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THEME OVERVIEW: IMMIGRATION AND AGRICULTURE

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Over half of the hired workers employed on farms, and a significant share of workers employed in food processing and meat packing, are not authorized to work in the United States. The four papers in this themed issue deal with the effects of immigration and immigration policy on the agricultural and food processing industries, and on rural communities. Martin sets the stage, explaining the characteristics of crop workers. Artz looks beyond the agricultural industry and describes the effects on rural towns with meatpacking plants. Zahniser et al use a CGE model to explore the effects on agriculture of changes in the availability of foreign-born labor, while Huffman explores the status of labor-saving mechanization. By looking at the continuum of immigration welfare effects, this series of articles illustrate the direct and more subtle implications of current immigration policy and the uncertainty of any changes that may emerge in the near future.

Obtaining an adequate supply of labor at an affordable cost is a perennial challenge for farming. In the mid-1960s, the end of the Bracero program led to rapidly rising farm wages and a wave of labor-saving mechanization. In the late 1980s, fears of another labor supply shock evaporated as unauthorized migration accelerated. At present, half of hired workers on U.S. farms, and perhaps a quarter of workers employed in meatpacking plants, are believed to be unauthorized, explaining the keen interest of farm and farm-related employers in the future of immigration policy.

The tension between economic pressures to employ unauthorized labor and political opposition to immigration reform appears likely to persist. Martin uses data from the U.S. Department of Labor's National Agricultural Workers Survey (NAWS) to find that over 70% of hired farm workers are immigrants. Since the mid-1990s, some 50 to 60% of crop workers have been unauthorized. Half of U.S. crop workers have at least 10 years of U.S. farm work experience and almost 90% were hired directly rather than by a contractor or other intermediary. Workers report average wages of \$9 an hour in 2009, less than the \$10.50 reported by farm employers to NASS, but well above the federal government's \$7.25 minimum wage. Despite the 2007-09 recession, average weeks of farm work for crop workers have been rising and poverty rates falling.

Artz sheds light on one community development aspect of opposition to immigration by examining the effects of expanding meatpacking employment. Meatpacking is the largest manufacturing employer in rural America, and 60% of the almost 500,000 employees in the animal slaughtering and processing industry (NAICS 3116) were in nonmetro areas in 2000. Meatpacking often involves large plants in small towns that can transform local demographics and generate controversy. Comparisons of rural (nonmetro) counties with and without meatpacking plants find that the presence of plants was associated with slightly faster employment growth but slower wage growth in the 1990s, suggesting that the arrival or expansion of a meatpacking plant may "crowd out" or deter other industries that may have faster wage growth.

Artz also finds that meatpacking plants are associated with an increase in the share of residents who are foreign-born and Hispanic, and an increase in the number of English-language learners and students eligible for free or reduced-price lunches in local schools. Counties with meatpacking plants also had rising poverty rates in the 1990s, but there was no evidence of rising public expenditures on health, education, police, corrections, or public assistance.

Zahniser et al model the long-run effects of two hypothetical policy changes on agricultural output and both farm and nonfarm employment and wages. They first consider an expansion of the H-2A program, which lowers labor costs and increases employment in agriculture, farm output and exports. Next they simulate the effect of reducing the number of unauthorized workers in all industries, farm and nonfarm, by 40%, and find that the resulting wage increases reduce agricultural output and income received by authorized U.S. residents. However, wages rise in

lower-paid occupations that had large shares of unauthorized workers and the dollar strengthens, reducing farm exports.

Could labor-saving mechanization offset the loss of an unauthorized workforce? Huffman emphasizes that mechanization is more of a process than an event, and often leads to fewer, larger and more specialized farms. Mechanization usually requires biological changes in the plant to promote more uniform ripening, developing machines to harvest the commodity in one pass through the field, and modifying farming practices and packing or processing technologies to handle mechanically harvested fruits and vegetables. It seems unlikely that the considerable investments needed to perfect many of these technologies will be undertaken unless immigration policy is changed in ways that promise rising labor costs.

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