WP 91-1

University of California, Davis
Department of Agricultural Economics

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THE EARNINGS AND MOBILITY OF LEGAL AND ILLEGAL-IMMIGRANT WORKERS IN AGRICULTURE

by

J. Edward Taylor

Working Paper No. 91-1

ABSTRACT

This paper presents theoretical and empirical evidence that U.S. immigration policies lead to a segmented farm labor market that has some, but not all, of the characteristics predicted by dual labor market theory. Unauthorized immigrants are significantly selected into secondary (low-skill) farm jobs. Controlling for this selection process, the earnings of unauthorized workers in primary (high-skill) farm jobs are significantly lower than the earnings of otherwise similar legal workers. These findings are shown to be consistent with expected profit maximation by farm employers. There is some evidence of positive returns to human capital in low-skill farm jobs.

Debates and compromises surrounding the Immigration Reform and Control Act (IRCA) of 1986 testify to a large concentration of illegal immigrant workers in U.S. agriculture (U.S. Congress, 1986). The legalization of more than 1.3 million farm workers under the Special Agricultural Worker (SAW) program highlight agriculture's role as a conduit for new immigrants entering the U.S. economy. It also raises concern about this sector's potential to offer opportunities for economic advancement to new (legal and illegal) immigrants, and fears that agriculture will serve as a way station for a continuing flow of new immigrants en route to other sectors.

Despite agriculture's traditional reliance on new and illegal immigrants and its importance for U.S. immigration policy, the effects of immigration policies on the structure of farm labor markets have been the subject of little serious research. The present paper is an effort to begin to fill this research void. Part I presents two opposing economic views on the structure of the farm labor market, each with different implications for assessing immigrants' potential for economic advancement in agriculture and ultimately, agriculture's potential to retain immigrant workers. Immigration policies, it is argued, can create a segmented agricultural labor market as an outcome of farmers' expected profit-maximizing behavior. This labor market has some, but not all, of the characteristics predicted by dual labor market theory (Dickens and Lang, Piore). Part II presents econometric evidence that legal status significantly influences farmworker earnings and mobility: unauthorized immigrants are less likely than otherwise similar legal workers to be observed in "primary" (high-skill) jobs, and their earnings in these jobs are significantly lower than those of legal workers. The paper concludes with

a discussion of some implications of these findings for U.S. immigration and labor-market policy.

I

Theoretical Considerations

Studies of the economic performance of immigrants in the U.S. labor market based on human capital theory emphasize differences among people, including differences between native and immigrant workers, as the fundamental determinants of mobility and earnings. Chiswick (1978a), in his seminal work on the earnings of foreign-born men in the U.S., found cross-sectional evidence that (a) the earnings of recent white male immigrants are lower than those of otherwise similar native workers, but (b) immigrant earnings increase more rapidly than native-worker earnings as immigrants acquire experience living and working in the United States. The higher returns to experience for immigrants may reflect a positive selection of immigrants from their countries of origin and immigrants' acquisition of U.S. labor market-specific human capital. Part of the economic success of immigrants probably results from an increased mobility into better, higher-paying jobs as U.S.-specific human capital increases (Chiswick (1978b)). [1]

In an innovative challenge to the traditional human capital labor-market view, Dickens and Lang (1985) find econometric evidence in support of a segmented or "dual" labor market. The "primary" labor market is characterized by "relatively high wages, good working conditions and opportunities for advancement into higher-paying jobs." This labor market has a wage profile that is similar to the one predicted by human capital

theory. By contrast, the secondary labor market is characterized by "low wages, bad working conditions, unstable employment, and little opportunity for advancement." Dickens and Lang do not focus on immigrants, but they find evidence of a secondary U.S. labor market with a completely flat wage profile, including insignificant returns to education and work experience. They also find evidence of a primary U.S. labor market with significant returns to human capital, but noneconomic barriers that prevent some groups of workers from obtaining primary sector jobs.

These alternative labor-market views have implications for assessing the mobility and earnings of illegal immigrants and the impact of illegal immigrants on other workers (Chiswick, 1986). For example, if there are obstacles to mobility into primary jobs for unauthorized immigrants, opportunities for economic advancement for such workers will be limited, and competition between legal and unauthorized workers in primary jobs will be minimized. If such obstacles to mobility are present in some sectors but not in others, or if the pecuniary and nonpecuniary characteristics of secondary jobs differ across sectors, segmented labor markets may weaken the ability of some sectors to retain immigrants. Labor-market segmentation might explain the apparent tendency of illegal immigrants to leave agriculture as they acquire U.S. experience and contacts with urban labor markets (Ranney and Kossoudji; Massey). Finally, if there are obstacles to mobility and lower earnings for illegal immigrants, the large-scale legalization of farmworkers under the SAW program could improve economic opportunities for SAWs in agriculture and increase competition between SAWs and other workers in primary farm jobs.

The human capital and dual labor market views are not necessarily mutually exclusive in the context of immigration policy. Suppose that a characteristic of workers that is not associated with worker productivity on the job nevertheless influences employers' expected profits. Status as an authorized immigrant is a case in point. Immigration policies which make it illegal to knowingly hire an unauthorized immigrant, or which simply create a non-negligible probability of worker apprehensions (and associated profit loss), may create a segmented labor market. Specifically, such policies may discourage the use of unauthorized workers in some jobs, and/or result in lower wages for unauthorized workers than for otherwise similar legal workers in the same jobs.

Status as an undocumented immigrant is a worker characteristic that can be ascertained (at a cost); once known by the employer, it can enhance the employer's bargaining position vis-a-vis the worker in wage contracts. If there is a positive chance of apprehension by the immigration authority, and if apprehension results in losses to the employer, expected cost-minimizing behavior implies allocating unauthorized workers, if hired, to positions where the expected cost of apprehension is lowest, other things being equal. These are likely to be lower-skill (i.e., secondary) jobs.[2] The human capital cost of worker apprehensions is generally highest in primary jobs. Primary jobs tend to require more firm-specific human capital than secondary jobs. For example, foremen and supervisors are expected to possess understanding of the employer's management and production priorities. Machine operation requires familiarity with specialized equipment and its use in individual firms. These positions are likely to require at least some investment by firms

in worker training. Evidence from industry (Chiswick, 1986) suggests that firms are reluctant to invest in training unauthorized immigrants. Because the apprehension of a primary worker implies an associated loss of human capital, it will tend to result in a larger loss in production, ceteris paribus, than will the apprehension of a secondary worker.

If legal status is known (or can be ascertained at minimal cost) and employers are expected-cost minimizers, there is reason to expect that unauthorized workers will be paid less than legal workers in the same jobs, even if their marginal productivities are the same. Consider an expected cost-minimizing farmer whose operation includes both primary and secondary jobs. For simplicity, suppose a farmer must hire a "primary" worker to operate and maintain field machinery (say, a lettuce-planting machine) and a large number of "secondary" workers to follow the machine in the field (to manually replant "missed" plantings). The labor market in which the farm is located contains both legal and unauthorized workers, but there is some cost to the farmer of verifying workers' legal status. There is a positive probability, p, that an unauthorized worker is apprehended, resulting in a possible fine τ and other losses Δ_j for job j.[3] The other losses include the cost of recruiting and training replacement workers. They also may include production losses, if the worker's apprehension severely disrupts production on the farm. Given these considerations, will the farmer hire a legal or an unauthorized worker for the primary job?

Let w_p denote the wage of a legal worker in the primary job, and let $w_p +$ δp be the wage of an otherwise identical unauthorized worker in the same

job. Once legal status is known, the legal worker will be preferred over the unauthorized worker for the primary job if:

(1) $$w_p < (1-p)(w_p + \delta_\rho) + p(\tau + \Delta_\rho)$$

(Equation (1) makes the short-run assumption that no wages are paid to apprehended workers). Assuming that the expected losses from apprehensions $(\tau + \Delta_\rho)$ are large relative to unauthorized-worker wages, this inequality is more likely to hold the higher the probability of apprehension (p) and the greater the associated penalty (τ) and production and human capital losses (Δ_p). If legal and unauthorized worker wages are identical $(\delta_\rho = 0)$, then a legal worker will be preferred over an unauthorized worker if there is a positive probability of apprehension. If $p > 0$, an unauthorized worker may be observed in the primary job, but only if δ_ρ is negative and sufficiently large in absolute-value terms to compensate for the expected losses from apprehensions, which may be large for the primary job. Returning to our example, if the planting-machine operator is apprehended, work by the secondary workers will stop.

Consider a legal worker and an otherwise identical unauthorized-immigrant worker who are willing to supply their labor to the primary farm job at wage w_p. If the farmer perceives that the probability of apprehension and the losses associated with it are sufficiently large, it may be worthwhile for the farmer to incur the cost of verifying the workers' legal statuses. Once legal statuses are verified, the illegal worker will either be denied access to the primary job or else offered the job at a wage lower than w_p. In this case, either status as an unauthorized immigrant represents a barrier to mobility into the

primary job, or else mobility for unauthorized workers is discouraged by primary wages that are lower, <u>ceteris paribus</u>, for illegal than for legal workers.

Theoretically, a similar argument might apply to all jobs; however, there is less compelling reason to expect legal status to have a significant effect on the secondary farm labor market. First, in contrast to primary workers like foremen or machine operators, secondary workers are likely to have smaller firm-specific human capital requirements, and the expected human capital loss due to apprehension is likely to be correspondingly low. Second, expected production losses from apprehensions are likely to be lower in secondary jobs. Returning again to our example, if a secondary worker is apprehended, the planting machine will be able to continue, although at a slower pace. Given the lower expected losses to worker apprehensions and the labor intensity that characterize secondary jobs, farmers may be unwilling to incur the costs of screening large numbers of secondary workers for legal status. In this case, it would not be surprising to find wages unaffected by legal status in secondary farm jobs.

The considerations outlined above suggest that the farm labor market may be segmented by immigration status. However, they do not necessarily indicate a farm labor market with all the characteristics predicted by dual labor market theory. There may or may not be positive returns to human capital in skilled and unskilled farm jobs; unskilled jobs may include relatively high-paying, stable jobs as well as low-paying, unstable jobs. While testing the hypothesis that unauthorized immigrants have lower mobility and lower earnings in skilled jobs, it is worthwhile also to examine the earnings gap

between unauthorized workers in primary and secondary jobs, and between legal and unauthorized farmworkers overall.

II

Estimation and Empirical Findings

If the farm labor market were not segmented by legal status, workers would select the jobs in which their earnings were highest, given their relevant human capital characteristics (e.g., education, experience, and years since immigration; see Chiswick, 1978b) and earnings in all farm jobs would be the same for legal and otherwise similar unauthorized workers. By contrast, if expected losses from unauthorized-worker apprehensions are large, worker status as an unauthorized immigrant would be negatively related both to primary sector earnings and to the probability of employment in primary jobs. Earnings may or may not be lower for unauthorized workers in secondary farm jobs.

If primary sector jobs were open to all workers, a worker would choose primary sector employment if

$$(2) \qquad \ln(\omega_p) - \ln(\omega_s) > C$$

where ω_p and ω_s denote the worker's expected wage in a primary and secondary job, respectively; and C reflects the weight the worker attaches to nonpecuniary aspects of primary and secondary jobs (formally, C is the additive inverse of the compensating variation for secondary employment,

reflecting the difference in nonpecuniary characteristics between the two sectors; this formulation is similar in spirit to Dickens and Lang (1985)). In the present case, $\omega_p = (1 - p_p)w_p$ and $\omega_s = (1 - p_s)w_s$, where p_p and p_s are the probabilities that the worker will be apprehended in a primary and secondary job, respectively, (p_p, $p_s = 0$ for legal workers); and w_p and w_s are the worker's wages in the two jobs. Wages are modeled as

$$
\text{(3a)} \qquad \ln(w_p) = \alpha_0 + \alpha_1 X + \alpha_2 LS + \varepsilon_1
$$

$$
\text{(3b)} \qquad \ln(w_s) = \beta_0 + \beta_1 X + \beta_2 LS + \varepsilon_2
$$

Where X is a vector of individual characteristics, LS is legal status (LS = 0 if legal, 1 if an unauthorized immigrant), α_k and β_k, k = 0,...,2 are parameters, and the ε_j are normally distributed errors representing unobserved characteristics. Substituting for $\ln(\omega_p)$ and $\ln(\omega_s)$ in (2), and recognizing that the probability of apprehension may be positive only for unauthorized workers (LS = 1), the probability that a worker is observed in a primary-sector job (I=1) is:

$$
\text{(4)} \qquad P = Pr\{\gamma_0 + X\gamma_1 + LS(\gamma_2 + \rho) + u - C > 0\}
$$

where $\gamma_0 = \beta_0 - \alpha_0$, $\gamma_1 = \beta_1 - \alpha_1$, $\gamma_2 = \beta_2 - \alpha_2$, $\rho = \ln(1 - p_p) - \ln(1 - p_s)$, and $u = \varepsilon_2 - \varepsilon_1$. From Equations (3) and (4), it is clear that if $\alpha_2 \neq 0$ or $\beta_2 \neq 0$, legal status should affect sector choice by influencing the difference in pecuniary returns between the two sectors ($\beta_2 - \alpha_2$). However, in a probit corresponding to (4), a significant coefficient on the LS variable is not

sufficient to reject the null hypothesis that $\beta_2 = \alpha_2 = 0$. Legal status may also be related to the compensating variation, C. For example, unauthorized immigrants may be more willing to accept the nonpecuniary aspects of secondary employment (Piore). Finally, if $p_p \neq p_s$, unauthorized workers will have an incentive to supply their labor to the job (p or s) in which their probability of apprehension is lowest, other things being equal. (If $p_p = p_s$, $\rho = 0$, and the probabilities drop out of (4).) We are not aware of evidence that apprehension probabilities differ between skilled and unskilled jobs, and it is not clear what the sign of ρ would be if these probabilities differed. If immigration authorities target skilled workers, p_p will tend to be greater than p_s, ρ will be negative and LS will be more likely to have a negative effect on mobility in (4). By contrast, if immigration authorities seek to apprehend large numbers of secondary workers, or if they presume that skilled workers are legal, p_p will tend to be smaller than p_s, ρ will be positive, and even if $\alpha_2 < 0$ it may be difficult to reject the null hypothesis that LS does not affect mobility. A complete test of our model requires explicitly testing and rejecting the null hypothesis that $\alpha_2 = 0$, controlling for the selection of workers into secondary and primary jobs.

Equations [3 (a-b)] and (4) were estimated, correcting for sample selection bias, using the two-step procedure proposed by Heckman with the correction of the asymptotic covariance matrix for the second-stage estimates proposed by Greene. Data to estimate the equation system are from a survey of California farmworkers conducted by the University of California (UC) and the California Employment Development Department (EDD) in August 1983. The sample includes 738 male farmworkers in 37 counties; workers in all

crops and production-related activities were interviewed in each survey area. The survey was designed to obtain as representative a statewide sample of farmworkers as possible, given the notorious difficulties inherent in surveying this population.[4] The data provide detailed information on farmworker human capital and other socio-demographic characteristics, including legal status; on the type of farm work in which farmworkers were employed at the time of the interview; and on farmworker earnings.

Workers' reported weekly earnings in the current farm job were used to estimate Equations [3 (a-b)]. The right-hand variables in the equations include, in addition to the legal-status dummy, a dummy for foreign-born, years of completed schooling, U.S. farm work experience, years since immigration (for foreign-born workers), and, to control for possible labor-force competition (Bean, Lowell and Taylor; Borjas, 1984), the share of unauthorized workers in the labor market (farm region) in which workers are observed. Because the number of primary and secondary jobs varies from commodity to commodity, the probit equation corresponding to (4) also controls for commodity. Table 1 presents definitions of the variables in the econometric model and summary statistics.

Any survey that collects information on workers' legal status is likely to understate absolute numbers of illegal-immigrant workers. Many undocumented workers are reluctant to reveal their true legal status. Others may have purchased documents that are not valid (for example, falsified green cards). In the present sample, 29 percent of farmworkers are classified as unauthorized immigrants, but the true share may be higher. One implication of the underreporting of undocumented workers for the

empirical analysis that follows is a tendency for legal and undocumented workers to appear to be more similar in the data than they really are. Thus, in tests for differences in earnings and employment between legal and undocumented workers, underreporting of illegal immigrants tends to lessen the probability of rejecting the null hypothesis that the two groups are the same. That is, it makes the requirements for rejecting null hypotheses more stringent than they otherwise would be.

Table 2 reports the findings of the first-stage estimate of a probit for primary $(I = 1)$ versus secondary $(I = 0)$ farm employment. The units of observation are individual workers in the sample. Controlling for the commodities in the table, workers' schooling and U.S. farm work experience are significant and positively related to the probability of primary sector employment (significance at the .10 and .05 levels, respectively, for a two-tailed test). Once we control for these human capital variables, foreign-born workers are no less likely to have primary jobs than are U.S.-born workers, and years-since-immigration are also insignificant in explaining employment. However, workers who are reported as unauthorized immigrants are significantly less likely to be observed in primary-sector employment than are legal workers. Legal status is far and away the most significant worker characteristic explaining primary-sector employment. A significant negative legal-status coefficient in the employment-selection equation is consistent with the hypothesis of differential earnings for legal and unauthorized workers in primary jobs. However, as noted previously, it is not a sufficient test of this hypothesis.

Table 3 reports the second-stage estimates of the equations for primary and secondary sector earnings, correcting for selectivity using inverse-Mills ratios obtained from the probit. The table shows a significant negative coefficient on legal status for the primary-sector earnings equation (Panel A): Other things being the same, status as an illegal immigrant is associated with a 29 percent decline in primary-job earnings. The difference in primary-job earnings between legal and unauthorized workers is significant at below the .05 level. Schooling and farm work experience, although significant in explaining primary-sector employment, are not significant in explaining differences in earnings among primary-sector workers in the sample. There is no evidence that high regional concentrations of unauthorized workers depress primary sector earnings.

The secondary earnings equation estimates tell a different story (Panel B). There are not significant differences in secondary earnings between legal and unauthorized workers. The returns to schooling and farm experience for secondary workers are positive and statistically significant but small: a year of schooling is associated with a 1.8 percent increase in weekly earnings, and a year of farm work experience results in a 0.7 percent increase in weekly earnings, ceteris paribus. Positive returns to education and experience in secondary farm jobs may reflect a positive return to human capital in similar jobs, even if employers do not possess information on characteristics of secondary workers. For example, farm experience may enhance secondary-worker earnings if workers are paid piece rate and if experience is positively related to worker productivity. Positive returns to human capital also may reflect the heterogeneity of secondary farm jobs. There may be a positive

correlation between education and experience, on one hand, and employment in better-paying secondary jobs, on the other. Gabbard documents differences in earnings and nonpecuniary characteristics among "secondary" jobs in California agriculture.

Table 4 reports differences in expected weekly earnings between legal and unauthorized workers in primary and secondary farm jobs. These estimates were obtained from the selectivity-corrected earnings equations, using sample averages of non-immigration related variables. Expected primary-job earnings for legal workers are $235.52, $59 (33 percent) higher than for otherwise similar unauthorized immigrant workers. Unauthorized workers realize no significant earnings gain by moving from secondary to primary jobs. By contrast, legal worker weekly earnings are $51, or 27 percent, higher in primary than in secondary jobs.

Because employment in secondary jobs tends to be highly seasonal, differences in weekly earnings between secondary and primary farm jobs are likely to overstate annual earnings differences. Primary workers are significantly more likely to have employment during the low farm-employment months than are secondary workers (Espenshade and Taylor). Differences in stability of employment between the two sectors increase the incentive to seek primary employment for workers whose objective is to maximize annual expected earnings in farm work.

III

CONCLUSIONS

The econometric findings presented in this paper offer empirical support for the hypothesis that immigration policies lead to a segmented farm labor market. Unauthorized immigrants are significantly less likely than otherwise similar legal workers to be observed in high-skill, "primary" farm jobs. Controlling for employment selection, primary sector earnings are significantly lower for unauthorized immigrants than for legal workers. These findings are shown to be consistent with farmers' expected profit maximizing behavior. They suggest that status as an unauthorized immigrant is a barrier to mobility into primary farm jobs, or at least results in lower primary wages which discourage mobility for unauthorized workers. There is evidence, however, of small but positive returns to human capital in the secondary farm labor market.

The structure of the farm labor market might be viewed as resembling a pyramid, with a large base tier of low-skill, labor-intensive jobs tapering off rather quickly to an upper tier of more specialized, machine-operator and supervisory jobs. Mobility out of relatively poorly paying, low-skill farm jobs increases as workers acquire skills through formal schooling and farm work experience. Undocumented immigrants primarily staff the bottom of the farm job-skill pyramid, however. Their legal status appears to be associated with lower mobility into specialized farm jobs and lower earnings in these jobs.

The Special Agricultural Worker (SAW) program established by the 1986 Immigration Reform and Control Act resulted in the legalization of large numbers of farmworkers. The findings presented here suggest that large-scale legalization may weaken barriers to mobility in farm labor markets, creating a vacuum at the bottom of the job pyramid. Movement of SAWs into specialized farm jobs will be limited by the availability of such jobs. This, together with higher earnings and employment stability in other sectors, is likely to create incentives for many legalized farmworkers to leave agriculture.

If farmworker legalization increases the movement of workers out of low-skill farm jobs, farm employers and policy makers may face difficult choices. They may be forced to take steps to increase the attractiveness of low-skill farm jobs to legal workers, though some combination of increases in wages and/or stability of employment, employee benefits, and improved working conditions. The tremendous seasonality inherent in most crops and regions limits the extent to which agriculture can provide workers with steady incomes, however. Alternatively, farm employers may reduce their demand for low-skill labor. In the short run, this may be accomplished by cutting back on the least-essential preharvest activities or on the number of harvests of a given crop per field or orchard. In the medium-to-long run, employers may be able to reduce their demand for low-skill labor (and possibly increase their demand for more skilled workers) by adopting labor-saving technology or by switching out of labor-intensive crops. Finally, policy makers may be able to increase the supply of workers willing to work in low-skill farm jobs without forcing employers to make significant changes in employee compensation,

labor management, technology or crop choice by permitting the importation of additional labor from abroad, for example, through the Replenishment Agricultural Worker (RAW) program. No RAW workers were authorized by the U.S. Secretaries of Agriculture and Labor for FY 1990. However, these workers may become available in the future if it is determined that the movement of legalized SAWs out of low-skill farm jobs creates labor shortages for perishable crops.[5]

A replenishment agricultural worker program may place agriculture on a labor treadmill: RAWs are required to work 90 days in agriculture in each of two years, but otherwise are free to seek jobs outside of agriculture. If replenishment workers are drawn out of agriculture into sectors with higher earnings and employment stability, new labor shortages will appear at the bottom of the farm job pyramid, and new replenishment workers will be needed.

It appears that labor shortages are not likely to occur in specialized farm jobs. To the extent farmworker legalization increases the mobility of labor out of low-skill farm jobs, it should increase competition among workers for relatively high-paying, specialized jobs, which currently are filled primarily by legal workers.

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FOOTNOTES

[1]The earnings and mobility of nonwhite immigrants differ sharply from those of white immigrants (Stewart and Hyclak), and there is some evidence that earnings of recent immigrant cohorts are lower than those of older cohorts (Borjas; Chiswick, 1986). A human-capital explanation for this disparity emphasizes likely differences in preparation for success in U.S. labor markets between white and nonwhite immigrants. For example, white immigrants are more likely to originate from English-speaking countries and to have worked and been educated in systems more similar to those encountered in the United States.

[2]The classification of jobs as primary or secondary is admittedly somewhat arbitrary. In the present study, given its focus on farm labor, "primary" refers to foreman, supervisory and machine operator jobs, whereas "secondary" refers to manual farm jobs (manual planting, weeding, harvesting, etc.)

[3]Under IRCA, employers who knowingly hire unauthorized immigrants are subject to fines. Employers were not subject to fines for knowingly hiring unauthorized immigrants prior to IRCA's implementation.

[4]A detailed description of the survey design and survey instruments is provided in Mines and Martin (1986).

[5]At present, the most promising avenue for farm employers to legally import temporary foreign workers is the H-2A program. Few western growers make use of this program, however.

⁶California farm regions include Sacramento Valley, North Coast, Central Coast, South Coast, North San Joaquin Valley, South San Joaquin Valley, and Inland Southern California; see Taylor and Espenshade.

⁷The Chi-Squared in Tables 2 and 3 correspond to a likelihood-ratio test of the null hypothesis that all slopes are zero. The insignificance of the Chi-Squared for the model in column A of Table 3 results from the lack of significance for variables other than legal status in the primary earnings equation. As one would expect, this chi-squared becomes significant as the most insignificant explanatory variables are removed from the primary earnings equation.

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Table 1. Definitions of Variables and Summary Statistics

Endogenous Variables:				Mean	Standard Deviation
I	=	1	if person j is observed in a primary machine operator, foreman or supervisor) job	0.12	0.33
		0	otherwise		
E	=		Log of weekly earnings in current job	200.82	92.20

Exogenous Variables:					
FOR	=	1	if foreign-born	0.97	0.16
		0	if otherwise		
LS	=	1	if an unauthorized immigrant	0.29	0.46
		0	otherwise		
ED	=		Years of completed schooling	4.91	3.31
FARMEX	=		Years of U.S. Farm work experience	13.66	11.49
YSI	=		Years since Immigration (if foreign-born)	15.42	12.52
SILLEG	=		Share of Unauthorized workers (LS = 1) in sample for farm region in which worker is observed[6]	0.30	0.10

		Mean	Standard Deviation

Commodity Dummies (Default commodity is grapes):

				Mean	Standard Deviation
CIT	=	1	if worker is observed in citrus	0.07	0.26
		0	otherwise		
TFRUIT	=	1	if Tree Fruits	0.14	0.35
		0	otherwise		
NUTS	=	1	if Nuts	0.04	0.20
		0	otherwise		
FLDVEG	=	1	if Field vegetables	0.01	0.10
		0	otherwise		
FFRUIT	=	1	if Field Fruits	0.42	0.49
		0	otherwise		
OTHER	=	1	if other crop	0.10	0.30
		0	otherwise		

Table 2. Probit Estimates of Selection into Primary Farm Jobs

Dependent Variable: I

	Estimated Coefficient	T-ratio
CONSTANT	-1.897	-3.47
FOR	.026	.06
LS	-.803	-3.31
ED	.037	1.64
FARMEX	.018	1.99
YSI	.001	.08
CIT	.093	.25
TFRUIT	-.457	-1.41
NUTS	1.326	3.95
FLDVEG	1.188	2.01
FFRUIT	.159	.78
OTHER	-.183	-.57
SILLEG	.861	1.15

Sample size: 554

Chi-Squared (df) = 59.25 (12)

Table 3. Selectivity-corrected Estimates of Parameters in Farmworker
Earnings Equations

Dependent Variable: E

Variable	A Primary Jobs	B Secondary Jobs
CONSTANT	5.210 (18.154)	5.189 (28.622)
FOR	.208 (1.143)	-.236 (-1.586)
LS	-.294 (-2.053)	-.040 (-.638)
ED	-.007 (-.709)	.018 (2.333)
FARMEX	.002 (.421)	.007 (2.185)
YSI	-.001 (-.295)	-.001 (-.441)
SILLEG	.259 (.788)	.303 (1.343)
LAMBDA	.073 (.772)	.041 (.188)
Sample size	67	487
Chi-Squared (df)[7]	6.28 (7)	16.47 (7)

Numbers in parentheses are T-statistics.

Table 4. Expected Weekly Earnings for Legal and Unauthorized
Workers in Primary and Secondary Farm Jobs

	Primary Jobs	Secondary Jobs	Percentage Return to Primary Employment
Legal Workers	235.52	184.74	0.27
Unauthorized workers	176.68	176.16	0.00
Percentage return to legal status	0.33	0.05	--