



Food and Kindred Products Manufacturing: Status and Trends for Oklahoma, Surrounding States, and the U.S.

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Background

In recent years, Oklahoma has experienced growth in the food manufacturing area; most noticeably, the increased pork-processing activities in the Panhandle. States bordering Oklahoma have seen similar or even greater economic gains from food and kindred products manufacturing. For example, Arkansas has benefitted greatly from a poultry industry that has expanded to accommodate both the domestic and international demand for poultry products.

The U.S. Department of Commerce, Bureau of the Census probably is the best source of information for examining the nation's manufacturing activities. Every five years, the Census Bureau performs a census of all business activities and establishments, from mining to manufacturing to retailing, with each activity being assigned a Standard Industrial Code (SIC). The more precisely defined an activity, the more digits contained in the SIC code. For example, "Food and Kindred Products" manufacturing is listed as SIC 20, "Dairy Products" is a more closely-defined segment of SIC 20 manufacturing and is listed as SIC 202, and "Ice Cream and Frozen Desserts" is a component of SIC 202 manufacturing, listed as SIC 2024. Data for these many sectors are shown only in the aggregate, although, in cases of small industries with few establishments, some data may be withheld.

The Census of Manufactures has occurred as an integrated census activity for every "two" and "seven" years (for example 1982 and 1987) since 1967. In the late 1970s, the Census Bureau also began publishing annual surveys of most of these activities (Annual Survey of Manufactures). These surveys, which estimate manufacturing activities based upon a sampling of firms (as opposed to a complete census), act as a way of "filling in the gaps" between census years. By doing so, they allow for rough year-to-year comparisons of industry activities. Because census and survey activities for a given calendar year are performed during the following year to accommodate the full 365-day information period, data for 1997 probably will not be released until 1999. Therefore, the most current census data is for 1992.

For the purposes of this report, census data for the years 1967 through 1992 are reported and compared for general food and kindred-processing activities (SIC 20) and all manufacturing activities occurring in Oklahoma and surrounding states. Surrounding states are defined as bordering states (Texas, Arkansas, Missouri, Kansas, Colorado, and New Mexico) and Louisiana, whose state line is only a few miles from the

southeast corner of Oklahoma. Aspects of manufacturing to be considered for this report are the number of establishments, number of employees, the amount of value added to products as a result of manufacturing activities, and the values of product shipment.

Number of Establishments

According to census specifications, an establishment is a manufacturing unit, either one unit of a multi-plant firm or a single-plant firm. Starting in 1987, the four-digit SIC classification of establishments changed somewhat to provide for increased manufactured items specifications. However, the definition of manufacturing establishments overall and at the two-digit level remains the same. Therefore, SIC 20 establishments, as defined in 1967, essentially are the same as in the 1992 census, although certain multi-product manufacturing establishments may have changed their four-digit classifications.

The number of food manufacturing establishments in Oklahoma and all surrounding states went through a marked decline from 1967 to 1992. However, these states experienced growth in some sectors of food manufacturing to offset some of that decline. Oklahoma SIC 20 establishments, as a percent of the regional total (Oklahoma and surrounding states), steadily declined from 1967 to 1992 (Table 1). This may largely be due to the increase in poultry processing facilities in Arkansas, Missouri, and even Louisiana. While Oklahoma has also reaped the economic benefits of increased poultry processing in the past decade, it has not been at the same level as these states.

Another possible explanation for the decline in number of establishments may be the trade-offs between small establishments and large-manufacturing units. There has been a marked decline in the number of small, food-manufacturing establishments, due to their inability to compete with larger firms in the production of homogeneous, generic items. Large manufacturing units reap the benefits associated with economies of size (volume discounts for purchased inputs, technological advantages, the ability to consistently provide large quantities of lower-cost output to retailers, etc.), but small manufacturers are not capable of experiencing the same benefits. As a result, most small establishments either lose their ability to compete and go out of business or they develop specialized products for niche markets; thereby setting themselves apart from large manufacturers.

Table 1. Number of Establishments (SIC 20 and All Manufacturing) for Oklahoma, Comparisons with Surrounding States and United States, 1967-1992.

Year	SIC 20 (Food and Kindred Products)			All Manufacturing		
	Oklahoma	Pct. of Region*	Pct. of U.S.	Oklahoma	Pct. of Region*	Pct. of U.S.
1967	399	8.18%	1.23%	2,611	7.64%	0.84%
1972	333	7.67%	1.18%	3,042	8.14%	0.95%
1977	328	7.63%	1.23%	3,818	8.36%	1.06%
1982	231	6.70%	1.04%	4,168	8.72%	1.16%
1987	231	7.20%	1.12%	3,728	7.78%	1.01%
1992	226	6.91%	1.09%	4,064	7.83%	1.10%

Sources: U.S. Census of Manufactures, 1967-1992.

* Region consists of Oklahoma, surrounding states (TX, AR, MO, KS, CO, NM), and Louisiana.

In an apparent contrast, the number of all (food and nonfood) Oklahoma manufacturing establishments has steadily increased since 1967. While regional manufacturing growth has likewise increased at a similar rate, Oklahoma has attracted a small but growing share of all manufacturing establishments in the United States. This may be due, at least in part, to the many vocational and technological training programs and institutions existing in the state, a location incentive for any manufacturer requiring adequate numbers of skilled workers.

Number of Employees

The number of Oklahoma food manufacturing employees has varied since 1967, but the 13,500 food manufacturing employees listed in 1992 was near the average for the 25-year span (Table 2). While the state's percentage of all U.S. food manufacturing employees was also near the 1967-1992 average, Oklahoma's percentage of food manufacturing employees for the region has declined. That being said, many Arkansas food (poultry) processing facilities located in cities near the Oklahoma-Arkansas border (e.g., Siloam Springs, Springdale, Ft. Smith, and Van Buren) have Oklahoma citizens on the payroll.

In some cases, these border establishments own and operate buses to ease the commuting pressure for their Oklahoma employees. Therefore, Oklahoma's apparent decline in regional food manufacturing employment may be misleading.

The number of all manufacturing employees in Oklahoma has continued to increase, but the state's share of regional and national manufacturing employment has varied over time. This variance most likely is due to changes in the way technological advances since 1967 have affected the activities of manufacturers. Many jobs have been lost to technology, but at the same time, many new jobs have been created as a result of technological change. As mentioned earlier, Oklahoma's extensive vocational and technological training institutions provide a constant flow of prospective employees for manufacturing establishments, thereby drawing many such institutions to the state.

Value Added in Manufacturing

One of the best indicators of manufacturing activity is the amount of value added during manufacturing. This value indicates the total worth contributed to a final product, as a result of the manufacturing processes. In simplest terms, this is the difference between the costs of the raw materials used

Table 2. Number of Employees (Thousands, for SIC 20 and All Manufacturing) for Oklahoma, Comparisons with Surrounding States and United States, 1967-1992.

Year	SIC 20 (Food and Kindred Products)			All Manufacturing		
	Oklahoma	Pct. of Region*	Pct. of U.S.	Oklahoma	Pct. of Region*	Pct. of U.S.
1967	13.8	5.92%	0.84%	117.7	6.54%	0.61%
1972	14.4	6.23%	0.92%	142.7	7.25%	0.75%
1977	14.1	6.01%	0.93%	164.4	7.39%	0.84%
1982	12.5	5.17%	0.84%	196.9	8.04%	1.03%
1987	12.4	5.17%	0.86%	151.2	6.69%	0.80%
1992	13.5	5.18%	0.90%	155.9	6.68%	0.92%

Sources: U.S. Census of Manufactures, 1967-1992.

* Region consists of Oklahoma, surrounding states (TX, AR, MO, KS, CO, NM), and Louisiana.

Table 3. Value Added in Manufacturing (Million \$, for SIC 20 and All Manufacturing) for Oklahoma, Comparisons with Surrounding States and United States, 1967-1992.

Year	SIC 20 (Food and Kindred Products)			All Manufacturing		
	Oklahoma	Pct. of Region*	Pct. of U.S.	Oklahoma	Pct. of Region*	Pct. of U.S.
1967	176.4	5.05%	0.66%	1,346.2	5.11%	0.51%
1972	239.6	4.86%	0.67%	2,270.1	5.89%	0.64%
1977	375.3	4.76%	0.67%	4,662.3	6.16%	0.80%
1982	588.3	4.52%	0.67%	8,143.0	6.95%	0.99%
1987	834.2	4.66%	0.69%	9,856.9	6.42%	0.85%
1992	1,084.7	4.29%	0.69%	13,731.4	6.88%	0.96%

Sources: U.S. Census of Manufactures, 1967-1992.

* Region consists of Oklahoma, surrounding states (TX, AR, MO, KS, CO, NM), and Louisiana.

to make the product and the value of the final product leaving the manufacturing establishment.

The values reported for Oklahoma in Table 3 are in nominal terms, i.e., not adjusted for inflation over time. Although this would hinder a time-wise comparison of value added activity for the state, it is the state's growth in comparison to surrounding states and the nation that are being considered. Since the values for surrounding states and the U.S. also were not adjusted for inflation, the regional and national comparisons should be sound.

As stated previously in the focus on the number of manufacturing establishments, Oklahoma has not experienced the same growth in food processing activities as the surrounding states. The amount of value added in food manufacturing, whether the result of labor or technology, grew faster for the region than for Oklahoma alone. As a result, Oklahoma's share of the regional value added to food products declined. However, it is apparent that value-added food processing grew faster in this region than in the U.S. as a whole, as Oklahoma's share of national value-added processing virtually remained unchanged.

Although regional growth in the amount of value added from food manufacturing exceeded that for Oklahoma, the state continued to increase its share of value added by all manufac-

turing activities. Oklahoma (food and non-food) manufacturers increased the amount of value added to their products at a higher rate than regionally and nationally observed. While the percent of U.S. value added from Oklahoma activities remains small, it nearly doubled during this time period.

Value of Shipments

The product sales of manufacturing establishments constitute the value of shipments reported by the Census Bureau. As with value added, the aggregate shipment values reported in Table 4 are in nominal terms, therefore, they do not provide an accurate depiction of manufacturing growth in Oklahoma. However, these numbers still provide the basis for sound regional and national comparisons.

As seen in value added, the value of shipments from Oklahoma's food manufacturers grew at a slower rate than the regional value of food-manufacturing products. However, the state's share of national food-shipment values remained relatively similar over time. Once again, this is an indicator that regional food-processing activities have increased, but much of this increase has not taken place in Oklahoma.

The shipment values from all Oklahoma manufacturing establishments, unlike those for only food and kindred

Table 4. Value of Shipments (Million \$, for SIC 20 and All Manufacturing) for Oklahoma, Comparisons with Surrounding States and United States, 1967-1992.

Year	SIC 20 (Food and Kindred Products)			All Manufacturing		
	Oklahoma	Pct. of Region*	Pct. of U.S.	Oklahoma	Pct. of Region*	Pct. of U.S.
1967	609.0	4.82%	0.73%	3,292.3	5.14%	0.59%
1972	925.6	4.98%	0.80%	5,348.1	5.73%	0.71%
1977	1,627.3	5.00%	0.84%	12,564.5	6.58%	0.92%
1982	2,163.8	4.49%	0.77%	23,116.1	6.39%	1.18%
1987	2,429.8	4.27%	0.74%	24,073.9	6.31%	0.97%
1992	2,959.5	4.02%	0.73%	30,174.6	6.57%	1.00%

Sources: U.S. Census of Manufactures, 1967-1992.

* Region consists of Oklahoma, surrounding states (TX, AR, MO, KS, CO, NM), and Louisiana.

products, increased as a share of both regional and national manufacturing shipments. This provides another indication that Oklahoma's manufacturing sector has continued to develop and grow, but much of this growth has not been the result of SIC 20 activities.

Summary and Conclusions

Manufacturing growth often is measured by changes in the number of establishments, number of employees, value added during manufacture, and the value of shipments from industries. While the advances of technology and automation may have taken the place of some human inputs, and industry trends toward (or away from) fewer and larger manufacturing units may have affected the number of establishments, increases in the manufacturers' contributions and total values of outputs still indicate positive growth for Oklahoma manufacturing since 1967. However, specifically for food and kindred products manufacturing, the industry growth rate for Oklahoma has been less than the region and the United States.

The comparatively slower growth in Oklahoma food manufacturing may be partially due to the extensive growth in food processing activities of surrounding states, such as Arkansas and Texas. Arkansas leads the nation in poultry and rice processing activities, although Oklahoma also has benefitted from increased poultry processing. Texas is one of the nation's largest food-processing states, partially due

to the geographic vastness of the state and its ability to encompass several types of food processing activities. Texas also has experienced extensive food-processing growth due to its seafood industry (from the Gulf of Mexico), processing activities for raw commodities coming into (and/or shipped out of) Texas ports, and the growing fruit and vegetable processing industries of the Rio Grande valley.

Although these states benefit from certain geographic and/or industry development advantages, Oklahoma stands to experience similar gains from the food-processing activities of surrounding states. Newly-established tax incentives in the state, combined with an increased emphasis on Oklahoma food processing, have set the framework for increased Oklahoma-processing activities. Additionally, the opportunities for increased trade with Mexico and Latin America and Oklahoma's access to 1-35 and 1-40 may prove to be ample incentives for food-processing firms wishing to locate closer to domestic and international market sources.

For more information on manufacturing, wholesale, and retail trade activities within the United States, the following sources are available at libraries and on the Internet from the U.S. Department of Commerce, Bureau of the Census:

- Census of Manufacturers
- Census of Wholesale Trade
- Census of Retail Trade
- Annual Survey of Manufactures
- County Business Patterns

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