

# Anti-Immigration Reform and Reductions in Welfare: Evidence from the Meatpacking Industry

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## How Can Immigration Reform be Welfare Reducing?

Immigration policy was at the forefront of the 2016 U.S. presidential election. There were rallying cries to “build that wall,” calls for a deportation force to remove all illegal immigrants currently residing within U.S. borders, and discussions of various other immigration reforms. One of the major assumptions underlying these discussions was that many blue-collar workers have been left behind, and immigrants are commonly believed to be the ones who have taken their jobs. This article tackles the validity of this assumption by examining the issue through a previously unexplored economic lens.

To accomplish this end, this article examines the meatpacking industry to argue that immigration reform, if sweeping and poorly planned, might be welfare decreasing for the economy as a whole. The meatpacking industry is the subject of this paper due to the considerable attention it has received in the literature over the last two decades for its changing industry structure and growing reliance on immigrant labor. This paper finds suggestive evidence that low-skilled immigrants have different compensating wage differentials compared to native workers. Over the same period, there has been a corresponding decrease in the retail price of meat and an increase in per capita meat consumption in the United States. Since consumers are spending a smaller percentage of their budget on meat and consuming more of it, it can be argued that the individual U.S. consumer has seen an increase in overall welfare because the meatpacking industry insourced immigrant labor. This conclusion is consistent with previous research on the meatpacking industry, which argued that technological advances—which are associated with cost savings—could lead to improved consumer welfare. This paper contributes to the broader policy discussion by cautioning policymakers against making rash decisions on immigration reform, as the impact could decrease overall economic welfare.

## Are Immigrants and Native Workers Complements or Substitutes?

The assumption that immigrants take jobs away from native workers presupposes that native workers and immigrants compete in the same labor market. If native and immigrant labor are substitutes, or they would accept the same kind of work, then both types of labor should have similar compensating wage differentials. The standard textbook theoretical discussion on compensating wage differentials implies that firms must compensate workers with more dangerous jobs with higher salaries. Given two jobs with identical pay, the employee will be more likely to accept the job with safer working conditions, assuming that the worker is aware of the job characteristics and has a range of jobs to choose from (Ehrenberg & Smith, 2016). The equilibrium outcome of this model leads to a world in which the workers with the highest tolerance for hardship will take the most difficult jobs and will be compensated with higher wages for their efforts (Cahuc et al., 2014). If workers have the same compensating wage differentials, this will lead to the optimal outcome described above.

However, Orrenius and Zavodny (2009) found that immigrants tend to work in riskier occupations on average. The authors were concerned that the government might need to intervene if immigrants accept riskier work as a result of a lack of information. They suggested that future research should examine whether immigrants do in fact, earn the same compensating differential as native workers. If immigrant labor accepts riskier work than natives on average, then maybe the two should be viewed as complements rather than substitutes, which would undermine the “they took our jobs” narrative.

I am not the first researcher to make this suggestion; previous research indicates that undocumented immigrant labor is a complement, not a substitute, to native labor (Bean, Lowell, & Taylor, 1988; Orrenius & Zavodny, 2009; Enchautegui, 2015). To help justify this conclusion and as a first attempt to address the question with which Orrenius and Zavodny (2009) concluded their article, I show suggestive evidence that immigrants have different compensating wage differentials from natives in the meatpacking industry

## Reliance on Hispanic Immigrant Labor

Kandel and Parrado (2005) identified four major changes that occurred in the meatpacking industry over the last few decades and led to a labor force largely different from that previous to the 1970s. These four changes were adjustments in the organization of production, increased industrial concentration, geographic relocation, and alterations to working conditions.

Adjustments in the organization of production were a result of changing patterns of food consumption among Americans, whose consumption of poultry and value-added meat products increased and consumption of beef decreased. At the same time, the industry became less concentrated, with large firms taking over market share and forcing firms that previously had labor unions to de-unionize to remain competitive. At a time when the term “outsourcing” was coined, the meatpacking industry moved production closer to its inputs to save on transportation costs, which makes sense given the perishable nature of the main input. The final change was a technological improvement that resulted in the de-skilling of the industry away from semi-skilled butchering, coupled with the de-unionization of plants. Previously, meatpacking had been an avenue for relatively high pay despite minimal education; however, this change in the industry shifted meatpacking from a quasi-trade to a low-skill, repetitive-motion, assembly-line form of production. Firms lost the ability to cost-effectively outsource their product, working conditions deteriorated, and firms became newly reliant on labor-intensive, lower-skilled work. This industry restructuring led the meatpacking industry to rely heavily on insourced labor, mainly Hispanic immigrants.

A bevy of demographic literature has examined new settlement patterns among Hispanic immigrants in rural America and postulated on the reasons for these new settlement patterns. The first national survey to examine these new settlement patterns was Kandel and Cromartie (2004), who found that almost all non-metro counties saw Hispanic population growth, but “high-growth Hispanic” counties accounted for a very large percentage of the Hispanic population growth in rural counties. They stated, “Hispanic population growth throughout the non-metro United States – especially the South and Midwest – reflects the growing presence in industries that require low-skilled workers. These include meat processing...” (p. 4). Using Worthington, Minnesota, as an example, Lichter, Parisi, and Taquino (2016) discussed how the town’s Hispanic population increased from 392 in 1990 to 4,521 in 2010, connecting this growth to the presence of a large meatpacking plant. The emerging pattern indicates that as meatpacking plants located closer to the inputs they brought with them a new immigrant labor force that previously had not resided in these rural communities because the original workforce was either too small or unwilling to accept these positions.

This branch of the literature finds that the main reason for these new settlement patterns goes back to the restructuring of the industry. Stull, Broadway, and Griffith (1995) devote multiple chapters to describing the emergence of a usually informal process by which firms have insourced their labor as a result of restructuring. They begin their discussion by describing the alterations to the relationship between capital and labor based on technological advances that have led plants to relocate to new geographic locations, despite the lack of labor to support large meatpacking plants. These technological advances have also caused worsened working conditions and higher injury rates among employees. To operate the plants, the meatpacking industry expanded the

workforce in the community, first by bringing in unemployed workers from other states and then, eventually, immigrants from outside the country. (It is important for this analysis to emphasize the fact that the meatpacking industry first recruited from within the United States. The argument for immigrants taking American jobs rests on the idea that the individuals who previously held semi-skilled meatpacking positions would be getting their jobs back. History shows that even if immigrant labor were not available, these relatively high-paying jobs are not returning.) First, utilizing the immigration reforms of 1986 and 1990, labor intermediaries and subcontractors were originally used to insource immigrant labor. Ethnic enclaves emerged in these communities to fill the needs of the immigrant workforce, and these enclaves have become vital tools to help plants recruit new employees to the area.

Much of the economic research on the meatpacking industry, like the demography research discussed above, has focused on community impacts. The key findings of interest from this body of research are a decrease in average community wage, an increase in the Hispanic population in the community, and an increase in the foreign-born population in the community (Artz, Orazem, & Otto, 2007; Artz, Jackson, & Orazem 2010; Artz, 2012). These findings suggest that the meatpacking industry employs a disproportionate number of Hispanic immigrants who are make lower wages than those who previously resided in these communities. These findings are further supported by a 2004 study by the Pew Hispanic Center that listed meatpacking as the industry with the thirteenth-highest concentration of foreign-born Hispanics (Kochhar, 2005). Another Pew Hispanic Center study, which came out the following year, estimated that 20–25% of all workers employed in the meatpacking industry were illegal immigrants (Passel, 2006).

Additionally, rural-to-urban migration is occurring in communities with high concentrations of meatpacking employment, which suggestions that natives are unwilling to remain in these communities, and thus, they are also unwilling to accept these jobs (Krumel, 2017). The research in demography and in economics agree that changes in the structure of the meatpacking industry have led to lower wages and a higher concentration of Hispanic immigrant labor.

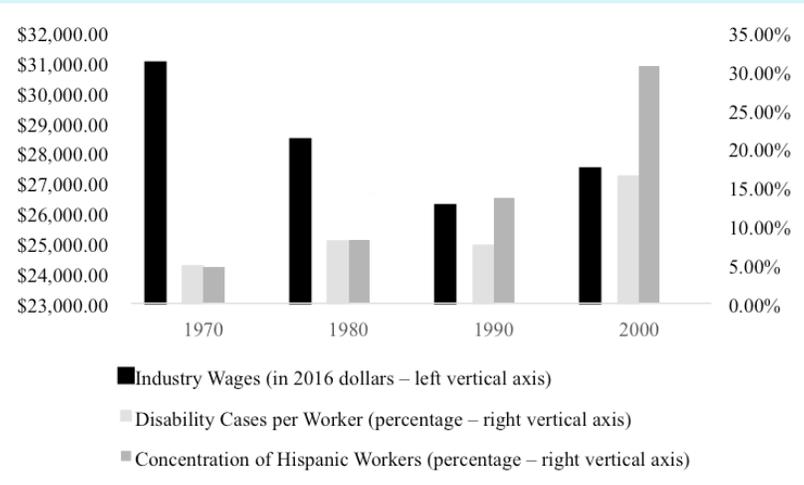
## Evidence for Distinct Compensating Wage Differentials

It makes sense to examine the data on industry wages and injury rates over time and compare them to the change in the concentration of Hispanic workers employed in the industry. Figure 1 shows the historical relationship between these variables using Integrated Public Use Micro Data Series (IPUMS)-USA data.

It is important to note that “Industry Wages” corresponds with the left vertical axis and “Disability Cases per Worker” and “Concentration of Hispanic Workers” correspond to the right vertical axis. Figure 1 makes it apparent that between 1970 and 2000, industry wages decreased and the percentage of disability cases per worker and concentration of Hispanic workers in the industry increased. (The table does not

include data for 2010 because no measures for disability cases are available for that year; however, wages continued to decrease and the concentration of Hispanic workers continued to increase.) The average wage earned in the industry declined by 11% from 1970 to 2000. During this same period, disability cases per worker increased by nearly 400%; the meatpacking industry has earned its classification as the most dangerous factory job in America (Orrenius & Zavodny, 2009). These data points describe the story of de-unionization that occurred in

**Figure 1: Meat Products Wages, Disability Cases, and Hispanic Concentration**



Source: Integrated Public Use Micro Data Series (IPUMS)-USA.

the late 1970s and early 1980s. Because the meatpacking industry was largely able to eliminate the unions, wages decreased and working conditions deteriorated. If we are to take the complementary view of low-skilled immigrant labor discussed above (rather than assuming the two types of labor are substitutes), we can better understand the 550% increase in the concentration of Hispanic workers in the meatpacking industry from 1970 to 2000. The substantial uptick from 1990 to 2000 (and not previously) could be tied to the immigration reform acts enacted in 1986 and 1990.

Beyond the impact of de-unionization, the data also suggest that low-skilled Hispanic workers have a different compensating wage differential than low-skilled native workers. Low-skilled Hispanic workers appear willing to tolerate the lower wage and higher injury rate in the meat products industry more than low-skilled native workers are. This inference can be made because of the additional costs associated with having an immigrant workforce, namely recruiting labor from abroad and the inconvenience of having a workforce comprised of employees who speak English as a second language. If firms were able to employ native workers to avoid these additional costs, they would. Even though wage earnings in the meatpacking industry are above the current minimum wage and higher than many rural alternatives, they are not high enough to induce native workers to endure the difficult working conditions. Reasons for this apparent difference in the compensating wage differentials are that immigrants might not perceive these jobs as riskier, might have less information about the risks of these jobs, or might have few alternatives (Orrenius & Zavodny, 2009).

## Are Firms Passing Along Cost Savings to Consumers?

The implications of an industry reducing wages and lower working conditions are not necessarily negative as far as overall economic welfare is concerned. If the immigrant workers who take these jobs do so because these jobs represent an improvement on their alternatives at home, it can be argued, that they are in a better position. Commodity prices may also be reduced for consumers as a result of the cost savings that the firms have made by restructuring the industry. Azzam and Schroeter (1997) concluded that the meatpacking industry was becoming more concentrated as a result of technological improvements and that this concentration would potentially reduce the retail price that consumers paid for meat, improving their overall welfare. Table 1 presents historical price patterns for beef, chicken, and pork on meat price spreads as well the amount of each type of meat consumed per capita during this period.

**Table 1: Historical Retail Prices and Consumption Patterns for Beef, Chicken, and Pork**

Year	Beef Prices	Pounds Consumed per Capita	Chicken Prices	Pounds Consumed per Capita	Pork Prices	Pounds Consumed per Capita	Total Meat Consumed per Capita	Total Price Paid
1970	\$6.14	84.6	N/A	40.3	\$5.07	55.8	N/A	N/A
1980	\$6.76	76.6	\$2.74	47.9	\$4.20	57.3	181.8	\$889.72
1990	\$5.08	67.7	\$2.59	66.2	\$3.82	49.7	183.6	\$705.23
2000	\$4.14	67.8	\$2.17	78.2	\$3.45	51.2	197.2	\$627.03

Source: Economic Research Service and the National Chicken Council, 2016.

From 1970 to 2000, the price of beef fell by 33% and the price of pork fell 32%. From 1980 to 2000, the price of chicken fell by 21% (all retail prices have been converted to 2016 dollars). From 1980 to 2000, per capita meat consumption increased by 8% and there was a corresponding 30% decrease in total per capita spending on meat. Americans eat more meat and spend less of their income on it, providing suggestive evidence for the conclusion drawn by Azzam and Schroeter (1997) that technological improvements in the meatpacking industry have increased welfare for the average American. While the explanation for the decrease in the prices that consumers have paid for meat over time can not be described solely as a result of firms cutting costs by insourcing immigrant labor, the two trends appear to be related. On average, labor costs account for one-half of all operating costs in the meatpacking industry (Carnes, 1984). If the meatpacking industry were suddenly unable to insource low-wage labor from abroad, their costs would increase. To maintain similar profit levels, firms would pass some, if not all, of the additional cost to the consumer, which would result in higher retail prices for meat. Firms might also be unable to fill all vacancies if native workers were unwilling to accept positions with the firm, even with increased wages

and improved working conditions. If this scenario were to play out, consumers of meat would suffer a reduction in welfare and the economy would be worse off, not better.

## A Word of Caution on Immigration Reform

Consistent with Stull, Broadway, and Griffith (1995), the overall conclusion of this paper is that the meatpacking industry has become more dangerous since 1980, when the industry de-unionized. This is largely attributable to worsened working conditions, which many researchers have mentioned and are directly related to the new type of workers employed in the industry. At the same time, workers in the industry have received lower compensation. Since these two facts contradict the predictions of the simple theoretical model of compensating wage differentials, there must be more to the story, assuming that other industries have not become more dangerous during the same period and that the range of job options has not decreased.

Increasing the labor pool by insourcing labor from abroad appears to be a driving reason for this violation in the compensating wage differentials for the meatpacking industry, as the percentage of Hispanic workers has increased from 4.83% in 1970 to 30.63% in 2000. It makes intuitive sense that an individual with fewer employment options would be more likely to accept a position with lower pay and worse working conditions. For the immigrants employed in this industry, both pay and working conditions might be an improvement on their options at home. If this is not the case and the issue is that immigrants accept jobs with worse working conditions because of lack of information, then I agree with Orrenius and Zavodny (2009) that government intervention might be necessary; however, this conclusion is outside the scope of analysis for this paper. Firms will maximize profits by insourcing labor only when the costs of recruiting immigrant labor and the costs of having a bilingual workforce are less than the cost savings of cutting industry salaries and worsening working conditions. Evidence of ethnic peer networks forming in these communities—as well as the industry electing to utilize labor-intensive, repetitive and low-skilled techniques in the production process—suggests recruiting and employing a bilingual workforce are not overly costly to the industry. A major beneficiary of this change in the labor structure as a result of technological advances in the meatpacking industry is the American consumer. The average American spends less money on meat and consumes more of it, thus increasing welfare in the economy.

This paper fits into the broader narrative of the discussion that immigrants are taking jobs away from native workers. While this paper examined a single industry that relies heavily on immigrant labor, the same analysis of other occupations with higher concentration of foreign-born Hispanic workers (Kochhar, 2005) might paint a similar picture. These are employment opportunities that native workers are largely unwilling to accept because the compensation is too low and the working conditions too difficult (a view expressed by Enchautegui, 2015). Immigrants who work in these sectors are not to blame for reduced employment opportunities for native-born workers. This sentiment, specifically about the meatpacking industry, was mentioned in Kandel and Parrado (2005): “This has reduced the attractiveness of these jobs for native workers and created demand for labor that often cannot be met in rural areas, given prevailing wages” (p. 452). If one were to alter the labor force that these industries have come to rely upon, the result would most certainly be an increase in commodity prices, which could result in an overall decrease in economic welfare. Because altering current immigration policy could be welfare reducing for American consumers, the new administration should think carefully about making adjustments.

## For More Information

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