

As Mexican Farmworkers Flock North, Will U.S. Farms Head South?

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The changing demographics of U.S. and Mexican farmworkers are linked with worker shortages. The H-2A visa program offers a solution but with steep costs. With revenues lagging behind rising labor costs, some farms have incentives to move production into Mexico.

Most farms in the United States have faced major employee-related issues in recent years—too few workers and rising labor costs. In this article, we discuss these issues and their implications for U.S. agriculture. We overview trends in the demographics of U.S. and Mexican (MX) farmworkers that are linked with worker shortages. We also discuss the potential of the H-2A visa program, which grants legal authorization for foreign workers to engage in temporary work on U.S. farms, to alleviate these shortages. However, this comes at a high cost for farm employers. New data reveal sizable gaps between what farmworkers can currently earn in Mexico versus under the H-2A program: H-2A workers are legally entitled to a minimum hourly wage that differs by state (the adverse effect wage rate) and ranges from 5 times to 14 times the average hourly agricultural wage in Mexico.

Due to this wage gap, we posit that the H-2A program will continue to attract MX farmworkers, but U.S. employers claim that the costs of the program are unsustainable. Many argue that rising labor costs will reduce U.S. agricultural competitiveness, particularly for more labor-intensive crops. This could shift agricultural production from the United States to Mexico, which offers lower payroll costs and suitable growing conditions for many of the crops grown in the United States.

Using data from recent U.S. and MX Censuses of Agriculture (which we refer to as US-CoA and MX-CoA, respectively), we show that there is credence to this claim. Across many crops, particularly labor-intensive specialty crops, operations in Mexico have lower payroll costs relative to their sales than their U.S. counterparts. In turn, many U.S. farms producing the same commodities have seen large increases in their payrolls relative to sales over the last 20 years.

We identify and analyze twin “pull” and “push” factors affecting agricultural operations in the United States and Mexico: Earnings potential under the H-2A program “pulls” Mexican workers to the United States, and potential for higher profits due to lower payroll costs relative to revenues “pushes” U.S. farming operations to move production to Mexico.

Farmworker Demographics and Employment

Trends in demographic characteristics of farmworkers and their relative numbers in the population are useful for understanding patterns underlying worker shortages.

The National Agricultural Workers Survey (NAWS) is the premier source of information on non-H-2A U.S. crop workers. Data from the NAWS show two key trends in the characteristics of the U.S. crop workforce with implications for worker availability.

First, fewer workers are engaging in follow-the-crop migration as they become more settled. Migrant workers have historically played a pivotal role in U.S. crop agriculture, appearing when and where they are most needed in accordance with crop- and location-specific seasons of produc-

tion. According to the NAWS, in 2000, nearly 50% of U.S. crop workers were classified as migrants, 30% had children born in the United States, and the average worker had lived in the country for 8 years. In 2022, only 15% of U.S. crop workers were classified as migrants; far more (44%) had U.S.-born children and were living in the United States for longer (an average of 21 years).

Second, fewer new immigrant workers are joining the non-H-2A U.S. crop workforce. Young immigrant workers from farming communities have historically been crucial for U.S. farms. In 2000, 83% of U.S. crop workers were foreign-born, whereas in 2022, 68% were foreign-born. This varies across the United States, with shares being the highest in California, with 96% of its workforce foreign-born in 2000 versus 90% in 2022. This is also apparent from changes in average farmworker age, which rose from 30 to 40 years old over this period.

Economists studying migration dynamics have pointed to increases in U.S. immigration enforcement, along with declining population sizes and rising education levels in countries that have historically provided immigrant labor as some of the major deterrents to continued flows of new, and often unauthorized, immigrant workers joining the U.S. farm workforce.

The Mexican population censuses (Censo de Población y Vivienda) and inter-census surveys (Encuesta Intercensal) provide information on employment and demographics of Mexican residents. We identify agricultural workers in these data based on industry (agriculture) and occupation (workers in crop agriculture) and use

them to study trends in Mexico’s agricultural employment.

These data similarly unveil two key trends with ramifications for the U.S. farm labor market: Fewer people are working in Mexican agriculture and the workforce is aging, as Mexico’s economy has diversified out of agriculture and into manufacturing and service industries. The share of the Mexican labor force working in agriculture fell from 16% in 2000 to 9% in 2020, while the average age of farmworkers rose from 38 to 43. These factors reduce the availability of young immigrant farmworkers who are able and willing to join the U.S. farm labor market.

U.S. and Mexican Farmworker Wages and Earnings

Despite fewer Mexican residents with experience in agriculture, comparing U.S. and Mexican wage and earnings data unveils one clear factor “pulling” Mexican workers into U.S. farm work: They can earn substantially more in the United States, particularly under the H-2A temporary worker visa program.

The H-2A visa program allows U.S. agricultural employers to recruit foreign workers for temporary or seasonal farm work when there are not enough qualified workers available

domestically. Not surprisingly, H-2A usage has risen dramatically in the past decade, driven, at least in part, by local worker shortages.

To prevent H-2A workers from displacing U.S. farmworkers, the program requires employers to pay visa holders the highest rate between the applicable minimum wage and the H-2A minimum wage—called the adverse effect wage rate (AEWR). The AEWR differs across states and is updated annually by the U.S. Department of Labor to reflect regional prevailing agricultural wages. This updating process has been highly controversial because it has led to rapid increases in the AEWR. For example, in California the AEWR rose from \$7.27 in 2000 to \$17.51 in 2022, whereas state hourly minimum wages rose from \$5.75 to \$13.

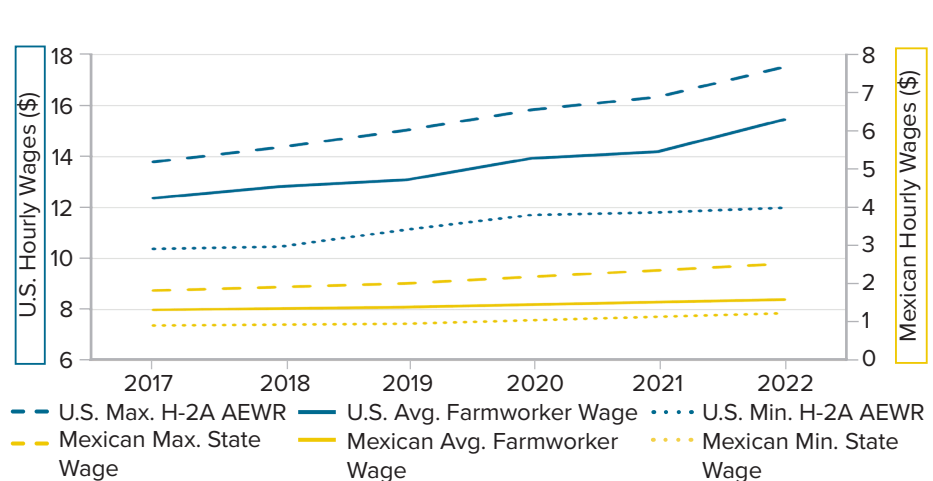
Today, incentives to enter the United States for farm employment under the H-2A program far outweigh those from immigrating without proper work authorization; H-2A workers benefit from higher hourly wage rates, employer-provided housing, and legal work authorization. Further, the H-2A program offers an attractive option for Mexican residents wishing to earn more money in the United States but return home with the extra earnings.

We use data from the NAWS and H-2A programmatic data to illustrate trends in non-H-2A and H-2A wages. We complement these with two unique datasets that provide more precise and detailed information on the Mexican farming industry than was previously available: the 2017 and 2019 National Agricultural Survey (Encuesta Nacional Agropecuaria, or ENA) and the 2022 Agricultural Census (Censo Agropecuario, or MX-CoA). These data provide valuable insights into Mexico’s farming industry and its employees with a high degree of detail in terms of geography and crop but are limited in that they are only available in recent years.

Figure 1 compares the average hourly wages of U.S. farmworkers (all non-H-2A workers, including those who are U.S. natives, foreign-born documented, and foreign-born undocumented) with what H-2A workers earn under the highest and lowest AEWRs, and with what hired day laborers, or jornaleros, earn on Mexico’s farms. These data reveal stark differences between farmworker earnings in the United States and Mexico. In 2022, the average non-H-2A U.S. farm worker earned \$15 an hour; H-2A workers in California (the state with the highest AEWR that year) were required to be paid at minimum \$17.51; and H-2A workers in Alabama, Georgia, and South Carolina (the states with the lowest AEWR in 2022) were required to be paid at minimum \$11.99. By comparison, the average hired farmworker in Mexico earned the equivalent of \$1.59 an hour in 2022. In the highest wage-paying state in Mexico, Colima, the average worker earned \$2.53 an hour, a quarter of the minimum AEWR in that year.

Considered in percentage change terms, U.S. and Mexican farmworker wages have risen similarly from 2017 to 2022. Increases in the U.S. hourly wages range from 16% (change in the minimum AEWR) to 27% (change in the maximum AEWR). Increases in the

Figure 1. Hourly Farmworker Wages in the United States and Mexico



Source: Authors’ calculations using data from the NAWS, H-2A programmatic data, the 2017 and 2019 Encuesta Nacional Agropecuaria, and the 2022 Mexican Census of Agriculture. Hourly wages for farmworkers in Mexico are converted from pesos to USD using annual average exchange rates.

average hourly wage of farmworkers in Mexico range from 20% (change in the MX average wage) to 38% (change in the MX state maximum wage). As wages have risen in tandem, the fact remains that farmworkers can earn far more in the United States than in Mexico.

Farm Payrolls and Revenues

Not surprisingly, U.S. farm payrolls (which include wages and benefits) have risen with worker wages. Some of these additional costs have been offset by higher farm sales, but there are notable differences in the evolution of payroll costs and farm sales by state and by crop. Using data from the US-CoA, we illustrate national and select state trends in payroll expenses as a share of farm sales, which sheds light on the sectors most impacted by these workforce trends. We then draw on 2022 data from both the US-CoA and MX-CoA to demonstrate the sectors that differ most substantively in terms of the payroll's share of total farm sales on either side of the border. Figure 2 shows trends in U.S. total payroll costs divided by total farm sales nationally and for select states. Nationally, growth in the value of farm sales has slightly outpaced growth in payroll costs, leading to a small decrease in the payroll's share of farm sales from 11% in 2002 to 9.5% in 2022.

Payroll costs tend to account for a larger share of both farm revenues and total farm expenditures in states that produce more labor-intensive crops, for example California and Washington. Payroll expenses as a share of revenues in these states have generally been rising over time, though at different rates. In California, the payroll's share of farm sales rose only 2 percentage points, from 23% to 25%, from 2002 to 2022. In Washington, which had among the largest increases in payroll expenses of any state over this period, payroll's share of sales rose from 19% to 25%. The payroll share of total sales tends to be lower in central,

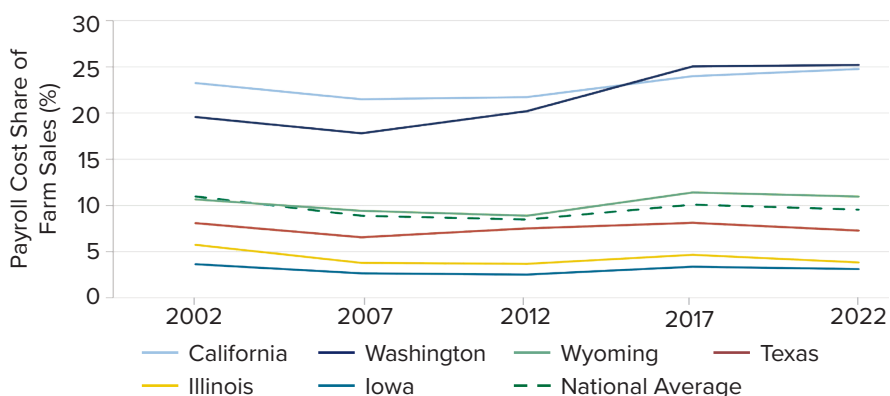
southern, and eastern states compared with western states, and is lowest in the corn belt. Figure 2 shows trends in farm payroll's share of sales in Wyoming, Texas, Illinois, and Iowa as some examples to emphasize such differences in levels and trends across the United States.

Geographic differences in the payroll share of sales are, in part, driven by differences in types of production, and unfortunately differences between the US-CoA and MX-CoA restrict trend comparison by crop for this period. However, we can draw comparisons across commodity sectors using the most recent US-CoA and MX-CoA data from 2022. One limitation of the MX-CoA is that it only reports wages for hired day laborers (jornaleros) and not more permanent workers. The 2017 and 2019 ENA data suggest that payments to jornaleros comprised roughly

30% of total farm payroll in Mexico, with no clear differences across broad sectors (although there is some variation across individual crops, with bananas and coffee having a higher share of hired day labor, and avocados and lemons having a lower share). To account for this, we also include estimates of the payroll share of farm sales assuming that jornaleros account for only 30% of the total farm payroll.

We summarize these data in Table 1 and draw several insights. Not surprisingly, in the United States, payroll costs as a share of total farm sales are larger in sectors using more labor. The share is largest for farms producing fruits and tree nuts and lowest for those producing oilseeds and grains, which are typically highly mechanized. The opposite is the case in Mexico: Oilseeds and grains have the highest payroll share of farm sales

Figure 2. Trends in Payroll Share of Farm Sales in the United States



Source: Authors' calculations using data from the U.S. Census of Agriculture on payroll costs and sales for all farms and ranches.

Table 1. 2022 Payroll Share of Farm Sales in the United States and Mexico by Farm Sector

Sector (Classified by NAICS)	United States All Workers	Mexico Jornaleros* Only	Mexico All Workers**
Oilseed and Grain	4.2%	8.0%	26.0%
Vegetable and Melon	22.2%	4.5%	15.0%
Fruit and Tree Nut	36.0%	4.5%	15.0%
Other Crop	14.2%	5.0%	17.0%

Source: Authors' calculations using data from the 2022 US-CoA on payroll costs and sales for all crop farms, the 2022 MX-CoA on payroll costs for all crop farms, and Mexican Agrifisheries Information Service (SIAP) yearly production data on crop level sales. Estimates for payroll costs of Mexico farms that include all hired workers inflate the jornalero wage bill by multiplying by 3.33, reflecting that jornaleros account for approximately 30% of total labor costs.

Note: *Jornaleros=hired day laborers. **Estimated payroll shares.

while fruits and tree nuts have among the lowest. These differences are due to a combination of factors. In Mexico, oilseed and grain production is less mechanized, often used for home consumption, and these crops are produced by smaller and less efficient operations while fruits and tree nut tree production have economies of scale and a higher percent of the crops are exported.

These data are useful for illuminating the sectors with the highest potential gains from moving production out of the United States and into Mexico. They suggest that the largest labor cost savings are in the fruit and tree nut sector. However, labor costs are certainly not the only factor in the costs of operations, which include input costs, transportation, trade restrictions, and potential challenges to U.S. firms conducting business abroad such as language barriers, lack of infrastructure, or heightened security risks.

Although the decision of where to produce crops is complex, information on Mexican production and exports to the United States highlight rapid growth of crops with the highest potential for labor cost savings. For example, Mexico's production of crops within the fruit and nut sector, has risen dramatically. From 2003 to 2022, the value of blueberry production in Mexico increased more than 2,600-fold; that is, the value of production in 2022 was 2,600 times its value in 2003. Over this same period, the value of raspberries grew 140-fold, pistachios 46-fold, strawberries 13-fold, and olives 10-fold.

These commodities have also experienced a large growth in exports from Mexico to the United States. From 2003 to 2022, Mexican exports to the United States of blueberries grew 21,100-fold, raspberries and blackberries 43-fold, strawberries 16-fold, and unprocessed olives 2-fold. Mexico began exporting pistachios to the United States in 2021, and future

export growth in that crop remains to be seen.

Overall from 2003–2022, Mexico's crop production and exports to the United States increased most rapidly for labor-intensive crops, many of which are widely produced in California. These trends are less pronounced in other sectors. For example, the value of Mexico's corn production in 2022 was only 5-times its value in 2003 and soybean production was only 4 times greater, and their associated growth in export values were 3-fold and 11-fold, respectively.

For crops less commonly produced in the United States, production increases and export growth were also slower. For example, the value of Mexico's banana and mango production increased 4-fold from 2003 to 2022 and experienced somewhat lower export growth: 19-fold for banana and 5-fold for mango.

Conclusion

Data from the United States and Mexico offer cautious evidence of a narrative on the future of U.S. farms. The domestic supply of U.S. farmworkers likely will continue to decline, while the H-2A program, through its continued attractiveness to workers from Mexico, will increasingly serve as a source for U.S. farm labor. While the high costs associated with the H-2A program will "pull" in workers, they may also "push" farms out of the United States. Comparative evidence on farm payroll costs relative to sales, production, and trade in the United States and Mexico offer some support for this narrative, although a richer accounting of these issues is required to draw causal conclusions about the U.S.-Mexico agricultural relationship.

Finally, the opposing effects from the H-2A program introduce a notable policy implication for its minimum wage rates, or AEWRs. State AEWRs are adjusted annually based on survey

estimates of farm wages that include the wages of H-2A workers. As H-2A workers comprise a larger share of the U.S. farm workforce, their AEWRs will lead to higher AEWRs the next year, putting a self-enforcing upward pressure on wages.

Suggested Citation:

Hill, Alexandra E. and James E. Sayre. 2024. "As Mexican Farmworkers Flock North, Will U.S. Farms Head South?" *ARE Update* 28(1): 9–12. University of California Giannini Foundation of Agricultural Economics.

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Some of the data from Mexico presented in this article were generated under INEGI project number LM2555. The conclusions and opinions expressed therein are solely that of the authors and do not constitute official statistics of INEGI nor that of the National System of Statistical and Geographical Information (SNIEG).

For additional information, the authors recommend:

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