

Immigrants, Meat Packing and Processing Industries, and Communities in the Midwestern United States

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Much of the controversy surrounding recent expansion of the meat packing and processing industry in the Midwestern United States centers around concerns about an influx of new immigrant workers to the areas in which facilities locate. The industry is an important provider of entry-level opportunities for low-skilled labor and new immigrants to the country and the region (Huffman and Miranowski, 1996). Data from the Public Use Microdata Sample of the 2000 Census reports that 29.2 percent of those employed in the animal slaughtering and processing industry are foreign born (See Appendix A). However, this may underreport the true share due to undocumented workers. Jeffrey Passel, of the Pew Hispanic Center, estimates that 27 percent of the nation's butchers and other meat, poultry and fish processing workers are undocumented (2006). Nevertheless, a common perception in the Midwest is that the addition of a meat packing facility will bring a large number of immigrant workers to a community along with limited economic benefits to the local economy and an associated host of social problems including inconvenience of bilingual commerce, higher levels of crime, increased welfare loads, and heavier burdens on public services such as schools and low-income housing.

This perception is surely influenced by journalistic accounts, such as in the 2001 bestseller *Fast Food Nation*. Author Eric Schlosser paints a grim picture of the effects of a new meatpacking plant and its immigrant workforce on Lexington, Nebraska:

In 1990, IBP opened a slaughterhouse in Lexington. A year later, the town, with a population of roughly seven thousand, had the highest crime rate in the state of Nebraska. Within a decade, the number of serious crimes doubled; the number of Medicaid cases nearly doubled; Lexington became a major distribution center for illegal drugs; gang members appeared in town and committed drive-by shootings; the majority of Lexington's white inhabitants moved elsewhere; and the proportion of Latino inhabitants increased more than tenfold, climbing to over 50 percent. (p. 165)

The academic research on this topic consists primarily of case study analyses that document a variety of social and economic consequences following the opening of large meat packing plants perhaps best described as a mixed blessing for host towns. The opening of a new establishment may increase local demand for animals and feed in the region (Broadway, 2000). It also provides new jobs to the community. The evidence from these studies suggests that host communities experience growth in employment and payroll, not only in manufacturing, but also in retail and services, yet the job growth tends to be concentrated in low-paying jobs. For example, in Garden City, Kansas, the per capita income level and average wage in the area rose in the decade following the opening of a large packing plant, but not as much as in the rest of the state (Broadway, Stull, and Podraza, 1994). A number of social problems have been documented in meat packing towns which are generally attributed to the plant's workforce. Impacts include increased crime rates and child abuse cases, higher housing and rental prices due to shortages, and additional strain on social services and the health care system. (Broadway, 1990; Broadway, Stull, and Podraza, 1994; Grey, 1997b). Schools in host communities feel the impacts of the plant through greater

numbers of limited-English proficient students and unstable school enrollments that reflect high turnover rates at the plant (Grey, 1997a).

While these studies document changes in a particular community or set of communities before and after the opening of plants, they generally do not provide a frame of reference by comparing the meat packing towns with similar communities that do not have such facilities. In general, their focus is on very large plants despite the fact that, except for poultry processing, the majority of meat packing and processing firms have fewer than 100 employees (County Business Patterns, 2001).¹ It is true, however, that industry concentration has increased dramatically over the past few decades (Ollinger, MacDonald and Madison, 2005; MacDonald and Ollinger, 2005). Rising firm size increases the chance a community will experience adverse external effects from expansion.

There is a need for research that provides a frame of reference for studying the impacts of the growth of meatpacking and processing facilities in non-metropolitan areas. This research would complement the existing case study literature by providing a more general perspective on the magnitude and breadth of changes that have occurred in communities hosting such facilities. A number of research questions might be addressed with this approach. For example,

- 1) To what extent does meatpacking attract foreign born population?
- 2) Does meatpacking atypically impose negative externalities on communities (crime, increased public expenses)?
- 3) Does meatpacking provide positive externalities (more jobs, increased wages, income growth)?

Using data from the Bureau of Labor Statistics' Longitudinal Database (LDB) spanning 1990 to 2000,² our recent research has identified the location and size of meat packing and processing facilities by county in twelve Midwestern states.^{3,4} Using this information, table 1 presents the average change in the number and share of foreign born residents between 1990 and 2000 by the relative size of meatpacking or processing employment in the county (Figure A1 depicts the location of these counties). The average county without the industry gained 100 foreign born residents over the decade. Gains in the number of foreign born residents rise with industry employment share. The thirteen counties in which the meat packing and processing industry accounted for more than 20% of the total county employment by 2000 gained an average of 2,050 foreign born residents over the decade. This represents an increase in the share of the foreign born population of 9 percentage points in these counties, although on average, the foreign born population in these counties comprised less than 12 percent of the population in 2000⁵.

Table 1. Change in Foreign Born Population, 1990 to 2000, by Size of Meat Packing and Processing Industry

Share of Meat Packing/Processing Employment, 2000	Number of Counties	Average Change in Number of Foreign Born Residents	Average Change in Share of Foreign Born Residents
No industry jobs	505	100	0.01
Industry Emp. < 1% of Total County Emp.	220	207	0.01
Industry Emp. between 1% & 5% of County Emp.	72	315	0.01
Industry Emp. between 5% & 10% of County Emp.	30	591	0.02
Industry Emp. between 10% & 20% of County Emp.	18	1,162	0.05
Industry Emp. > 20% of Total County Emp.	13	2,050	0.09
All Counties	858	215	0.01

We might expect differences across counties that gained or lost the meat packing and processing industry relative to those which hosted industry jobs continuously over the decade. In addition, there may be differences across more detailed industry types. For example, meat packing plants, which are basically slaughtering facilities, might hire more foreign born labor than meat processing plants, which may require a more skilled workforce. Table 2 presents estimates from a regression of 1990 to 2000 growth in county share of foreign born residents on 1990 county social and economic indicators as well as growth in the share and level of industry employment in the county over the 1990-2000 decade. Counties are classified into one of five categories based on whether a facility in any of these industries (a) was present continuously, (b) entered, (c) closed, (d) both entered and exited, or (e) was not present, during the period 1990-2000 and interacted these dummy variables with the growth in the county's industry employment. In addition estimates are presented by more detailed industry types. (See Figure A2 and Table A2 for a breakdown of counties by type).

Looking at all industries combined (the top row of table 2), the estimates suggest that growth in both the level of industry employment and the share of industry employment led to significantly higher growth in the proportion of foreign born residents in counties that hosted industry jobs continuously throughout the decade relative to counties which never had industry jobs during this time. Industry growth had no significant effect in counties that gained or lost the industry⁶. There are some differences by industry type, however. Counties that gained meat packing employment did experience faster growth in their foreign born populations relative to counties without packing jobs. There is some evidence that counties which lost meat and poultry processing facilities experienced greater increases in foreign

born populations as well. This might suggest that at least some immigrants remained in the host communities even after the processing facilities closed.

These numbers clearly reflect case study and other evidence that the meatpacking and processing industry employs a significant amount of immigrant labor, especially in large plants. But, what does this mean for the communities hosting such facilities? On the one hand, the industry adds jobs and income to the local economy, and potentially spawns additional business growth up and down the supply chain. On the other hand, the presence of the industry may deter additional growth if it generates negative social impacts such as increased crime or pollution or if it imposes costs on the local government (education, transportation, sewage or other infrastructure investments) that dissuade other businesses from entering.

Using the LDB, our recent research compared changes in economic and social indicators (changes in county employment, wages and income, as well as changes in county crime rates and local government expenditures for education, police protection and health) in Midwestern non-metropolitan counties with and without meat packing and processing jobs (Artz, Orazem and Otto, 2005). We find evidence that as the meat packing and processing industry's share of a county's total employment and wage bill rises, total employment growth increases, while wage growth slows relative to counties without the industry. Income growth, the product of employment and wage growth, is relatively slower as well, indicating that the negative wage effect swamps the positive employment effect. Employment net of the meatpacking sector grows more slowly, suggesting that meatpacking employment grows at the expense of employment growth in other sectors of the economy. However, contrary to

Table 2. Estimates of the Impact of Growth in the Meat Packing/Processing Industry on Growth in the Foreign Born Population Share by Timing and Presence of Industry and Detailed Industry Classification

	Had industry continuously		Gained industry		Lost industry		Both gained & lost industry	
	Employment share	Employment levels	Employment share	Employment levels	Employment share	Employment levels	Employment share	Employment levels
All MPP Industries	48.15 (3.10)	0.37 (3.34)	-3.05 (0.47)	-0.07 (0.62)	4.88 (0.49)	0.1 (1.63)	-45.32 (1.92)	-0.11 (1.55)
Packing Only	54.06 (2.34)	0.51 (2.54)	62.26 (15.73)	0.45 (1.69)	-35.76 (1.35)	-0.06 (0.78)	-42.51 (0.36)	0.46 (1.09)
Processing Only	-28.26 (0.95)	-0.15 (1.07)	-5.16 (0.63)	-0.09 (0.83)	33.93 (5.24)	0.11 (1.32)	450.79 (11.92)	0.53 (0.65)
Poultry Processing Only	49.58 (1.98)	0.59 (1.20)	0.44 (0.02)	-0.08 (0.61)	10.03 (1.85)	0.17 (1.70)	116.41 (2.02)	0.2 (1.21)

Notes: The dependent variable is growth in the proportion of foreign born population, 1990-2000. t-statistics are in parentheses. These are calculated using heteroskedasticity-robust standard errors. Bolded estimates indicate significance at the 10-percent level. Additional regressors include 1990 levels of county population, income, employment, average wage, proportion with a high school degree, proportion with schooling beyond high school, poverty rate, total government expenditures, the county's USDA amenity index value, presence of an interstate highway and metro adjacency. The reference group is counties which never had industry jobs over the 1990-2000 period.

the findings of previous research on this topic, we find no significant difference in the growth of violent or property crime rates in counties with and without meatpacking, and the point estimates, although imprecise, suggest *slower* crime growth in counties with these plants. In addition, we find little evidence that growth in the industry affects local government expenditures in total, or on education, police protection, or health.

Our results suggest that on average, the meat packing and processing industry in the Midwest does not provide the boost to local economy proponents anticipate. We do find evidence that the industry affects total county employment growth, but find no support the case for positive spillovers on employment in other sectors or on wage growth. Instead, we find that expansion in meat packing and processing has a negative effect on overall wage growth and slows employment growth in other sectors of the host county economy. In addition, there is some evidence that the slower wage growth swamps the faster employment growth so that aggregate income grows more slowly. At the same time, the industry, on average, does not appear to generate the types of negative externalities feared by opponents. In contrast to previous studies, we find no systematic effect of growth in the industry on either local crime rates or local government spending.

Nevertheless, there are documented cases of significant social and economic impacts when very large plants enter or expand in a community. Much of the impact seems to stem from associated sudden, large changes in population. Future research might do more to help provide a frame of reference for the changes occurring in these situations. For example, it might be useful to compare communities that gained large plants with communities which lost them. Also, some insight might be gained from examining other cases in which sudden, large changes in population occur. For example, “boom and bust” towns in the Great Plains

and western United States experienced significant swings in population in the 1970s and 1980s associated with the oil and mining industries (Feser and Sweeney, 1998). Such a comparison might help distinguish between community impacts arising from large increases (or decreases) in population (particularly low skilled or low wage labor) and those effects that stem from large increases in an immigrant or ethnic population.

A related research issue is mobility of the foreign born population. The estimates from table 2 imply that foreign born labor is attracted to counties with meat packing and processing jobs. They may also suggest that counties that lost industry facilities retained some of their foreign born workforce. How well do immigrant newcomers assimilate into their new rural communities? Orazem et al (2002) find that foreign born populations are more sensitive to economic conditions in rural regions of the Midwest and southern U.S. than are native born populations. They suggest that immigrant populations have less location-specific capital than native born populations and therefore are more mobile. Dozi and Valdivia (2005) contend that increased mobility of newcomer Latinos may be related to a “context of reception” in communities that hinders assimilation of newcomers and increases immigrant mobility. A better understanding of immigrants’ migration patterns and motivations for moving are needed if we are to develop effective programs and policies for helping both communities and their newcomer residents.

References

- Artz, G., P. Orazem and D. Otto. 2005. "Measuring the Impact of Meat Packing and Processing Facilities in the Nonmetropolitan Midwest: A Difference-in-Differences Approach." ISU Economics Working Paper #03003, November 16.
- Broadway, M. 1994. "Beef Stew: Cattle, Immigrants and Established Residents in a Kansas Beefpacking Town." Chapter 2 in L. Lamphere, A. Stepick and G. Grenier eds. *Newcomers In the Workplace: Immigrants and the Restructuring of the U.S. Economy*. Philadelphia, PA: Temple University Press, pp. 25-43.
- _____. 1990. "Meatpacking and Its Social and Economic Consequences for Garden City, Kansas in the 1980s." *Urban Anthropology* 19(4):321-344.
- _____. 2000. "Planning for change in small towns or trying to avoid the slaughterhouse blues." *Journal of Rural Studies* 16:37-46.
- Broadway, M., D.D. Stull and B. Podraza. 1994. "What Happens When the Meat Packers Come to Town?" *Small Town*, January-February, pp. 24-27.
- Des Moines Register*. 2000. "Listen to the Cattlemen." August 6.
- Dozi, P. and C. Valdivia. 2005. "Vulnerabilities and Economic Wellbeing of Hispanics in Non-Metro Missouri." Paper presented at the annual meetings of the American Agricultural Economics Association, Providence, RI, July, 24-27.
- Drabenstott, M., M. Henry and K. Mitchell. 1999. "Where Have All the Packing Plants Gone? The New Meat Geography in Rural America." *Economic Review*, Third Quarter, Kansas City Federal Reserve Bank, pp. 65-82.
- Eckhoff, J. 2000. "D. M. Officials Uncertain About New Packing Plant." *Des Moines Register*, April 4, pp. 1B.
- Feser, Edward J. and Stuart H. Sweeney. 1998. "Out-migration, Population Decline, and Regional Economic Distress." Economic Development Administration, December.
- Grey, M.A. 1997a. "Secondary Labor in the Meatpacking Industry: Demographic Change and Student Mobility in Rural Iowa Schools." *Journal of Research in Rural Education* 13: 153-164.
- _____. 1997b. "Storm Lake, Iowa, and the Meatpacking Revolution: Historical and Ethnographic Perspectives on a Community in Transition." In S. Stromquist and M. Bergman, eds., *Unionizing the Jungles: Labor and Community in the Twentieth-Century Meatpacking Industry*. Iowa City, IA: University of Iowa Press, pp. 242-261.
- Hackenberg, R.A. 1995. "Conclusion: Joe Hill Died For Your Sins: Empowering Minority Workers in the New Industrial Labor Force." Chapter 11 in D. Stull, M. Broadway and D. Griffith, eds., *Any Way You Cut It: Meat Processing and Small-Town America*. Lawrence, KS: University of Kansas Press, pp. 231-264.
- Huffman, W.E. and J.A. Miranowski. 1996. "Immigration, Meat Packing, and Trade: Implications for Iowa." Department of Economics, Iowa State University, Staff Paper #285.

- Leistritz, F.L. and R.S. Sell. 2001. "Socioeconomic Impacts of Agricultural Processing Plants." *Journal of the Community Development Society* 32:130-159.
- MacDonald, J.M., and M. Ollinger. 2005. "Technology, Labor Wars, and Producer Dynamics: Explaining Consolidation in Beefpacking." *American Journal of Agricultural Economics* 87:1020-1033.
- Ollinger, M., J.M. MacDonald, and M. Madison. 2005. "Technological Change and Economics of Scale in U.S. Poultry Processing." *American Journal of Agricultural Economics* 87:116-129.
- Orazem, P., D. Wolgemuth, and T. Huang. 2002. "The Causes and Consequences of Rural Immigrant Population Growth, 1950-1990," unpublished manuscript, Iowa State University, May.
- Otto, D.M., P.F. Orazem and W.E. Huffman. 1998. "Community and Economic Impacts of the Iowa Hog Industry." Chapter 6 in *Iowa's Pork Industry – Dollars and Scents*. Ames, IA: Agriculture and Home Economics Experiment Station, PM-1746, pp .25-28.
- Passel, J.S. 2006. "The Size and Characteristics of the Unauthorized Migrant Population in the U.S. Estimates Based on the March 2005 Current Population Survey." Pew Hispanic Center, March 7.
- Schlosser, E. 2002. Fast Food Nation. New York, NY: Perennial.
- U.S. General Accounting Office. 1998. *Community Development: Changes in Nebraska's and Iowa's Counties with Large Meatpacking Plant Workforces*. GAO/RCED-98-62, Washington, DC, February.

Figure A1. Location and Relative Size of Meat Packing & Processing Industry in Midwestern States, 1990-2000

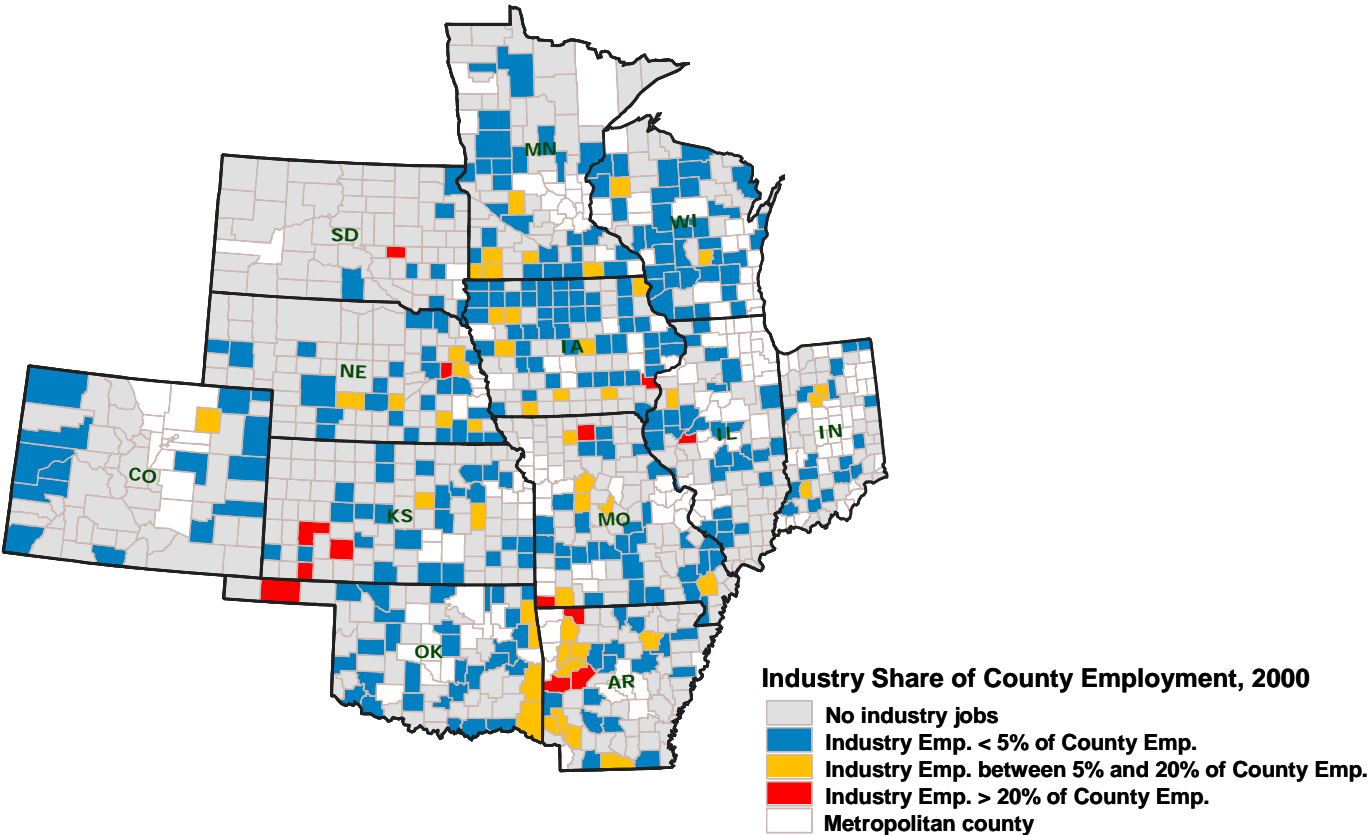


Figure A2. Location and Timing of Meat Packing & Processing Industry in Midwestern States, 1990-2000

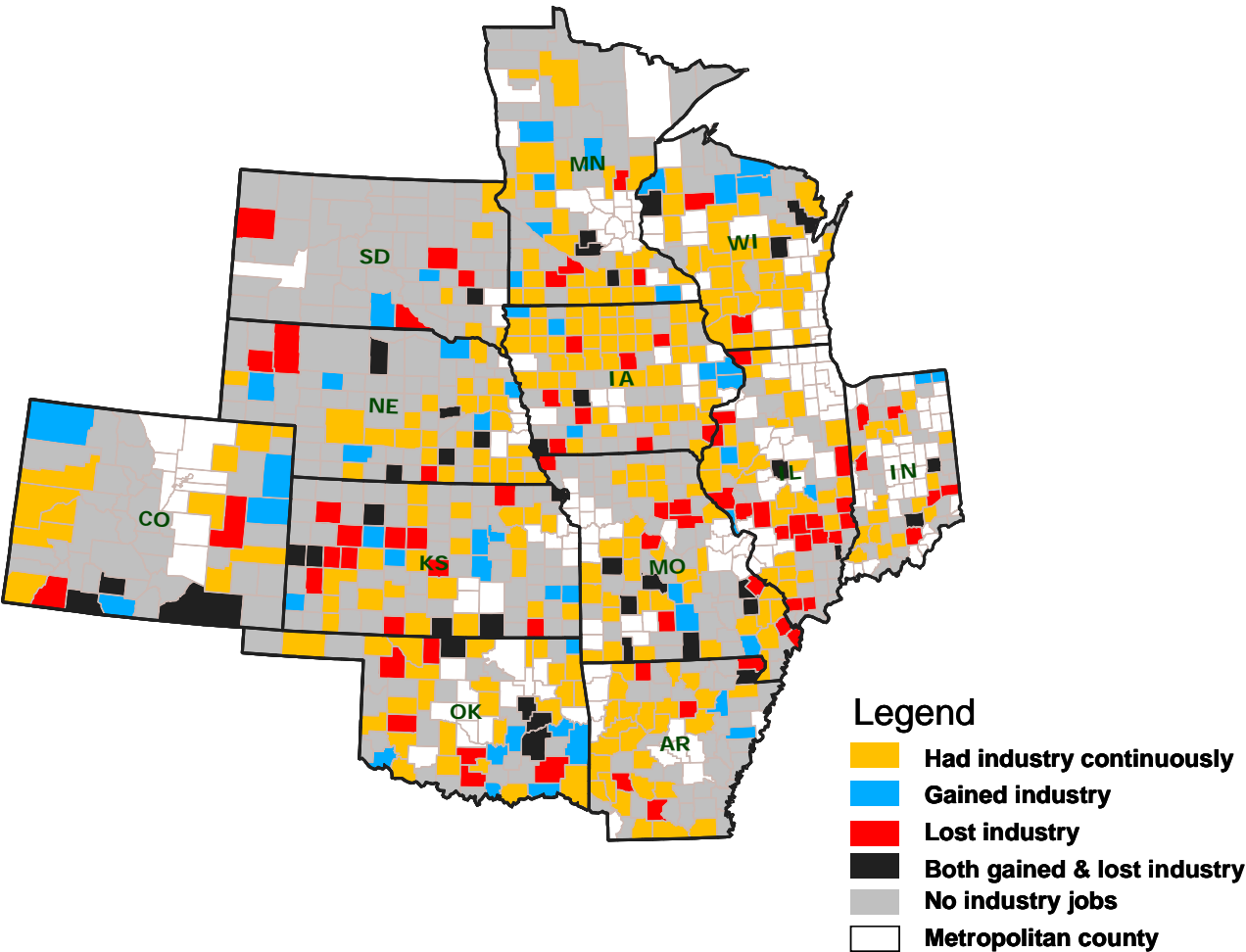


Table A1. Place of Birth For Workers (By State And Country) In The Animal Slaughtering And Processing Industry

Place of Birth	Workers	Place of Birth	Workers	Place of Birth	Workers
Alabama	19,042	Albania	68	Thailand	596
Alaska	517	Austria	119	Turkey	130
Arizona	1,780	Bulgaria	34	Vietnam	6,438
Arkansas	22,339	Denmark	14	Yemen	37
California	15,135	Finland	12	Asia	74
Colorado	5,492	France	99	Bermuda	10
Connecticut	956	Germany	1,560	Canada	352
Delaware	1,796	Greece	176	Mexico	111,017
District of Columbia	936	Hungary	254	Belize	178
Florida	7,126	Ireland	72	Costa Rica	226
Georgia	22,643	Italy	250	El Salvador	8,475
Hawaii	249	Netherlands	63	Guatemala	8,489
Idaho	1,160	Poland	1,568	Honduras	3,454
Illinois	16,105	Portugal	358	Nicaragua	548
Indiana	7,442	Azores Islands	76	Panama	265
Iowa	18,017	Romania	87	Barbados	61
Kansas	7,968	Spain	59	Cuba	1,599
Kentucky	8,815	Switzerland	37	Dominican Republic	1,029
Louisiana	9,151	England	213	Grenada	17
Maine	1,162	Scotland	54	Haiti	840
Maryland	4,724	Yugoslavia	321	Jamaica	393
Massachusetts	2,460	Czech Republic	36	St Kitts-Nevis	10
Michigan	7,722	Bosnia & Herzegovina	1,945	St Lucia	32
Minnesota	9,742	Croatia	10	St Vincent/Grenadines	17
Mississippi	23,326	Macedonia	85	Trinidad & Tobago	52
Missouri	12,988	Serbia	98	West Indies	36
Montana	679	Armenia	53	Argentina	44
Nebraska	8,572	Belarus	75	Bolivia	31
Nevada	192	Moldova	47	Brazil	61
New Hampshire	344	Russia	334	Chile	180
New Jersey	3,043	Ukraine	270	Colombia	555
New Mexico	2,029	Europe	16	Ecuador	395
New York	8,331	Bangladesh	68	Guyana	84
North Carolina	20,058	Myanmar (Burma)	44	Paraguay	50
North Dakota	1,153	Cambodia	691	Peru	439
Ohio	10,881	China	719	Uruguay	33
Oklahoma	8,536	Hong Kong	136	Venezuela	104
Oregon	1,781	India	1,096	South America	58
Pennsylvania	13,457	Indonesia	83	Unknown	117
Rhode Island	616	Iran	118	Cape Verde	34
South Carolina	9,567	Iraq	123	Ethiopia	226
South Dakota	3,603	Israel	124	Eritrea	50
Tennessee	8,574	Japan	388	Ghana	122
Texas	30,641	Jordan	35	Kenya	37
Utah	1,444	Korea	1,207	Liberia	9
Vermont	370	South Korea	248	Morocco	27
Virginia	15,998	Kuwait	26	Nigeria	61
Washington	2,531	Laos	3,687	Somalia	423
West Virginia	4,242	Lebanon	175	Sudan	298
Wisconsin	13,341	Malaysia	29	Uganda	42
Wyoming	920	Pakistan	121	Africa	226
Guam	321	Philippines	1,061	Australia	22
Puerto Rico	4,360	Saudi Arabia	21	Samoa	42
U.S. Virgin Islands	43	Taiwan	41	Oceania	452
Total U.S.	404,420	Total workers in Animal Slaughtering & Processing			571,721

Source: 2000 Census. PUBLIC USE MICRODATA SAMPLE: 5-PERCENT SAMPLE [Computer file].

Table A2. Distribution of Counties by Timing and Presence of Meat Packing/Processing Industry

County Type	All MPP Industries	Packing	Processing	Poultry
Never had industry	403	517	599	733
Continuously had industry	286	174	58	24
Gained industry	54	43	81	45
Lost industry	77	91	89	44
Gained then lost industry	27	26	26	11
Lost then gained industry	11	7	5	1
Total non-metro counties	858	858	858	858

Percent of Counties

County Type	All MPP Industries	Packing	Processing	Poultry
Never had industry	47.0%	60.3%	69.8%	85.4%
Continuously had industry	33.3%	20.3%	6.8%	2.8%
Gained industry	6.3%	5.0%	9.4%	5.2%
Lost industry	9.0%	10.6%	10.4%	5.1%
Gained then lost industry	3.1%	3.0%	3.0%	1.3%
Lost then gained industry	1.3%	0.8%	0.6%	0.1%

Endnotes

¹ According to data from the 2001 County Business Patterns, 64% of poultry processing firms had more than 100 employees; 17% had 1,000 employees or more. In contrast, only 8% of animal (except poultry) slaughtering firms have more than 100 employees. The corresponding percentages for other meat processing firms are: 20% of firms classified as ‘meat processed from carcasses’ and 6% of rendering and meat by-product processing firms.

² The data are not publicly available, but research using the data was permitted upon approval of an application to the Department of Labor. Only the aggregated results can be released to the public. The research was carried out at the Bureau of Labor Statistics (BLS) in Washington, D.C. in between 2004 and 2006. (See <http://www.bls.gov/bls/blsresda.htm> for more details.)

³ The twelve states included in the study are Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, Oklahoma, South Dakota and Wisconsin.

⁴ The industries we consider are Animal (except poultry) Slaughtering (NAICS 311611), Meat Processed from Carcasses (NAICS 311612), Rendering and Meat Byproduct Processing (NAICS 311613), Poultry Processing (NAICS 311615) and Frozen Specialty Food Manufacturing (NAICS 311412)

⁵ Again, these are likely underestimated due to the presence of undocumented workers.

⁶ This may reflect the fact that the industry is most dominant in counties that hosted it continuously throughout the decade. Of the thirteen counties in which industry jobs accounted for 20 percent or more of total county employment in 2000, only one gained the industry during the decade, while the remaining 12 hosted it throughout the period. While 54 counties gained the industry during the decade, in 46 of them, the industry accounted for less than 1 percent of total employment by 2000. Similarly, in counties that lost the industry, meat packing and processing jobs comprised only a small share of total employment. Of 77 counties losing the industry over the decade, 70 had an industry employment share of less than 1 percent in 1990.