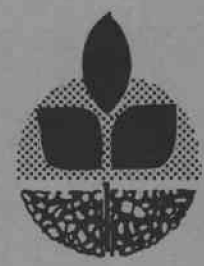


D105  
E55  
no. 567  
cop. 2



# Economic Incentives Facing Mexican Migrant Workers at Hood River, Oregon

Special Report 567  
January 1980



Agricultural Experiment Station  
Oregon State University, Corvallis

ECONOMIC INCENTIVES FACING MEXICAN  
MIGRANT WORKERS AT HOOD RIVER, OREGON

Richard W. Cuthbert and Joe B. Stevens  
Department of Agricultural and Resource Economics  
Oregon State University  
Corvallis

Authors: Graduate research assistant and professor, respectively. The authors are indebted to Frank Conklin, Grant Blanch, and Dave Faulkenberry for helpful reviews. The report is a contribution to Regional Research Project W-118.

CONTENTS

	<u>Page</u>
SUMMARY. . . . .	i
INTRODUCTION . . . . .	1
OBJECTIVES . . . . .	4
METHOD OF STUDY. . . . .	6
SURVEY RESULTS . . . . .	7
Demographic Characteristics . . . . .	8
Travel From Mexico to Oregon. . . . .	10
Employment and Earnings Overview. . . . .	14
Gross Earnings. . . . .	16
Hood River . . . . .	16
Elsewhere in Oregon. . . . .	19
California . . . . .	21
Total Earnings: January through October 1978 . . . . .	22
Anticipated Earnings: October through December 1978. . . . .	22
Expenses. . . . .	24
Net Earnings Estimates. . . . .	26
Savings . . . . .	29
Opportunity Earnings in Mexico. . . . .	31
Estimation of the Earnings Differential . . . . .	31
Access to U.S. Social Services. . . . .	37
Plans of Workers. . . . .	38
Comparison of Illegal and Legal Mexican Aliens. . . . .	38
CONCLUSIONS. . . . .	39
BIBLIOGRAPHY . . . . .	41
APPENDIX A: SURVEY PROCEDURES . . . . .	44

## SUMMARY

This study is an attempt to estimate the average net earnings of illegal Mexican aliens employed at Hood River, Oregon, in the 1978 fall apple harvest and to compare these earnings with the amounts the workers likely would have earned in Mexico. A random sample of 93 Mexican aliens was interviewed for information on estimated earnings and costs in the United States, opportunity cost earnings in Mexico, and migration and demographic characteristics.

The Mexican aliens in the sample generally were young, single men in their mid-20s with little formal education. Most of them were from rural areas of the central plateau region of Mexico where they had been employed as agricultural laborers. Each had about six years of migrant experience in the United States, on the average, and most planned to continue in the same type of work. Most of those sampled had arranged for their transportation to the United States at the Mexican border and paid a "coyote" or labor contractor about \$250 for the total costs of transportation to Hood River. The majority had walked across the Mexican border.

Those surveyed had worked a total of 18 weeks at three jobs in the United States, with most employment in the agricultural sector in either Oregon or California. During this time, the average worker had gross earnings of \$3,053 and was able to net, after expenses, about \$1,740. Most planned to continue working at Hood River through the end of harvest. They expected to earn about \$800 and net \$552. Total net earnings in the United States were estimated to be \$2,191 for an average total stay of seven months.

Earnings information from Mexico was available for 36 workers who estimated their annual Mexican earnings at \$656 per year. Five earnings

differentials were calculated for each worker. The first three were based on the assumption that the workers could have been employed either in Mexico or the United States during the year (but not both); these were calculated as the differences between total U.S. net earnings and gross Mexican earnings. The average earnings differential was \$1,552 for the 1978 calendar year; 85 percent of the workers had a positive differential. By assuming that Mexican aliens could have worked in both countries during a year-long period, two other earnings differentials also were calculated. These were about 20 percent higher than the first three differentials with an average estimated at \$1,879 for the year. These final two differentials were positive for all workers in the study.

An assessment was made of the use of U.S. social services by the Mexican workers. Although many had taxes withheld from their earnings, they made virtually no use of social services such as food stamps, welfare, and unemployment compensation, and they made only limited use of medical and educational services in the United States.

Finally, a comparison was made between those Mexican aliens who were assessed as being in the United States legally (16 percent) versus those in the United States illegally (84 percent). Legal aliens tended to be older, slightly better educated, and more experienced as migrant workers. They were much more likely to have families and to be traveling with their families and children. They also tended to originate from urban areas in Mexico where they usually had non-agricultural prior employment. Hourly earnings did not differ between the two groups, but legal aliens tended to have higher total earnings because of a longer employment period in the United States.

## INTRODUCTION

This is a case study of migrant workers from Mexico who work in Oregon agriculture. Many of them are here illegally, subject to deportation at any time.<sup>1/</sup> While they play a vital role in the harvest of certain crops, their continued presence in Oregon at harvest time depends on three factors. The first is the need for labor-intensive harvest methods in certain crops. It is anticipated that this need will continue, particularly for tree fruits. The second has to do with the supply of domestic labor; growers feel the domestic labor supply has been and will continue to be inadequate to harvest certain crops. The third factor is that many of the migrant workers are illegal aliens subject to detection and deportation by the U.S. Border Patrol, a federal agency charged with enforcement of immigration laws.

While the appearance of illegal alien farm workers is a relatively new phenomenon in Oregon, it is not new to the West and to the United States generally. In fact, the migration of Mexican nationals across the U.S.-Mexican border pre-dates the historical creation of the present border between the two countries. The first efforts to control the flow of Mexican aliens occurred in the 1920s as part of a more general concern of limiting all immigration into the United States after World War I. For the last 50 years, a pattern can be discerned of allowing increased numbers of Mexican nationals into the United States during periods of low unemployment and relative labor scarcity--either by relaxed border sur-

---

<sup>1/</sup> Illegal Mexican aliens are defined as Mexican nationals who are in the United States without proper identification. They are contrasted with those holding "green cards" (Immigration and Naturalization Service Form I-151, a permanent alien resident documentation) or other legally sanctioned entry permits or visas issued by the U.S. government (Stoddard, 1976a, page 160).

veillance or increased immigration quotas--and of discouraging entry and even expelling Mexicans during periods of high unemployment and economic slowdown. Increased Mexican migration because of a relaxed border policy occurred during the economic expansions in the 1920s, 1940s, and 1960s and was followed by large-scale deportations and border restrictions in the 1930s, 1950s, and 1970s.<sup>2/</sup> During the last decade, however, the number of illegal Mexican aliens entering the United States has continued to rise despite a high domestic unemployment rate and despite increased funding levels for Border Patrol activities. The number of illegal aliens apprehended has risen rapidly, but the estimated number of illegal Mexican aliens successfully entering and finding employment in the United States also has continued to rise steadily.

Many issues are raised by the current high level of illegal migration from Mexico, including the impact on the U.S. domestic labor market and the impact on social service programs.<sup>3/</sup> The empirical evidence to date, however, is inconclusive both as to the relative importance of the factors contributing to the migration of Mexican nationals into the United States and as to the effects of this migration on the economies of the United States and Mexico. In fact, the overall weakness of the empirical research on illegal Mexican aliens led Marshall to conclude that "neither the data nor the conceptual framework to form a basis for sound policy on the causes and consequences of illegal Mexican migration has been generated" (1978, page 163).

<sup>2/</sup> The most well-known segment of this cycle is the Bracero Program (Public Law 78) which provided the American agricultural sector with a supply of Mexican agricultural labor from 1942 until 1964. For a full history of Mexican migration and an analysis of the Bracero program, see Craig (1971).

<sup>3/</sup> See Cuthbert (1979) for a discussion of current issues on illegal Mexican migration.

Specific research on the characteristics of illegal Mexican aliens in the United States did not appear until after the termination of the Bracero Program in 1964. Samora (1971) and North and Houstoun (1976a) interviewed illegal Mexican aliens in detention camps (primarily in the Southwest) awaiting deportation. More recently, Cardenas (1976), Stoddard (1976a), Villalpando (1977), and Rochin (1978) interviewed illegal aliens in the United States, the first two with apprehended illegals and the other two with small samples of unapprehended illegals in Texas and California. Cornelius (1977) and Bustamante (1977) interviewed illegal Mexican aliens after their return to Mexico.

The accuracy and representativeness of the data collected in these studies, however, are difficult to evaluate for several reasons. Most of the studies were conducted in areas along the Mexican border and give little indication as to whether these data are representative of illegal Mexican aliens who migrate to areas farther from the border (an increasingly common phenomenon). Second, few of the studies used random sampling techniques. There is often a difficulty of discerning exactly what population the samples represent and how accurately they describe that population. A third problem concerns the accuracy of the data; the major studies were conducted using apprehended illegal Mexican aliens in detention camps. This may have been a threatening atmosphere for many subjects and could have biased the findings.

In addition to these general methodological shortcomings, there is a specific gap in the literature on the motivational structure of illegal migration, especially economic incentives. Despite agreement on the importance of the earnings differential between the United States and Mexico in motivating migration, few studies have attempted to quantitatively



measure this differential. Comparisons between earnings in the two countries have sometimes used per capita income, gross national product, or other aggregate earnings data to demonstrate the magnitude of the earnings differential (Marchall 1976, Briggs 1978). These estimates, however, fail to accurately represent the earnings potential of Mexicans in the United States; types of employment, periods of unemployment, and the cost of living of the illegal Mexican alien while in the United States are not at all well represented by aggregate data for either country. Other measures of the earnings differential between the two countries have been the daily or weekly earnings estimates (Briggs 1978). These also fail to accurately represent an earnings differential because of the temporary work status, the variable periods of employment, and the dissimilar expenses that illegal Mexican aliens face in the two countries. No study has attempted to estimate in detail the earnings differential faced by illegal Mexican aliens in their decision to migrate to the United States in search of employment.

#### OBJECTIVES

This study was designed to partially meet the need for further empirical data on illegal Mexican migration. The primary goal was to generate an estimate of the earnings differential faced by illegal Mexican aliens in a specific area, i.e., the Hood River Valley of Oregon. As a secondary goal, the study was designed to identify characteristics of illegal Mexican migrants in a non-border region.

More specifically, the objectives were:

- (1) to estimate the annual net earnings of Mexican workers at Hood River, considering both their gross earnings and their living expenses,
- (2) to estimate the earnings these Mexican workers would have made had they stayed in Mexico, and
- (3) to estimate the average differential between U.S. and Mexican earnings; this would represent the incentive for Mexican workers to work in the United States, either legally or illegally.

By attempting to accurately determine the magnitude of both earnings and expenses in the United States for illegal Mexican aliens at Hood River and by obtaining an estimate of the opportunity costs of their migration, an estimate of the earnings differential is generated for those workers. This analysis of the economic incentives for migration will enable a better understanding of the motivational factors which influence migration between Mexican and the United States.

Several issues are specifically not addressed in this study. No attempt was made to estimate the total number of illegal Mexican aliens in Oregon or at Hood River nor to estimate the percentage of the labor force which is composed of illegal aliens. There was no attempt to address the issue of displacement of domestic labor by the Mexican workers nor to ask whether an alternative labor supply exists. Finally, there was no attempt to assess immigration policy, to suggest possible changes in immigration policy, or to evaluate possible changes in immigration policy.

METHOD OF STUDY<sup>4/</sup>

To meet the above objectives, 93 personal interviews were conducted with Mexican migrant workers in the Hood River Valley during the first two weekends of October 1978.<sup>5/</sup> Access to the workers was obtained through a stratified random sampling of the valley's orchard operations. Each person interviewed was selected by the bilingual interviewer as being a Mexican alien.<sup>6/</sup> Each worker was paid \$5 as compensation for the one-hour interview.

The earnings differential for an individual worker was defined as follows:

Gross U.S. earnings
- Variable expenses in the United States
- Transportation costs
<hr/>
= Net annual earnings in the United States
- Foregone annual earnings in Mexico
<hr/>
= Earnings differential

Several limitations to this model should be noted. First, it was assumed that employment in the United States is an alternative to employment in Mexico and not a supplement to it. This assumption was made to simplify the questionnaire. It is possible, however, that many illegal Mexican aliens work in both countries during the year, coming to the United States

<sup>4/</sup> Additional detail on survey procedures can be found in Appendix A.

<sup>5/</sup> The Hood River Valley is an orchard area in North-Central Oregon that employs approximately 1,900 laborers during the apple and pear harvest (estimated for 1978); 71 percent are migrants from out-of-state (Annual Rural Service Report, 1978). This was the peak of the apple harvest season, when the demand for temporary hired labor is at its highest.

<sup>6/</sup> The interviewer determined (on the basis of criteria discussed in Appendix A) the probable legal status of those interviewed.

only at times of Mexican unemployment. In this case, foregone Mexican earnings would be zero, and the estimate of net U.S. earnings would represent the earnings differential. (This assumption is relaxed in the section on Survey Results.) Second, no attempt was made to estimate living expenses in Mexico. A more precise estimate of the earnings differential would include an estimate of these expenses and would compare net U.S. earnings with net Mexican earnings. The use of gross Mexican earnings in the calculations was to simplify data collection; this resulted in a downward effect on the earnings differential. Third, no attempt was made to adjust the earnings differential for other pecuniary benefits such as training and skill acquisition which might be valuable to workers in the future and hence cause the real earnings differential to exceed that which was measured. All these limitations suggest that this model will tend to underestimate the earnings differential. As such, the estimates of earnings differential will be conservative in that it understates the economic incentive for illegal migration.

#### SURVEY RESULTS

The information in this section is primarily a direct presentation of survey findings and simple aggregation of survey data into more useful figures. Demographic characteristics and migration data on the Mexican workers are presented, followed by data on employment, earnings, and expenses. Next, estimates of net earnings differentials are derived. Access to social service programs in the United States and plans for those surveyed are described. Finally, legal and illegal Mexican workers are compared for possible differences.

### Demographic Characteristics

In general, the Mexican workers surveyed in Hood River were young, single males with little formal education. Most were in the United States as illegal aliens. They came primarily from the central plateau region of Mexico where most had been employed previously in agriculture. The average worker had about six years of migrant work experience in the United States. Specifically, the workers would be described by the following characteristics (Table 1):

Documentation: The sample was subjectively assessed by the interviewer to be 84 percent undocumented or illegal aliens. Sixteen percent were judged to be documented and working legally in the United States.

Age: The age of the workers ranged from 16 to 42 years, with an average age of 26.7 years; 50 percent of the workers were in their 20s.

Sex: Male workers comprised 89 percent of the sample.

Education: The average number of school years was 4.4, with a range of zero to eight years.

Marital Status: Sixty-two percent of the sample were single. Of those who were married, 23 (25 percent) had children. The average number of children was 2.8 per person, or a total of 65 children for the 23 workers. Only 19 of these children, however, were traveling with their parents in Hood River.

Migrant Work Experience: The number of years of migrant work in the United States ranged from 1 to 20, with an average of 5.7 years.

Table 1. Demographic information for Mexican migrant workers in Hood River, October, 1978<sup>a/</sup>

	Average <sup>b/</sup>	Number of responses	Range <sup>c/</sup>
Undocumented or illegal aliens	84%	78	
Age (years)	26.7 $\pm$ 1.4	93	(16 - 42)
Sex			
Male	89%	83	
Female	11%	10	
Education (years)	4.4 $\pm$ .3	93	(0 - 8)
Marital status <sup>c/</sup>			
Single	62%	58	
Married	38%	35	
With children	25%	23	(mean of 2.8 children)
(children at Hood River)	(10%)	9	(mean of 2.1 children)
(children in Mexico)	(15%)	14	
Without children	9%	8	
No response to question	4%	4	
Years of migrant work in U.S.	5.7 $\pm$ 1.0	87	(1 - 20)
Plan to continue migrant work			
Yes	82%	76	
No	18%	17	

<sup>a/</sup> This information in this and other tables is presented as though each worker was an independent unit, although there probably were a few families working as a group (husband and wife, or father and son). Although the latter may be common among U.S. citizens working as migrant laborers, it was apparently not common in this case since only 11 percent of those interviewed were female and only 10 percent of the workers had children who were with them at Hood River.

<sup>b/</sup> Figures are mean values, plus or minus a 95 percent confidence interval, a statistical estimate that predicts with 95 percent confidence that the mean value from any sample of the population would fall within these bounds. This same procedure is also used in most of the following tables.

<sup>c/</sup> Minimum and maximum values.

Time in the United States: Most workers (78 percent) had been continuously in the United States for nine months or less, with an average stay of 21 weeks. Most had arrived from Mexico during the 1978 calendar year; the other workers had been in the United States between one and three years (Figure 1).

Apprehensions by Law Enforcement Agencies: Only 36 percent of the workers said they had ever had problems with immigration authorities in the United States. Most of the problems were apprehensions for illegal status. About the same number (37 percent) said they knew other workers who had been apprehended by the INS or other law enforcement agencies.

Home State: All workers said they came to the United States from Mexico, with the majority from the states of Jalisco and Durango. Others came principally from Yucatan, Michoacan, Hidalgo, and Baja California (Table 2, Figure 2).

Mexican Work Experience: A total of 51 percent of the sample had worked in Mexico when they were last there. The other 49 percent said they had not worked in Mexico when last there. Probable work in Mexico if the respondents had not come to the United States was in agriculture for 47 percent, and in trades or manufacturing for 32 percent. Others listed probable work in government, business, or other fields. Only 12 percent said they would be unemployed if they had stayed in Mexico.

#### Travel From Mexico to Oregon

Of the workers interviewed in Hood River, 84 percent had walked across the Mexican border and 16 percent had ridden either cars or buses across the border.

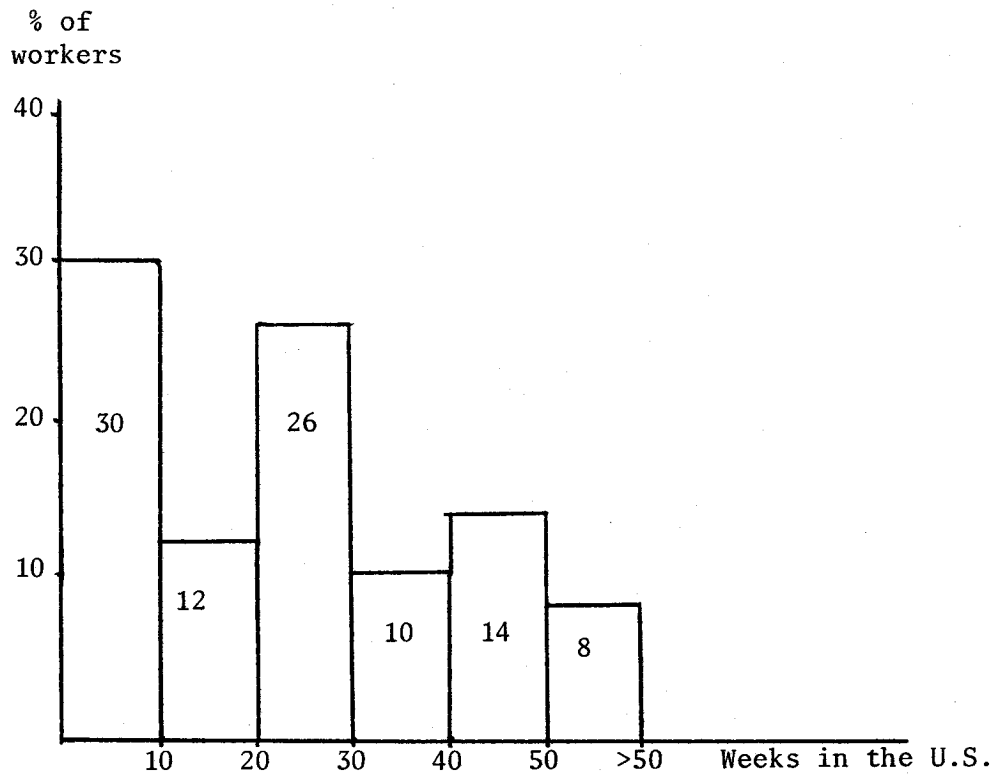


Figure 1. Frequency distribution of time in the United States (in weeks) during current stay for Mexican workers interviewed at Hood River



Table 2. Home state of Mexican workers surveyed, by number and percentage<sup>a/</sup>

	Rural	Village	Urban	Total
Jalisco	16 (35%)	11 (24%)	19 (41%)	46 (51.1%)
Durango	2 (15%)	8 (62%)	3 (23%)	13 (14.4%)
Yucatan	7 (87%)		1 (13%)	8 ( 8.9%)
Michoacan	6 (86%)		1 (14%)	7 ( 7.8%)
Hidalgo	2 (29%)	2 (29%)	3 (42%)	7 ( 7.8%)
Baja			5 (100%)	5 ( 5.6%)
Other Mexican	2 (50%)		2 (50%)	4 ( 4.3%)
TOTAL	35 (39%)	21 (23%)	34 (38%)	90 (100%)

<sup>a/</sup> Respondents were asked if their home area was rural (ranchero), village (villa), or urban (ciudad). Percentages in Rural, Village, and Urban columns are with respect to each state: percentages are with reference to total workers.

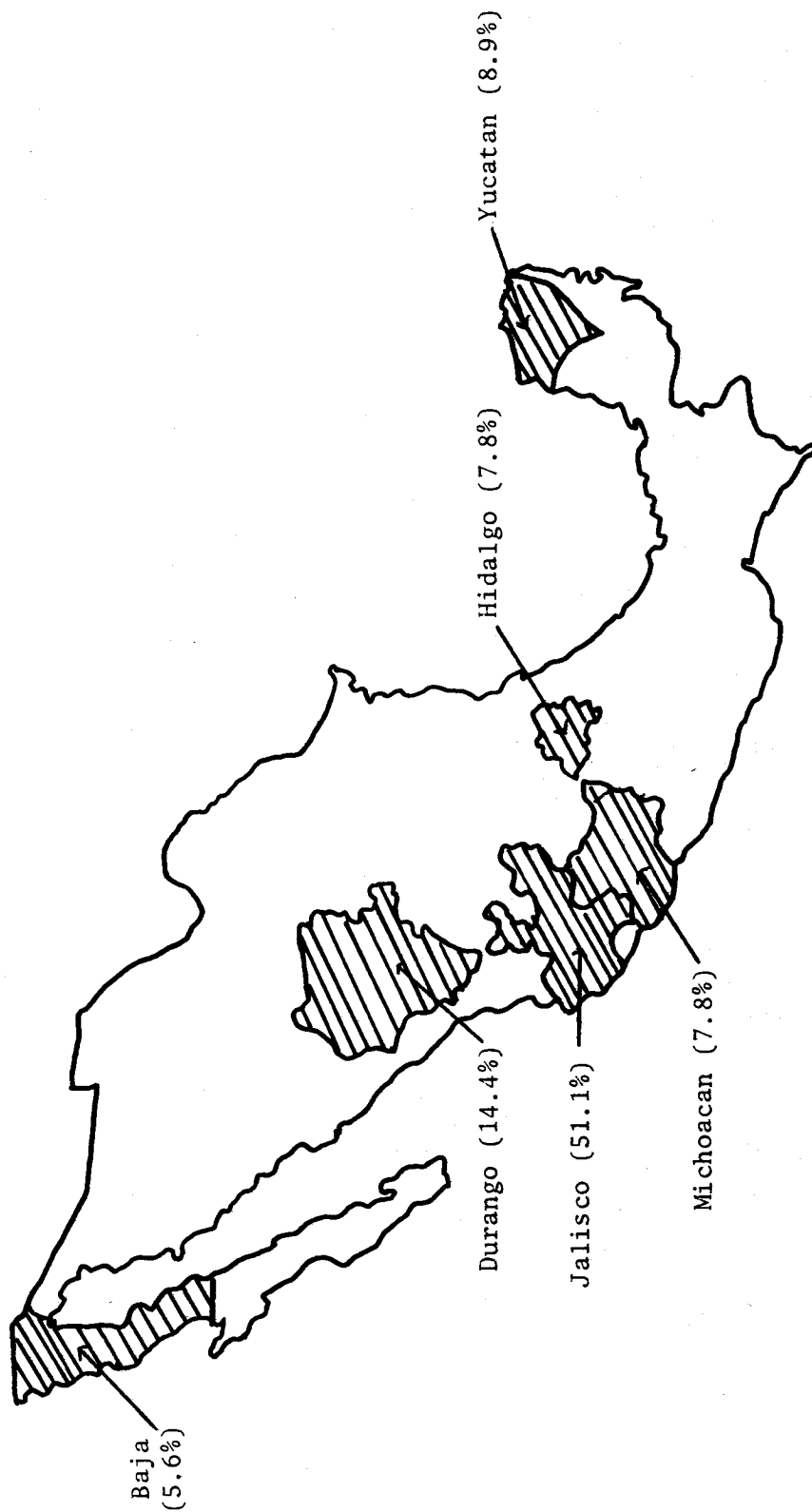


Figure 2. Home state of Mexican workers surveyed in Hood River, Oregon

The migrant stream from Mexico to Hood River was direct for many workers; 64 percent went directly to Hood River from Mexico. Another 26 percent went to Hood River after stopping in California. The others had been elsewhere in Oregon (7.5 percent), Idaho (one percent), and Texas (one percent) before arriving in Hood River.

Most of the workers (73 percent) were traveling with a group of friends. Another 21 percent were traveling with their families. Only six percent were traveling alone.

Most transportation costs were arranged in advance at the Mexican border with a "coyote"<sup>7/</sup> or labor contractor. Workers paid about \$243 each for transportation from the Mexican border to Hood River and probably will pay at least another \$100 for the return trip (Table 3).

#### Employment and Earnings Overview

In Hood River, Mexican migrant workers primarily worked in harvesting fruit crops (cherries, apples, and pears) and in various pre-harvest agricultural activities (pruning and thinning, general farm work). All but two of the sample had worked one week or longer in Hood River and all had harvested apples and/or pears. On the average, each worker had 1.2 jobs (i.e., different employers) during the harvest period, 99 percent were paid by a piece-rate wage, and each had worked an average of 5.4 weeks. In addition to harvest labor, 49 percent also had worked in Hood River at various activities before harvest with an average of only one job each; 94 percent of these were in the agricultural sector and 80 percent were paid an hourly wage. Nearly all workers (90) said they

<sup>7/</sup> A coyote is an "entrepreneur who recruits, penetrates the border with and arranges transportation for illegal aliens for a price" (Stoddard, 1976, page 161).

Table 3. Estimated travel costs of Mexican workers from previous area to Hood River and from Hood River to Mexican border

	Average (\$)	Number of respondents
Estimated cost of transportation to Hood River		
From Mexican border	243.18 + 23.04	66
From elsewhere in Oregon Washington, or Idaho	53.00 + 69.08	5
From California	38.75 + 43.76	4
From Texas	40.00	1
Estimated costs of return transportation <sup>a/</sup>		
From Hood River to Mexican border	100.00	
Total estimated transportation costs 1978	343.18	66

<sup>a/</sup> Estimate based on bus fare from Hood River to Tijuana; this represents a minimum return transportation cost estimate.

considered their work experience in Hood River to be either good or excellent.

Information also was acquired regarding prior employment in areas other than Hood River; 31 (33 percent) had also worked in other areas during 1978. Eight workers had been employed in other areas of Oregon and one each had been employed in Washington and Idaho. All but one of these were in the agricultural sector, with 50 percent being paid a piece-rate wage. Twenty-six had worked in various parts of California; 16 had agricultural jobs, and 12 had worked in non-agricultural jobs, principally manufacturing and low-skill services. Among all workers in California, 89 percent were paid an hourly wage and the others were paid a piece-rate wage.

### Gross Earnings

#### Hood River

The gross earnings of the Mexican migrant workers interviewed in Hood River can be subdivided into two types: that earned in the apple and/or pear harvest and that earned in various jobs before harvest. For employment during harvest, workers reported a mean daily earnings of \$40.40 and an average work-day of 8.5 hours (Table 4). This represented an average wage of \$4.76 per hour for harvest work. Workers reported an average work week of 6.2 days, which resulted in a mean weekly earnings of \$243 per worker. The mean number of weeks worked at harvest jobs was 5.9, resulting in an average gross earnings of \$1,483 during the fruit harvest.

A total of 46 workers also had jobs before the Hood River harvest. The average hourly wage in pre-harvest agricultural work, \$3.42 per hour, was \$1.34 per hour less than the average harvest wage of \$4.76 per hour.

Table 4. Estimated Mexican worker earnings and employment data by type of work in Hood River<sup>a/</sup>

	Harvest (n=91)		Prior to harvest		Total (n=91) <sup>c/</sup>
	Agriculture (n=46)	Non-agricultural (n=2)	Agriculture (n=46)	Non-agricultural (n=2)	
Hourly	\$ 4.76 + .24 <sup>b/</sup>		3.42 + .18 <sup>b/</sup>	3.31 + 2.39 <sup>b/</sup>	4.10 + .17 <sup>b/</sup>
Average hrs/day worked	8.5 + .1		8.2 + .2	8.0 + 0	8.4 + .1
Daily	\$ 40.40 +	1.98	28.28 +	26.50 +	34.63 +
Weekly	\$ 243.15 +	13.28	140.79 +	132.50 +	197.23 +
Number of weeks employed	5.9 + .9		15.7 + 2.7	5.0 + 12.7	13.9 + 2.4
Total earnings (\$)	\$1,483.27 +	244.31	\$2,137.91 +	355.09	670.00 +
				2160.05	\$2,569.05 +
				430.61	

<sup>a/</sup> The reader is cautioned that multiplying one mean value by another mean value will not necessarily equal a third mean value. For example, multiplying average weekly earnings and average total weeks worked does not equal average total earnings. An inequality may occur if the two variables are correlated, that is, if those with high weekly earnings worked more (or fewer) weeks than did those with low weekly earnings.

<sup>b/</sup> Workers were asked to state their (1) average daily earnings, (2) average hours worked per day, (3) average days worked per week, (4) total weeks of employment and unemployment, and (5) hourly wage if applicable. Values were then computed, for each worker, for each of the other variables shown above. Mean values and confidence intervals were determined for each variable. As an example, mean daily earnings during harvest were estimated at \$40.40 for the sample of 91 workers, with a 95 percent chance that the mean value for the population of all Mexican migrant workers in Hood River was between \$38.48 and \$42.32 per day.

<sup>c/</sup> Two workers surveyed had less than one week of employment in Hood River and were not included in these calculations.

Also, the average hourly wage for non-agricultural work was \$3.11, or \$0.31 per hour less than the pre-harvest wage in agriculture. Both of these differences were statistically significant.

Combining the data for harvest and pre-harvest earnings, an estimate of total Hood River earnings was calculated. For all work in Hood River, the mean wage was \$4.10 per hour. With an average work day of 8.4 hours and estimated work week of 5.8 days, means of \$34.63 per day and \$197 per week were computed. On the average, workers were employed a total of 13.9 weeks in Hood River and worked for 2.2 employers. During this period, the average worker earned \$2,569.

The following salient points also were determined from the survey concerning the work of Mexican migrants in Hood River:

Unemployment: On the average, each worker was unemployed 2.8 weeks while in Hood River. When added to the average work period (13.9 weeks), this results in a total period of stay at Hood River of 16.7 weeks (roughly from June through October 1978) and an average unemployment rate of about 17 percent.

Minimum Wage: Only two of the 91 workers with harvest earnings in Hood River had an average hourly wage, while employed, which was below the 1978 federal minimum agricultural wage of \$2.30 per hour. During the pre-harvest period, none had earnings below the minimum agricultural wage and only one had earnings below the general minimum wage of \$2.65.

Harvest Versus Pre-Harvest Work: Approximately 47 percent of those surveyed were employed only in harvest work. Others also had work in the pre-harvest period.

Agricultural Versus Non-Agricultural Employment: Only 2 persons (2.2 percent) had worked at non-agricultural jobs.

Elsewhere in Oregon

Eight of the 93 interviewed in Hood River had also worked in another Oregon location (Table 5). Six had one job only and two persons had two jobs; all but one of these jobs (87 percent) were in agriculture. Workers earned an average of \$24.62 per day and worked an average of 7.8 hours per day, which represents an average of \$3.01 per hour. An estimate of \$123 as a mean weekly earnings was calculated, using five days per week as an estimate of average number of days worked. The eight workers were employed an average of 9.9 weeks and had average total earnings of \$1,189. The following information also was inferred from the sample:

Unemployment: Each worker was unemployed an average of 2.1 weeks during the period in Oregon before going to Hood River, or approximately 17 percent of the average 12-week period.

Agricultural Versus Non-Agricultural Wage: No statistically significant difference between the agricultural wage (\$3.01 per hour) and non-agricultural wage (\$3 per hour) was found.

Minimum Wage: None of the jobs held elsewhere in Oregon had an hourly wage below the \$2.30 per hour minimum agricultural wage. Two agricultural jobs (25 percent) were paid below the general minimum wage of \$2.65 per hour.



Table 5. Estimated Mexican worker earnings and employment data by type of work elsewhere in Oregon and in California

	Elsewhere in Oregon			California			All <sup>a/</sup> (n=26)
	Agriculture (n=7)	Non-agriculture (n=8)	All work (n=8)	Agriculture (n=16)	Non-agriculture (n=12)	All	
\$/hr.	3.01 ± 0.50	3.00	3.01 ± 0.41	3.60 ± .59	2.39 ± .30	3.10 ± .46	
Average hrs./day worked	7.9 ± 0.9	8.0	7.9 ± .7	8.2 ± .4	8.9 ± .9	8.5 ± .5	
\$/day	24.71 ± 5.91	24.00	24.62 ± 4.96	29.36 ± 4.86	20.92 ± 2.11	25.87 ± 3.36	
Weeks employed	9.1 ± 7.9	32.0	9.9 ± 9.1	10.2 ± 3.6	12.7 ± .39	12.2 ± 2.8	
\$/week	123.57 ± 29.57	120.00	123.12 ± 24.78	146.79 ± 24.33	104.58 ± 10.54	129.36 ± 16.80	
Weeks unemployed	2.4 ± 1.6	4.0	2.1 ± 1.5	2.1 ± 1.1	2.3 ± 1.1	2.3 ± .8	
Total earnings (\$)	1,102.14 ± 945.00	3,480.00	1,189.37 ± 1,098.00	1,342.92 ± 414.00	1,319.37 ± 347.00	1,431.73 ± 547.00	

<sup>a/</sup> Two workers in California had employment both in agriculture and non-agricultural jobs.

## California

Twenty-six of the Mexican migrant workers interviewed in Hood River had worked in California before the Hood River harvest (Table 5). On the average, a worker in California made \$3.10 per hour, worked an average of 8.5 hours per day, and had daily earnings of \$25.87. They earned \$129 per week over an average of 12.2 weeks of employment, with an estimated work week of five days. This amounts to an average total earnings in California of \$1,432. The sample data also included information on the following:

Unemployment: On the average, a worker was unemployed for 2.3 weeks, or approximately 16 percent of the total time in California (14.5 weeks).

Minimum Wage: For all work combined, seven workers (27 percent) were paid a wage (while employed) which was below the agricultural minimum wage of \$2.30; 10 (38 percent) were paid a lower wage than the general minimum wage of \$2.65. Separating agriculture from non-agricultural work, 12 percent of agricultural workers were paid below the minimum agricultural wage; in non-agricultural sectors, 58 percent were paid below the \$2.65 minimum wage.

Agricultural Versus Non-Agricultural Wages: The average hourly wage in agriculture (\$3.60 per hour) was significantly higher than the average hourly wage of \$2.39 in non-agricultural employment.

Agricultural Versus Non-Agricultural Jobs: The 26 workers had a total of 35 jobs while in California, or an average of 1.4 jobs per person. Twenty-two (63 percent) of these jobs were in the agricultural sector and 13 were in various non-agricultural sectors.

Total Earnings: January through October 1978

The aggregated gross earnings estimates for all work during 1978 to the time of the survey are summarized in Table 6. From January through October 1978, the average Mexican worker at Hood River had been in the United States for 20.7 weeks. He (or she) had been employed for 18.1 weeks (87 percent of the time) and had an overall average wage of \$3.81 per hour and total gross earnings of \$3,053 during the nine-month period. The following points are also significant:

Minimum Wage: For all work combined, both agricultural and non-agricultural, 95 percent of the sampled workers were paid wages above the minimum wage of \$2.65 per hour; 97 percent were above the \$2.30 minimum agricultural wage.

Agricultural Versus Non-Agricultural Work: Ninety-nine (99) percent of all Hood River jobs held by Mexican migrants were in agriculture. Elsewhere in Oregon, 90 percent of all jobs were in agriculture. In California, 63 percent of all jobs were in agriculture.

Anticipated Earnings: October through December 1978

Workers at Hood River were interviewed in early October 1978 when the harvest was at its peak with regard to total employment. Eighty-two workers anticipated further work in Hood River, most working at least until the end of the harvest (about an additional five weeks). Some planned to continue working in the United States after harvest but most planned to return to Mexico before Christmas (see page 38). For further analysis, anticipated earnings were estimated from the date of the survey through either (1) the worker's return to Mexico, or (2) the end of the calendar year. This esti-

Table 6. Estimated Mexican worker earnings and employment data for all work from January 1 through October 1, 1978

	January through October 1978 (Number of respondents = 92)	
Dollars per hour	\$ 3.81	+ .18
Average hours worked per day	8.4	+ .1
Dollars per day	\$ 32.13	+ 1.51
Dollars per week	\$ 182.70	+ 13.81
Weeks employed	18.1	+ 2.6
Weeks unemployed	2.6	+ .5
Total earnings (\$)	\$3,053.50	+ 447.85

mate used the respondent's harvest wage for work through October 30 (when it was assumed that harvest work would end) and the respondent's pre-harvest wage for any work to be done in November or December.

On the average, workers anticipated working in Hood River for 4.6 weeks beyond the time of the interview, or through early November. During this time, a worker could expect to earn an average of \$799. Adding these anticipated earnings to the actual earnings through October 1, an estimated gross earnings of \$3,909 per worker was calculated for an estimated 22.6 weeks of work from the worker's arrival in the United States through the end of 1978.

#### Expenses

In addition to transportation costs (Table 3), each worker incurred expenses during the work period at Hood River (Table 7). Food represented the greatest single expense for most workers, with an average weekly expenditure of \$25.31 on food items. Only one person (one percent) reported making any payments for rent or housing. Of special note were the payments by workers to "coyotes", usually a time payment for transportation from the Mexican border to Hood River. Automobile and clothing costs were reported for one-third of the sample. Forty-one workers (44 percent) said taxes -- primarily Social Security and Workman's Compensation -- were taken out of their salaries; they reported an average weekly withholding of \$18.10. Overall, workers had average weekly expenses of \$54.73 while in Hood River.

Table 7. Weekly expenses in Hood Riber for October 1978 for those who reported the expense and for the entire sample

	For those who reported the expense		For the entire sample (n=93)	
	Average <sup>a/</sup>	Number of respondents	Average	
Food	\$ 25.31 ± 1.65	90	\$24.49	
Housing	7.00	1	.07 ± .15	
Clothing	20.00	31	6.67 ± 2.44	
Automobile	11.06	27	3.21 ± 1.73	
"Coyote"	30.84	6	1.99 ± 1.64	
Beer, liquor	6.62	35	2.49 ± .72	
Entertainment	8.16	27	2.37 ± .82	
Other	12.86	24	3.32 ± 1.32	
Taxes	18.10 ± 1.58	41	7.98	
Total weekly expenses	\$ 54.73 ± 4.30	91	53.55	

<sup>a/</sup> The sum of the items will not equal total expenses because not all respondents reported purchases of all items.

### Net Earnings Estimates

The information on gross earnings can be combined with the reported weekly expenses to make estimates of net earnings<sup>8/</sup> (Tables 8 and 9). Some caution must be used in interpreting these data. Expense information was collected only for Hood River; the use of these data to estimate expenses in other locations in Oregon, California, and other areas (as was done here) requires an assumption of similar demands and costs in all areas. These estimates of net earnings, therefore, must be viewed as approximations.

At Hood River, average net earnings were \$191.77 per week for harvest work and \$85.98 per week for pre-harvest work, which represents 77 percent and 61 percent of gross weekly earnings in harvest and pre-harvest work, respectively. For the harvest period at Hood River and prior to the interviewing, each worker had an average total net earnings of \$1,115 for approximately six weeks of work. For those migrants who also worked at Hood River before harvest, average net earnings were \$1,268 for approximately 15.5 weeks of work. This was in addition to their earnings for harvest work. Overall, the average total net earnings in the Hood River area during 1978 (before the survey) was \$1,732 for approximately 17 weeks in Hood River, including 14 weeks of work and 2.8 weeks of unemployment.

By using the gross earnings estimates for areas other than Hood River in conjunction with the expense data from Hood River, an estimate of net earnings in areas other than Hood River was approximated for 30 workers who worked elsewhere. With an average working time of 12 weeks, these

---

<sup>8/</sup> Net earnings are used in a restricted sense as that portion of gross earnings not immediately spent on living expenses (food, housing, clothing, transportation, entertainment, etc.). For Mexican aliens, this represents an upper limit on possible savings and remittances sent to relatives in Mexico.

Table 8. Estimated net earnings, weekly and total, for Mexican workers at Hood River and elsewhere in the United States before interview<sup>a/</sup>

	Average (\$)	Number of workers
<u>Hood River</u>		
For harvest period		
Weekly	\$ 191.77 + 12.64	89
Total	1,115.32 + 197.99	89
For pre-harvest period		
Weekly	85.98 + 6.94	47
Total	1,267.76 + 198.18	47
For all time at Hood River		
Weekly	144.82 + 10.41	89
Total	1,732.21 + 283.35	89
<u>Other U.S. areas</u>		
Total	772.68 + 205.81	30

<sup>a/</sup> Numbers of workers are often lower than those used for gross earnings estimates because of the lack of data on one or more of the components of these estimates.



Table 9. Estimated average net earnings of Mexican workers to October 1, 1978, and to December 31, 1978, before and after accounting for transportation costs

	Average (\$)	Number of workers
<u>Total net earnings</u>		
January 1 - October 1, 1978	1,984.24 + 297.69	89
<u>Total net earnings less transportation costs<sup>a/</sup></u>		
Est. January 1 - October 1, 1978	1,739.20 + 299.96	89
<u>Anticipated net earnings</u>		
October 1 - December 31, 1978	551.84 + 54.59	80
<u>Anticipated 1978 net earnings</u>	2,533.61 + 329.01	80
<u>Anticipated 1978 net earnings less transportation costs<sup>b/</sup></u>	2,191.11 + 332.07	80

<sup>a/</sup> Includes one-way transportation costs from Mexico to Hood River (estimated average, \$243).

<sup>b/</sup> Includes round-trip transportation costs between Mexico and Hood River (estimated average, \$343).

workers had an estimated average total net earnings of \$773 before going to Hood River, approximately 49 percent of gross earnings.

Combining the net earnings data for all areas, an estimate of average total net earnings was calculated for the period from January through October 1978. For an average length of stay in the United States of 21 weeks, total net earnings were \$1,984 for the average worker in the sample. This represents approximately 64.1 percent of total gross earnings during the period. When transportation cost estimates to Hood River were subtracted for each worker, total net earnings through October were estimated to be \$1,740 per worker. Anticipated net earnings beyond the time of interview were calculated to be \$552; when added to realized net earnings of \$1,984, annual net earnings for 1978 were therefore \$2,534 before subtracting any transportation costs and \$2,191 after subtracting round-trip transportation costs to and from the Mexican border.

### Savings

Three measures of savings by workers were included in the survey questionnaire. These were, (1) estimated weekly savings while in Hood River, (2) estimated weekly remittances by workers to their families in Mexico, and (3) estimated total savings since Christmas 1977 (Table 10). In total, workers estimated that they were able to save or send to Mexico between \$800 and \$900 during the first 10 months of 1978. These estimates represent about 50 percent of total net earnings at Hood River during the same period. This implies that (1) savings were under-estimated, (2) average weekly expenses were under-estimated, and/or (3) some money had been retained by the worker and not yet accounted for as savings or remittances to Mexico. It is impossible from the data to determine which of these is the most likely explanation.

Table 10. Estimated average weekly and total savings and remittances sent to Mexico by Mexican workers interviewed at Hood River<sup>a/</sup>

	Average (\$)	Number of respondents
Weekly savings at Hood River <sup>b/</sup>	62.55 + 10	56
Weekly remittances sent to Mexico while at Hood River <sup>c/</sup>	52.83 + 6	52
Total savings in Northwest <sup>d/</sup> (estimated by respondent)	804.07 + 218	54
Total dollars sent to relatives in Mexico (calculated: weekly remittances <sup>c/</sup> times total weeks employed in Northwest)	900.21 + 232	52

<sup>a/</sup> An ambiguity may exist as to how savings and remittances were understood by those surveyed. Several workers apparently included savings in their estimate of money sent to relatives in Mexico while other workers separated the two. As such, there is a possibility of double counting that could not be disentangled from the results.

<sup>b/</sup> "Of the money you earn per week, about how much are you generally able to save?"

<sup>c/</sup> "How much money do you send your family from here?"

<sup>d/</sup> "How much, altogether, were you able to save since last Christmas?"

### Opportunity Earnings in Mexico

One-half of the sample (47 workers) responded to questions concerning their work experiences when last in Mexico. Others either had no work experience when last in Mexico or did not answer the question. Of those with reported work experience in Mexico, 44 percent had work in agriculture, 40 percent in trade or manufacturing, and 14 percent in other jobs (government, military, miscellaneous business).<sup>9/</sup> Average gross earnings in Mexico were \$21.36 per week with agricultural workers earning slightly less (Table 11).

Forty-one persons gave information as to what they would be doing if they had been in Mexico at the time of the survey. Five (12 percent) said they would be unable to find any work. Thirty-six (88 percent) said they would be working and would have an estimated 31.9 weeks of employment, on the average, had they not come to the United States.<sup>10/</sup> Combining the employment information with the above earnings data of \$21.36 per week, annual agricultural earnings in Mexico were estimated at \$624 per worker, and non-agricultural earnings (principally in trade and manufacturing) were estimated at \$720 per year for each worker.

### Estimation of the Earnings Differential

Complete information on both the U.S. and Mexican earnings was available for only 35 workers from the sample; 34 had been determined to be illegal Mexican aliens. The initial assumption was that employment in the

---

<sup>9/</sup> Two percent did not state their type of employment in Mexico.

<sup>10/</sup> It is not entirely clear how respondents interpreted questions concerning employment opportunities in Mexico. An ambiguity in the data exists as to whether work in Mexico was viewed as complementary to or competitive with U.S. employment opportunities.

Table 11. Estimated average weekly and yearly gross earnings of Mexican workers had they remained in Mexico<sup>a/b/</sup>

	Average (\$)	Number
<u>Estimated weekly earnings</u>	21.36 + 2.38	42
Agricultural work	21.19 + 2.62	21
Non-agricultural work	21.71 + 3.46	21
<u>Estimated weeks employed per year</u>	28.00 + 3.95	41
Employment probable	31.9	36
With no probable employment	0.0	5
<u>Estimated yearly earnings</u>	656.06 + 52.13	36
Agricultural work	624.15 + 59.13	24
Non-agricultural work	719.89 + 106.06	12

<sup>a/</sup> An exchange rate of U.S. \$1 = 22 Mexican pesos was used for these estimates.

<sup>b/</sup> The reader is cautioned that multiplying one mean value by another mean value will not necessarily equal a third mean value. An inequality may occur if the two variables are correlated.

U.S. would be an alternative to employment in Mexico, not a supplement to it. The earnings differential for each worker was therefore calculated by subtracting foregone earnings in Mexico from total net earnings in the U.S.<sup>11/</sup> Earnings Differential I was calculated for the period January through October 1978 (Table 12, Figure 3). The average for this differential was \$1,464. Among all workers, 83 percent had a positive earnings differential, implying they already had net earnings in the United States that exceeded foregone gross earnings in Mexico for all of 1978.

By combining net earnings to October 1978 with anticipated net earnings for the remainder of 1978, a yearly U.S. net earnings estimate was calculated and used to estimate two additional earnings differentials. Earnings Differential II, which excludes any transportation costs, shows 88 percent of the workers with a positive differential and with a mean value of \$1,889. When total transportation costs are subtracted (Earnings Differential III), the average was \$1,552; 85 percent of the sample had a positive differential.

The finding that 15 percent of the sample had a negative differential (thus implying a negative economic incentive for this group to migrate and seek employment in the United States) led to an examination of the characteristics of those workers with a negative differential. It was discovered that all of these workers had arrived at Hood River only a short time before the interview. An alternative assumption was then made that some workers might have been employed in both countries during the year. Using this assumption, an estimate of Mexican opportunity earnings was calculated which corrected for the length of stay in the United States.

---

<sup>11/</sup> Subtracting net earnings in Mexico would have been the most appropriate procedure, but data on living expenses in Mexico were not available.

Table 12. Estimated average earnings differentials between net U.S. earnings and gross Mexican earnings

	Average	Number of respondents
Assuming that all 1978 Mexican earnings were sacrificed:		
Earnings Differential I <sup>a/</sup> (see Figure 3)	\$1,463.68 + 512	35
Earnings Differential II <sup>b/</sup> (see Figure 4)	\$1,888.80 + 528	33
Earnings Differential III <sup>c/</sup> (see Figure 5)	\$1,551.68 + 538	33
Allowing for some Mexican earnings during 1978:		
Earnings Differential IV <sup>b/</sup> (see Figure 6)	\$2,216.55 + 463	33
Earnings Differential V <sup>c/</sup> (see Figure 7)	\$1,879.43 + 472	33

<sup>a/</sup> Calculated using net U.S. earnings realized before survey date (i.e., January 1 through October 1, 1978) and excluding all transportation costs.

<sup>b/</sup> Calculated using net U.S. earnings anticipated for all of 1978, excluding transportation costs.

<sup>c/</sup> Calculated using net U.S. earnings anticipated for all of 1978, including transportation costs.

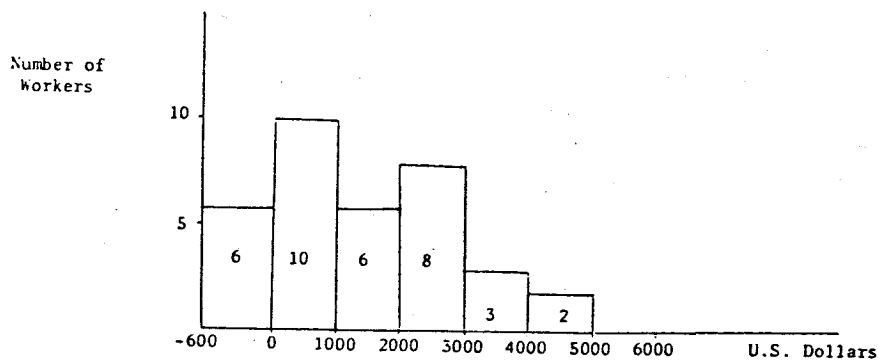


Figure 3. Frequency distribution of Earnings Differential I (January 1 - October 1, 1978, excluding transportation costs; number of workers = 35).

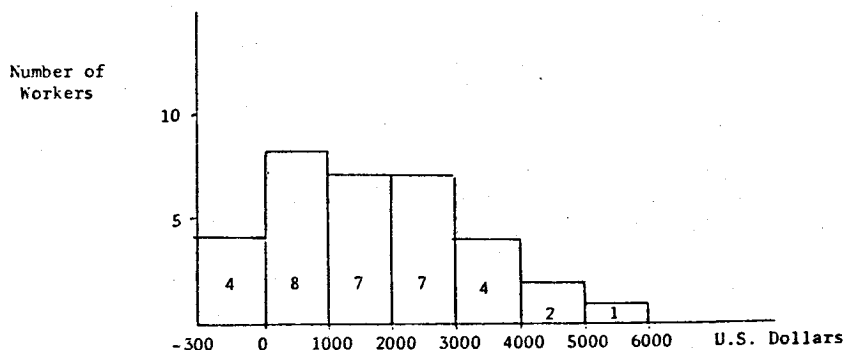


Figure 4. Frequency distribution of Earnings Differential II (January 1 - December 31, 1978, excluding transportation costs; number of workers = 33).

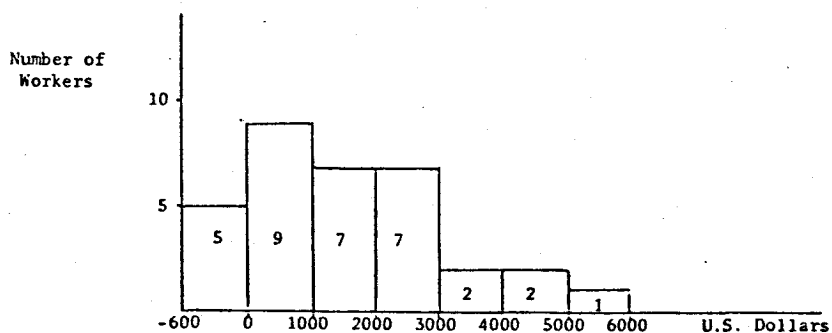


Figure 5. Frequency distribution of Earnings Differential III (January 1 - December 31, 1978, including transportation costs; number of workers = 33).



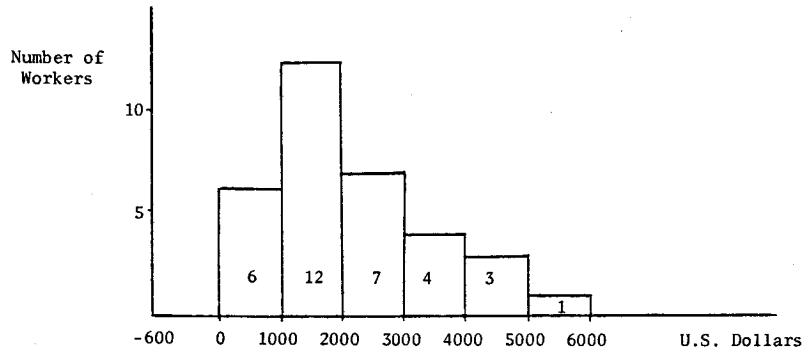


Figure 6. Frequency distribution of Earnings Differential IV (January 1 - December 31, 1978, excluding transportation costs; number of workers = 33).

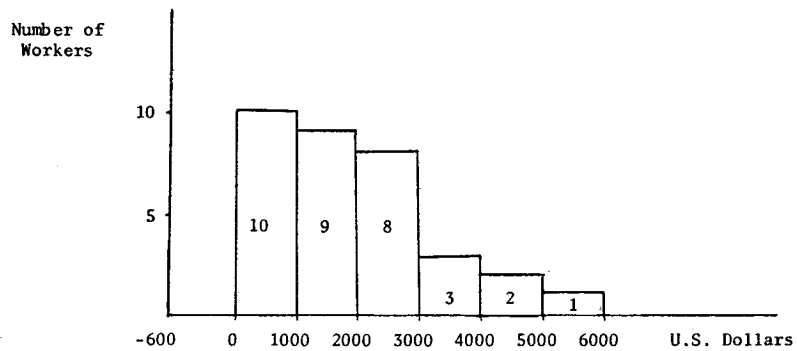


Figure 7. Frequency distribution of Earnings Differential V (January 1 - December 31, 1978, including transportation costs; number of workers = 33).

For those in the United States only half the year, only half the annual earnings estimate for Mexico was used as foregone earnings. This estimate, used in the calculation of Earnings Differentials IV and V, increased the estimate of the average earnings differential by about \$350, or about 20 percent above the previous estimates (Table 12, Figures 6 and 7). It also resulted in a positive earnings differential for all workers in the sample.

The data are insufficient to determine which of these two assumptions is most realistic. With either assumption, however, the differential between U.S. net earnings and Mexican gross earnings is approximately three times as large as the earnings foregone in Mexico. This would seem to confirm the existence of a substantial incentive for illegal migration.

#### Access to U.S. Social Services

Use of social service programs by Mexican workers while in the United States was very limited. Of all 93 workers interviewed, none had applied for unemployment compensation or for welfare benefits. Only one worker had applied for food stamps (he had received them). Although 46 percent of the sample had been ill at least once while in the United States, only 57 percent of those who were ill reported having seen a doctor or visited a medical facility. The 93 workers had a total of 65 children, but only 19 (29 percent) of these were with the worker in the United States. The workers had been in the United States primarily during the summer months and most planned to return to Mexico by Christmas; therefore, it can be assumed that the use of public school facilities was minimal.

In contrast to the limited use of social services, 44 percent of the sample said taxes were being regularly withheld from their earnings, with

an average weekly deduction of \$18.10. For the total working period in the United States (assuming that taxes were withheld in other areas at a similar rate), an average of about \$380 would have been withheld from the gross pay of the average worker during the total stay in the United States.

#### Plans of Workers

Eighty workers planned to continue working at Hood River for an average of 4.6 weeks. Sixty-five percent believed that they would be home in Mexico by Christmas 1978. The others planned to continue working in Oregon, Washington, or California. In the years ahead, 82 percent of the sample said they planned to continue migrant agricultural work in the United States. Others said they hoped to find employment in trade or manufacturing (65 percent) or to start their own business in Mexico (23 percent).

#### Comparison of Illegal and Legal Mexican Aliens

About 84 percent of the sample were judged to be illegal Mexican aliens. As such, it is not surprising that the sample data primarily would reflect the characteristics of this large segment of the sample. Significant differences between legal and illegal workers were confined for the most part to demographic and migration characteristics rather than to earnings data. On the average, legal Mexican workers tended to be somewhat older, with more schooling, and less predominantly male. They were much more likely to be both married and with children, and to travel as a family. Fewer legal workers had been employed when last in Mexico (where they did primarily non-agricultural work) and most were from urban areas.

Legal workers had more years of migrant experience and many planned to end migrant work in the near future. The wage rates paid to legal workers did not differ significantly from those paid illegal workers, but they did tend to have higher total earnings (both gross and net) because of a longer period of employment in the United States. The frequency of unemployment for legal and illegal workers was not significantly different; each group was unemployed about 15 percent of the time while in the United States.

### CONCLUSIONS

The focal point of this study has been the importance of the earnings differential between the United States and Mexico as a motivational factor for illegal Mexican migration. Although the data collected at Hood River are applicable in a strict sense only to the population from which the sample was drawn, the findings are suggestive of a more wide-spread phenomenon.

Based on these data, it appears that the earnings differential is large enough to motivate considerable illegal migration. The illegal Mexican aliens who worked at Hood River had gross earnings of approximately six times their foregone Mexican earnings. Accounting for expenses that they faced here reduced this amount to three times their foregone earnings. Whether most illegal Mexican aliens must sacrifice employment in Mexico to travel and seek employment in the United States was undetermined. In any case, this does not alter the conclusion that the earnings differential is substantial.

This study has documented only one aspect of the illegal Mexican migration phenomenon--the economic incentive for migration. Regardless of other factors, the study suggests that a substantial differential in

earnings opportunities exists between the two countries, providing a considerable impetus for illegal migration. Especially considering the likelihood of continued rapid population growth in Mexico, there is little indication that the impetus for illegal migration will soon disappear. It appears that the issue of illegal migration which the U.S. and Mexican governments have been unable to adequately resolve in the last decade and a half will continue to intensify until some form of either unilateral or bilateral policy becomes a necessity. Until that time, further research on the illegal migration phenomenon will form a better basis upon which policy options could be evaluated.

## BIBLIOGRAPHY

- Abrams, Elliott and Franklin S. Abrams. 1975. "Immigration Policy--Who Gets in and Why?". The Public Interest 38: 3-29. Winter.
- Alba, Francisco. 1978. "Mexico's International Migration as a Manifestation of Its Development Pattern". International Migration Review 12(4): 502-513, Winter.
- Annual Rural Services Report for 1978. 1979. State of Oregon, Employment Division, Department of Human Resources, January.
- Briggs, Vernon M. Jr. 1978. "Labor Market Aspects of Mexican Migration to the United States in the 1970's". In, S. Ross (ed.) Views Across The Border: The United States and Mexico. University of New Mexico Press, Albuquerque, New Mexico.
- Bustamante, Jorge A. 1977. Undocumented Immigration From Mexico: Research Report. International Migration Review 11(2): 149-177.
- Bustamante, Jorge A. 1978. Commodity Migrants: Structural Analysis of Mexican Immigration to the United States. In, S. Ross (ed.) Views Across the Border: The United States and Mexico. University of New Mexico Press, Albuquerque, New Mexico.
- Cardenas, Gilbert. 1976. Illegal Aliens in the Southwest: A Case Study. In Illegal Aliens: An Assessment of the Issues. The National Council on Employment Policy, Washington, DC.
- Cornelius, Wayne A. 1977. Illegal Mexican Migration to the United States: A Summary of Recent Research Findings and Policy Implications. Unpublished paper, Cambridge, M.I.T.
- Cornelius, Wayne A. 1979. Mexican Migration to the United States (with comparative reference to Caribbean-Basin Migration): The State of Current Knowledge and Recommendations for Future Research. La Jolla, California, University of California, San Diego, Working Paper No. 2, May.
- Corwin, Arthur F. and Walter A. Fogel. 1978. "Shadow Labor Force: Mexican Workers in the American Economy." In Arthur F. Corwin (ed.) Immigrants and Immigrants: Perspective on Mexican Labor Migration to the United States. Greenwood Press, Westport, Conn.
- Craig, Richard B. 1971. The Bracero Program: Interest Groups and Foreign Policy. Austin, University of Texas Press.
- Cuthbert, Richard W. 1979. The Economic Incentives Facing Illegal Mexican Aliens in the U.S.: A Case Study at Hood River, Oregon. Unpublished M.S. Thesis, Oregon State University, Corvallis.
- Dagodag, W. Tim. 1975. "Source Regions and Composition of Illegal Mexican Immigration to California." International Migration Review 9(4): 499-511.

- Dinerman, Ina R. 1978. "Patterns of Adaptation Among Households of U.S.-Bound Migrants from Michoacan, Mexico." International Migration Review 12(4): 485-501.
- Evans, John S. and Dilmus D. James. 1979. "Conditions of Employment and Income Distribution in Mexico as Incentives for Mexican Migration to the United States: Prospects to the End of the Century." International Migration Review, 13(1), Spring.
- Fogel, Walter. 1978. Mexican Illegal Alien Workers in the United States. Institute of Industrial Relations Publications, U.C.L.A., Los Angeles.
- Frisbie, Parker. 1975. "Illegal Migration from Mexico to the United States: A Longitudinal Analysis." International Migration Review 9(1): 3-13.
- Jenkins, J. Craig. 1977. "Push/Pull in Recent Mexican Migration to the U.S.." International Migration Review 11(2): 178-189.
- Jenkins, J. Craig. 1978. "The Demand for Immigrant Workers: Labor Scarcity or Social Control?." International Migration Review 12(4): 514-535.
- Marshall, Ray. 1976. "Employment Implications of the International Migration of Workers." In Illegal Aliens: An Assessment of the Issues, The National Council on Employment Policy, Washington, DC.
- Marshall, Ray F. 1978. "Economic Factors Influencing the International Migration of Workers". In S. Ross (ed.) Views Across the Border: The United States and Mexico, University of New Mexico Press, Albuquerque, New Mexico.
- North, David S. and Marion F. Houstoun. 1976a. The Characteristics and Role of Illegal Aliens in the U.S. Labor Market: An Exploratory Study. Linton and Co., Washington, DC.
- North, David S. and Marion F. Houstoun. 1976b. A Summary of Recent Data On and Some of the Public Policy Implications of Illegal Immigration. In Illegal Aliens: An Assessment of the Issues. The National Council on Employment Policy, Washington, DC.
- Piore, Michael J. 1976. "Illegal Immigration in the United States: Some Observations and Policy Suggestions." In Illegal Aliens: An Assessment of the Issues. The National Council on Employment Policy, Washington, DC.
- Portes, Alejandro. 1978. "Toward a Structural Analysis of Illegal (Undocumented) Immigration." International Migration Review 12(4): 469-483.
- Richmond, Anthony H. and Ravi P. Verma. 1978. "The Economic Adaptation of Immigrants: A New Theoretical Perspective." International Migration Review 12(1): 3-38.

- Rochin, Refugio I. 1978. "Illegal Aliens in Agriculture: Some Theoretical Considerations." Labor Law Journal 29(3): 149-167, March.
- Samora, Julian. 1971. Los Mojados: The Wetback Story. University of Notre Dame Press, Notre Dame, Indiana.
- Smith, Barton and Robert Newman. 1977. "Depressed Wages Along The U.S. Mexico Border: An Empirical Analysis." Economic Inquiry 15: 51-66.
- Stoddard, Ellwyn R. 1976a. "A Conceptual Analysis of the 'Alien Invasion': Institutionalized Support of Illegal Mexican Aliens in the U.S." International Migration Review 10(2): 159-189.
- Stoddard, Ellwyn R. 1976b. "Illegal Mexican Labor in the Borderlands: Institutionalized Support of an Unlawful Practice." Pacific Sociological Review 19(2): 175-210, April.
- Taylor, Paul S. 1978. "The Future of Mexican Immigration." In Arthur F. Corwin (ed.). Immigrants and Immigrants: Perspectives on Mexican Labor Migration to the United States. Greenwood Press, Westport, Conn.
- Villalpando, M. Vic, et al. 1977. A Study of the Socioeconomic Impact of Illegal Aliens on the County of San Diego. Human Resources Agency, County of San Diego, San Diego, California.



APPENDIX A

SURVEY PROCEDURES

## APPENDIX A

## SURVEY PROCEDURES

The field survey was designed to elicit information on the characteristics of illegal Mexican aliens who were employed in seasonal agricultural work in the Hood River Valley of Oregon. The population from which the sample was drawn can be defined as all Mexican migrant workers who were employed in the Hood River Valley during the fall agricultural harvest at the time of the interviewing (the first two weekends of October 1978). This population may not have included all Mexican workers in the Hood River area; presumably some persons were unemployed at the time of the survey because of age, ability, choice, or change. As there was no way to determine a priori the legal status of the Mexican workers to be interviewed, this was considered to be the only available population from which to sample.

A list of 149 agricultural employers provided a sampling frame from which a random sample of Mexican workers could be drawn. The list included 99 percent of all orchards in the area and 100 percent of those who employed out-of-state migrant laborers. A total of 30 employer names were selected at random from the sampling frame. Because little was known about the parameters or characteristics of the population, it was difficult to determine an appropriate sample size. A target goal of approximately 100 interviews was concluded to be within the financial constraints of the study and yet large enough to allow for adequate detail in the results. The number of interviews conducted at each orchard was stratified according to the total number of out-of-state migrant laborers employed at each orchard at the time of the survey to control for any bias that orchard

size might have on the survey. Twenty-six Mexican aliens were contacted at large orchards (those hiring more than 20 workers), 48 at medium-size orchards (those hiring between 10 and 20 workers), and 22 at small orchards (those hiring fewer than 10 workers). Personal interviews with probable Mexican aliens (selected by visual characteristics outlined below) were conducted in Spanish at orchard sites. Of a total of 96 interviews initiated, 93 provided enough data to be useful to the study.<sup>12/</sup>

The field questionnaire was pretested and revised twice during the two months before the actual survey was conducted, with significant additions and alterations made each time. In anticipation that the workers would have little formal education (substantiated in the pretests), questions were written as simply and concretely as possible to minimize any problem of comprehension. The questionnaire was systematically organized so that less threatening questions (such as those dealing with present earnings and expenses) were asked before more sensitive questions (such as those dealing with immigration difficulties and nationality). It was planned that rapport and trust could be estimated between interviewer and respondent before the potentially more sensitive questions were asked, thereby minimizing bias. Several questions which could have threatened either employers or respondents (and possibly bias the entire survey results) also were avoided.<sup>13/</sup>

---

<sup>12/</sup> Two of those interviews discarded had to be terminated early in the interview; the other person interviewed had just arrived in Hood River and had not yet gone to work. With such a high response rate, non-response bias in the sample was assumed to be minimal.

<sup>13/</sup> Some of the questions specifically not asked included legal status in the U.S., how specific employment locations were chosen, details of work and living conditions, and details as to illegal alien smuggling operations.

From the inception of the study, the researchers realized the crucial importance that the choice of both interviewer and interview location could have on the quality of the study. An interviewer who could feel at ease during the interview process and develop confidence among the subjects was essential. Along with these subjective qualities, other skills necessary for good interviewing also were needed. This research was greatly aided by a bilingual (Chicano) interviewer who met these qualifications admirably. It was decided that interviewing at the work site allowed the greatest balance between a comfortable interview setting for the subjects and control for interview accuracy.

Perhaps the most sensitive aspect of the interview process concerned the assessment of nationality of those interviewed and, more importantly, whether they were in the United States legally. Initially, cultural characteristics such as language, dialect, dress, work habits, and choice of companions were used as criteria by which a knowledgeable, native Spanish-speaking interviewer would be able to distinguish between Mexican and non-Mexican workers. Although no specific test for the accuracy of these criteria was made, persons experienced with Mexican aliens felt that these distinctions could be made with fairly reasonable accuracy. During the interviews, all but three of the 93 subjects claimed Mexican nationality. A more subjective criterion was involved in the question of legality. By using an interviewer who was quite familiar with illegal aliens from previous work experience, an assessment as to the legality of Mexican aliens was made, primarily based on cultural factors, worker's composure, and individual reactions to certain questions.<sup>14/</sup> The accuracy of this deter-

---

<sup>14/</sup> These questions related to method of border crossing and previous problems with immigration authorities.