

FACTORS THAT INFLUENCE MIGRATION

Mexican Immigrant Workers and U.S. Food Expenditures

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U.S. Food Expenditures

There were about 100 million “consumer units” in the U.S. in 1993, and they spent an average \$30,700, up from \$29,800 in 1992. The U.S. population in 1993 was 258 million, so the average consumer unit contained about 2.6 persons.

The five largest expenditure items in 1993 were housing, \$9600, transportation, \$5500, food, \$4400, personal taxes, \$3000, and personal insurance and pensions, \$2900.¹

Food expenditures included \$2700 for food eaten at home, 9 percent of total expenditures, or about \$52 per week. The major items consumed at home were meat and poultry, on which spending averaged \$735, fruits and vegetables, \$445, cereals and bread, \$435, and dairy products, \$295. In addition, consumer units spent an average \$225 on non-alcoholic beverages, and \$270 on alcoholic beverages.

About 60 percent or \$270 of the fruit and vegetable expenditures were for fresh fruits and vegetables—about \$135 for fresh fruits, and \$135 for fresh vegetables, the commodities most likely to use immigrant farm labor. Over 52

weeks, this means that the average consumer unit spent \$5.20 per week on fresh produce.

Farmers obtained an average 24 percent of the retail price of food consumed at home in 1993—or about \$650. The farmer's share of the retail food dollar ranged from a low of about 7 percent for grains used in cereal and bakery products, to 40 to 48 percent for poultry, eggs, and beef.

Farmers received about 19 percent of the average retail price for fresh fruits (\$26 of \$135), and 23 percent of the retail price of fresh vegetables (\$31 of \$135), so that farmers get \$57 or 21 percent of the \$270 average retail expenditures on fresh fruits and vegetables. Farm labor, including supervisory labor, typically represents about one-third of farmers' costs of production for fresh fruits and vegetables, or farm labor represents about \$8.60 of the \$26 that the average U.S. consumer unit spends on fresh fruit, and \$10.20 of spending on fresh vegetables, or a total \$19 per consumer unit per year.

Suppose that current levels of immigration hold farm wages 50 percent below the level they would otherwise be, so that current farm worker wages of \$5 to \$6 per hour would be \$7.50 to \$9 per hour without additional immigrant workers. And suppose that the entire cost of higher farm wages is passed through to consumers, so that the annual cost of the farm labor used to produce the fresh fruit consumed by the average American household rises from \$8.60 to \$13, and the cost of farm labor to produce fresh vegetables rises from \$10.20 to \$15.

If these increased farm labor costs were completely passed through to consumers, spending on fresh fruits and vegetables eaten at home for a typical 2.6 person consumer unit would rise by almost \$10, from \$270 to \$280.

In addition to food eaten at home, the average consumer unit in 1993 spent \$1700 on food eaten away from home. It is difficult to calculate the food cost of meals eaten away from home—some of the total cost of restaurant, cafeteria, and airline meals reflects services and atmosphere. If 10 percent of away from home food is for fresh fruits and vegetables, another \$170 is spent on them, and if the farm share of fresh produce eaten away from home is 21 percent or \$36, and if farm labor represents 33 percent or \$12 of this farm share, then a 50 percent increase in farm labor costs would raise spending on fresh fruits and vegetables eaten away from home by \$6, from \$170 to \$176.

The total increase in average consumer unit spending on food if farm wages were to rise by 50 percent as a result of immigration changes, and if all of the increased costs were passed through to consumers, would be about \$16 per year. For 2.6 persons, 50 percent higher farm wages would increase individual produce expenditures by \$6.

In 1995, the average American ate 712 pounds of fruits and vegetables. About 40 percent or 285 pounds are consumed as fresh produce—including almost 50

pounds of potatoes per person. Consumer units in the Northeast and Midwest spend more on average for fresh fruits and vegetables, as do larger consumer units and those with higher incomes.

Mexican immigrants play important roles throughout the U.S. food and fiber system, so that focusing on fresh fruits and vegetables understates their importance. However, the combination of a small farm share of retail food prices, and a relatively small share of hired labor in farm production costs—in 1992, 98 percent of the 1.9 million U.S. farm operators were non-Hispanic whites—means that farm wages lowered by immigration do not make food and fiber much cheaper for consumers.

For example, in 1993, U.S. farmers paid wages and benefits of \$12 billion to farm workers that they hired directly, and an additional \$3 billion to contractors to cover the cost of worker wages and benefits as well as contractor profits. The value of farm commodities sold in 1993 was \$175 billion—\$90 billion in livestock sales, and \$85 billion in crop sales.

This means that total labor expenditures were about 8.6 percent of farm sales and, since farmers, on average, obtain about 25 percent of retail expenditures, a \$1 purchase at the grocery store includes \$0.25 for the farmer, and \$0.02 for farm workers.

The Tomato and Raisin Cases

Much of the debate over whether a new guest worker program is needed for U.S. agriculture is a debate over how the farm labor market would adjust if the 20 to 40 percent of the work force that is believed to be unauthorized were prevented from working by stepped up border and interior controls.

According to U.S. farmers, if there are currently 100 workers employed, and 30 are unauthorized, then effective immigration controls would require the growers to find 30 new workers. Since, growers assert, these new workers are not available within the U.S., even at higher wages, growers should have easy access to foreign workers.

Worker advocates counter that the supply of U.S. workers is elastic—at higher wages, more U.S. workers would seek farm jobs, or remain farm workers.

But the history of the U.S. suggests that the key factor in adjusting to fewer workers is the **demand** for labor, not the supply. When wages rise, growers typically find ways to get work done with fewer workers, so that the labor force in agriculture shrinks.

This section reviews two cases: the actual adjustment of processing tomatoes to the end of the Bracero Program, and the likely adjustment of the raisin grape industry to fewer migrant workers.

Tomatoes

In 1979, The California Agrarian Action Project filed suit against UC on behalf of 19 farm workers, charging that university research used public funds to, inter alia, displace farm workers and eliminate small farmers (Superior Court of California, Case 516427-5, September 4, 1979). The federal and state governments were, in the mid-1980s, spending \$1 billion per year of public monies on agricultural research, and the suit asked that UC mechanization research be halted until the university created a fund to assist farm workers equal in size to what UC earns from royalties (Martin and Olmstead, 1985, 601).

This “mechanization lawsuit” turned the spotlight on the major U.S. employer of Bracero workers in the early 1960s, and illustrates how the one case of adjustment to fewer Mexican workers in fact occurred. In 1960, a peak 45,000 workers—80 percent of whom were *braceros*—hand-picked 2.5 million tons of the processing tomatoes used to make catsup in California. In 1990, about 5,500 mostly female farm workers were employed to sort 4 times more tomatoes² (Mamer and Wilke, 1990). In this case, mechanization reduced the number of jobs for farm workers, and changed the harvesting task from hand-picking tomatoes into field boxes to riding on a machine and sorting machine-picked tomatoes.

In 1960, all processing tomatoes were picked by hand. In 1970, none were. How reliable were the mechanization forecasts of those in the tomato industry? A 1963 report by the Giannini Foundation of Agricultural Economics concluded that, if Bracero tomato pickers were not available, the CA industry would shrink, and that many growers may follow their pickers to Mexico, which would lead to job losses in associated canning and processing. Senator Kuchel (R-CA), representing CA growers, asserted that mechanizing the tomato harvest was “feasible, but 8 to 10 years away” (Congressional Record, August 15, 1963, 15205).

Raisins

The single most labor-intensive activity in North America in the mid-1990s is harvesting raisin grapes. Some 40,000 to 50,000 workers are involved in a four to six-week effort to cut bunches of grapes from 200,000 acres of vines—owned by 5500 small farmers—and lay them on paper trays to dry in the sun (Alvarado, Mason, and Riley, 1995, 379). Many of the workers are recently-arrived and thus unauthorized, and the presumption is that the centuries-old process of paying workers \$0.15 to \$0.18 per 25-pound tray of grapes picked and laid on paper trays to dry in the sun—in 1995—cannot be changed.

A case study of the raisin industry in the early 1990s noted that the interaction of a “continued and unabated influx” of immigrant workers to replace SAWs, non-enforcement of employer sanctions, and the use of labor contractors to match workers

and jobs left the 94 percent Mexican-born labor force working under some of the “most marginal conditions” in California agriculture sun (Alvarado, Mason, and Riley, 1995, 379-80). Virtually all of the labor contractor-grower arrangements are verbal agreements to have the labor contractor take responsibility for finding and supervising a crew of workers in exchange for a flat fee, a median \$0.21 per tray in 1991, or to pay the contractor the agreed upon piece rate to harvest workers—\$0.15 to \$0.18 per tray—plus 31 percent for payroll taxes and the contractor’s expenses and profits (Alvarado, Mason, and Riley, 1995, 383).

There are methods to harvest raisins and other commodities with machines, or to use machines to save much of the labor currently employed in the raisin harvest. One grower, for example, planted twice the number of raisin vines per acre, cut the canes by hand to let the raisins dry on the vine, and then harvested the dried-on-the-vine raisins mechanically—with a machine developed to pick wine grapes at night and thus improve grape quality—by shaking the raisins off the vines.³ A variety of machines to eliminate most of the hand-harvest labor in raisins are available, at costs ranging from \$20,000 to \$100,000.

The conventional raisin harvesting system requires an ample supply of workers without other U.S. job options—many of the raisin growers interviewed in 1991 said that they would switch to mechanical raisin grape harvesting if there were a labor shortage. This suggests that, in the raisin case, improving wages and benefits would reduce the demand for labor. The mechanical system, according to the grower who uses it, relies on a handful of well-paid workers (Dan Bryant, “Grower finds the benefits outweigh drawbacks with dried-on-vine raisins,” *Ag Alert*, December 20, 1995).

Notes

1. These food expenditure data are from the Statistical Abstract of the U.S., 1994, 465.

2. There are no consistent data on farm worker employment by commodity. One way to estimate employment by commodity is to ask farm advisors to estimate the hours of regular and seasonal labor required per acre to produce a commodity. This approach was used to generate these employment estimates, but they include often unexplained differences for the same commodity that is produced similarly in 2 counties.

Mamer and Wilke (1990), for example, report that the 40,000 acres of processing tomatoes in Yolo county required 6 regular and 38 temporary hours of labor per acre in 1989, while the 63,000 acres in Fresno county required 22 regular and 31 seasonal hours. These numbers were combined to generate a statewide average 16 regular and 34 seasonal hours per acre.

The major reason for the difference in hours is that in Yolo county, irrigation hours were reported to be 0, while in Fresno, they were 7 hours per acre. The Fresno report also included 5 hours of regular supervisory labor per acre, while the Yolo report had none.

Both county reports estimated that harvesting required 11 to 13 hours per acre, or that harvesting required fewer hours per acre than thinning and weeding (14 hours). At 12 hours

per acre, sorting the tomatoes from California's 330,000 acres in 1990 required 4 million hours of labor. Sorters sometimes work 12 hours per day and 6 day weeks; if they average 72 hours weekly for 10 weeks, they average 720 hours per season. These calculations suggest that a total 5500 sorters would be required; at the usual wage hourly wage of \$4.50 in 1993, sorters average \$3240 each.

3. Drying raisins on the vine raises yields—high density plantings are expected to be five to six tons of raisins per acre, versus two to 2.5 tons per acre for conventional raisins.