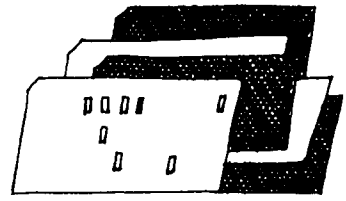
Research Summaries



Employment and wages reported by California farmers in 1982

GARY JOHNSTON AND PHILIP L. MARTIN

In California, the Nation's largest agricultural State, 82,000 farms reported employing an annual average of 66,000 farmers and family workers and 223,000 hired workers to produce crops and livestock worth $14 billion in 1982. The vitality of California agriculture obviously has a significant influence on the health of the State's economy.

Most farms in the United States and in California are owned and operated by farmers and their families. Throughout the Nation, farmers do 70 percent of all farm work, but in California hired workers do 70 percent of the State's farm work and farmers, only 30 percent.

Farm labor statistics are confusing and contradictory. The Federal Government collects information on farm labor in the Census of Agriculture. The U.S. Department of Agriculture sends an employment questionnaire to farmers in July and publishes the results in *Farm Labor*. The department also contracts with the Bureau of the Census to ask the 60,000 households in the Current Population Survey questions about farmwork every other December and publishes the results from about 1,500 farmworker households in biennial *The Hired Farm Work Force* reports. California's local Job Service offices submit monthly estimates of agricultural employment that are published in 881 reports of the State's Economic Development Department. These information gathering efforts have different purposes and utilize different survey techniques, so each deals with a different part of the heterogeneous farm labor market. A further complication is the presence of the unreported illegal or "undocumented" workers who pour into the market, mostly from Mexico.

The Census of Agriculture reported that more than half of California farms hired a total of 800,000 farmworkers in 1978 (a worker employed on two farms would be counted twice). The July 1982 survey of employers reported in *Farm Labor* that California farms employed 240,000 workers who averaged 43 hours of work each week. Wages averaged $4.39 for hourly workers and $6.63 per hour for piece-rate workers. The 1981 Hired Farm Work Force survey interviewed a sample of farmworkers and reported that 334,000 persons worked at least 1 hour for wages in California, Arizona, Hawaii, and Nevada. Of this number, about 49 percent were Hispanic. California's monthly estimates show hired farmworker employment ranging from 175,000 in March to 270,000 in September, or an annual average of 223,000 hired farmworkers.

The farm labor data collected regularly by Federal and State agencies are confusing to policymakers and of limited use to farmers and farmworker representatives because each statistical system paints a different but unclear picture of the farm labor market. Much as the blind men describing the elephant, generalizations from a single data series may give a misleading impression of the job market in a particular commodity or region. To generate more detailed information, a farm labor questionnaire was mailed to California farmers by several farm organizations in 1982.[1] Farmers were asked 13 questions about commodities grown, the number of year-round and seasonal employees, hours of work and wages, and employer satisfaction with the quality and quantity of farmworkers.

The 1982 survey

More than 800 employers responded to the survey, and they represented the spectrum of crops and livestock produced in California. More than half were growers. Most of the respondents (58 percent) produced or worked in the fruit and nut industry. The survey was mailed to employers throughout the State, and 64 percent of the responses came from the San Joaquin Valley, the State's major agricultural area.

The farmers reported that they employed 42,000 year-round workers and 139,000 seasonal workers in 1981. The 619 farms that employed year-round workers averaged 68

Gary Johnston is a farm adviser for the University of California Cooperative Extension in Fresno, and Philip L. Martin is associate professor of agricultural economics at the University of California, Davis.

Table 1. Year-round farmworkers and hourly wages by region and crop

Region	Employees					Hourly wages				
	Number of farms	Mean	Standard deviation	Minimum	Maximum	Number of farms	Mean	Standard deviation	Minimum	Maximum
All regions										
Multiregion[1]	619	67.7		1	1,820	610	$4.91	$1.25	$3.35	$12.80
All crops	22	112.5		3	700	18	6.11	1.35	4.00	10.25
Vegetables	11	157.1	209.9	3	700	9	6.77	1.80	4.00	10.25
Fruits and nuts	7	61.8	96.2	5	275	5	5.86	0.97	5.00	7.50
Livestock	1	250.0	—	—	—	1	4.60	—	—	—
Diversified	3	22.0	13.6	6.0	30	3	5.41	1.11	4.75	6.70
Southern California[2]										
All crops	75	160.7	239.1	1	1,820	68	4.77	0.97	3.35	10.00
Field crops	7	11.4	17.7	1	50	7	4.97	0.49	4.35	5.90
Vegetables	26	94.8	165.5	2	700	24	4.71	1.40	3.35	10.00
Fruits and nuts	15	450.3	634.6	1	1,820	11	5.18	0.88	3.35	6.50
Nurseries	7	203.8	272.1	14	600	6	4.36	0.54	3.65	5.00
Livestock	4	9.5	4.7	3	14	3	4.25	0.75	3.50	5.00
Diversified	16	80.8	129.2	2	400	17	4.75	0.81	3.50	6.50
South coast[3]										
All crops	46	57.9	77.6	1	500	46	6.00	1.17	3.83	10.45
Field crops	3	23.3	20.1	1	40	4	6.37	0.68	5.80	7.30
Vegetables	38	57.2	91.3	2	500	37	6.09	1.28	3.83	10.45
Fruits and nuts	1	375.0	—	—	—	1	5.26	—	—	—
Diversified	4	11.7	10.7	2	22	4	5.08	0.99	4.00	6.00
Central coast[4]										
All crops	54	76.2	129.7	1	825	53	6.40	1.68	3.75	12.80
Field crops	1	5.0	—	—	—	1	4.50	—	—	—
Vegetables	44	87.7	152.7	2	825	42	6.68	1.96	3.75	12.80
Fruits and nuts	4	24.2	24.3	1	50	5	5.61	1.16	4.00	7.00
Nurseries	3	50.0	63.3	9	123	3	4.68	0.35	4.30	5.00
Livestock	1	1.0	—	—	—	1	5.00	—	—	—
Diversified	1	4.0	—	—	—	1	7.50	—	—	—
San Joaquin Valley[5]										
All crops	363	51.6	151.6	1	1,594	372	4.55	0.86	3.35	10.00
Field crops	17	24.4	40.3	2	175	17	4.37	0.68	3.40	6.35
Vegetables	27	16.7	21.0	1	100	23	4.89	1.12	3.65	7.50
Fruits and nuts	260	41.7	144.4	1	1,594	278	4.52	0.87	3.35	10.00
Nurseries	1	160.0	—	—	—	1	5.00	—	—	—
Livestock	8	9.6	10.1	1	30	5	4.38	1.16	3.50	6.30
Diversified	50	136.3	323.4	1	1,560	48	4.69	0.77	3.50	7.30
North coast[6]										
All crops	16	12.9	14.1	1	50	15	4.52	1.17	3.50	7.71
Fruits and nuts	9	16.2	18.8	1	50	10	4.66	1.31	3.50	7.71
Nurseries	1	26.0	—	—	—	1	4.00	—	—	—
Livestock	6	5.8	9.4	1	25	4	6.42	1.13	3.50	6.00
Sacramento Valley[7]										
All crops	43	37.5	76.3	1	1,000	38	4.69	0.92	3.60	7.50
Field crops	10	14.2	13.69	1	40	9	4.78	0.80	3.65	6.22
Vegetables	3	6.0	3.6	3	10	2	5.12	0.17	5.00	5.25
Fruits and nuts	19	7.5	7.2	1	30	19	4.39	0.95	3.60	7.50
Nurseries	2	36.5	40.3	8	65	1	5.25	0.80	—	—
Diversified	9	137.5	324.4	2	1,000	7	5.23	1.25	4.00	6.35

[1] Employers with locations in several regions.
[2] Los Angeles, San Bernardino, Orange, Riverside, Imperial counties.
[3] Ventura, Santa Barbara, San Luis Obispo counties.
[4] Monterey, San Benito, Santa Cruz, Santa Clara, San Mateo, Alameda, Contra Costa counties.
[5] Kern, Inyo, north through San Joaquin, Calaveras, and Alpine counties.
[6] Marin, Napa, Sonoma, Lake, Mendocino, Trinity, Humboldt, Del Norte counties.
[7] Solano, Sacramento, Yolo, Amador, north through Siskiyou and Modoc counties.

SOURCE: Field Workweek Survey, 1982.

per farm, with a range of 1 to 1,820. (See table 1.) Most of the farms employed fewer than 10 year-round workers; 81 percent surveyed had fewer than 50.

A total of 755 farms employed 139,000 seasonal workers sometime in 1981 (seasonal workers are double-counted if they work for two responding employers). (See table 2.) Respondents employed an average of 184 seasonal farmworkers, ranging from a low of 2 to a high of 15,000 seasonal workers (one vegetable farm in Southern California). More than 41 percent of responding farms reported that they hired between 11 and 50 seasonal workers. Farms in Southern California employed most of the seasonal workers: 29 vegetable farms averaged 750 seasonal workers each, and 13 fruit and nut farms averaged 890 seasonal employees each.

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Some seasonal workers leave the area or the State after the harvest and then migrate back to California the following season. However, only 39 percent of the seasonal workers were reported to have migrated to their farm jobs from other areas. Workers who resided in the area made up 45 percent of all seasonal farmworkers, and an additional 16 percent commuted to their jobs. Generally, livestock and nursery

Table 2. Seasonal farmworkers and hourly wages by region and crop

Region	Employees					Hourly wages				
	Number of farms	Mean	Standard deviation	Minimum	Maximum	Number of farms	Mean	Standard deviation	Minimum	Maximum
All regions										
Multiregion[1]	755	183.7	627.07	2	15,000	711	$4.85	$1.71	$3.00	$20.00
All crops	24	279.2	321.9	6	1,300	22	6.64	2.95	3.50	18.00
Vegetables	13	376.6	403.5	6	1,300	12	7.53	3.74	4.00	18.00
Fruits and nuts	7	178.0	136.3	15	350	6	6.20	2.49	4.50	11.00
Livestock	1	270.0	—	—	—	1	4.35	—	—	—
Diversified	3	96.6	106.9	30	220	3	4.73	1.72	3.50	6.70
Southern California[2]										
All crops	76	492.3	1,304.2	3	15,000	70	4.47	1.03	3.35	10.00
Field crops	7	38.7	50.9	4	150	7	4.45	0.89	3.75	6.30
Vegetables	29	750.2	2,753.9	6	15,000	28	4.65	1.47	3.35	10.00
Fruits and nuts	13	889.7	1,034.9	4	4,000	12	4.67	0.61	3.40	5.50
Nurseries	7	227.5	310.3	17	750	4	3.70	0.40	3.35	4.25
Livestock	4	16.7	13.3	3	38	3	4.08	0.52	3.50	4.50
Diversified	16	135.6	201.5	6	800	16	4.31	0.91	3.40	6.50
South coast[3]										
All crops	43	166.3	196.1	8	1,200	40	6.42	2.19	3.75	16.66
Field crops	2	72.0	60.8	29	115	1	5.90	—	—	—
Vegetables	36	175.9	207.6	8	1,200	34	6.59	2.41	3.75	16.66
Fruits and nuts	1	134.0	—	—	—	1	4.90	—	—	—
Diversified	4	135.7	210.1	8	450	4	5.56	1.47	4.00	7.50
Central coast[4]										
All crops	59	160.5	213.7	3	1,500	56	6.78	2.78	3.50	20.00
Field crops	1	150.0	—	—	—	1	4.50	—	—	—
Vegetables	46	175.1	246.0	5	1,500	43	7.36	3.36	4.00	20.00
Fruits and nuts	7	67.4	42.1	6	120	7	5.09	1.57	3.50	7.50
Nurseries	2	17.5	9.1	11	24	2	4.10	—	4.10	4.10
Livestock	2	351.5	492.8	3	700	2	4.50	0.35	4.25	4.75
Diversified	1	60.0	—	—	—	1	6.00	—	—	—
San Joaquin Valley[5]										
All crops	490	149.7	301.4	2	2,700	463	4.48	1.01	3.35	10.00
Field crops	17	94.0	110.4	5	460	16	3.76	0.30	3.40	4.42
Vegetables	28	203.3	283.3	4	1,221	26	4.65	1.11	3.35	8.00
Fruits and nuts	390	120.2	235.8	2	2,100	367	4.52	1.05	3.00	10.00
Nurseries	1	300.0	—	—	—	1	4.40	—	—	—
Livestock	3	25.3	14.0	12	40	4	4.17	0.73	3.40	5.00
Diversified	51	368.7	590.4	7	2,700	49	4.36	0.98	3.35	9.00
North coast[6]										
All crops	15	55.8	82.0	5	350	15	5.23	1.40	3.00	8.00
Fruits and nuts	12	65.2	97.1	8	350	11	5.46	1.30	3.50	8.00
Livestock	3	18.6	21.9	5	44	4	4.62	1.70	3.00	7.00
Sacramento Valley[7]										
All crops	48	77.8	112.8	6	600	45	4.48	0.73	3.50	7.50
Field crops	10	38.0	26.6	9	85	10	4.50	0.88	3.50	6.68
Vegetables	4	49.5	26.2	15	70	3	5.11	0.95	4.10	6.00
Fruits and nuts	23	62.1	63.7	6	300	20	4.06	0.42	3.50	5.00
Nurseries	1	70.0	—	—	—	2	4.70	0.28	4.50	4.91
Diversified	10	166.1	210.2	6	600	10	5.08	1.25	4.00	7.50

[1] Employers with locations in several regions.
[2] Los Angeles, San Bernardino, Orange, Riverside, Imperial counties.
[3] Ventura, Santa Barbara, San Luis Obispo counties.
[4] Monterey, San Benito, Santa Cruz, Santa Clara, San Mateo, Alameda, Contra Costa counties.
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[6] Marin, Napa, Sonoma, Lake, Mendocino, Trinity, Humboldt, Del Norte counties.
[7] Solano, Sacramento, Yolo, Amador, north through Siskiyou and Modoc counties.

SOURCE: Field Workweek Survey, 1982.

workers resided locally; seasonal field crop workers tended to commute to their jobs. Seasonal workers on field, fruit and nut, and diversified farms were most likely to migrate. Of the average 186 seasonal workers employed on responding farms, 84 were local residents, 73, migrants, and 29, commuters.

Hourly wages

Average hourly wages were $5.16 for year-round workers and $5.14 for seasonal farmworkers. These wages, which are higher than State estimates, are gross wages that reflect cash and piece-rate wages paid to workers. The wages do *not* include mandatory taxes for social security (13.4 percent of base wages), unemployment insurance (4 to 6 percent), and workers' compensation insurance (6 to 18 percent). Nor do they include the cost of fringe benefits, such as health insurance, vacation, pension contributions, and transportation allowances. Respondents reported one average wage for all their year-round workers and another for seasonal workers, so these sample averages obscure the variation in wages on each farm.

Reported farmworker wages varied widely across California. Hourly wages for year-round workers ranged from $3.35 to $12.80. Year-round vegetable workers in the Central Coast region that includes the Salinas Valley averaged $6.68 hourly, and vegetable wages elsewhere ranged from $6.77 hourly on multiregion farms to $4.71 on Southern California vegetable farms. Year-round livestock and field

crop workers received the lowest hourly wages, usually $4.25 to $4.75. The highest wages were reported by a Salinas vegetable farm that paid its year-round workers an *average* hourly wage of $12.80; the lowest, by Southern California fruit and vegetable farms that paid their year-round workers $3.35 hourly.

Seasonal workers averaged $5.14 hourly, with a range of $3 to $20. Seasonal vegetable workers in the Central Coast region averaged $7.36 hourly, while field workers in the San Joaquin Valley averaged only $3.77 per hour. A Salinas vegetable farm reported the highest wages, an average of $20 hourly; a North Coast livestock farm reported the lowest, an average of $3. Seasonal fruit and vegetable workers, who often do harvest work for piece rates, had the highest average hourly earnings.

Most respondents offered their year-round and seasonal workers fringe benefits. Health insurance was the most common fringe benefit, offered to 97 percent of all year-round workers and 85 percent of the seasonal workers. More than 87 percent of all year-round workers were eligible for paid vacations, in contrast to 27 percent of the seasonal farm work force. Life insurance was offered to 74 percent of the year-round workers and 41 percent of the seasonal workers. Housing was provided to 26 percent of the seasonal work force and 30 percent of the year-round work force. Generally, seasonal field and livestock workers were less likely to have health insurance (only one-third) but more likely to have housing provided by the employer (two-thirds). Fringe benefits were most common in Southern California, the south coast, and the central coast.

Unions represented 6 percent of the farmworkers employed by responding farms. More than 70 percent of the vegetable employers responding to the survey had unionized work forces. Union contracts were most common in Southern California, the south coast, and the central coast regions. Unionized farmworkers were rare in the north coast and Sacramento Valley regions.

Recruitment and attitudes

The farm labor market experiences simultaneous labor shortages and surpluses as it matches thousands of seasonal workers with jobs that last from several days to several months. Farmers were asked how they recruited farmworkers and if they were satisfied with the quantity and the quality of employed farmworkers. About two-thirds of the respondents reported that they recruited workers directly or relied on current employees to recruit additional workers. About one-fourth of the respondents relied on farm labor contractors to supply some or all of their farmworkers. Livestock farms were most likely to recruit workers directly, while San Joaquin fruit and nut farmers were most likely to rely on farm labor contractors.

Most employers were satisfied with the quality *and* quantity of farmworkers. More than 91 percent of seasonal employers were very or moderately successful in obtaining a sufficient quantity of seasonal workers, and 83 percent were satisfied with the quality of the workers recruited. An overwhelming 95 percent of year-round employers felt that they were very or moderately successful in attracting enough year-round workers, and 94 percent were satisfied with the quality of their year-round employees. Fruit and nut employers, especially in the San Joaquin Valley, reported the most difficulty getting enough seasonal and year-round farmworkers, a difficulty that could be attributed to their heavy reliance on farm labor contractors.

California farmers must pay overtime wages of at least one and one-half times the regular wage after 10 hours of work in any day or 60 hours in any week. Farmers were asked what actions they would take *if* they were required to pay overtime wages after an 8-hour work day and after an employee had worked 40 hours in a week. Farmers were asked to distinguish short-run and long-run actions, selecting from a list of responses that included no change in current practices, hire additional workers, mechanize, change crops, share labor with other employers, rely on a custom harvester, or quit farming. The most frequent *short-run* responses to a change in the overtime wage law were to hire additional workers (62 percent), mechanize wherever possible (51 percent), and make no changes in present practices (24 percent). A significant number of employers, 14 to 17 percent, said they would change production methods, switch to less labor-intensive crops, and rely more on farm labor contractors or custom harvesters, or both.

In the long run, more than 63 percent of the respondents said they would mechanize wherever possible, 33 percent would hire additional workers to reduce overtime wage payments, 32 percent would switch to less labor-intensive crops, and 28 percent would change production methods to use less labor. Field crop and diversified farms were most likely to mechanize immediately, while vegetable farms reported that they would mechanize within 3 to 5 years if the overtime wage law were changed. Only 17 farms said a change in the overtime wage law would cause them to quit farming.

Conclusions

The 1982 farm labor survey provides another view of California's farm labor market. Responses from more than 800 farm employers indicate that the average farm with year-round employees has 68-year-round workers who averaged $5.16 hourly. Farms with seasonal workers employed an average of 184 workers and paid an average of $5.14 hourly. Generally, fruit and vegetable workers in the central coast, southern coast, and Southern California regions had the highest average hourly earnings, while field crop and livestock workers in the north coast and central valley regions had the lowest. Almost all of the responding farms provided health insurance for their year-round and seasonal workers and many offered paid vacations, bonuses, and other fringe benefits.

Employers appeared to be quite satisfied with both the

quantity and quality of farmworkers. If farmers were required to pay overtime wages after 8 hours per day or 40 hours per week, most would try to hire additional workers and mechanize in the short run to reduce overtime wage premiums. In the long run, farmers would mechanize, hire additional workers, and switch to less labor-intensive crops.

The results of the 1982 survey must be interpreted with caution. Questionnaires were distributed to the members of five California farm organizations, and the survey results are based on relatively complete responses from only 12 percent of those who were sent the questionnaire. Respondents appear to include most of the large farm employers who hire the majority of California's farmworkers and have relatively complete records; however, most of the responses were from smaller employers.

The farm labor survey provides benchmark information that will be most useful if future surveys are conducted to chart California's changing farm labor market. Among the questions that need to be clarified in future surveys are those relating to the average weekly and annual earnings of seasonal and year-round farmworkers, the legal status of alien farmworkers, and employer perceptions of how proposed fines for knowingly hiring illegal alien farmworkers and an amnesty for some current farmworkers would affect farm operations. □

FOOTNOTE

[1] Questionnaires were sent by the California Farm Bureau, the California and Tree Fruit League, Western Growers Association, Nisei Farmers League, and the Farm Employers Labor Service.

Wage rates before and after leaving school

Career data collected from 1972 to 1979 by the National Center for Education Statistics show that the greater the educational attainment of young men and women, the higher their starting wage rates. Young men and women of all educational levels generally receive wage rate increases when they leave school, although some increases are larger than others. After graduating from college, young women had wage rates which quickly overtook those of their female high school classmates who did not attend college. Wage rates of young men who did not attend college were higher than their college-educated classmates for at least 8 years after leaving high school. Young women earned less per hour than comparable young men within every educational level and age group.

These findings are from the "National Longitudinal Study of the High School Class of 1972," the Center's first study to follow the progress of young people as they move from high school to adulthood. The sample of 23,451 young adults represents the 12th grade U.S. population in 1972. This study discusses several aspects of the careers of young men and women who make different choices about their education: the reduced earnings capacity of those in college, the crossover point when the wages of the college-educated

Table 1. Median hourly wage rates of young men and women by age and education

Educational level in 1979 at age 25	Year and age							
	1972 18	1973 19	1974 20	1975 21	1976 22	1977 23	1978 24	1979 25
Men	Constant 1980 dollars							
No college:								
Upper bound	4.70	5.43	6.02	5.96	6.11	6.60	6.61	7.08
Median	4.63	5.42	5.83	5.76	5.95	6.59	6.44	7.06
Lower bound	4.47	5.31	5.76	5.62	5.78	6.28	6.20	6.79
Number of cases	2,139	2,311	2,517	2,763	2,796	2,996	3,049	3,078
Less than 2 years of college:								
Upper bound	4.40	5.31	5.80	5.62	6.12	6.57	6.63	7.07
Median	4.25	5.08	5.55	5.62	5.88	6.24	6.20	6.94
Lower bound	4.14	4.99	5.40	5.42	5.60	5.96	6.19	6.75
Number of cases	874	1,015	1,216	1,369	1,390	1,493	1,525	1,532
2 years or more of college:								
Upper bound	4.02	4.50	4.98	5.24	5.57	6.17	6.20	6.77
Median	3.76	4.41	4.88	5.06	5.31	5.96	6.20	6.50
Lower bound	3.74	4.16	4.63	4.94	5.24	5.79	6.19	6.30
Number of cases	801	864	1,062	1,222	1,268	1,475	1,514	1,535
Bachelor's degree:								
Upper bound	3.77	3.97	3.99	4.00	5.25	6.24	6.49	7.06
Median	3.75	3.78	3.76	3.75	5.08	5.96	6.20	6.86
Lower bound	3.71	3.63	3.66	3.73	4.89	5.83	6.19	6.78
Number of cases	659	793	942	1,066	1,436	1,946	2,001	2,035
Advanced degree:								
Upper bound	3.77	4.43	4.24	4.35	5.65	6.56	7.63	7.68
Median	3.75	4.11	3.78	3.63	5.22	6.26	6.82	7.08
Lower bound	3.47	3.34	3.20	3.30	4.47	5.58	6.20	6.70
Number of cases	61	76	83	105	147	201	209	227
Women								
No college:								
Upper bound	3.74	4.08	4.43	4.31	4.38	4.70	4.65	4.72
Median	3.73	4.07	4.33	4.24	4.27	4.63	4.64	4.57
Lower bound	3.57	3.93	4.17	4.14	4.19	4.56	4.63	4.52
Number of cases	2,073	2,294	2,312	2,459	2,412	2,684	2,757	2,817
Less than 2 years of college:								
Upper bound	3.75	4.17	4.57	4.49	4.73	4.95	5.01	5.18
Median	3.67	4.08	4.42	4.47	4.61	4.93	4.94	5.09
Lower bound	3.54	4.03	4.37	4.39	4.53	4.73	4.82	4.94
Number of cases	910	1,147	1,234	1,318	1,305	1,451	1,484	1,473
2 years or more of college:								
Upper bound	3.56	3.61	4.32	4.49	4.72	4.96	5.32	5.64
Median	3.48	3.60	4.16	4.47	4.54	4.94	5.11	5.36
Lower bound	3.37	3.55	4.13	4.30	4.38	4.79	4.94	5.10
Number of cases	554	738	890	1,072	1,084	1,268	1,285	1,299
Bachelor's degree:								
Upper bound	3.34	3.50	3.33	3.73	4.90	5.55	5.93	6.24
Median	3.28	3.39	3.32	3.51	4.72	5.30	5.73	6.06
Lower bound	3.13	3.27	3.31	3.40	4.59	5.27	5.57	5.87
Number of cases	559	814	930	1,067	1,469	1,901	1,940	1,950
Advanced degree:								
Upper bound	3.59	3.73	3.32	3.75	5.58	6.56	7.41	7.39
Median	3.49	3.56	3.29	3.55	4.66	6.09	6.38	6.99
Lower bound	3.02	3.17	3.19	3.26	4.17	5.49	6.19	6.40
Number of cases	59	80	97	109	145	192	205	212

SOURCE: U.S. Department of Education, National Center for Education Statistics. Unpublished tabulations from the National Longitudinal Study of the High School Class of 1972.

catch up to those with no higher education, and the wage increases that come with age and experience after leaving high school or college.

Students who work while attending school generally take part-time jobs paying less per hour than they could earn had they left school and worked full time. After leaving high school or college, wage rates of those with more education catch up to and, after a few years, overtake those with less education. The career patterns of earnings by educational level are similar for young men and women. However, women earn less than men at each age and educational level. Young men and women also differ in the length of time it takes for those with college degrees to catch up to their peers who did not attend college.

For women, the crossover point occurs very soon after college graduation. Those in the 1972 study showed a crossover point in wage rates in 1976 when most of them were 22 years old. In that year, the wage rate of women with no college was $4.27 per hour; with less than 2 years of college, $4.61; with 2 years or more of college or a 2-year degree, $4.54; and with a bachelor's degree or more, $4.72. (See table 1.)

For men, a possible crossover point was in 1979 when most of them were 25 years old. In that year, the median hourly wage rate of men with no college was $7.06 per hour; with less than 2 years of college, $6.94; with 2 years or more of college or a 2-year degree, $6.50; and with a bachelor's degree or more, $6.86.

Men and women who enrolled in higher education programs received higher wage rates when they left school and the greater their educational attainment, the larger their starting wage rate. For men, the starting wage rate of those with no college was $4.71 per hour; with less than 2 years of college, $5.13; with 2 years or more of college or a 2-year degree, $5.56; with a bachelor's degree, $5.96; and with an advanced degree, $6.98. For women, the corresponding wage rates were $3.76, $4.13, $4.54, $5.24, and $6.60, respectively. For both men and women, the financial returns of a college education may repay the actual costs of schooling, as well as the wages lost by not working during the college years. Wage histories from the "National Longitudinal Study of the High School Class of 1972" show that up to age 25, college probably does pay for young women, but it is too early to say the same for young men.

Does College Pay? Wage Rates Before and After Leaving School is available from the Statistical Information Office, National Center for Education Statistics, 400 Maryland Avenue SW, Washington 20202. □

The role of education in lifetime earnings

Lifetime Earnings Estimates for Men and Women in the United States: 1979, the latest in an intermittent series of U.S. Bureau of the Census reports on the subject, presents estimates of expected lifetime earnings based on data collected in the March Current Population Survey (CPS). The report provides a scientific basis for analyzing the expected future earnings of men and women at specific ages and at five educational attainment levels (less than 12 years, 12 years (high school), 1 to 3 years of college, 4 years of college, and 5 years or more of college). The estimates represent the average amounts that individuals with a specified set of characteristics can expect to earn in their working lifetimes. If it is assumed that a person does not begin to work for pay until age 18, the estimates illustrate earnings potential for men and women between ages 18 and 64. For example, a man with a high school diploma can expect to earn $861,000 constant 1981 dollars between ages 18 and 64, while a woman with the same level of education can expect to earn only $381,000.

The current census report differs from previous census publications on expected lifetime earnings in at least two respects: (1) estimates of annual rates of unemployment by age have been incorporated into the procedures, and (2) estimates of expected lifetime earnings for women have been introduced. Past publications have not included estimates for women because they, on average, experience more breaks in employment (for example, for childbirth and child rearing) than do men.

The lifetime earnings estimates have many uses. First, they permit projecting one's lifetime earnings stream, even though future experiences of an individual are unknown. The author, Dan L. Burkhead, explains that future earnings can depend on many decisions in one's life, such as those concerning marriage, career goals, education, job location, and job availability. These estimates reflect the effect of those possible future decisions. The estimates are also essential to court settlements involving wrongful or negligent death as it is not known what the decedent's earnings would have been.

Finally this information is valuable to show the benefits of continued education. For example, a man with a high school education can expect to earn $803,000 between the ages of 25 and 64 and a man with a college degree could earn $1,165,000 between the same ages. While the $365,000 additional income that a college degree could permit one to earn is quite impressive, the estimates show that a man with a postgraduate degree would earn $1,273,000 (only $108,000 additional income).

The estimates also indicate, not surprisingly, that women at all comparable age and educational levels will earn less than their male counterparts. (The author reports that if estimates could be derived for persons working continuously, without the intermittent breaks in employment common among women, the estimates for women would be higher.) Comparing female/male estimates, the report indicates that a woman with a high school education can expect to earn, on average, $330,000 between 25 and 64 (approximately 59 percent less than her male counterpart),

$474,000 with a college degree (also approximately 59 percent less), and $673,000 with a post graduate degree (approximately 47 percent less). The data also indicate that a woman with a post graduate degree is estimated to earn $130,000 less than a male high school graduate (approximately 16 percent less).

Several important assumptions were necessary to estimate expected lifetime earnings. First, and most important, the lifetime earnings estimates are *average* amounts based on cross-sectional earnings data by age, sex, and educational attainment for the years 1978–80. Use of this data assumes that current relationship are representative of the future: there is no way, however, to validate this assumption. Second, the estimates were based on discount rates and annual productivity rates of zero percent. Any increase in the rate of productivity would result in higher estimates, but no attempt was made to predict future productivity trends. Third, the estimates do not consider values of various fringe benefits received by many employees. Finally, the estimates deal only with one's earnings potential between ages 18 and 64, not one's probability of survival.

Lifetime Earnings Estimates for Men and Women in the United States: 1979 (Current Population Reports, Series P–60, No. 139) is available for $4.50 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. □

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review,* Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.