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LEGAL STATUS AND EARNINGS OF AGRICULTURAL WORKERS

by

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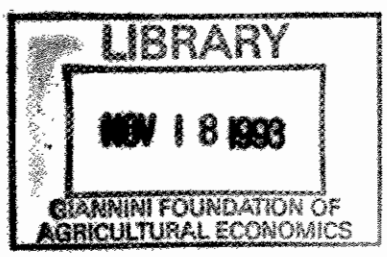

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Legal Status and Earnings of Agricultural Workers

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Contents

Legal Status and Earnings of Agricultural Workers

Using new survey data, we examine whether agricultural workers have wage, weekly hours, or weekly earnings differential by legal status. With the passage of the Immigration Reform and Control Act (IRCA) of 1986, a large number of undocumented agricultural workers were granted amnesty, which entitles them to remain in this country legally. Many farmers and others expected this change in status to have wide-ranging labor market effects including driving up wages of farm workers. Farm worker advocates argue that workers who are not in this country legally are exploited and paid substantially less than others.

Using the U. S. Department of Labor's National Agricultural Worker's Survey (NAWS), we estimate a system of equations for legal status, wages, and weekly hours taking into account possible sample selection bias.[1] Based on these estimates, we calculate the effect of legal status on wages, hours, and weekly earnings.

In our sample, individuals are divided into five categories: citizens born in the United States ("native citizens"), citizens born outside of the United States ("nonnative citizens"), individuals granted amnesty under IRCA, green card holders, and those who are unauthorized to be in this country. We refer to everyone other than native citizens as "nonnatives."

Methodology

A model of legal status, wages, and hours is estimated adjusting for possible sample selection bias.[2] The model has one legal status equation and four wage equations.

Whether individual i (= 1,. . . , N) has legal status j (= 0, 1, 2, 3, 4) depends on individual choice, laws, and chance. Native citizens (j = 4), 90 percent of all citizens in our sample, automatically are citizens, so they do not face a legal status choice. Nonnatives may

be unauthorized ($j = 0$), have amnesty under the IRCA program ($j = 1$), have a green card ($j = 2$), or have citizenship ($j = 3$). These categories are not ordered.

The legal status of workers born outside of the United States varies with that individual's demographic characteristics. The category depends on choices by workers that take into account the differences in costs and benefits of entering or being in a particular category and on laws that affect demographic groups differently. For example, eligibility for the amnesty program depended on how long one was in the United States and on farm work experience.

We use a multinomial logit model (Nerlove and Press, 1973; Schmidt and Strauss, 1975) to explain legal status as a function of individuals' demographic characteristics. Let J_i be the legal status selection variable for individual i, which takes on the values 0 through 3. Then the probability, P_{ij}, that individual i has legal status j is

$$P_{ij} \equiv \text{Prob}(J_i = j) = \frac{e^{\gamma_j' Z_i}}{1 + e^{\gamma_1' Z_i} + e^{\gamma_2' Z_i}}, \tag{1}$$

where γ_0 is normalized to be 0, and Z_i is a vector of exogenous characteristics of individual i. These characteristics include gender, knowledge of English, the individual's background (born in the United States, born in Mexico, entered the United States before age 13), race (white, black, and other), ethnicity (latino and other), education, age, experience in U. S. farmwork (necessary to qualify for amnesty), and the year of the interview.

The wage for worker i with legal status j is w_{ij}. That wage is only observed if individual i has legal status j. The weekly hours for that same worker are h_{ij}. We now drop the i subscript for notational simplicity.

Five wage equation are estimated, one for each legal status. If the error terms of the legal status and wage equations are correlated, estimating the wage equations using ordinary

least squares would result in a sample selection bias. As native citizens did not select their legal status there cannot be such a sample selection bias, so we estimate the native citizens' wage equation using ordinary least squares. For nonnatives, we use an extension of Heckman's two-step procedure due to Lee to obtain consistent estimates.

For nonnatives, we estimate an equation over the individuals who are in legal status j (= 0, 1, 2, or 3):

$$\ln w_j = X_j\beta_j + \sigma_j u_j \equiv X_j\beta_j + \lambda, \tag{2}$$

where σ_j is the standard deviation for the logistic distribution, X_j is a vector of exogenous individual characteristics (gender, education, education squared, age, age squared, experience, experience squared, knowledge of English, age at immigration, race, ethnicity, geographical region, year, and season); $E(u_j \mid X, Z) = 0$ and $E(\eta_j \mid X, Z) = 0$, where η_j are independent and identically Gumbel distributed error terms from the multinomial logit equation.

The wage equation is

$$\begin{aligned} \ln w_j &= \beta' X + \rho_j\sigma_j \frac{\phi\left(K_j(\gamma_j' Z)\right)}{\Phi\left(K_j(\gamma_j' Z)\right)} + \eta_j \\ &= \beta' X + \rho_j\sigma_j\lambda_j + \eta_j \\ &= \beta' X + \theta_j\lambda_j + \eta_j, \end{aligned} \tag{3}$$

where K_j is the inverse of the standard normal cumulative density function, Φ. The hours equations are estimated in the same manner.

Thus, there are several steps to estimating the natural logarithm of wages or weekly hours equations for those born outside of the United States. First, we estimate the multinomial logit by maximum likelihood. Next, we select all the individuals within a given legal

status j. For the individuals in this legal status, we calculate the predicted probability P_j using Equation (1), calculate $H_j = \Phi^{-1}(P_j)$, and then compute $\lambda_j = \phi(K_j)/\Phi(K_j)$, where ϕ is the normal density. We then estimate Equation (3) to obtain consistent estimates of β_j and θ_j by regressing ln w_j or h_j on X and λ_j. The formula for the asymptotic covariance matrix is given in Greene.

Survey

The National Agricultural Worker's Survey (NAWS) is a national, random sample of seasonal agricultural service (SAS) workers conducted three times a year in January, April and May, and October.[3] SAS workers are most field workers in perishable crops, including field tasks in fruit and vegetables, nursery crops, field crops, and cash grains.

The NAWS uses site-area sampling to obtain a national representative cross-section. First, 73 counties in 25 states from 12 distinct agricultural regions were selected. For each interviewing cycle, interviews are conducted in a subsample of 30 randomly selected counties using weights based on the size of the seasonal agricultural payroll in each county. The number of interviews within a cycle is in proportion to the amount of SAS activity at that time of year (Mines, Gabbard, and Boccalandro, 1991).

For the federal fiscal years 1989 through 1991, there were 4,718 interviews. We used the 3,989 observations for which we had data for all the relevant variables.

The means and standard deviations of these variables are shown in Table 1 by legal status and for the entire sample. In our sample, 18.4 percent are citizens, 16.6 percent are native citizens, 49.4 percent are in the amnesty group, 20.9 percent have green cards, and 11.3 percent are unauthorized.[4]

Women are approximately a third of all native citizens, nonnative citizens, and green card holders, but only about a sixth of the amnesty and unauthorized workers. Presumably

single males are more likely to be in this country illegally and hence were more likely to have qualified for amnesty.

Virtually no one in the nonnative groups are native English speakers. Indeed, 29 percent of the native citizens are not native English speakers. Nonetheless, the vast majority of native citizens (88 percent) and many nonnative citizens (43 percent) speak at least some English. In contrast, only a quarter of those with green cards, 11 percent of those in the amnesty group, and 6 percent of the unauthorized speak some English.

The unauthorized workers' average age is 26, roughly a decade younger than the average in the other groups. Consequently, the unauthorized average many fewer years of U. S. farmwork experience than those in the other groups. The average number of years of education are low for all groups (less than a high school education).

Most of the amnesty group were born in Mexico (92 percent), compared to 67 percent of nonnative citizens, 77 percent of those with green cards, and 80 percent of those who are unauthorized to be in the United States. Only 4 percent of the sample are blacks, and slightly more than half of those are native citizens. Approximately 2 percent of the sample are Asians.[5] Most of the sample are Latinos (86 percent). The residual geographic area is California. The residual year is 1989.

The unauthorized accounted for only 7.9 percent of total hours and 7.0 percent of total earnings in 1989. In 1990 (1991), these shares were 12.1 (14.3) and 11.2 (12.5). That is, their share of hours nearly doubled in our sample from 1989 to 1991.

Legal Status Multinomial Logit

Our first step is to estimate a multinomial logit for legal status for the nonnative-born agricultural workers. The estimates in Table 2 use the unauthorized workers as the base group.[6] Based on asymptotic t-tests (asymptotic standard errors are shown in parentheses in

the table) using a 0.05 criterion, females, English speakers, non-Latinos, individuals who entered the United States before they were 13 years old, and workers born outside of Mexico are statistically significantly more likely to have a green card than to be unauthorized, all else the same. Most of these factors also increased the probability one was a nonnative citizen rather than unauthorized. Non-Latinos, those who entered the United States before age 13, Mexican born, and whites are more likely to be in the amnesty group than to be in the unauthorized group.

Experience has a significant, nonlinear effect on legal status. The more experience up to 27 years, the more likely a worker is to be in the green card or nonnative citizen group rather than be unauthorized. The threshold for the amnesty group is 23 years. Extra experience beyond the threshold raises the probability of being unauthorized.

Because of the nonlinearity of the multinomial logit equations, the coefficients do not directly reveal the size of these effects. One way to describe the size of these effects is to ask how the probability of being in a particular legal status changes as we change one of the variables, evaluating the other variables at their sample means.

Females, with nonnative sample average characteristics, are 19 percent more likely to be green card holders than men, 20 percent less likely to be in the amnesty group, 2 percent more likely to be nonnative citizens, and (hence) 1 percent less likely to be unauthorized all else the same. Workers who speak at least some English are 15 percent more likely to have a green card than those who do not speak English, 15 percent less likely to be in the amnesty group, and 1 percent more likely to be a nonnative citizen. Latinos are 6 percent less likely to be nonnative citizens, 12 percent more likely to be in the amnesty group, 8 percent less likely to have a green card, and 2 percent more likely to be unauthorized. Those who entered the United States before they were 13 years old were 23 percent more likely to have a

green card, 21 percent less likely to be in the amnesty group, and 1 percent more likely to be a nonnative citizen than those who entered at an older age.

Whites are 3.4 percent more likely to be in the amnesty group, 2.5 percent less likely to have a green card, and 0.3 percent less likely to be a nonnative citizen than nonwhites. Mexican-born workers are 45 percent more likely to be in the amnesty group, 45 less likely to have a green card, and no difference in the probability of being a nonnative citizen. Compared to 1989, workers in 1990 (1991) were 3.9 (0.0) percent less likely to be in the amnesty group, 2.9 (-2.2) more likely to have a green card, and 1.0 (2.3) more likely to be unauthorized.

The equation predicts 69 percent of the nonnative workers' legal statuses correctly. It correctly predicts the legal status of 50 percent of the unauthorized; 90 percent of the amnesty workers; 34 percent of the green card holders; and 8 percent of nonnative citizens.

Wages and Weekly Hours Equations

The estimated coefficients for the wage and weekly hours equations are given in Tables 3 and 4. Based on asymptotic t-statistics using the 0.05 criterion (on the variable λ), we can reject the null-hypothesis of no sample selection for the amnesty wage equation, but not for the other wage and hours equations.

Caution should be shown in interpreting the nonnative citizen wage and hours equations because they are based on relatively few observations. Some demographic characteristics used in the other equations are not included for this group because they do not vary. Although we report the results for this group in Tables 3 and 4, we do not discuss them further.

Wage Equation

Most of the coefficients have the signs we would expect in our regression of the natural logarithm of wages on demographic characteristics. Wages statistically significantly differ by race, but not by gender or ethnicity based on asymptotic t-tests. Blacks earn statistically significantly lower wages in the native citizen and the amnesty equations, and whites in all equations except green card, than do workers in the residual group (Latinos not otherwise classified, Asians, native Americans, and others). For example, among native citizens, whites earn 6.9 percent less and blacks earn 9.0 percent less than do other others, all else the same. Latinos do not earn statistically significantly different wages than others in any equation. Females earn statistically significantly less in only the native citizen equation.

Mexican-born workers earn 17 percent more than other unauthorized workers and 8 percent less than other amnesty workers. Being able to speak at least some English does not have a statistically significant effect in any equation; however not being a native English speaker is associated with a higher wage in the amnesty equation.

There were substantial regional variations in wages. Compared to California workers, Florida and Texas workers get paid significantly less (in some cases, a third less). Wages of green card workers were higher in 1991 than in 1989; wages of other groups did not differ statistically significantly over time.

Age did not have a statistically significant effect on wages except for the unauthorized group where older workers were paid less. Education, as expected has no effect.

Experience has a statistically significant effect in all wage equations except for the unauthorized workers. For low levels of experience, extra experience raises the wage, though at a declining rate. Extra experience decreases the wage after 27 years for green card workers, after 50 years for native citizens, and after 100 years for amnesty workers (that is,

effectively, extra experience always increases the wage for these latter two groups). For example, compared to a native citizen with 5 years of experience, one with 10 years of experience earns a wage that is 4.3 percent higher, and one with 15 years of experience earns a wage that is 8.3 percent higher.

Weekly Hours Equations

Weekly hours vary substantially with demographics. Females work between 3.3 and 7.8 fewer hours per week than men across legal status categories. White native citizens work 4.2 fewer hours per week than the residual racial group. Latinos in the amnesty group worked 3.5 more hours than non-Latinos. There are some pronounced geographic hours differentials, with Californians working many more hours per week than in most areas of the country.

Hours work increases with age up until 40 for native citizens and 37 for green card holders, then decrease. A 20 year old green card holder works 3.3 fewer hours per week than one who is 35.

Unauthorized workers who speak some English work 8.2 more hours per week than those who do not speak any English. Knowledge of English does not have a substantial effect for other groups.

Tests of Equality

An alternative to estimating separate wage and hours equations for each legal status group is to estimate a single wage and a single hours equation with dummies for legal status. In this alternative specification, legal status only affects the intercepts and not the slope equations of the equations.

We conducted likelihood ratio tests for each possible combination of legal status groups for both the wage and hours equations for nonnatives. We tested whether the wage (or hours) slope coefficients between each pairs of groups were identical, whether they were identical for each combination of three groups, and whether they were identical for all four groups. The equality restrictions on the slope coefficients were rejected in all but one case (wages of the unauthorized, native citizens, and green card holders). We therefore conclude that it is appropriate to estimate separate wage and hours equations for each group.

Simulations

The estimated equations show that wages and hours differ substantially by demographic group and region. These wage and hours differences result in earnings differentials.[7] In our comparisons, earnings are evaluated at the mean values of the unauthorized workers.[8]

Wages

Holding all else constant, workers with legal status earn more per hour in all demographic groups than unauthorized workers. Evaluated at the mean, native citizens earn 2 percent more than unauthorized workers, those in the amnesty group 20 percent more, and those with green cards 16 percent more.

Females earn slightly less than males in all categories except green card. Whites earn less than the residual racial group regardless of legal status, and blacks earn less than the residual racial group except for the green card category. The ability to speak English raises the wage slightly for all categories except the unauthorized and amnesty groups.

Unauthorized Mexican-born workers earn about 17 percent more per hour than those who were not born in Mexico. Mexican-born workers earn slightly less in the other groups, however.

Suppose the unauthorized workers in the sample had received amnesty, their wages would have been 31 percent higher on average. Had they had green card status (citizenship), their wages would have been 78 (58) percent higher.

Weekly Hours

Weekly hours do not vary as much as wages, either across legal categories or by characteristics. Females average 85 percent as many hours as men. Among those who speak English, the unauthorized work at least 17 percent more hours. Unauthorized workers who do not speak English work about 8 percent fewer hours than those in other legal categories.

Had the unauthorized workers in the sample received amnesty, they would have worked 4 percent more hours a week on average. If they had a green card they would have worked 26 percent more hours a week. If they were citizens, however, they would have worked 4 percent fewer hours.

Weekly Earnings

The unauthorized with average characteristics earn 9 percent less per week than native citizens, 22 percent less than those in the amnesty group, and 27 percent less than green card holders. Because women tend to earn lower wages and work fewer hours than men, their expected earnings are between 78 and 83 percent of men's across all legal categories. The earnings differential for females with average characteristics is smallest among the citizen and amnesty groups. Latinos earn less than non-Latinos in all categories except

for green card. The earnings differential between unauthorized and other workers grows with experience.

In the first row of Table 5, weekly earnings differentials are calculated for a worker with the characteristics equal to the average across the unauthorized workers in the sample (Table 1). A worker with these characteristics who has a green card earns 21 percent more than an unauthorized worker.

Wage differentials alone account for a 13 percent differential in total earnings.[9] That is, nearly two-thirds of the total earnings differential for green card workers is due to wage differentials. Of the total earnings differential between a worker with amnesty and an undocumented worker, nearly 90 percent is due to the wage effect. The wage effect, however, only explains a little over a third of the total earnings differential for citizens relative to unauthorized workers.

The second (third) row of the table is the same as the first row, except the earnings are evaluated for females (males) with the characteristics of the typical unauthorized worker. The differentials are roughly the same for males and females.

A worker with more experience (5 years instead of 3.3 for the average unauthorized worker) has a substantially larger earnings differential from legal status. For example, the earnings differential over an unauthorized worker is 29 percent for green card holders with 5 years of experience and only 21 percent with 3.3 years of experience.

Blacks have large earnings differential from legal status; however, there are relatively few blacks in the unauthorized group. White workers have virtually the same differentials as other nonblacks.

Workers who speak some English do not have substantially higher overall earnings with legal status. The reason, however, is that unauthorized workers who speak some

English work more hours than those who do not speak English. Thus, for example, a worker in the amnesty program would have 22 percent higher earnings than a comparable unauthorized worker due to the wage effects alone; however, the hours effect is negative, so that the total earnings differential is only 7 percent.

If the unauthorized workers were in the amnesty program, they would have earned 32 percent more per week on average. If they had green cards (were citizens) they would have average 78 (50) percent more.

Conclusions

Legal status matters. Agricultural workers who are in the United States legally earn substantially more per hour and per week than those who are unauthorized. For our sample in 1991, if only documented workers were hired and the same total number of workers were hired, total earnings would rise by 15 percent. This differential reflects both the earnings differential and the different demographic characteristics of the work force: unauthorized workers are younger and less experienced than others.

With the exception of workers who have amnesty under IRCA, there is no evidence that there would be sample selection bias if ordinary least squares were used to estimate the wage and hours equations. The effect of demographic characteristics on wages and hours varies substantially by legal status. Estimating equations with only additive dummies for legal status would lead to bias.

For most demographic groups, the differential in weekly earnings from legal status is due more to wage differentials than hours differentials. Weekly earnings differentials increase substantially with experience. Race, ethnicity, and country of origin have relatively little impact on earnings or earnings differentials. Agricultural workers with green cards have the highest weekly earnings across all demographic groups.

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Footnotes

[1] Average hourly earnings are calculated for piece-rate workers. Reported hourly wages are used for wage earners. We use the term *wage* to include both average hourly piece rate earnings and actual wages.

[2] This presentation follows those of Lee and Greene.

[3] Employer names are obtained from the Bureau of Labor Statistics, the Agricultural Soil and Conservation Service, and Farm Labor Contractor Registration lists, as well as form other sources. NAWS Regional Coordinators contact randomly selected employers, explain the purpose of the survey, and obtain access to the work site to schedule worker interviews. Workers are then selected randomly and interviewed outside of work hours at the worker's home of at another location selected by the worker.

[4] These classifications are reported by the survey respondents. A series of questions were used to check for obvious inaccuracies. Some of these individuals may have forged documents (such as green cards). If employers view these documents as reliable, however, a forged document and a legitimate document may have the same effect on wages.

[5] Asian and many other racial and demographic groups are implicitly lumped together in the residual category. An Asian dummy variable was not included because there are no Asians in two of the legal status categories.

[6] We also estimated a multinomial logit model for only the three noncitizen categories. The multinomial logit and the various wage and hours equations were virtually identical to those reported here.

[7] In the following, earnings are calculated adjusting for the loglinearity of the wage equation and for sample selection (see Perloff and Sickles, 1987).

[8] Because unauthorized workers are much younger than others, were we to evaluate at the overall sample mean, we would be calculating values for very unusual unauthorized workers. Evaluating at the overall sample mean, we find substantially larger differentials of all groups relative to the unauthorized.

[9] The earnings differential, ΔE, approximately equals $H\Delta w + w\Delta H \equiv \Delta\tilde{E}$. The change in earnings due to wages reported in the table is $H\Delta w$ times an adjustment factor, $\Delta E/\Delta\tilde{E}$, which insures that the change due to wages plus the change due to hours add to the total earnings differential.

Table 1: Means of Variables

	Native Citizen	*Amnesty*	*Green Card*	*Unauthorized*	*Nonnative Citizens*	*All*
Number of Observations	663	1972	832	450	72	3,989
Qualitative Variables (%)						
Female	37.0	16.1	31.4	18.4	40.2	23.4
English Speaker	88.1	10.7	24.0	5.8	43.1	26.4
Nonnative English Speaker	28.8	99.6	9.3	99.6	98.6	87.5
Latino	45.6	96.2	88.1	97.8	68.1	85.8
Entered U. S. before Age 13	--	3.7	11.5	0.4	9.7	4.4*
U. S. Born	100.0	0.1	0.2	0.4	0.0	16.8
Mexican Born	0.0	92.4	77.3	80.0	66.7	72.0
Black	12.4	3.0	1.3	0.7	1.4	3.9
White	63.3	55.7	47.8	46.7	36.1	53.9
1989	16.9	13.3	11.9	9.6	13.9	13.2
1990	50.2	46.2	52.6	46.2	48.6	48.3
1991	32.9	40.5	35.5	44.2	37.5	38.5
Winter	21.1	30.4	24.2	23.8	23.6	26.7
Spring	40.6	38.7	49.9	43.1	48.6	42.0
Northeast	14.2	2.8	1.3	3.6	0.0	4.4
Southeast	2.7	1.3	0.4	3.1	0.0	1.5
Midwest	26.4	1.0	0.2	4.0	0.0	5.4
Southwest	4.1	1.1	0.6	0.4	4.2	1.5
Northwest	5.4	10.3	4.9	14.7	4.2	8.7
Arizona	2.7	8.0	10.6	0.9	9.7	6.9
Texas	9.5	4.8	8.2	1.6	9.7	6.0
Florida	19.0	23.7	24.3	40.9	11.1	24.8
Continuous Variables (*standard deviation*)						
Wages ($)	5.26	5.49	5.73	4.93	6.42	5.46
	(2.1)	(2.1)	(2.9)	(1.2)	(4.1)	(2.4)
Hours	39.3	40.5	39.0	38.8	36.3	39.7
	(14.5)	(14.8)	(14.4)	(12.9)	(17.2)	(14.5)
Earnings ($)	211.54	220.55	221.28	191.40	234.41	216.17
	(126.1)	(116.7)	(130.9)	(107.2)	(177.3)	(122.0)
Age	35.5	33.0	35.7	26.4	41.8	33.4
	(13.5)	(10.8)	(12.7)	(9.4)	(12.4)	(12.0)
U. S. Farmwork Experience	15.1	9.5	12.0	3.3	15.0	10.3
	(12.4)	(6.9)	(9.7)	(5.0)	(9.5)	(9.1)
Education	9.8	5.0	5.7	5.4	7.7	6.0
	(3.3)	(3.3)	(3.6)	(3.4)	(4.2)	(3.9)

* Percent of the 3,326 people in the sample who are not native-born citizens.

Table 2: Multinomial Logit: Nonnative-Born Agricultural Workers (Base Group is Unauthorized)

	Amnesty	*Green Card*	*Nonnative Citizen*
Constant	-1.178	-1.894	-8.069
	(0.701)	(0.766)	(1.708)
Female	-0.070	0.849	1.377
	(0.155)	(0.167)	(0.313)
English Speaker	0.117	0.810	0.980
	(0.248)	(0.261)	(0.410)
Latino	-1.024	-1.469	-3.241
	(0.424)	(0.413)	(0.997)
Entered U. S. before Age 13	2.116	3.099	2.885
	(0.745)	(0.750)	(0.883)
Mexican Born	0.737	-1.286	-0.398
	(0.202)	(0.216)	(0.929)
Black	1.234	-1.80	-2.843
	(0.691)	(0.768)	(1.283)
White	0.340	0.197	0.019
	(0.126)	(0.145)	(0.326)
Age	0.045	0.047	0.124
	(0.036)	(0.040)	(0.083)
Age^2	-0.0004	-0.0002	-0.0007
	(0.001)	(0.001)	(0.001)
Education	0.074	0.309	0.413
	(0.058)	(0.065)	(0.137)
$Education^2$	-0.003	-0.014	-0.008
	(0.004)	(0.005)	(0.009)
Experience	0.512	0.540	0.695
	(0.030)	(0.033)	(0.063)
$Experience^2$	-0.011	-0.010	-0.013
	(0.001)	(0.001)	(0.002)
1990	-0.471	-0.304	-0.456
	(0.209)	(0.234)	(0.451)
1991	-0.877	-0.963	-1.019
	(0.212)	(0.241)	(0.467)

Chi-square (45) = 1517.9

	PREDICTED				
ACTUAL	Unauthorized	Amnesty	Green Card	Nonnative Citizen	Total
Unauthorized	227	198	25	0	450
Amnesty	49	1768	155	0	1972
Green Card	67	477	286	2	832
Nonnative Citizen	1	32	33	6	72
Total	344	2475	499	8	3326

Table 3: Wage Equations

	Native Citizen	Amnesty	Green Card	Unauthorized	Nonnative Citizen
λ		-0.121	-0.010	0.252	-0.271
		(0.062)	(0.085)	(0.228)	(0.426)
Constant	1.471	1.897	1.540	2.018	2.114
	(0.126)	(0.153)	(0.203)	(0.276)	(1.755)
Female	-0.068	-0.039	0.005	-0.059	-0.345
	(0.023)	(0.023)	(0.036)	(0.038)	(0.156)
English Speaker	0.030	0.002	0.019	-0.058	0.071
	(0.045)	(0.024)	(0.038)	(0.063)	(0.119)
Nonnative English Speaker	0.011	0.033	-0.172	-0.179	
	(0.037)	(0.102)	(0.096)	(0.204)	
Latino	-0.067	-0.023	0.072	-0.057	0.118
	(0.038)	(0.062)	(0.054)	(0.141)	(0.430)
Entered US before Age 13		-0.001	0.076	0.047	-0.079
		(0.039)	(0.055)	(0.234)	(0.168)
Mexican Born		-0.108	-0.011	0.158	0.323
		(0.049)	(0.067)	(0.041)	(0.332)
Black	-0.111	-0.181	0.052	-0.182	
	(0.052)	(0.076)	(0.135)	(0.190)	
White	-0.072	-0.065	-0.050	-0.087	-0.124
	(0.033)	(0.016)	(0.027)	(0.041)	(0.123)
Age	0.008	-0.002	0.007	-0.027	0.023
	(0.005)	(0.004)	(0.006)	(0.010)	(0.028)
Age^2	-0.0001	-0.00002	-0.0001	0.0003	-0.0003
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0003)
Experience	0.010	0.008	0.016	-0.047	0.007
	(0.003)	(0.004)	(0.005)	(0.048)	(0.039)
$Experience^2$	-0.0001	-0.00004	-0.0003	0.001	-0.0003
	(0.0001)	(0.0001)	(0.0001)	(0.001)	(0.001)
Education	0.013	0.009	0.014	-0.003	-0.119
	(0.013)	(0.007)	(0.013)	(0.017)	(0.051)
$Education^2$	0.0003	-0.0001	-0.001	-0.000003	0.006
	(0.001)	(0.0005)	(0.001)	(0.001)	(0.002)
1990	-0.0003	-0.027	0.018	-0.006	0.111
	(0.035)	(0.024)	(0.045)	(0.065)	(0.155)
1991	0.027	-0.024	0.123	0.021	0.078
	(0.045)	(0.029)	(0.052)	(0.104)	(0.187)
Winter	-0.044	-0.026	-0.057	0.038	-0.017
	(0.039)	(0.022)	(0.039)	(0.045)	(0.162)

Spring	-0.064	-0.044	-0.038	-0.029	0.094
	(0.033)	(0.021)	(0.036)	(0.041)	(0.136)
Northeast	-0.276	0.292	0.537	-0.033	
	(0.044)	(0.041)	(0.097)	(0.079)	
Southeast	-0.383	-0.133	0.002	-0.027	
	(0.075)	(0.058)	(0.182)	(0.079)	
Midwest	-0.168	0.003	-0.308	-0.071	
	(0.040)	(0.066)	(0.223)	(0.068)	
Southwest	-0.388	-0.042	0.026	-0.200	-0.528
	(0.063)	(0.064)	(0.143)	(0.181)	(0.216)
Northwest	-0.032	0.015	0.146	0.095	0.789
	(0.054)	(0.023)	(0.053)	(0.042)	(0.214)
Arizona	0.014	-0.029	0.027	-0.080	-0.224
	(0.070)	(0.025)	(0.039)	(0.134)	(0.152)
Texas	-0.210	-0.316	-0.319	-0.264	-0.165
	(0.044)	(0.031)	(0.043)	(0.110)	(0.147)
Florida	-0.108	-0.015	-0.155	0.004	-0.086
	(0.041)	(0.019)	(0.037)	(0.040)	(0.141)
R^2	0.204	0.133	0.229	0.143	0.502

Table 4: Hours Equations

	Native Citizen	Amnesty	Green Card	Unauthorized	Nonnative citizen
λ		4.786	-4.609	1.343	-2.565
		(3.115)	(3.700)	(10.79)	(17.91)
Constant	23.820	32.684	40.455	49.593	32.358
	(6.230)	(7.692)	(8.855)	(13.14)	(73.87)
Female	-6.724	-6.586	-7.807	-4.770	-3.262
	(1.150)	(1.130)	(1.564)	(1.723)	(6.517)
English Speaker	-0.643	0.115	-2.366	8.236	11.049
	(2.204)	(1.227)	(1.642)	(2.924)	(4.978)
Nonnative English speaker	-2.870	5.186	-4.272	-10.116	
	(1.811)	(5.117)	(4.185)	(9.951)	
Latino	0.891	-3.538	4.613	0.982	33.415
	(1.870)	(3.107)	(2.358)	(6.651)	(18.25)
Entered US before Age 13		-0.379	-2.734	6.380	-11.289
		(1.956)	(2.399)	(11.64)	(7.008)
Mexican Born		-1.195	1.681	-1.846	-11.234
		(2.468)	(2.932)	(1.898)	(14.20)
Black	-0.222	-2.329	3.727	-10.492	
	(2.594)	(3.804)	(5.885)	(8.785)	
White	-4.242	-0.996	-1.330	-2.026	-0.754
	(1.615)	(0.796)	(1.177)	(1.919)	(5.192)
Age	1.039	0.301	0.823	0.083	-1.836
	(0.255)	(0.206)	(0.259)	(0.444)	(1.188)
Age^2	-0.013	-0.003	-0.011	-0.001	0.022
	(0.003)	(0.003)	(0.003)	(0.006)	(0.012)
Experience	-0.094	0.339	-0.271	-1.065	1.950
	(0.154)	(0.196)	(0.231)	(2.285)	(1.602)
$Experience^2$	0.003	-0.013	0.003	0.025	-0.048
	(0.003)	(0.006)	(0.005)	(0.048)	(0.032)
Education	0.055	-0.180	-1.764	-0.628	1.105
	(0.667)	(0.327)	(0.549)	(0.796)	(2.166)
$Education^2$	0.023	0.017	0.098	0.038	-0.038
	(0.038)	(0.023)	(0.037)	(0.047)	(0.102)
1990	5.286	0.149	1.285	5.156	1.907
	(1.722)	(1.220)	(1.954)	(2.976)	(6.411)
1991	5.930	0.728	2.776	4.746	9.033
	(2.221)	(1.475)	(2.281)	(4.826)	(7.735)
Winter	-3.754	-2.906	-3.557	3.345	6.970
	(1.912)	(1.093)	(1.718)	(2.068)	(6.655)

Spring	-2.080	2.234	1.694	0.276	3.821
	(1.618)	(1.045)	(1.550)	(1.888)	(5.576)
Northeast	-6.119	-4.665	-12.556	-5.671	
	(2.159)	(2.054)	(4.221)	(3.512)	
Southeast	6.406	3.665	0.150	10.512	
	(3.727)	(2.920)	(7.891)	(3.614)	
Midwest	-1.032	1.042	-5.625	-6.706	
	(1.999)	(3.313)	(9.697)	(3.112)	
Southwest	-4.530	5.465	-10.995	-4.896	1.047
	(3.107)	(3.206)	(6.208)	(8.740)	(9.150)
Northwest	-1.071	-0.064	1.260	-1.566	-12.118
	(2.677)	(1.141)	(2.316)	(1.943)	(9.107)
Arizona	-3.365	-1.247	3.512	-5.308	7.717
	(3.466)	(1.223)	(1.683)	(6.315)	(6.456)
Texas	-9.917	0.028	-7.585	-2.426	1.479
	(2.181)	(1.570)	(1.865)	(5.223)	(6.231)
Florida	-2.907	-6.352	-2.259	-4.835	-10.353
	(2.046)	(0.931)	(1.589)	(1.851)	(5.951)
R^2	0.185	0.089	0.129	0.139	0.515

Table 5: Earnings Differentials (Relative to Unauthorized Workers)

	Amnesty		*Green Card*		*Native Citizen*	
	Total	*Due to Wages*	*Total*	*Due to Wages*	*Total*	*Due to Wages*
Mean of Unauthorized Workers	18	16	21	13	8	3
Females	16	18	21	17	4	3
Males	19	16	21	12	9	3
Latinos	18	16	21	13	8	3
Non-Latinos	25	13	2	2	9	4
Mexican Born	14	12	20	10		
Non-Mexican Born	33	32	26	24		
White	21	17	23	14	6	4
Black	35	14	57	24	38	7
California	19	17	22	17	14	11
Experience = 5	28	22	29	19	18	10
English Speaker	7	22	6	20	-4	8
Nonnative English Speaker	19	16	22	12	9	2