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Technical Appendices

Immigrant Legalization

Assessing the Labor Market Effects

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Appendix A. Data from the 2003 New Immigrant Survey

The data used in this report come from the New Immigrant Survey. 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 U.S. Citizenship and Immigration Services 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 contained a target population of 289,478 adult immigrants granted LPR status between May and November 2003 (Jasso et al., 2006). Enumerators gathered migration and employment histories from a cohort of over 8,000 such immigrants. The survey asked about every international trip of 60 days or more that each respondent took since leaving his or her home country for the first time. For each of these trips, information was collected on whether a visa was used for entry and, if so, what kind of visa it was, thereby allowing us to divide respondents into those here legally or illegally before gaining LPR status.

The 2003 NIS also gathered details about historical and current employment (for example, dates, occupation, industry, and earnings), including for U.S. jobs held before admission to LPR status, and work authorization attained. Other lines of questioning gathered standard socioeconomic information (for example, educational attainment, self-reported English language ability, and marital status). From these detailed data, we are able to observe immigrants in their first U.S. jobs and immediately after earning green cards. We can thus measure gains for unauthorized immigrants relative to documented immigrants in gaining LPR status.

To determine each immigrant's legal status before gaining LPR status, we look at migration and employment history. (For this analysis, we restrict our attention to the first job taken on the last reported U.S. trip—in the words of the questionnaire, the trip on which the respondent "came to the United States to live.") If a respondent reports having arrived with no documents, or with falsified documents, he or she is classified as a "crosser." If, instead, a respondent reports having worked while on a visa that did not permit employment, he or she is classified as an overstayer. Otherwise, the respondent is classified as having worked legally on that pre-LPR job.

Appendix B. Measuring Occupational Mobility and Wage Growth: Methods and Detailed Results

In our study, we measure the gains from legalization for formerly unauthorized immigrants (whether crossers or overstayers) in two ways: via changes in occupations and changes in wages. We first measure occupations and wages at the time of an immigrant's first U.S. job (before gaining LPR status), documenting unadjusted differences, and then controlling for explanatory factors. We next measure any improvement in occupation or wages at the time they were interviewed, which was after gaining LPR status.

Data Subsamples

Our analysis begins with the full sample of 8,573 completed interviews. We eliminate records for which key information is missing—namely, age, gender, marital and household status, education, and whether the respondent worked for pay before or after earning LPR status—and retain 7,522 records. We then restrict our sample to individuals 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 the dataset to 2,660 observations for examining hourly wages.

To analyze the economic benefits of receiving legal status, we focus on two outcomes—first, median occupation-specific annual earnings and, then, hourly wages. Similarly to previous research (e.g., Kossoudji and Cobb-Clark, 2002), we examine hourly wages. Although there are several advantages to using this measure, there are also a few potential drawbacks. First, the data allow us to reliably generate earnings or wages for only 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). Second, because the pre-LPR status period for about one-quarter of our sample is more than five years before the interview date, we are uncertain as to the accuracy of the reported historical earnings information, i.e., pre-LPR wages.

Thus, our initial measure is gender-specific median earnings of foreign-born individuals by occupation, as recorded in the 2000 Census. For each job under consideration, a Census occupation code is provided. Using the 5% 2000 Census Public Use Microdata Sample (PUMS) File 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. Our analysis using this measure may best be viewed as one of occupational mobility, and we refer to this measure in the text as "occupational earnings."

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 (results are shown in Table B9). Furthermore, 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 of the report.

Empirical Model

Our empirical strategy is to compare the employment outcomes of unauthorized workers (crossers and overstayers) 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 that may also be linked to earnings. Our approach is to carefully control for these factors in our empirical models by including variables that serve as proxies.

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 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 the post-LPR job was obtained with the help of family or a relative and whether the person works for a relative;

δ_j = country of origin fixed effects;

τ_t = year of entry fixed effects.

This model specification will tell us how unauthorized status affects earnings or wages and, given our empirical approach of sequentially adding earnings determinants, how these factors affect earnings as well as earnings differences across our three groups. However, we also want to learn whether, or to what extent, gaining legal status allows previously unauthorized workers' earnings or wages to "catch up" with those of continuously legal immigrants. 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-language ability and education obtained in the United States. 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 α_1, α_2, α'_1, and α'_2. Under the assumptions that $E[e_{it}IBC \mid \mathbf{X}_{it}^{\text{Pre-LPR}}, \delta_i, \tau_t] = 0$ and $E[e_{it}OS \mid \mathbf{X}_{it}^{\text{Pre-LPR}}, \delta_i, \tau_t] = 0$ (i.e., conditional on $\mathbf{X}_{it}^{\text{Pre-LPR}}$, δ_i and τ_t, the disturbance term is uncorrelated with legal status) OLS will yield unbiased estimates of the earnings effect of being unauthorized. Similar assumptions are necessary for OLS estimates of α'_1 and α'_2 to be unbiased. 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

such unobservable factors as networks, time-of-arrival macro economic conditions, assimilation and transferability of human capital, substantially reduce the concerns of endogeneity of legal status.

Detailed Results of Occupational Mobility

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

Pre-LPR Status Occupational Differences

Unauthorized workers are employed in occupations with substantially lower earnings than are legal workers. Model 1 in Table B1 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.[1] 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 instead may 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 one-quarter and one-half of the lower occupational earnings among unauthorized workers are due to differences in such factors 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.[2]

We find that differences in year of arrival are somewhat important factors contributing to the observed pre-LPR unauthorized occupational earnings differences (Model 3). However, 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 3 to 5 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 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 is even less for women, about 7 percent. Interestingly, these estimates suggest that there are differences in how legal status affects earnings between unauthorized immigrants depending on how they entered the United States.

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[1] We use $e^b - 1$, where b is the estimated coefficient, to convert the log point estimates into percentages.
[2] The results are not presented in the table but are available from the authors on request.

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 job opportunities. It is of great interest, then, 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 get better pay. 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.

Pre-Post Changes in Occupations

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 (see Table B2). 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 6 and 4 percent, respectively, more than the earnings of continuously legal women. These unadjusted occupational earnings growth differences are shown as Model 1 in Table B2. We next analyze whether, and to what extent, these differences are due to factors other than legalization.

The estimates using Model 2 in Table B2 indicate that differences in the demographic composition between the three legalization groups are not major factors in 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, results largely because they have been in the United States for a longer time.[3] 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 does not greatly change the estimated occupational earnings growth differences from the ones shown for Model 3.

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 worked in equally well paid occupations after receiving their green cards.[4] This holds for both men and women and suggests that legalization opened the door to job opportunities that 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 find no 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 the earnings of their observationally similar continuously legal counterparts.

Our empirical results point toward years in the United States as a major determinant in explaining occupational earnings growth differences between unauthorized workers and continuously legal immigrants. However, as Table 1 indicates, few of the workers in the latter group have been in the United States for a very long time, the average years since first U.S. job is less than 3 years, compared to 11 years for crossers. This is

[3] Note that all post-LPR status interviews took place within a few months; as a result, 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 United States.

[4] We fail to reject the hypotheses of equal earnings between observationally similar overstayers and continuously legal immigrants in post-LPR status earnings regression model; these results are not shown but are available from the authors on request.

not surprising, since temporary work visas, such as H1B, are issued for three years (renewable once for a total of six years). Given the limitations on how long continuously legal workers can work legally in the United States without adjusting their status to LPR, we estimated the occupational earnings models for the subsample of immigrants who have spent no more than five years in the United States since their first U.S. job. The results, shown in Table B3, 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.

Results Exploring the Role of Skills

Why do overstayers benefit from legalization whereas crossers do not? Table 1 reveals that these two groups differ in terms of skills. Over 60 percent of crossers have less than a high school diploma, but the same is true for a much smaller share of overstayers, 23 percent. Also, over 30 percent of overstayers report excellent English language ability, but only 14 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 effect 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 B4, 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 United States with no more than a high school diploma, experienced no greater occupational mobility than observationally similar legal workers. These results suggest that the finding that overstayers benefitted from receiving legal status but crossers did not is driven by the relatively higher levels of skill and education of overstayers.

Many unauthorized immigrants are low-skill and work in low-skill jobs, as can be seen in Table 3. It is possible, of course, that it is the lack of legal rights to work in the United States that limits these workers to low-skill occupations. Table 3 also reveals that a higher proportion of unauthorized workers than continuously legal immigrants leave their pre-LPR occupation. An alternative way to determine the job benefits of receiving LPR status is to restrict the analysis to immigrants who were observed in low-skill occupations in the pre-LPR period.

We hypothesize that if unauthorized status limits some workers to low-skill occupations, we would expect to see a higher proportion of them moving to occupations with higher earnings once they receive LPR status. To test this, we analyze the occupational mobility of a subset of our occupational earnings sample: immigrants who reported working in specific low-skill 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 diploma, and that are among the most common low-skill occupations for unauthorized workers. These restrictions yield the following low-skill occupations: maids and housekeepers, 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 subsample of immigrants working in low-skill occupations in the pre-LPR period, shown in Table B5, show that more previously unauthorized immigrants moved up to better-paying jobs 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 more unauthorized immigrants moved to 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 who benefitted from receiving a green card were not limited to these common low-skill 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 and we do not. Also, the results imply that the greater occupational mobility that we observe in Table 3 among unauthorized immigrants in low-skill occupations is generally 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 Reported Wages

In the analyses below, we apply the same model specifications as used in our analyses of occupation-specific earnings to the self-reported hourly wages.

As with our occupational median earnings measure, we observe substantially lower wages among unauthorized workers than among continuously legal workers. Model 1 in Table B6 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 wage 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 such demographic characteristics 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 wages among unauthorized workers. In fact, these factors alone explain the lower wages among overstayers, relative to continuously legal workers.[5] Furthermore, once we add country of origin and year of arrival fixed effects, we find no pre-LPR wage penalty among crossers.

We next explore whether receiving legal status allowed greater wage growth among unauthorized workers. Given that we do not find a pre-LPR wage penalty for unauthorized workers, it would be surprising 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; the results are presented in Table B7. Hourly wages increased substantially more between the pre- and post-LPR periods among unauthorized workers than among 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 United States by previously unauthorized workers.

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

Above, we tested the hypothesis that if unauthorized workers were restricted to low-skill occupations in their first job in the United States, we would expect that they were more likely to move to better paid occupations after receiving a green card than were observationally similar continuously legal immigrants in the same pre-LPR low-skill occupations. Although we found no support for this notion, it is possible that there was greater upward mobility within occupations among previously unauthorized workers. That is, some of these workers may not change their occupation but, on receiving a green card, they obtain a better paid position in the same occupation (for example, going from a nonunionized to a unionized janitorial job). Our occupational earnings analysis would fail to reveal such a pattern. To address this concern, we reestimate the models in Table B5 using the reported post-LPR wages instead of the post-LPR occupational annual earnings. Using this outcome measure addresses the concern of intra-occupational improvements in wages. The results from this sensitivity analysis are shown in Table B8 and also provide no evidence of higher post-LPR wages among previously unauthorized low-skilled occupation workers than among 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 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.[6] 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 higher-skilled 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 the key model specification using the median annual occupational earnings measure, but limited the analysis to the smaller wage sample. The results, presented in Table B9, 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 key conclusions that the there are no labor market benefits of obtaining legal status for crossers, or low-skill previously unauthorized immigrant workers in general, do not depend

[6] 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.

on the outcome measure used. Overall, the broad sensitivity analyses we provide strongly suggest that our results are robust.

Human Capital Investment Results

Although we find that the occupational earnings and wages of most unauthorized immigrants do not increase in response to receiving legal status, it is possible that this is due to greater post-LPR investments in U.S.-specific human capital (i.e., enrollment at the time of the post-LPR interview) among the previously unauthorized immigrants than among their continuously legal counterparts. From a slightly different perspective, it may be that an important benefit of legal status is the increased access to U.S. schooling. We next explore this possibility.

We observe that although overstayers are slightly less likely than continuously legal immigrants to be enrolled in an English language course in the post-LPR period, they are more likely to be enrolled in formal education. Crossers, on the other hand, are the least likely to be enrolled in either form of education among the three legal status groups. We next turn to a regression analysis using logit probability models to explore whether, once the factors used in our earnings analysis are taken into account, differences across groups in human capital investments remain. The marginal effects from the estimated logit models are presented in Table B10.

We find no evidence that previously unauthorized immigrants are more likely to invest in human capital after receiving a green card than are observationally similar continuously legal immigrants. The estimates indicate that the most-skilled immigrants are also the ones most likely to continue their investment in schooling in the United States. This is consistent with previous research based on representative data for the entire immigrant population in the United States (Betts and Lofstrom, 2000). Given the low schooling levels of most unauthorized immigrants, it is hence not surprising to find that receiving legal status does not appreciably increase the human capital levels of unauthorized workers.

TABLE B1
OLS regression results, log of occupational annual earnings, pre-LPR status period

	Model specification				
Variable	**1**	**2**	**3**	**4**	**5**
Overstayer at pre-LPR job	–0.134	–0.108	–0.181	–0.138	–0.107
	(2.48)	(2.41)	(3.93)	(3.81)	(3.10)
Crosser at pre-LPR job	–0.370	–0.173	–0.219	–0.175	–0.122
	(4.47)	(3.36)	(4.35)	(4.48)	(3.43)
Female*overstayer	0.024	0.026	0.029	0.046	0.035
	(0.43)	(0.52)	(0.60)	(1.04)	(0.88)
Female*crosser	0.048	0.049	0.038	0.050	0.038
	(0.62)	(0.77)	(0.60)	(0.84)	(0.70)
Female	–0.410	–0.261	–0.300	–0.330	–0.339
	(5.13)	(3.92)	(4.47)	(5.23)	(5.54)
Age		0.019	0.022	0.022	0.018
		(3.55)	(4.04)	(3.89)	(3.85)
$Age^2/100$		–0.029	–0.029	–0.032	–0.026
		(3.84)	(3.68)	(4.00)	(4.14)
Married		0.148	0.109	0.064	0.033
		(3.43)	(3.15)	(2.30)	(1.09)
Number of children		–0.007	–0.012	–0.011	–0.010
		(0.60)	(1.06)	(0.96)	(0.96)
Female*married		–0.117	–0.087	–0.081	–0.044
		(1.89)	(1.40)	(1.49)	(1.02)
Married*number of children		–0.017	–0.012	–0.005	–0.002
		(1.28)	(0.93)	(0.43)	(0.17)
Female*number of children		–0.014	–0.019	–0.014	–0.008
		–1.040	–1.410	–1.100	–0.700
Female*married*number of children		0.017	0.018	0.015	0.009
		(0.89)	(0.91)	(0.81)	(0.53)
Years of education before migration		0.034	0.030	0.023	0.018
		(5.32)	(6.05)	(5.88)	(5.10)
Female*years of education before migration		–0.005	–0.002	–0.002	–0.003
		(0.66)	(0.32)	(0.37)	(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
					(2.88)

TABLE B1 *(continued)*

	Model specification				
Variable	**1**	**2**	**3**	**4**	**5**
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 for:					
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 B2
OLS regression results, change in log of occupational annual earnings, pre- to post-LPR status periods

	Model specification				
Variable	**1**	**2**	**3**	**4**	**5**
Overstayer at pre-LPR job	0.125	0.113	0.068	0.072	0.064
	(5.52)	(5.14)	(3.05)	(3.18)	(2.85)
Crosser at pre-LPR job	0.132	0.120	–0.008	–0.009	–0.017
	(4.47)	(4.04)	(0.24)	(0.28)	(0.49)
Female*overstayer	–0.069	–0.058	–0.051	–0.056	–0.056
	(2.03)	(1.77)	(1.60)	(1.78)	(1.77)
Female*crosser	–0.096	–0.073	–0.056	–0.059	–0.055
	(2.29)	(1.82)	(1.33)	(1.38)	(1.28)
Female	0.019	0.048	0.042	0.048	0.052
	(0.82)	(0.86)	(0.76)	(0.85)	(0.92)
Age		0.012	–0.003	–0.004	–0.003
		(2.39)	(0.70)	(0.79)	(0.61)
Age²/100		–0.015	0.001	0.002	0.001
		(2.45)	(0.12)	(0.30)	(0.17)
Married		0.015	0.016	0.029	0.013
		(0.57)	(0.68)	(1.23)	(0.54)
Number of children		0.015	0.013	0.011	0.008
		(1.56)	(1.48)	(1.16)	(0.81)
Female*married		–0.042	–0.029	–0.027	–0.031
		(1.14)	(0.81)	(0.73)	(0.83)
Married*number of children		–0.005	–0.005	–0.005	–0.001
		(0.45)	(0.44)	(0.43)	(0.05)
Female*number of children		–0.010	–0.009	–0.009	–0.009
		(0.80)	(0.77)	(0.76)	(0.75)
Female*married*number of children		–0.001	0.003	0.001	0.002
		(0.09)	(0.20)	(0.09)	(0.12)
Years of education before migration		0.003	0.007	0.008	0.009
		(1.16)	(2.22)	(2.64)	(2.69)
Years of education in the U.S.		0.030	0.025	0.026	0.026
		(4.21)	(3.77)	(4.17)	(4.22)
Excellent English		0.004	–0.034	–0.046	–0.046
		(0.12)	(1.03)	(1.35)	(1.32)
Very good English		–0.014	–0.024	–0.027	–0.025
		(0.39)	(0.70)	(0.74)	(0.70)
Good English		0.074	0.047	0.041	0.041
		(2.91)	(1.82)	(1.65)	(1.65)
Female*years of education before migration		0.001	0.001	0.000	0.000
		(0.38)	(0.17)	(0.06)	(0.02)
Female*years of education in the U.S.		0.001	–0.001	–0.002	–0.002
		(0.10)	(0.06)	(0.18)	(0.24)
Female*excellent English		0.044	0.067	0.074	0.072
		(0.78)	(1.23)	(1.39)	(1.37)
Female*very good English		0.117	0.107	0.103	0.102
		(1.80)	(1.78)	(1.68)	(1.70)
Female*good English		–0.073	–0.049	–0.042	–0.045
		(2.03)	(1.40)	(1.21)	(1.28)

TABLE B2 *(continued)*

	Model specification				
Variable	**1**	**2**	**3**	**4**	**5**
Duration of pre-LPR job		0.003	–0.007	–0.007	–0.007
		(1.64)	(2.86)	(2.86)	(2.72)
Interval between LPR and interview		0.001	0.001	0.001	0.001
		(0.44)	(0.47)	(0.45)	(0.17)
Class of admission:					
Minor child of U.S. citizen					–0.075
					(1.65)
Parent of U.S. citizen					–0.001
					(0.03)
Adult Child of U.S. citizen					0.007
					(0.12)
Spouse of LPR					–0.062
					(1.70)
Sibling of U.S. citizen					–0.017
					(0.53)
Employment preferences					–0.081
					(2.12)
Diversity lottery					–0.050
					(1.74)
Refugee/Asylee/Parolee					–0.041
					(1.08)
Legalization					–0.005
					(0.12)
Other					–0.008
					(0.28)
Helped by a relative to get current job					–0.015
					(0.85)
Current employer is a relative					–0.020
					(0.70)
Includes fixed effects for:					
State	No	Yes	Yes	Yes	Yes
Year of arrival	No	No	Yes	Yes	Yes
Country of origin	No	No	No	Yes	Yes
R-squared	0.018	0.067	0.119	0.131	0.136
Number of observations			4,486		

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

TABLE B3
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 United States no more than five years

	Time period and model specification			
	Pre-LPR		Pre- to post-LPR	
Variable	1	5	1	5
Overstayer at pre-LPR job	0.007	–0.053	0.104	0.082
	(0.14)	(1.22)	(4.09)	(3.26)
Crosser at pre-LPR job	–0.164	–0.087	0.029	–0.019
	(2.35)	(1.66)	(0.90)	(0.57)
Female*overstayer	–0.091	–0.033	–0.072	–0.066
	(1.62)	(0.69)	(1.99)	(1.82)
Female*crosser	0.005	0.037	–0.005	0.005
	(0.06)	(0.46)	(0.09)	(0.09)
Female	–0.362	–0.266	0.022	–0.016
	(4.96)	(3.17)	(1.08)	(0.29)
Age		0.013		0.001
		(1.83)		(0.21)
Age²/100		–0.020		–0.003
		(2.17)		(0.35)
Married		0.036		–0.013
		(1.14)		(0.52)
Number of children		–0.002		–0.021
		(0.10)		(2.03)
Female*married		–0.049		–0.013
		(0.90)		(0.33)
Married*number of children		–0.012		0.019
		(0.59)		(1.56)
Female*number of children		–0.016		0.006
		–0.820		(0.44)
Female*married*number of children		0.016		–0.004
		(0.64)		(0.23)
Years of education before migration		0.024		0.000
		(4.68)		(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 education before migration		–0.007		0.001
		(1.16)		(0.29)
Female*years of education in the U.S.				0.002
				(0.18)
Female*excellent English				0.120
				(2.66)
Female*very good English				0.061
				(0.92)

TABLE B3 *(continued)*

	Time period and model specification			
	Pre-LPR		Pre- to post-LPR	
Variable	**1**	**5**	**1**	**5**
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
		(2.08)		(1.67)
Parent of U.S. citizen		0.042		0.062
		(0.62)		(1.21)
Adult child of U.S. citizen		–0.165		–0.018
		(2.42)		(0.32)
Spouse of LPR		–0.154		0.024
		(2.45)		(0.54)
Sibling of U.S. citizen		–0.088		–0.026
		(1.73)		(0.98)
Employment Preferences		0.433		–0.073
		(4.45)		(1.77)
Diversity lottery		–0.186		–0.042
		(5.05)		(1.41)
Refugee/Asylee/Parolee		–0.121		–0.065
		(2.14)		(1.62)
Legalization		–0.102		–0.081
		(0.92)		(0.98)
Other		–0.108		–0.014
		(2.56)		(0.55)
Helped by a relative to get current job		–0.047		0.010
		(1.99)		(0.54)
Current employer is a relative		0.067		–0.004
		(0.87)		(0.14)
Includes fixed effects for:				
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			

TABLE B4
OLS regression results, change in log of occupational annual earnings, pre- to post-LPR status periods, by schooling levels

	Model specification	
Variable	1	5
High school diploma	–0.001	–0.012
	(0.03)	(0.26)
Some college	0.038	–0.012
	(1.31)	(0.47)
College degree	–0.059	–0.048
	(1.97)	(1.67)
Overstayer at pre-LPR job	0.121	0.001
	(3.28)	(0.03)
High school diploma*overstayer at pre-LPR job	–0.058	0.022
	(0.92)	(0.40)
Some college*overstayer at pre-LPR job	0.001	0.071
	(0.02)	(1.50)
College degree*overstayer at pre-LPR job	0.038	0.124
	(0.63)	(2.42)
Crosser at pre-LPR job	0.102	–0.111
	(3.04)	(2.66)
High school diploma*crosser at pre-LPR job	–0.009	0.067
	(0.14)	(1.06)
Some college*crosser at pre-LPR job	0.053	0.148
	(0.82)	(2.34)
College degree*crosser at pre-LPR job	0.164	0.302
	(2.07)	(4.19)
Female	–0.013	0.007
	(0.32)	–0.140
Female*high school diploma	0.047	0.073
	(0.68)	(1.12)
Female*some college	0.022	0.038
	(0.43)	(0.96)
Female*college degree	0.051	0.074
	(1.00)	(1.49)
Female*overstayer at pre-LPR job	–0.076	–0.038
	(1.16)	(0.64)
Female*high school diploma*overstayer at pre-LPR job	0.095	0.035
	(0.98)	(0.39)
Female*some college*overstayer at pre-LPR job	–0.034	–0.053
	(0.34)	(0.63)
Female*college degree*overstayer at pre-LPR job	0.009	–0.019
	(0.10)	(0.21)
Female*crosser at pre-LPR job	–0.051	0.001
	(0.95)	(0.01)
Female*high school diploma*crosser at pre-LPR job	–0.039	–0.060
	(0.40)	(0.58)
Female*some college*crosser at pre-LPR job	–0.004	–0.029
	(0.04)	(0.27)
Female*college degree*crosser at pre-LPR job	–0.336	–0.325
	(1.72)	(1.75)

TABLE B4 *(continued)*

Variable	Model specification 1	5
Age		–0.002
		(0.28)
Age²/100		–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 education 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)
Employment preferences		–0.067
		(1.77)

TABLE B4 *(continued)*

Variable	Model specification 1	5
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 for:		
State	No	Yes
Year of arrival	No	Yes
Country of origin	No	Yes
R-squared	0.025	0.141
Number of observations	4,486	

NOTES: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations. Model specification number refers to the specifications in Tables B1 and B2.

TABLE B5
OLS regression results, change in log of occupational annual earnings, pre- to post-LPR status periods, and post-LPR period; pre-LPR low-skill occupation subsample

	Time period and model specification			
	Pre- to post-LPR		Post-LPR	
Variable	1	5	1	5
Overstayer at pre-LPR job	0.172	–0.061	0.147	–0.044
	(3.76)	(1.43)	(2.36)	(0.99)
Crosser at pre-LPR job	0.223	–0.015	0.132	–0.023
	(4.75)	(0.29)	(2.23)	(0.38)
Female*overstayer	–0.098	0.009	–0.104	–0.020
	(1.25)	(0.15)	(1.19)	(0.35)
Female*crosser	–0.151	–0.094	–0.105	–0.087
	(2.33)	(1.88)	(1.48)	(1.62)
Female	0.012	0.163	–0.361	–0.113
	(0.16)	(1.84)	(4.40)	(1.13)
Age		–0.013		–0.016
		(1.26)		(1.62)
$Age^2/100$		0.015		0.017
		(1.17)		(1.45)
Married		0.115		0.057
		(1.98)		(1.04)
Number of children		0.024		0.018
		(1.53)		(1.41)
Female*married		–0.145		–0.137
		(1.91)		(1.91)
Married*number of children		–0.026		–0.011
		(1.62)		(0.68)
Female*number of children		–0.022		–0.028
		–1.170		–1.810
Female*married*number of children		0.028		0.024
		(1.25)		(1.30)
Years of education before migration		0.019		0.023
		(4.18)		(4.33)
Years of education in the U.S.		0.031		0.032
		(2.52)		(2.93)
Excellent English		0.094		0.087
		(1.64)		(1.63)
Very good English		0.070		0.080
		(0.88)		(1.04)
Good English		0.025		0.016
		(0.78)		(0.44)
Female*years of education before migration		–0.009		–0.016
		(1.37)		(2.01)
Female*years of education in the U.S.		0.014		0.014
		(0.83)		(0.90)
Female*excellent English		0.092		0.076
		(1.01)		(0.80)
Female*very good English		0.149		0.186
		(0.81)		(1.11)
Female*good English		–0.023		–0.034
		(0.47)		(0.64)

TABLE B5 *(continued)*

	Time period and model specification			
	Pre- to post-LPR		Post-LPR	
Variable	**1**	**5**	**1**	**5**
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 for:				
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		

NOTES: The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations. Model specification number refers to the specifications in Tables B.1 and B.2.

TABLE B6
OLS regression results, log of hourly wages, pre-LPR status period

	Model specification				
Variable	**1**	**2**	**3**	**4**	**5**
Overstayer at pre-LPR job	–0.128	–0.056	–0.089	–0.048	–0.020
	(2.04)	(1.24)	(1.85)	(0.97)	(0.43)
Crosser at pre-LPR job	–0.543	–0.196	–0.115	–0.063	0.023
	(7.09)	(3.44)	(1.74)	(0.95)	(0.35)
Female*overstayer	0.023	0.003	0.021	0.056	0.058
	(0.25)	(0.04)	(0.29)	(0.77)	(0.82)
Female*crosser	0.014	–0.041	–0.067	–0.005	–0.039
	(0.13)	(0.47)	(0.78)	(0.06)	(0.46)
Female	–0.086	0.156	0.085	0.036	0.037
	(1.19)	(1.36)	(0.77)	(0.33)	(0.36)
Age		0.042	0.039	0.037	0.031
		(4.63)	(4.14)	(3.99)	(3.18)
$Age^2/100$		–0.053	–0.049	–0.049	–0.040
		(4.06)	(3.69)	(3.78)	(2.93)
Married		0.103	0.097	0.060	0.038
		(2.28)	(2.15)	(1.32)	(0.75)
Number of children		–0.012	0.005	0.010	0.021
		(0.29)	(0.11)	(0.23)	(0.51)
Female*married		–0.076	–0.083	–0.082	–0.028
		(0.98)	(1.10)	(1.12)	(0.39)
Married*number of children		–0.028	–0.030	–0.024	–0.024
		(0.65)	(0.69)	(0.55)	(0.56)
Female*number of children		–0.037	–0.040	–0.037	–0.030
		–0.800	–0.860	–0.790	–0.660
Female*married*number of children		0.034	0.030	0.026	0.013
		(0.68)	(0.61)	(0.52)	(0.28)
Years of education before migration		0.042	0.037	0.028	0.021
		(8.51)	(7.70)	(5.88)	(4.40)
Female*years of education before migration		–0.013	–0.007	–0.006	–0.008
		(1.65)	(0.90)	(0.82)	(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)
Refugee/Asylee/Parolee					–0.134
					(2.06)

TABLE B6 *(continued)*

	Model specification				
Variable	**1**	**2**	**3**	**4**	**5**
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 for:					
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 B7
OLS regression results, change in log of hourly wages, pre- to post-LPR status periods

	Model specification				
Variable	**1**	**2**	**3**	**4**	**5**
Overstayer at pre-LPR job	0.201	0.127	–0.066	–0.074	–0.068
	(3.69)	(2.41)	(1.38)	(1.55)	(1.40)
Crosser at pre-LPR job	0.521	0.424	–0.050	–0.070	–0.077
	(9.94)	(6.55)	(0.80)	(1.04)	(1.13)
Female*overstayer	–0.073	–0.008	0.025	0.020	0.014
	(0.90)	(0.10)	(0.35)	(0.29)	(0.20)
Female*crosser	–0.174	–0.123	–0.022	–0.045	–0.043
	(2.04)	(1.30)	(0.26)	(0.53)	(0.49)
Female	–0.050	–0.134	–0.146	–0.138	–0.143
	(1.53)	(0.96)	(1.14)	(1.07)	(1.12)
Age		0.036	–0.010	–0.009	–0.011
		(3.19)	(0.97)	(0.85)	(0.90)
Age²/100		–0.043	0.008	0.007	0.008
		(2.95)	(0.57)	(0.51)	(0.54)
Married		0.080	0.077	0.089	0.095
		(1.59)	(1.72)	(1.96)	(1.74)
Number of children		0.000	–0.009	–0.009	–0.011
		0.00	(0.20)	(0.19)	(0.25)
Female*married		–0.147	–0.082	–0.082	–0.082
		(1.90)	(1.19)	(1.20)	(1.19)
Married*number of children		0.006	0.004	0.000	0.001
		(0.11)	(0.09)	0.00	(0.03)
Female*number of children		0.028	0.008	0.004	0.003
		(0.52)	(0.18)	(0.09)	(0.06)
Female*married*number of children		–0.020	0.005	0.007	0.010
		(0.36)	(0.10)	(0.13)	(0.20)
Years of education before migration		–0.007	0.002	0.003	0.002
		(1.11)	(0.31)	(0.46)	(0.38)
Years of education in the U.S.		0.035	0.012	0.013	0.013
		(2.29)	(0.86)	(0.93)	(0.89)
Excellent English		0.177	0.026	0.017	0.015
		(2.82)	(0.50)	(0.31)	(0.27)
Very good English		0.086	0.058	0.065	0.061
		(0.98)	(0.73)	(0.83)	(0.79)
Good English		0.104	0.015	0.008	0.010
		(2.12)	(0.35)	(0.18)	(0.22)
Female*years of education before migration		0.014	0.009	0.009	0.009
		(1.41)	(0.99)	(0.98)	(1.05)
Female*years of education in the U.S.		0.007	–0.001	0.000	0.001
		(0.33)	(0.08)	(0.02)	(0.05)
Female*excellent English		–0.051	0.018	0.018	0.017
		(0.53)	(0.21)	(0.22)	(0.21)
Female*very good English		0.138	0.110	0.081	0.083
		(0.99)	(0.93)	(0.68)	(0.71)
Female*good English		–0.077	0.022	0.031	0.025
		(1.04)	(0.34)	(0.48)	(0.38)

TABLE B7 *(continued)*

	Model specification				
Variable	**1**	**2**	**3**	**4**	**5**
Duration of pre-LPR job		0.016	–0.029	–0.028	–0.028
		(2.42)	(3.94)	(3.91)	(3.88)
Interval between LPR and interview		0.005	0.008	0.007	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 for:					
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.

TABLE B8
OLS regression results, change in log of hourly wages, pre-to-post LPR status periods, and post-LPR period; pre-LPR low-skill occupation subsample

	Time period and model specification			
	Pre- to post-LPR		Post-LPR	
Variable	1	5	1	5
Overstayer at pre-LPR job	0.353	–0.143	0.283	–0.036
	(3.04)	(1.13)	(3.14)	(0.51)
Crosser at pre-LPR job	0.639	–0.257	0.309	–0.016
	(5.61)	(1.36)	(3.64)	(0.17)
Female*overstayer	0.139	0.228	–0.044	0.012
	(0.75)	(1.45)	(0.34)	(0.13)
Female*crosser	–0.077	0.016	–0.214	–0.084
	(0.54)	(0.10)	(2.13)	(0.74)
Female	–0.143	–0.327	–0.130	–0.314
	(1.19)	(1.10)	(1.41)	(1.72)
Age		–0.007		0.008
		(0.25)		(0.50)
Age²/100		0.001		–0.014
		(0.03)		(0.67)
Married		–0.026		0.120
		(0.21)		(1.70)
Number of children		0.040		0.024
		(0.73)		(0.70)
Female*married		0.156		–0.014
		(0.78)		(0.17)
Married*number of children		–0.061		–0.033
		(0.91)		(0.88)
Female*number of children		–0.017		–0.003
		–0.240		–0.080
Female*married*number of children		0.012		0.011
		(0.12)		(0.23)
Years of education before migration		0.012		0.010
		(0.77)		(1.05)
Years of education in the U.S.		–0.006		0.001
		(0.20)		(0.05)
Excellent English		0.113		0.236
		(0.51)		(2.18)
Very good English		0.245		–0.033
		(0.74)		(0.43)
Good English		0.095		0.128
		(0.76)		(2.02)
Female*years of education before migration		0.009		0.014
		(0.42)		(1.19)
Female*years of education in the U.S.		–0.004		0.057
		(0.07)		(2.56)
Female*excellent English		–0.017		–0.161
		(0.07)		(1.16)
Female*very good English		0.151		0.351
		(0.35)		(1.52)

TABLE B8 *(continued)*

	Time period and model specification			
	Pre- to post-LPR		Post-LPR	
Variable	**1**	**5**	**1**	**5**
Female*good English		–0.021		–0.134
		(0.12)		(1.33)
Duration of pre-LPR job		–0.021		0.002
		(1.71)		(0.30)
Interval between LPR and interview		0.008		–0.001
		(0.57)		(0.12)
Class of admission:				
Minor child of U.S. citizen		–0.047		–0.147
		(0.19)		(0.97)
Parent of U.S. citizen		0.350		0.230
		(1.77)		(1.28)
Adult child of U.S. citizen		–0.158		–0.060
		(0.46)		(0.37)
Spouse of LPR		–0.129		–0.272
		(0.43)		(2.06)
Sibling of U.S. citizen		–0.182		–0.101
		(1.16)		(0.83)
Employment preferences		–0.068		0.021
		(0.60)		(0.21)
Diversity lottery		–0.169		–0.158
		(1.02)		(1.59)
Refugee/Asylee/Parolee		–0.151		–0.068
		(0.68)		(0.73)
Legalization		0.291		–0.047
		(1.60)		(0.52)
Other		–0.064		–0.012
		(0.41)		(0.14)
Helped by a relative to get current job		–0.016		–0.042
		(0.22)		(1.01)
Current employer is a relative		0.196		–0.033
		(1.36)		(0.30)
Includes fixed effects for:				
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			

TABLE B9
Sample sensitivity analysis, OLS regression results, utilizing occupational annual earnings for the NIS wage subsample

	Time period and model specification			
	Pre-LPR		Pre- to post-LPR	
Variable	**1**	**5**	**1**	**5**
Overstayer at pre-LPR job	–0.160	–0.145	0.186	0.100
	(2.95)	(3.81)	(6.21)	(3.49)
Crosser at pre-LPR job	–0.371	–0.141	0.141	–0.015
	(4.35)	(3.17)	(4.29)	(0.38)
Female*overstayer	0.020	0.070	–0.079	–0.071
	(0.26)	(1.23)	(1.86)	(1.74)
Female*crosser	0.005	0.030	–0.024	0.016
	(0.05)	(0.45)	(0.46)	(0.31)
Female	–0.379	–0.388	0.024	0.067
	(4.41)	(5.68)	(0.97)	(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 for :				
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			

NOTES: Model specification number refers to the specifications in Tables B5 and B6. The t-statistics, shown in parentheses, are calculated based on standard errors clustered around occupations.

TABLE B10
Logit model regression results, probability of English-language course or school enrollment, post-LPR period, marginal effects

Variable	School enrollment	English-language course enrollment	Combined school/course enrollment	Combined enrollment for those not employed at interview
Overstayer at pre-LPR job	0.006	0.014	0.016	–0.130
	(0.49)	(0.81)	(0.69)	(1.44)
Crosser at pre-LPR job	0.012	0.004	0.019	–0.194
	(0.84)	(0.16)	(0.63)	(1.76)
Female*overstayer	–0.012	–0.033	–0.037	0.071
	(1.01)	(2.00)	(1.39)	(0.50)
Female*crosser	–0.015	0.026	0.012	0.233
	(1.04)	(0.86)	(0.31)	(1.29)
Female	0.036	0.039	0.078	–0.126
	(1.10)	(0.98)	(1.32)	(0.55)
Age	–0.005	0.002	–0.006	–0.004
	(2.07)	(0.54)	(1.11)	(0.20)
Age²/100	0.005	–0.002	0.006	0.008
	(1.57)	(0.39)	(1.00)	(0.38)
Married	–0.029	–0.010	–0.064	–0.106
	(1.87)	(0.52)	(2.24)	(0.78)
Number of children	–0.016	–0.025	–0.058	–0.077
	(1.08)	(1.56)	(2.25)	(0.71)
Female*married	0.002	–0.010	–0.011	0.090
	(0.11)	(0.45)	(0.33)	(0.68)
Married*number of children	0.015	0.015	0.049	0.049
	(1.03)	(0.89)	(1.85)	(0.46)
Female*number of children	0.010	0.009	0.034	0.047
	(0.63)	(0.56)	(1.21)	(0.41)
Female*married*number of children	–0.007	–0.004	–0.025	–0.043
	(0.44)	(0.20)	(0.87)	(0.38)
Years of education before migration	0.007	0.006	0.013	0.006
	(4.49)	(3.32)	(4.58)	(0.46)
Years of education in the U.S.	0.012	0.006	0.026	0.039
	(5.90)	(1.64)	(6.04)	(2.43)
Excellent English	0.022	–0.096	–0.077	–0.079
	(1.15)	(5.91)	(2.99)	(0.63)
Very good English	0.000	–0.011	–0.018	–0.105
	(0.02)	(0.52)	(0.57)	(1.25)
Good English	0.025	–0.024	–0.014	0.097
	(1.64)	(1.58)	(0.60)	(0.86)
Female*years of education before migration	–0.002	0.001	0.000	0.009
	(1.07)	(0.20)	(0.09)	(0.66)
Female*years of education in the U.S.	–0.003	–0.008	–0.006	–0.008
	(1.24)	(1.42)	(0.96)	(0.40)
Female*excellent English	0.027	–0.005	–0.005	–0.063
	(0.88)	(0.15)	(0.11)	(0.44)

TABLE B10 *(continued)*

Variable	School enrollment	English-language course enrollment	Combined school/course enrollment	Combined enrollment for those not employed at interview
Female*very good English	0.007	–0.022	–0.027	–0.003
	(0.29)	(0.76)	(0.63)	(0.02)
Female*good English	0.011	0.006	–0.015	–0.155
	(0.46)	(0.27)	(0.46)	(1.62)
Duration of pre-LPR job	–0.003	–0.007	–0.012	–0.028
	(2.38)	(3.31)	(4.15)	(2.60)
Interval between LPR and interview	0.000	0.002	0.004	0.007
	(0.29)	(0.76)	(1.39)	(0.68)
Class of admission:				
Minor child of U.S. citizen	0.008	0.102	0.051	0.279
	(0.37)	(1.73)	(0.93)	(1.02)
Parent of U.S. citizen	0.002	–0.021	–0.031	–0.163
	(0.06)	(0.83)	(0.72)	(3.30)
Adult child of U.S. citizen	0.005	0.088	0.058	–0.103
	(0.23)	(1.48)	(1.07)	(1.19)
Spouse of LPR	0.029	–0.025	–0.013	0.078
	(0.83)	(1.07)	(0.30)	(0.75)
Sibling of U.S. citizen	–0.026	0.005	0.013	–0.183
	(1.74)	(0.23)	(0.35)	(5.27)
Employment preferences	–0.023	–0.063	–0.088	–0.126
	(2.89)	(5.82)	(5.46)	(2.53)
Diversity lottery	–0.035	–0.007	–0.052	–0.003
	(5.65)	(0.43)	(2.69)	(0.03)
Refugee/Asylee/Parolee	0.014	–0.005	0.006	0.005
	(0.95)	(0.30)	(0.23)	(0.06)
Legalization	–0.002	–0.023	–0.038	–0.088
	(0.10)	(0.95)	(1.11)	(1.09)
Other	–0.025	–0.021	–0.047	–0.074
	(2.84)	(1.44)	(2.24)	(1.04)
Includes fixed effects for:				
State	Yes	Yes	Yes	Yes
Year of arrival	Yes	Yes	Yes	Yes
Country of origin	Yes	Yes	Yes	Yes
Log likelihood	–1,230	–1,566	–2,067	–265
Number of observations		4,742		576

NOTE: z-statistics are shown in parentheses.

Appendix C. Comparisons of Unauthorized Immigrant Samples

Our results suggest modest gains in earnings for immigrants who legalize after periods of visa term violation and no statistically significant gains for those who were former crossers. These results cannot be expected to be the same for currently unauthorized immigrants residing in the United States unless the two groups are similar and the labor market conditions under which they legalize are similar. It is difficult to compare unauthorized immigrants found in the 2003 NIS to unauthorized immigrants in general because no data source for the United States as a whole asks immigrants about their legal status. Instead, we rely here on estimates of unauthorized immigrants from the Current Population Survey (CPS), a monthly survey of U.S. households. The CPS gathers information about place of birth, year of arrival, and citizenship, and this information is used in a residual method to estimate the size and composition of the population of unauthorized immigrants residing in the United States (see Passel and Cohn, 2009, for more details).

In our comparisons of unauthorized immigrants in the NIS data and in the 2003 and 2004 CPS data (Passel, 2009), we divide NIS unauthorized immigrants into crossers and overstayers (Table C1). We also present the combined group of unauthorized immigrants. According to the NIS estimates, about half of the unauthorized immigrants who became LPR holders in 2003 had been overstayers before gaining their green cards. Passel's CPS estimates suggest a somewhat similar share of overstayers (Passel, 2009). Our data span both years, so we present CPS estimates for both 2003 and 2004.

Estimates of the number of unauthorized immigrants from the CPS suggest that the general population of that group is younger than those who receive green cards. NIS unauthorized immigrants are also more likely to be female (overall, slightly more than half are compared to approximately 42 percent of those estimated in the CPS). This is reflected also in the family status estimates. We find that very few unauthorized immigrants in the NIS are single men without children (9%) compared to estimates in the CPS (26%). The share of single women without children is the same—approximately 8 percent. More NIS immigrants are couples. This is no doubt related to their ability to gain LPR status in the first place. Most formerly unauthorized immigrants in NIS data ultimately gained LPR status through family sponsorship (Hayes and Hill, 2008). In addition, Passel's estimation methods require that adults coupled with U.S. citizens or other legal adults also be counted as legal.

One of the most striking differences from the comparison is in the very different estimates of the proportion of unauthorized immigrants who come from Mexico. Overall, we find about one-third of NIS unauthorized immigrants are from Mexico, whereas more than 55 percent of CPS unauthorized immigrants are from there. However, a higher share in the NIS is from the rest of Latin America (39% versus 23% in the 2004 CPS estimates). NIS unauthorized immigrants are much more likely to come from Europe and Canada (10% versus 5%) and the residual category, Africa and Other (8% versus 2%), than are unauthorized immigrants estimated from the CPS. Many more NIS unauthorized immigrants arrived in the 1980s or earlier than are estimated to in the CPS. This is especially true for crossers, 44 percent of whom arrived then, compared to only 23 percent of those estimated in the CPS (in 2004). This is partially related to the estimation method; in Passel's calculations using the CPS data, any immigrant with an arrival date before 1980 is assumed to have legal status.

It is difficult to make direct comparisons between the two data sources based on educational attainment. As we see in the NIS, average levels of educational attainment differ considerably between the crosser and overstayer

groups. The CPS estimates suggest considerably higher levels of education for unauthorized immigrants as compared to the group of crossers in the NIS but considerably lower levels than are found for the overstayers.

Unauthorized immigrant women in the NIS appear to be somewhat more likely to work, especially those who are crossers, than are the unauthorized immigrants estimated from the CPS. Overall, according to the NIS data, crossers who work are distributed across occupations very similarly to those estimated from the CPS. Overstayers are more likely to be found working in sales and administrative jobs than are CPS unauthorized immigrants (23% versus 13%) as well as in management, business, and professional occupations (23% versus 9%).

CPS estimates suggest that unauthorized immigrants are slightly better educated than estimated in the NIS, on average, and that they work in the same occupations as the crossers estimated in the NIS. This may suggest that our estimates of wage and occupational growth using the NIS could slightly underestimate the advances that could be made by those gaining LPR status in the future.

TABLE C1
Characteristics of the unauthorized population estimated from the current population survey compared to those estimated from the new immigrant survey (all figures are percentages)

	CPS		NIS		
	2003	2004	Both unauthorized groups	Crossers	Overstayers
Gender (18+)					
Male	57	58	48	50	45
Female	43	42	52	50	55
Age (18+)					
18 to 39	72	72	64	67	61
40 and over	28	28	35	33	38
Country/Region (18+) (a)					
Mexico	55	58	33	43	19
Other Latin America	24	23	39	47	29
Asia	13	12	10	4	19
Europe and Canada	5	5	10	4	18
Africa and other	2	2	8	2	15
Arrival year (18+) (a)					
2000–2004	22	27	19	10	32
1995–1999	33	30	25	18	35
1990–1994	21	20	25	28	20
1980s	25	23	31	44	13
Family structure (18+)					
Single male	26	26	9	11	6

TABLE C1 *(continued)*

	CPS		NIS		
	2003	2004	Both unauthorized groups	Crossers	Overstayers
Single female	9	8	8	8	9
Couple with children	41	44	44	50	35
Couple without children	15	12	35	26	47
Others with children	8	8	0	0	0
Others without children	2	2	4	5	2
Educational attainment (25–64)					
Less than 9th grade	32	33	26	40	8
9th–12th grade	18	17	21	26	15
High school diploma	24	26	24	20	29
Some college	10	10	9	7	12
Bachelor's degree or higher	16	15	19	8	35
Labor force participation (adults 18–64)					
Men	93	92	96	96	96
Women	59	56	72	67	78
Occupation (all ages in labor force)					
Service	33	34	31	34	28
Sales and administrative support	13	13	18	15	23
Farming, etc.	3	4	2	3	0
Construction and extraction	15	17	11	14	6
Production, installation, and repair	18	16	16	19	11
Transportation and materials moving	9	8	9	10	7
Management, business, and professional	10	9	14	6	23

SOURCE: These unpublished tabulations were prepared by Jeffrey S. Passel, Pew Hispanic Center from the March CPS Supplements augmented with immigration status and adjusted for omissions from the survey.

NOTES: CPS data are weighted using "Vintage 2007" population estimates. See Passel and Cohn 2008 and 2009 for methods, assumptions, and weighting (http://pewhispanic.org/reports/report.php?ReportID=94 and http://pewhispanic.org/reports/report.php?ReportID=107).

(a) CPS estimates are based on CPS imputations; some of the published figures are based on "analytic" estimates.

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