13.7	14.3
Total number of U.S. years of education	1.3	1.0	0.9
Proportion with less than high school diploma	61.7	22.9	20.8
Proportion with a high school diploma	22.6	28.7	21.1
Proportion with some college	8.6	12.9	10.2
Proportion with a bachelor's degree or more	7.2	35.4	48.0
Proportion with excellent English	14.4	31.1	28.8
Proportion with very good English	7.9	8.8	7.7
Proportion with good English	32.8	29.0	26.8
Number of Observations	945	1,071	2,470

Source: 2003 New Immigrant Survey (NIS)

**Table 2. Occupational Distribution and Mobility from Pre- to Post-LPR Status**

Illegal Border Crossers during pre-LPR job		% in pre- LPR job	% same in post-LPR job	% in post- LPR job
Rank	Pre-LPR occupation			
1	Maids And Housekeeping Cleaners	7.4	42.3	7.2
2	Other Agricultural Workers	7.3	28.1	2.7
3	Janitors And Building Cleaners	6.0	24.5	5.5
4	Dishwashers	5.2	0.0	0.5
5	Child Care Workers	5.1	13.3	1.6
6	Cooks	4.4	28.2	5.0
7	Construction Laborers	4.1	31.9	3.0
8	Cashiers	3.7	22.2	2.7
9	Grounds Maintenance Workers	3.5	36.5	2.4
10	Sewing Machine Operator	2.5	27.0	1.0
<b>Sum/Totals</b>		<b>49.2</b>	<b>25.7</b>	<b>31.5</b>
Visa Overstayers during pre-LPR job		% in pre- LPR job	% same in post-LPR job	% in post- LPR job
Rank	Pre-LPR occupation			
1	Cashiers	5.9	23.9	2.7
2	Maids And Housekeeping Cleaners	4.4	44.4	3.4
3	Janitors And Building Cleaners	3.7	26.1	2.2
4	Cooks	3.4	52.7	3.1
5	Retail Salespersons	3.3	36.9	3.6
6	Waiters And Waitresses	3.3	33.3	2.6
7	Child Care Workers	3.0	44.3	2.2
8	Construction Laborers	2.3	28.1	1.7
9	Nursing, Psychiatric, And Home Health Aides	2.0	57.1	3.0
10	Grounds Maintenance Workers	2.0	13.9	0.3
<b>Sum/Totals</b>		<b>33.2</b>	<b>35.6</b>	<b>24.8</b>
Legal during pre-LPR job		% in pre- LPR job	% same in post-LPR job	% in post- LPR job
Rank	Pre-LPR occupation			
1	Cashiers	5.9	65.4	5.0
2	Computer Software Engineers	3.9	72.8	4.3
3	Waiters And Waitresses	3.4	51.0	2.1
4	Maids And Housekeeping Cleaners	3.4	77.5	2.9
5	Janitors And Building Cleaners	3.3	60.3	3.6
6	Postsecondary Teachers	3.0	37.0	1.7
7	Nursing, Psychiatric, And Home Health Aides	2.5	60.6	2.8
8	Retail Salespersons	2.4	62.1	2.5
9	Registered Nurses	2.4	79.9	2.4
10	Stock Clerks And Order Fillers	2.3	52.3	1.7
<b>Sum/Totals</b>		<b>32.6</b>	<b>62.4</b>	<b>29.1</b>

Source: 2003 New Immigrant Survey (NIS)

**Table 3.**

OLS Regression Results, Log of Occupational Annual Earnings, Pre-LPR Status Period.

	Model Specification				
	1	2	3	4	5
Overstayer at Pre-LPR Job	-0.134 (2.48)	-0.108 (2.41)	-0.181 (3.93)	-0.138 (3.81)	-0.107 (3.10)
Crosser at Pre-LPR Job	-0.370 (4.47)	-0.173 (3.36)	-0.219 (4.35)	-0.175 (4.48)	-0.122 (3.43)
Female*Overstayer	0.024 (0.43)	0.026 (0.52)	0.029 (0.60)	0.046 (1.04)	0.035 (0.88)
Female*Crosser	0.048 (0.62)	0.049 (0.77)	0.038 (0.60)	0.050 (0.84)	0.038 (0.70)
Female	-0.410 (5.13)	-0.261 (3.92)	-0.300 (4.47)	-0.330 (5.23)	-0.339 (5.54)
Age		0.019 (3.55)	0.022 (4.04)	0.022 (3.89)	0.018 (3.85)
Age <sup>2</sup> /100		-0.029 (3.84)	-0.029 (3.68)	-0.032 (4.00)	-0.026 (4.14)
Married		0.148 (3.43)	0.109 (3.15)	0.064 (2.30)	0.033 (1.09)
Number of Children		-0.007 (0.60)	-0.012 (1.06)	-0.011 (0.96)	-0.010 (0.96)
Female*Married		-0.117 (1.89)	-0.087 (1.40)	-0.081 (1.49)	-0.044 (1.02)
Married*Number of Children		-0.017 (1.28)	-0.012 (0.93)	-0.005 (0.43)	-0.002 (0.17)
Female*Number of Children		-0.014 -1.040	-0.019 -1.410	-0.014 -1.100	-0.008 -0.700
Female*Married*Number of Children		0.017 (0.89)	0.018 (0.91)	0.015 (0.81)	0.009 (0.53)
Years of Education before Migration		0.034 (5.32)	0.030 (6.05)	0.023 (5.88)	0.018 (5.10)
Female*Years of Ed before Migration		-0.005 (0.66)	-0.002 (0.32)	-0.002 (0.37)	-0.003 (0.57)
Class of Admission:					
Minor Child of U.S. citizen					-0.087 (1.55)
Parent of U.S. citizen					0.048 (1.04)
Adult Child of U.S. citizen					-0.082 (1.29)
Spouse of LPR					-0.035 (0.60)
Sibling of U.S. citizen					-0.112 (2.45)
Employment Preferences					0.398 (5.24)
Diversity Lottery					-0.153 (4.39)
Refugee/Asylee/Parolee					-0.133



	Model Specification				
	1	2	3	4	5
					(2.88)
Legalization					-0.065
					(1.68)
Other					-0.067
					(1.94)
Helped by a Relative to Get Current Job					-0.037
					(1.95)
Current Employer is a Relative					0.068
					(1.08)
Includes Fixed Effects:					
State	No	Yes	Yes	Yes	Yes
Year of Arrival	No	No	Yes	Yes	Yes
Country of Origin	No	No	No	Yes	Yes
R-Squared	0.189	0.291	0.344	0.399	0.461
Number of Observations			4,486		

Note: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations.

**Table 4.**

OLS Regression Results, Change in Log of Occupational Annual Earnings, Post-Pre LPR Status Periods

	Model Specification				
	1	2	3	4	5
Overstayer at Pre-LPR job	0.125 (5.52)	0.113 (5.14)	0.068 (3.05)	0.072 (3.18)	0.064 (2.85)
Crosser at Pre-LPR job	0.132 (4.47)	0.120 (4.04)	-0.008 (0.24)	-0.009 (0.28)	-0.017 (0.49)
Female*Overstayer	-0.069 (2.03)	-0.058 (1.77)	-0.051 (1.60)	-0.056 (1.78)	-0.056 (1.77)
Female*Crosser	-0.096 (2.29)	-0.073 (1.82)	-0.056 (1.33)	-0.059 (1.38)	-0.055 (1.28)
Female	0.019 (0.82)	0.048 (0.86)	0.042 (0.76)	0.048 (0.85)	0.052 (0.92)
Age		0.012 (2.39)	-0.003 (0.70)	-0.004 (0.79)	-0.003 (0.61)
Age <sup>2</sup> /100		-0.015 (2.45)	0.001 (0.12)	0.002 (0.30)	0.001 (0.17)
Married		0.015 (0.57)	0.016 (0.68)	0.029 (1.23)	0.013 (0.54)
Number of Children		0.015 (1.56)	0.013 (1.48)	0.011 (1.16)	0.008 (0.81)
Female*Married		-0.042 (1.14)	-0.029 (0.81)	-0.027 (0.73)	-0.031 (0.83)
Married*Number of Children		-0.005 (0.45)	-0.005 (0.44)	-0.005 (0.43)	-0.001 (0.05)
Female*Number of Children		-0.010 (0.80)	-0.009 (0.77)	-0.009 (0.76)	-0.009 (0.75)
Female*Married*Number of Children		-0.001 (0.09)	0.003 (0.20)	0.001 (0.09)	0.002 (0.12)
Years of Education before Migration		0.003 (1.16)	0.007 (2.22)	0.008 (2.64)	0.009 (2.69)
Years of Education in the U.S.		0.030 (4.21)	0.025 (3.77)	0.026 (4.17)	0.026 (4.22)
Excellent English		0.004 (0.12)	-0.034 (1.03)	-0.046 (1.35)	-0.046 (1.32)
Very Good English		-0.014 (0.39)	-0.024 (0.70)	-0.027 (0.74)	-0.025 (0.70)
Good English		0.074 (2.91)	0.047 (1.82)	0.041 (1.65)	0.041 (1.65)
Female*Years of Ed before Migration		0.001 (0.38)	0.001 (0.17)	0.000 (0.06)	0.000 (0.02)
Female*Years of Ed in the U.S.		0.001 (0.10)	-0.001 (0.06)	-0.002 (0.18)	-0.002 (0.24)
Female*Excellent English		0.044 (0.78)	0.067 (1.23)	0.074 (1.39)	0.072 (1.37)
Female*Very Good English		0.117 (1.80)	0.107 (1.78)	0.103 (1.68)	0.102 (1.70)
Female*Good English		-0.073	-0.049	-0.042	-0.045

	Model Specification				
	1	2	3	4	5
Duration of Pre-LPR Job		(2.03)	(1.40)	(1.21)	(1.28)
Interval Between LPR and Interview		0.003	-0.007	-0.007	-0.007
		(1.64)	(2.86)	(2.86)	(2.72)
Class of Admission:		0.001	0.001	0.001	0.001
Minor Child of U.S. citizen		(0.44)	(0.47)	(0.45)	(0.17)
Parent of U.S. citizen					-0.075
Adult Child of U.S. citizen					(1.65)
Spouse of LPR					-0.001
Sibling of U.S. citizen					(0.03)
Employment Preferences					0.007
Diversity Lottery					(0.12)
Refugee/Asylee/Parolee					-0.062
Legalization					(1.70)
Other					-0.017
Helped by a Relative to Get Current Job					(0.53)
Current Employer is a Relative					-0.081
					(2.12)
Includes Fixed Effects:					-0.050
State	No	Yes	Yes	Yes	(1.74)
Year of Arrival	No	No	Yes	Yes	-0.041
Country of Origin	No	No	No	Yes	(1.08)
R-Squared	0.018	0.067	0.119	0.131	-0.005
Number of Observations			4,486		(0.12)

Note: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations.

**Table 5.**

OLS Regression Results, Change in Log of Occupational Annual Earnings, Post-Pre LPR Status Periods, by Schooling Levels

	Model Specification	
	1	5
High School Diploma	-0.001 (0.03)	-0.012 (0.26)
Some College	0.038 (1.31)	-0.012 (0.47)
College Degree	-0.059 (1.97)	-0.048 (1.67)
Overstayer at Pre-LPR Job	0.121 (3.28)	0.001 (0.03)
High School Diploma*Overstayer at Pre-LPR Job	-0.058 (0.92)	0.022 (0.40)
Some College*Overstayer at Pre-LPR Job	0.001 (0.02)	0.071 (1.50)
College Degree*Overstayer at Pre-LPR Job	0.038 (0.63)	0.124 (2.42)
Crosser at Pre-LPR Job	0.102 (3.04)	-0.111 (2.66)
High School Diploma*Crosser at Pre-LPR Job	-0.009 (0.14)	0.067 (1.06)
Some College*Crosser at Pre-LPR Job	0.053 (0.82)	0.148 (2.34)
College Degree*Crosser at Pre-LPR Job	0.164 (2.07)	0.302 (4.19)
Female	-0.013 (0.32)	0.007 -0.140
Female*High School Diploma	0.047 (0.68)	0.073 (1.12)
Female*Some College	0.022 (0.43)	0.038 (0.96)
Female*College Degree	0.051 (1.00)	0.074 (1.49)
Female*Overstayer at Pre-LPR Job	-0.076 (1.16)	-0.038 (0.64)
Female*High School Diploma*Overstayer at Pre-LPR Job	0.095 (0.98)	0.035 (0.39)
Female*Some College*Overstayer at Pre-LPR Job	-0.034 (0.34)	-0.053 (0.63)
Female*College Degree*Overstayer at Pre-LPR Job	0.009 (0.10)	-0.019 (0.21)
Female*Crosser at Pre-LPR Job	-0.051 (0.95)	0.001 (0.01)
Female*High School Diploma*Crosser at Pre-LPR Job	-0.039 (0.40)	-0.060 (0.58)
Female*Some College*Crosser at Pre-LPR Job	-0.004 (0.04)	-0.029 (0.27)
Female*College Degree*Crosser at Pre-LPR Job	-0.336	-0.325

	Model Specification	
	1	5
	(1.72)	(1.75)
Age		-0.002
		(0.28)
Age <sup>2</sup> /100		-0.001
		(0.16)
Married		0.015
		(0.68)
Number of Children		0.005
		(0.59)
Female*Married		-0.031
		(0.84)
Married*Number of Children		0.000
		(0.01)
Female*Number of Children		-0.008
		(0.73)
Female*Married*Number of Children		0.001
		(0.11)
Years of Education in the U.S.		0.022
		(3.90)
Excellent English		-0.033
		(0.99)
Very Good English		-0.022
		(0.64)
Good English		0.049
		(2.01)
Female*Years of Ed in the U.S.		-0.001
		(0.07)
Female*Excellent English		0.063
		(1.22)
Female*Very Good English		0.098
		(1.63)
Female*Good English		-0.046
		(1.36)
Duration of Pre-LPR Job		-0.008
		(3.00)
Interval Between LPR and Interview		0.000
		(0.02)
Class of Admission:		
Minor Child of U.S. citizen		-0.077
		(1.73)
Parent of U.S. citizen		-0.002
		(0.05)
Adult Child of U.S. citizen		0.010
		(0.16)
Spouse of LPR		-0.062
		(1.67)
Sibling of U.S. citizen		-0.023
		(0.70)

	Model Specification	
	1	5
Employment Preferences		-0.067 (1.77)
Diversity Lottery		-0.034 (1.24)
Refugee/Asylee/Parolee		-0.053 (1.38)
Legalization		-0.002 (0.05)
Other		-0.006 (0.21)
Helped by a Relative to Get Current Job		-0.021 (1.18)
Current Employer is a Relative		-0.021 (0.72)
Includes Fixed Effects:		
State	No	Yes
Year of Arrival	No	Yes
Country of Origin	No	Yes
R-Squared	0.025	0.141
Number of Observations	4,486	

Note: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations. Model specification number refers to the specifications in Tables 3 and 4.

**Table 6.**

OLS Regression Results, Change in Log of Occupational Annual Earnings, Pre-to-Post LPR Status Periods, and Post-LPR Period; Pre-LPR Low-Skilled Occupation Sub-Sample

Model Specification:	Time Period: Pre- to Post-LPR		Post-LPR	
	1	5	1	5
Overstayer at Pre-LPR job	0.172 (3.76)	-0.061 (1.43)	0.147 (2.36)	-0.044 (0.99)
Crosser at Pre-LPR job	0.223 (4.75)	-0.015 (0.29)	0.132 (2.23)	-0.023 (0.38)
Female*Overstayer	-0.098 (1.25)	0.009 (0.15)	-0.104 (1.19)	-0.020 (0.35)
Female*Crosser	-0.151 (2.33)	-0.094 (1.88)	-0.105 (1.48)	-0.087 (1.62)
Female	0.012 (0.16)	0.163 (1.84)	-0.361 (4.40)	-0.113 (1.13)
Age		-0.013 (1.26)		-0.016 (1.62)
Age <sup>2</sup> /100		0.015 (1.17)		0.017 (1.45)
Married		0.115 (1.98)		0.057 (1.04)
Number of Children		0.024 (1.53)		0.018 (1.41)
Female*Married		-0.145 (1.91)		-0.137 (1.91)
Married*Number of Children		-0.026 (1.62)		-0.011 (0.68)
Female*Number of Children		-0.022 -1.170		-0.028 -1.810
Female*Married*Number of Children		0.028 (1.25)		0.024 (1.30)
Years of Education before Migration		0.019 (4.18)		0.023 (4.33)
Years of Education in the U.S.		0.031 (2.52)		0.032 (2.93)
Excellent English		0.094 (1.64)		0.087 (1.63)
Very Good English		0.070 (0.88)		0.080 (1.04)
Good English		0.025 (0.78)		0.016 (0.44)
Female*Years of Ed before Migration		-0.009 (1.37)		-0.016 (2.01)
Female*Years of Ed in the U.S.		0.014 (0.83)		0.014 (0.90)
Female*Excellent English		0.092 (1.01)		0.076 (0.80)
Female*Very Good English		0.149 (0.81)		0.186 (1.11)
Female*Good English		-0.023		-0.034

Time Period: Model Specification:	Pre- to Post-LPR		Post-LPR	
	1	5	1	5
		(0.47)		(0.64)
Duration of Pre-LPR Job		-0.005		-0.002
		(1.47)		(0.55)
Interval Between LPR and Interview		-0.001		-0.005
		(0.25)		(1.30)
Class of Admission:				
Minor Child of U.S. citizen		-0.115		-0.235
		(1.25)		(2.83)
Parent of U.S. citizen		-0.084		-0.122
		(1.15)		(1.86)
Adult Child of U.S. citizen		0.070		0.015
		(0.78)		(0.18)
Spouse of LPR		-0.123		-0.189
		(2.43)		(2.67)
Sibling of U.S. citizen		-0.098		-0.107
		(1.84)		(1.83)
Employment Preferences		-0.066		-0.097
		(1.20)		(1.87)
Diversity Lottery		-0.142		-0.139
		(2.14)		(2.26)
Refugee/Asylee/Parolee		-0.065		-0.074
		(0.96)		(1.27)
Legalization		-0.102		-0.136
		(2.02)		(2.90)
Other		-0.057		-0.099
		(1.29)		(2.00)
Helped by a Relative to Get Current Job		0.013		0.012
		(0.40)		(0.40)
Current Employer is a Relative		-0.080		0.001
		(1.64)		(0.02)
Includes Fixed Effects:				
State	No	Yes	No	Yes
Year of Arrival	No	Yes	No	Yes
Country of Origin	No	Yes	No	Yes
R-Squared	0.060	0.392	0.322	0.568
Number of Observations	902			

Note: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations. Model specification number refers to the specifications in Tables 3 and 4.



**Table 7.**  
**OLS Regression Results, Log of Hourly Wages, Pre-LPR Status Period**

	Model Specification				
	1	2	3	4	5
Overstayer at Pre-LPR job	-0.128 (2.04)	-0.056 (1.24)	-0.089 (1.85)	-0.048 (0.97)	-0.020 (0.43)
Crosser at Pre-LPR job	-0.543 (7.09)	-0.196 (3.44)	-0.115 (1.74)	-0.063 (0.95)	0.023 (0.35)
Female*Overstayer	0.023 (0.25)	0.003 (0.04)	0.021 (0.29)	0.056 (0.77)	0.058 (0.82)
Female*Crosser	0.014 (0.13)	-0.041 (0.47)	-0.067 (0.78)	-0.005 (0.06)	-0.039 (0.46)
Female	-0.086 (1.19)	0.156 (1.36)	0.085 (0.77)	0.036 (0.33)	0.037 (0.36)
Age		0.042 (4.63)	0.039 (4.14)	0.037 (3.99)	0.031 (3.18)
Age <sup>2</sup> /100		-0.053 (4.06)	-0.049 (3.69)	-0.049 (3.78)	-0.040 (2.93)
Married		0.103 (2.28)	0.097 (2.15)	0.060 (1.32)	0.038 (0.75)
Number of Children		-0.012 (0.29)	0.005 (0.11)	0.010 (0.23)	0.021 (0.51)
Female*Married		-0.076 (0.98)	-0.083 (1.10)	-0.082 (1.12)	-0.028 (0.39)
Married*Number of Children		-0.028 (0.65)	-0.030 (0.69)	-0.024 (0.55)	-0.024 (0.56)
Female*Number of Children		-0.037 (0.800)	-0.040 (0.860)	-0.037 (0.790)	-0.030 (0.660)
Female*Married*Number of Children		0.034 (0.68)	0.030 (0.61)	0.026 (0.52)	0.013 (0.28)
Years of Education before Migration		0.042 (8.51)	0.037 (7.70)	0.028 (5.88)	0.021 (4.40)
Female*Years of Ed before Migration		-0.013 (1.65)	-0.007 (0.90)	-0.006 (0.82)	-0.008 (1.12)
Class of Admission:					
Minor Child of U.S. citizen					0.035 (0.45)
Parent of U.S. citizen					-0.019 (0.18)
Adult Child of U.S. citizen					0.092 (0.89)
Spouse of LPR					0.005 (0.06)
Sibling of U.S. citizen					-0.130 (1.72)
Employment Preferences					0.519 (10.23)
Diversity Lottery					-0.118 (2.30)

	Model Specification				
	1	2	3	4	5
Refugee/Asylee/Parolee					-0.134 (2.06)
Legalization					-0.239 (2.46)
Other					-0.050 (0.94)
Helped by a Relative to Get Current Job					-0.044 (1.30)
Current Employer is a Relative					-0.025 (0.32)
Includes Fixed Effects:					
State	No	Yes	Yes	Yes	Yes
Year of Arrival	No	No	Yes	Yes	Yes
Country of Origin	No	No	No	Yes	Yes
R-Squared	0.090	0.202	0.265	0.310	0.373
Number of Observations	2,660				

Note: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations.

**Table 8.**  
**OLS Regression Results, Change in Log of Hourly Wages, Pre-to-Post LPR Status Periods**

	Model Specification				
	1	2	3	4	5
Overstayer at Pre-LPR job	0.201 (3.69)	0.127 (2.41)	-0.066 (1.38)	-0.074 (1.55)	-0.068 (1.40)
Crosser at Pre-LPR job	0.521 (9.94)	0.424 (6.55)	-0.050 (0.80)	-0.070 (1.04)	-0.077 (1.13)
Female*Overstayer	-0.073 (0.90)	-0.008 (0.10)	0.025 (0.35)	0.020 (0.29)	0.014 (0.20)
Female*Crosser	-0.174 (2.04)	-0.123 (1.30)	-0.022 (0.26)	-0.045 (0.53)	-0.043 (0.49)
Female	-0.050 (1.53)	-0.134 (0.96)	-0.146 (1.14)	-0.138 (1.07)	-0.143 (1.12)
Age		0.036 (3.19)	-0.010 (0.97)	-0.009 (0.85)	-0.011 (0.90)
Age <sup>2</sup> /100		-0.043 (2.95)	0.008 (0.57)	0.007 (0.51)	0.008 (0.54)
Married		0.080 (1.59)	0.077 (1.72)	0.089 (1.96)	0.095 (1.74)
Number of Children		0.000 0.00	-0.009 (0.20)	-0.009 (0.19)	-0.011 (0.25)
Female*Married		-0.147 (1.90)	-0.082 (1.19)	-0.082 (1.20)	-0.082 (1.19)
Married*Number of Children		0.006 (0.11)	0.004 (0.09)	0.000 0.00	0.001 (0.03)
Female*Number of Children		0.028 (0.52)	0.008 (0.18)	0.004 (0.09)	0.003 (0.06)
Female*Married*Number of Children		-0.020 (0.36)	0.005 (0.10)	0.007 (0.13)	0.010 (0.20)
Years of Education before Migration		-0.007 (1.11)	0.002 (0.31)	0.003 (0.46)	0.002 (0.38)
Years of Education in the U.S.		0.035 (2.29)	0.012 (0.86)	0.013 (0.93)	0.013 (0.89)
Excellent English		0.177 (2.82)	0.026 (0.50)	0.017 (0.31)	0.015 (0.27)
Very Good English		0.086 (0.98)	0.058 (0.73)	0.065 (0.83)	0.061 (0.79)
Good English		0.104 (2.12)	0.015 (0.35)	0.008 (0.18)	0.010 (0.22)
Female*Years of Ed before Migration		0.014 (1.41)	0.009 (0.99)	0.009 (0.98)	0.009 (1.05)
Female*Years of Ed in the U.S.		0.007 (0.33)	-0.001 (0.08)	0.000 (0.02)	0.001 (0.05)
Female*Excellent English		-0.051 (0.53)	0.018 (0.21)	0.018 (0.22)	0.017 (0.21)
Female*Very Good English		0.138 (0.99)	0.110 (0.93)	0.081 (0.68)	0.083 (0.71)
Female*Good English		-0.077	0.022	0.031	0.025

	Model Specification				
	1	2	3	4	5
Duration of Pre-LPR Job		(1.04) 0.016	(0.34) -0.029	(0.48) -0.028	(0.38) -0.028
Interval Between LPR and Interview		(2.42) 0.005	(3.94) 0.008	(3.91) 0.007	(3.88) 0.007
		(0.74)	(1.47)	(1.35)	(1.28)
Class of Admission:					
Minor Child of U.S. citizen					-0.024 (0.24)
Parent of U.S. citizen					0.129 (1.29)
Adult Child of U.S. citizen					-0.153 (1.42)
Spouse of LPR					-0.102 (0.84)
Sibling of U.S. citizen					-0.015 (0.21)
Employment Preferences					0.008 (0.17)
Diversity Lottery					0.017 (0.35)
Refugee/Asylee/Parolee					-0.032 (0.49)
Legalization					0.164 (1.65)
Other					0.047 (0.91)
Helped by a Relative to Get Current Job					0.013 (0.36)
Current Employer is a Relative					-0.039 (0.64)
Includes Fixed Effects:					
State	No	Yes	Yes	Yes	Yes
Year of Arrival	No	No	Yes	Yes	Yes
Country of Origin	No	No	No	Yes	Yes
R-Squared	0.078	0.140	0.316	0.323	0.327
Number of Observations			2,660		

Note: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations.

## Appendix

**Table A1.**

OLS Regression Results, Change in Log of Occupational Annual Earnings, Pre-LPR Status Period, and Change in Pre- to Post-LPR Periods, for Immigrants in the U.S. No More Than Five Years

Model Specification:	Time Period:		Pre- to Post-LPR	
	1	5	1	5
Overstayer at Pre-LPR job	0.007 (0.14)	-0.053 (1.22)	0.104 (4.09)	0.082 (3.26)
Crosser at Pre-LPR job	-0.164 (2.35)	-0.087 (1.66)	0.029 (0.90)	-0.019 (0.57)
Female*Overstayer	-0.091 (1.62)	-0.033 (0.69)	-0.072 (1.99)	-0.066 (1.82)
Female*Crosser	0.005 (0.06)	0.037 (0.46)	-0.005 (0.09)	0.005 (0.09)
Female	-0.362 (4.96)	-0.266 (3.17)	0.022 (1.08)	-0.016 (0.29)
Age		0.013 (1.83)		0.001 (0.21)
Age <sup>2</sup> /100		-0.020 (2.17)		-0.003 (0.35)
Married		0.036 (1.14)		-0.013 (0.52)
Number of Children		-0.002 (0.10)		-0.021 (2.03)
Female*Married		-0.049 (0.90)		-0.013 (0.33)
Married*Number of Children		-0.012 (0.59)		0.019 (1.56)
Female*Number of Children		-0.016 (0.820)		0.006 (0.44)
Female*Married*Number of Children		0.016 (0.64)		-0.004 (0.23)
Years of Education before Migration		0.024 (4.68)		0.000 (0.13)
Years of Education in the U.S.				0.007 (1.03)
Excellent English				-0.068 (2.17)
Very Good English				-0.064 (1.46)
Good English				0.056 (1.99)
Female*Years of Ed before Migration		-0.007 (1.16)		0.001 (0.29)
Female*Years of Ed in the U.S.				0.002 (0.18)
Female*Excellent English				0.120 (2.66)

	Time Period:		Pre- to Post-LPR		
	Model Specification:	1	5	1	5
Female*Very Good English				0.061	(0.92)
Female*Good English				-0.033	(0.77)
Duration of Pre-LPR Job				-0.007	(0.91)
Interval Between LPR and Interview				0.004	(0.95)
Class of Admission:				0.00	
Minor Child of U.S. citizen		-0.133		-0.075	(1.67)
Parent of U.S. citizen		0.042		0.062	(1.21)
Adult Child of U.S. citizen		-0.165		-0.018	(0.32)
Spouse of LPR		-0.154		0.024	(0.54)
Sibling of U.S. citizen		-0.088		-0.026	(0.98)
Employment Preferences		0.433		-0.073	(1.77)
Diversity Lottery		-0.186		-0.042	(1.41)
Refugee/Asylee/Parolee		-0.121		-0.065	(1.62)
Legalization		-0.102		-0.081	(0.98)
Other		-0.108		-0.014	(0.55)
Helped by a Relative to Get Current Job		-0.047		0.010	(0.54)
Current Employer is a Relative		0.067		-0.004	(0.14)
Includes Fixed Effects:					
State	No	Yes	No	Yes	
Year of Arrival	No	Yes	No	Yes	
Country of Origin	No	Yes	No	Yes	
R-Squared	0.135	0.448	0.011	0.071	
Number of Observations			2,781		

Note: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations. Model specification number refers to the specifications in Tables 3 and 4.

**Table A2.**

OLS Regression Results, Change in Log of Hourly Wages, Pre-to-Post LPR Status Periods, and Post-LPR Period; Pre-LPR Low-Skilled Occupation Sub-Sample

Model Specification:	Time Period:		Post-LPR	
	Pre- to Post-LPR			
	1	5	1	5
Overstayer at Pre-LPR job	0.353 (3.04)	-0.143 (1.13)	0.283 (3.14)	-0.036 (0.51)
Crosser at Pre-LPR job	0.639 (5.61)	-0.257 (1.36)	0.309 (3.64)	-0.016 (0.17)
Female*Overstayer	0.139 (0.75)	0.228 (1.45)	-0.044 (0.34)	0.012 (0.13)
Female*Crosser	-0.077 (0.54)	0.016 (0.10)	-0.214 (2.13)	-0.084 (0.74)
Female	-0.143 (1.19)	-0.327 (1.10)	-0.130 (1.41)	-0.314 (1.72)
Age		-0.007 (0.25)		0.008 (0.50)
Age <sup>2</sup> /100		0.001 (0.03)		-0.014 (0.67)
Married		-0.026 (0.21)		0.120 (1.70)
Number of Children		0.040 (0.73)		0.024 (0.70)
Female*Married		0.156 (0.78)		-0.014 (0.17)
Married*Number of Children		-0.061 (0.91)		-0.033 (0.88)
Female*Number of Children		-0.017 (0.240)		-0.003 (0.080)
Female*Married*Number of Children		0.012 (0.12)		0.011 (0.23)
Years of Education before Migration		0.012 (0.77)		0.010 (1.05)
Years of Education in the U.S.		-0.006 (0.20)		0.001 (0.05)
Excellent English		0.113 (0.51)		0.236 (2.18)
Very Good English		0.245 (0.74)		-0.033 (0.43)
Good English		0.095 (0.76)		0.128 (2.02)
Female*Years of Ed before Migration		0.009 (0.42)		0.014 (1.19)
Female*Years of Ed in the U.S.		-0.004 (0.07)		0.057 (2.56)
Female*Excellent English		-0.017 (0.07)		-0.161 (1.16)
Female*Very Good English		0.151 (0.35)		0.351 (1.52)

Model Specification:	Time Period:		Post-LPR	
	Pre-	Post-LPR	1	5
Female*Good English		-0.021 (0.12)		-0.134 (1.33)
Duration of Pre-LPR Job		-0.021 (1.71)		0.002 (0.30)
Interval Between LPR and Interview		0.008 (0.57)		-0.001 (0.12)
Class of Admission:				
Minor Child of U.S. citizen		-0.047 (0.19)		-0.147 (0.97)
Parent of U.S. citizen		0.350 (1.77)		0.230 (1.28)
Adult Child of U.S. citizen		-0.158 (0.46)		-0.060 (0.37)
Spouse of LPR		-0.129 (0.43)		-0.272 (2.06)
Sibling of U.S. citizen		-0.182 (1.16)		-0.101 (0.83)
Employment Preferences		-0.068 (0.60)		0.021 (0.21)
Diversity Lottery		-0.169 (1.02)		-0.158 (1.59)
Refugee/Asylee/Parolee		-0.151 (0.68)		-0.068 (0.73)
Legalization		0.291 (1.60)		-0.047 (0.52)
Other		-0.064 (0.41)		-0.012 (0.14)
Helped by a Relative to Get Current Job		-0.016 (0.22)		-0.042 (1.01)
Current Employer is a Relative		0.196 (1.36)		-0.033 (0.30)
Includes Fixed Effects:				
State	No	Yes	No	Yes
Year of Arrival	No	Yes	No	Yes
Country of Origin	No	Yes	No	Yes
R-Squared	0.131	0.463	0.134	0.481
Number of Observations	498			

Note: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations. Model specification number refers to the specifications in Tables 7 and 8.



**Table A3.**

Sample Sensitivity Analysis, OLS Regression Results, Utilizing Occupational Annual Earnings for the NIS Wage Sub-Sample

Time Period: Model Specification:	Pre-LPR		Pre- to Post-LPR	
	1	5	1	5
Overstayer at Pre-LPR Job	-0.160 (2.95)	-0.145 (3.81)	0.186 (6.21)	0.100 (3.49)
Crosser at Pre-LPR Job	-0.371 (4.35)	-0.141 (3.17)	0.141 (4.29)	-0.015 (0.38)
Female*Overstayer	0.020 (0.26)	0.070 (1.23)	-0.079 (1.86)	-0.071 (1.74)
Female*Crosser	0.005 (0.05)	0.030 (0.45)	-0.024 (0.46)	0.016 (0.31)
Female	-0.379 (4.41)	-0.388 (5.68)	0.024 (0.97)	0.067 (1.03)
Includes Controls for:				
Demographic Characteristics	No	Yes	No	Yes
Human Capital	No	Yes	No	Yes
Immigration/Employment Networks		Yes		Yes
Includes Fixed Effects:				
State	No	Yes	No	Yes
Year of Arrival	No	Yes	No	Yes
Country of Origin	No	Yes	No	Yes
R-Squared	0.183	0.499	0.039	0.181
Number of Observations	2,660			

Note: Model specification number refers to the specifications in Tables 7 and 8. The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations.