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Center for Economic Development and Business Research

Kansas Manufacturing

Fabricated Metal Product Manufacturing

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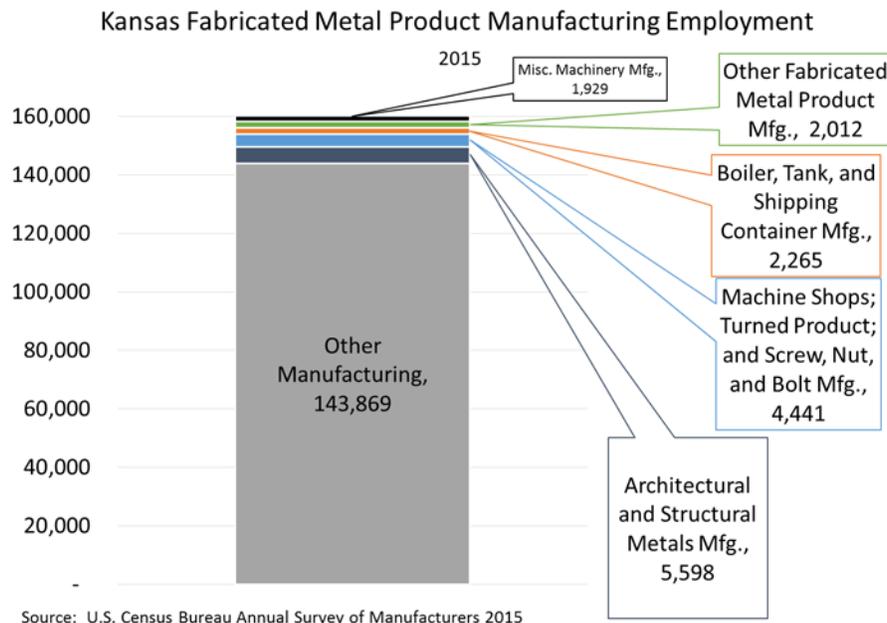
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Fabricated Metal Product Manufacturing

Industries in the fabricated metal product manufacturing subsector transform metal into intermediate or end products, other than machinery, computers and electronics, and metal furniture. These industries may also treat metals and metal formed products fabricated elsewhere. The manufacturing performed in the fabricated metal product manufacturing subsector begins with manufactured metal shapes. The establishments in this subsector further fabricate the purchased metal shapes into a product.

Within manufacturing, there are other establishments that make the same products made by this subsector; only these establishments begin production further back in the production process. These establishments have a more integrated operation. For instance, one establishment may manufacture steel, draw it into wire, and make wire products in the same establishment. Such operations are classified in the primary metal manufacturing subsector.

There are seven components of fabricated metal product manufacturing in Kansas, totaling ten percent of total state manufacturing employment. Architectural and structural metals manufacturing is the largest industry in this subsector in Kansas, employing 3.5 percent of the manufacturing workers in the state. Machine shops employ 2.8 percent of the manufacturing workers in the state. Boiler, tank, shipping container manufacturing, and other fabricated metal product manufacturing, each employ less than two percent of the state's manufacturing workers.¹



¹ Unless otherwise referenced, all data in this report is from the U.S. Census Bureau Annual Survey of Manufactures 2015

In Kansas, fabricated metal product manufacturing is a low wage industry with moderate employment growth. More than half of the establishments in this industry have between 50 and 250 employees. Over the past decade employment in this industry has averaged just below 15,000 workers. There were significant decreases in employment levels during the 2008 recession, and generally moderate increases since 2011. Employment grew at an average annual rate of about two percent between 2005 and 2015.²

Architectural and Structural Metals Manufacturing

This industry group comprises establishments primarily engaged in manufacturing one or more of the following: prefabricated metal buildings, panels and sections; structural metal products; metal plate work products; metal framed windows and metal doors; sheet metal work; and ornamental and architectural metal products.

Architectural and structural metals manufacturing is somewhat more concentrated in Kansas than in the United States as a whole. There are 19 percent more workers in this industry in Kansas than the national average. This industry accounts for 3.5 percent of Kansas manufacturing employment. There are approximately 119 establishments in this industry in Kansas, which is primarily comprised of establishments with fewer than 50 employees. The largest employer is Metal-Fab, Inc., which develops a wide range of products for industrial, residential and commercial applications.³

Structural metal product manufacturing is anticipated to grow moderately over the next five years. Growth in this industry is influenced by construction markets, volatile steel prices, and import competition. The increased competition from imports is driving consolidation among smaller producers.⁴

Employment

There was an average of 5,400 architectural and structural metals manufacturing workers in Kansas between 2005 and 2015. Industry employment contracted by about 20 percent during the 2008 recession and was just getting back to prerecession levels in 2015.⁵

Of the 5,598 architectural and structural metals manufacturing employees in Kansas in 2015, 74 percent were production workers, and 26 percent were nonproduction workers. There were 0.35 nonproduction workers for each production worker in the state, slightly lower than the national average for this industry of 0.40 nonproduction workers for each production worker.

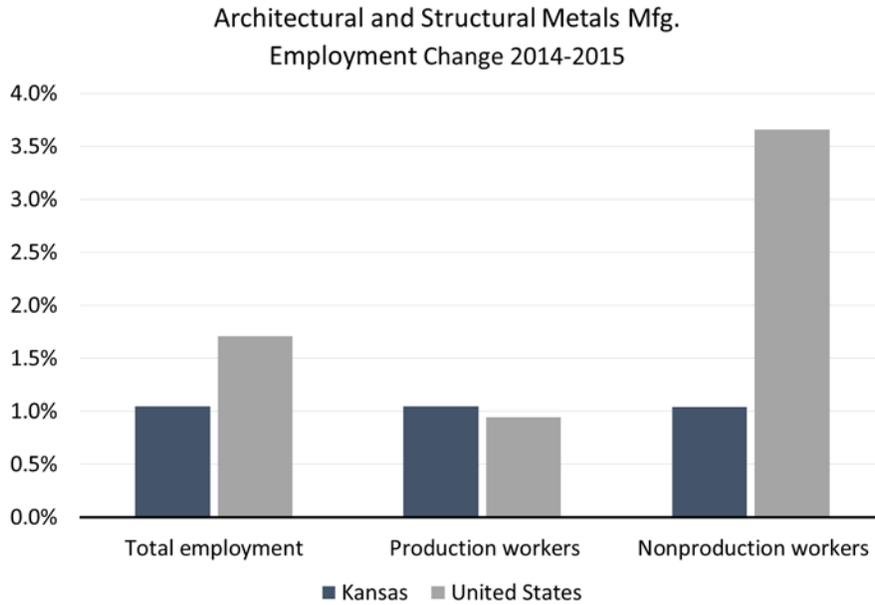
Between 2014 and 2015, architectural and structural metals manufacturing employment increased in Kansas and the United States. There was a total increase in Kansas of 58 workers, production workers increased by 43, and nonproduction workers increased by 15 workers.

² Bureau of Labor Statistics – Quarterly Census of Employment and Wages

³ Infogroup, Inc.

⁴ IBIS World Structural Metal Product Manufacturing in the U.S. December 2016

⁵ Bureau of Labor Statistics – Quarterly Census of Employment and Wages



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015

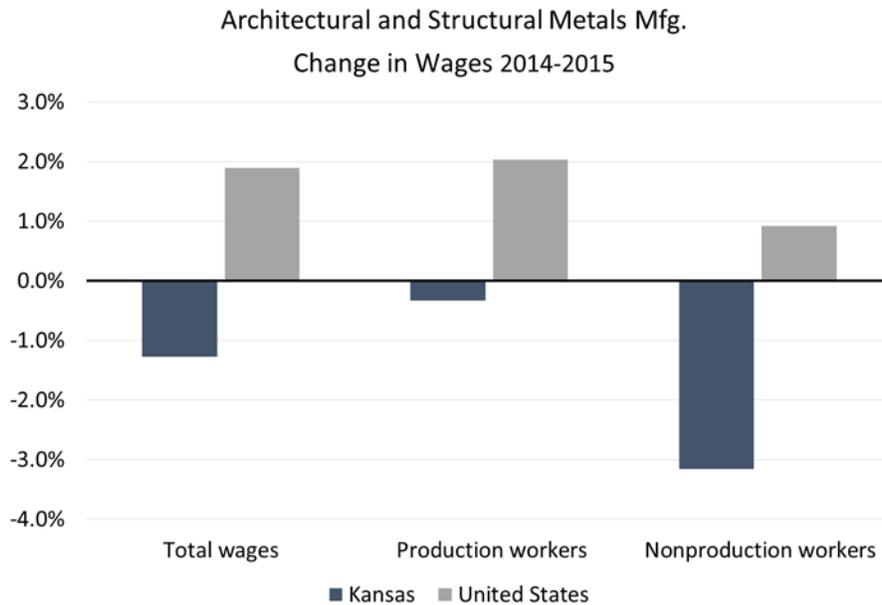
Wages

Architectural and structural metals manufacturing is a low wage industry. The average salary in 2015 for employees in this industry in Kansas was \$43,577, 21.9 percent lower than the average salary for manufacturing in the state. At \$39,654 annually, production workers in this industry earned 16.7 percent less than the average for production workers in Kansas. At \$54,758 a year, nonproduction workers earned 28.4 percent less than the average for nonproduction workers in manufacturing in Kansas.

Architectural and Structural Metals Mfg. Annual Wage per Worker 2015	
Total employment	\$43,577
Production workers	\$39,654
Nonproduction workers	\$54,758

Source: U.S. Census Bureau Annual Survey of Manufacturers

Between 2014 and 2015, total wages in this industry decreased in Kansas and increased in the United States. The total decrease in wages can be attributed to a relatively small decreased in the wages for production workers in Kansas and a much larger decrease in wages for nonproduction workers.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015 - Inflation adjusted growth rate.

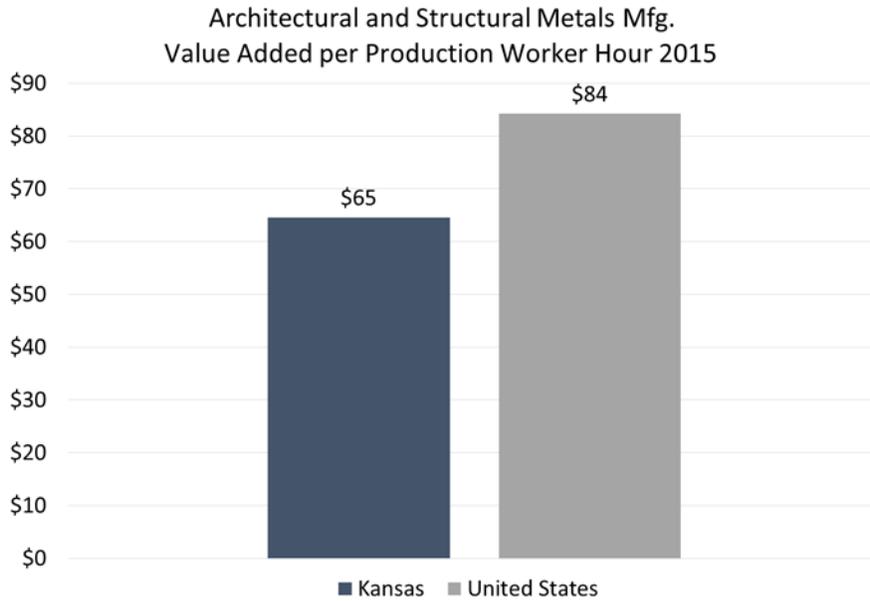
In Kansas, there has been a decrease in salaries and an increase in employment for production and nonproduction workers in architectural and structural metals manufacturing, indicating there was an increase in the supply of workers available to this industry.

Productivity

In 2015, architectural and structural metals manufacturing workers in Kansas worked an average of 37.23 hours a week, down 2.7 percent from 2014, less than the national average for this industry of 40.39, which increased 0.7 percent from 2014. It is also less than the average for manufacturing in Kansas of 39.06 hours a week.

In the United States the average value added per production worker hour in manufacturing, in general, was \$152 in 2015.⁶ In 2015, the average value added per production worker hour for architectural and structural metals manufacturing was \$84. The Kansas average was \$65. This difference in productivity may be attributed to the difference in the specific type of manufacturing done in Kansas, the amount of capital investment by local companies, the skill and experience of local production workers, or other factors.

⁶Productivity is an average measure of the efficiency of production. It can be measured as the ratio of inputs to outputs. In measuring the efficiency of manufacturing industries, it is common to measure productivity as the ratio of the production hours to the value added from the manufacturing activity. The value added from the manufacturing activity is determined by subtracting the cost of materials and supplies from the value of shipments.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015

Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing

This industry group comprises establishments primarily engaged in one of the following: operating machine shops primarily engaged in machining metal and plastic parts and parts of other composite materials; machining precision turned products; or manufacturing metal bolts, nuts, screws, rivets, and other industrial fasteners.

The concentration of machine shops and threaded product manufacturing workers in Kansas is below the national average, but there are almost 4,500 employees in this industry in the state, 2.8 percent of manufacturing employment. There are about 250 establishments in this industry in Kansas, with an average of fewer than 20 employees per establishment. The state’s largest employer is Precision Machining, Inc., a producer of aircraft parts.⁷

Nationally, over the next five years, this industry is expected to experience low to moderate growth. Growth in this industry has historically been based on the demand from automobile and aircraft manufacturing. Going forward, medical device manufacturers are anticipated to increase demand for products from these companies.⁸

⁷ Infogroup, Inc.

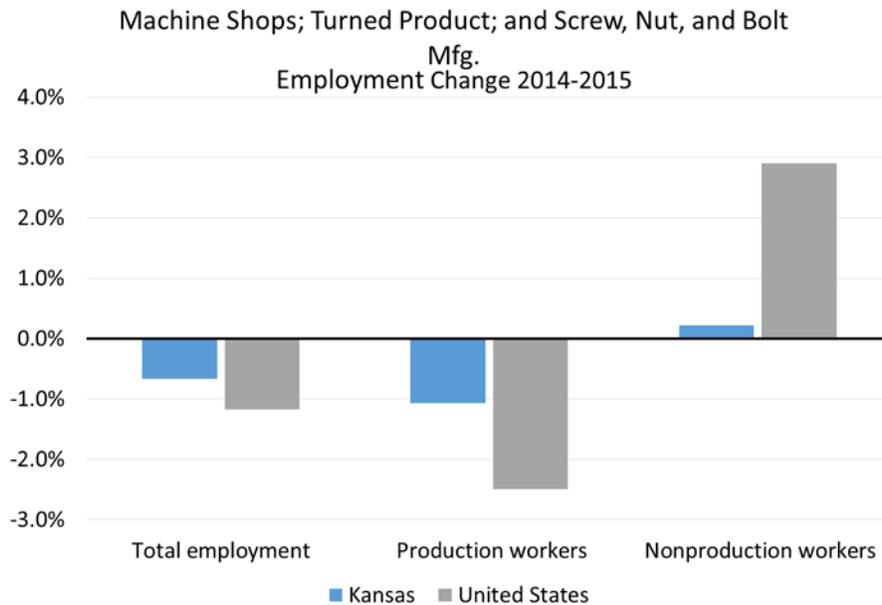
⁸ IBISWorld Machine Shop Services in the U.S. November 2016

Employment

There was an average of 2,700 machine shops and threaded product manufacturing workers in Kansas between 2005 and 2015. Industry employment contracted by about 27 percent during the 2008 recession. However, there has been an increase of about 840 workers in the state since 2011.⁹

Of the 4,441 machine shops and threaded product manufacturing workers in Kansas in 2015, 69 percent were production workers, and 31 percent were nonproduction workers. There were 0.45 nonproduction workers for each production worker in the state, slightly higher than the national average for this industry of 0.34 nonproduction workers for each production worker.

Between 2014 and 2015, total machine shops and threaded product manufacturing employment decreased in Kansas by 0.7 percent, less than the 1.2 percent decrease in the United States as a whole. There was a total decrease in Kansas of 30 workers, a reduction of 33 production workers that was partially offset by an increase of 3 nonproduction workers. This change in employment in Kansas was similar to the change in national employment.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015

Wages

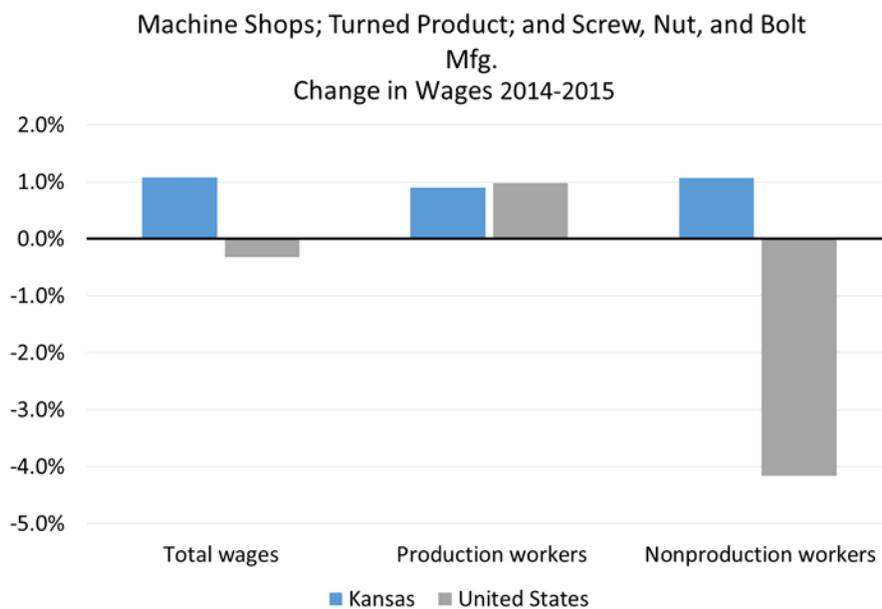
Jobs in machine shops and threaded product manufacturing are lower wage jobs in Kansas. The average salary in 2015 for this industry in Kansas was \$49,735, 10.9 percent lower than the average salary for manufacturing in the state. At \$43,399 annually, production workers in machine shops and threaded product manufacturing earned 8.8 percent less than the average for production workers in Kansas. At \$63,809 a year, nonproduction workers earned 16.6 percent less than the average for nonproduction workers in manufacturing in Kansas.

⁹ Bureau of Labor Statistics – Quarterly Census of Employment and Wages

Machine Shops; Turned Product; and Screw, Nut, and Bolt Mfg. Annual Wage per Worker 2015	
Total employment	\$49,735
Production workers	\$43,399
Nonproduction workers	\$63,819

Source: U.S. Census Bureau Annual Survey of Manufacturers

Between 2014 and 2015, wages in machine shops and threaded product manufacturing increased in Kansas and decreased in the United States. The increase can be attributed to increased wages of both production and nonproduction workers.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015 - Inflation adjusted growth rate.

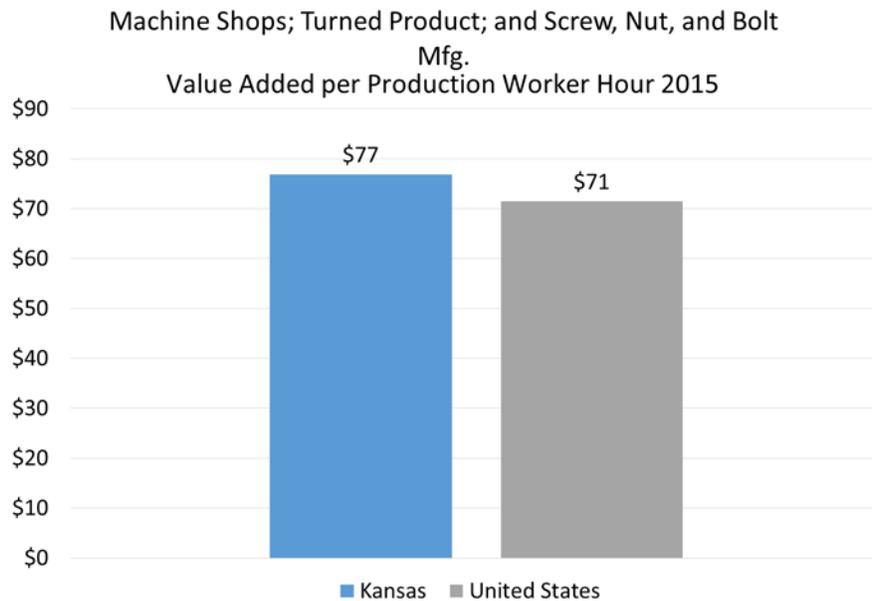
In Kansas, there has been a decrease in employment and an increase in wages for production workers in machine shops and threaded product manufacturing, an indication of a decline in the supply of employees to this industry. However, there has been an increase in wages and employment for nonproduction workers in this industry indicating an increase in demand for these workers.

Productivity

In 2015, machine shops and threaded product manufacturing workers in Kansas worked an average of 39.47 hours a week, unchanged from 2014, somewhat less than the national average of 40.41 hours, which increased 0.4 percent from 2014. It is greater than the mean for manufacturing in Kansas of 39.06 hours a week.

In the United States, the average value added per production worker hour in manufacturing, in general, was \$152 in 2015. In 2015, the average value added per production worker hour for machine shops and threaded product manufacturing was \$71 in the United States. The Kansas average was \$77. This

difference in productivity may be attributed to the difference in the specific type of manufacturing done in Kansas, the amount of capital investment by local companies, the skill and experience of local production workers, or other factors.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015

Boiler, Tank, and Shipping Container Manufacturing

This industry group comprises establishments primarily engaged in one of the following: manufacturing power boilers and heat exchangers; cutting, forming, and joining heavy-gauge metal to manufacture tanks, vessels, and other containers; or forming light gauge metal containers.

This industry accounts for 2.8 percent of total Kansas manufacturing employment and has a high concentration of employment relative to the United States as a whole. There is eighty percent more workers in Kansas than the United States average. There are 22 establishments in this industry with an average of just under 100 employees.¹⁰ One of the larger employers in the state is CST Storage, in Parsons.

Nationally, boiler, tank and shipping container manufacturing is expected to grow slowly over the next five years. Growth in this industry is dependent on market performance in industrial manufacturing, oil refineries, cement plants, and farming and dairy markets.¹¹

¹⁰ U.S. Census Bureau – County Business Patterns 2014

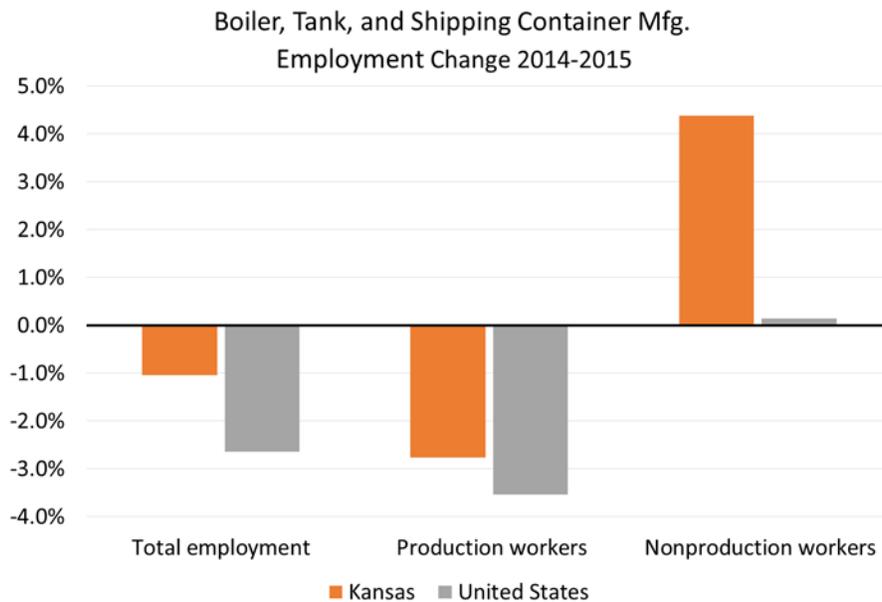
¹¹ IBISWorld Metal Tank Manufacturing in the U.S. March 2016

Employment

There was an average of 1,700 boiler, tank and shipping container manufacturing workers in Kansas between 2005 and 2015. Industry employment contracted by about 21 percent during the 2008 recession. However, there has been an increase of about 650 workers in the state since 2011.¹²

Of the 2,265 boiler, tank and shipping container manufacturing workers in Kansas in 2015, 75 percent were production workers, and 25 percent were nonproduction workers. There were 0.34 nonproduction workers for each production worker in the state, equal to the national average.

Between 2014 and 2015, total boiler, tank and shipping container manufacturing employment decreased in both Kansas and the United States, with the relative decrease in Kansas being smaller than the United States, a 1.0 percent loss compared to a 2.6 percent loss. There was a total decrease in Kansas of 24 workers, a decrease of 48 production employees and an increase of 24 nonproduction workers. In the United States as a whole, production workers also decreased and nonproduction workers increased.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015

Wages

Wages for jobs in boiler, tank and shipping container manufacturing are low for production and nonproduction workers. The average salary in 2015 for this industry in Kansas was \$48,208, 13.6 percent lower than the average salary for manufacturing in the state. At \$42,044 annually, production workers in boiler, tank and shipping container manufacturing earned 11.6 percent less than the average for production workers in Kansas. At \$66,451 a year, nonproduction workers earned 13.1 percent less than the average for nonproduction workers in manufacturing in Kansas.

¹² Bureau of Labor Statistics – Quarterly Census of Employment and Wages

Boiler, Tank, and Shipping Container Mfg. Annual Wage per Worker 2015	
Total employment	\$48,208
Production workers	\$42,044
Nonproduction workers	\$66,451

Source: U.S. Census Bureau Annual Survey of Manufacturers

Between 2014 and 2015, total average wages in Kansas in boiler, tank and shipping container manufacturing increased by 6.8 percent, compared to only a 1.2 percent increase at the national level. Kansas wages for production workers in this industry followed the national trend. Wages for nonproduction increased in Kansas but decreased at the national level.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015 - Inflation adjusted growth rate.

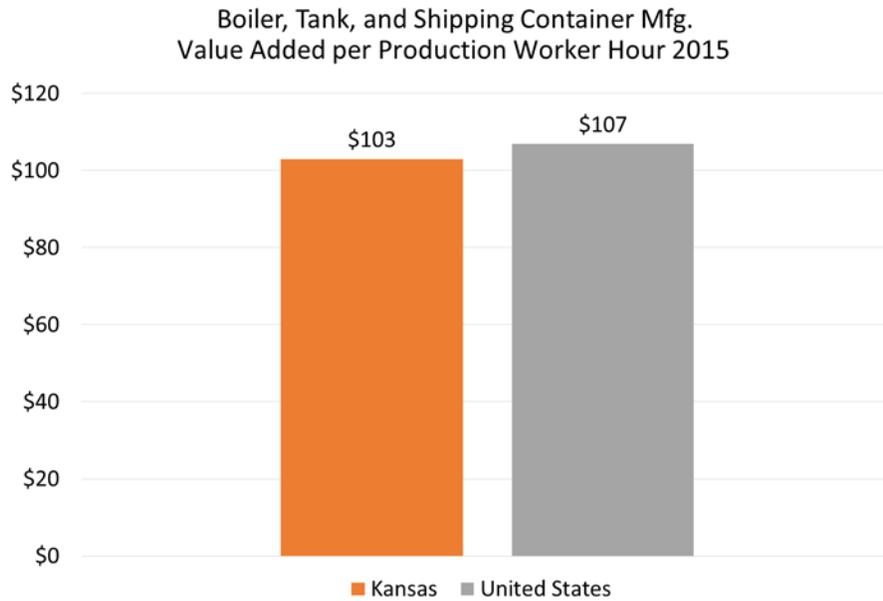
In Kansas, there has been an increase in wages and a decrease in employment for production workers in boiler, tank, and shipping container manufacturing, an indication of a decreased supply of these workers. There has been an increase in wages and employment of nonproduction workers, indicating an increase in demand for skilled workers.

Productivity

In 2015, boiler, tank and shipping container manufacturing workers in Kansas worked an average of 39.02 hours a week, up 5.3 percent from 2014. Kansas workers worked less than the national average of 40.65 hours, which decreased 2.5 percent from 2014. It is about equal to the mean for manufacturing in Kansas of 39.06 hours a week.

In the United States, the average value added per production worker hour in manufacturing, in general, was \$152 in 2015. In 2015, the average value added per production worker hour for boiler, tank and shipping container manufacturing was \$107 in the United States. The Kansas average was \$103. This

difference in productivity may be attributed to the difference in the specific type of manufacturing done in Kansas, the amount of capital investment by local companies, the skill and experience of local production workers, or other factors.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015

Other Fabricated Metal Product Manufacturing

This industry group comprises establishments primarily engaged in manufacturing fabricated metal products, except forgings and stampings, cutlery and hand tools, architectural and structural metals, boilers, tanks, shipping containers, hardware, spring and wire products, machine shop products, turned products, screws, and nuts and bolts.

Other fabricated metal product manufacturing accounts for 1.3 percent of Kansas manufacturing employment but has a low concentration of workers, there are 50 percent fewer workers in Kansas than the national average. There are approximately 71 establishments in this industry in the state, with an average of 30 employees per establishment.¹³ American Ordnance, a small arms ammunition manufacturer, is the largest employer in this industry in Kansas.

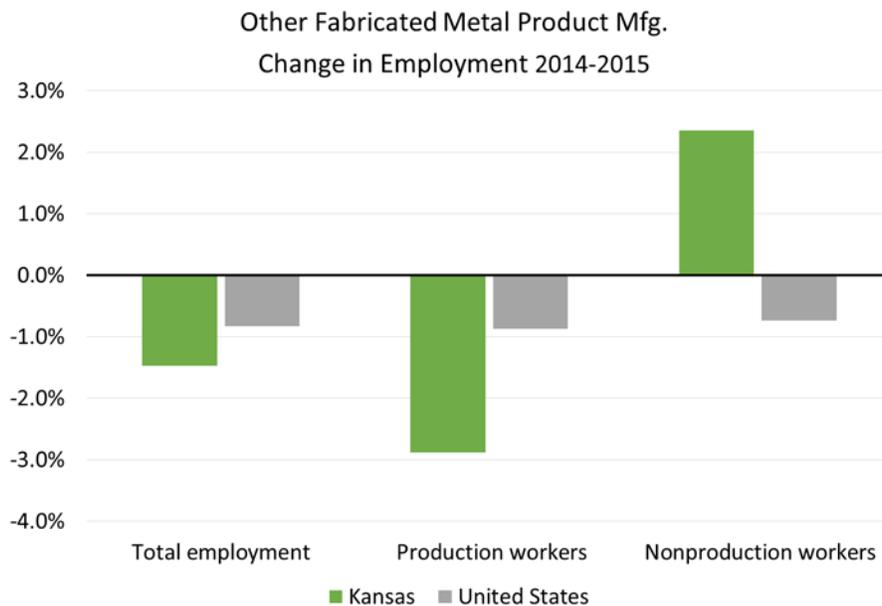
¹³ U.S. Census Bureau County Business Patterns 2014

Employment

Over the past decade, other fabricated metal product manufacturing in Kansas has averaged about 2,100 workers annually. The level of employment decreased significantly in the 2008 recession, but has grown at an average annual rate of 0.5 percent between 2005 and 2015.

Of the 2,012 other fabricated metal product manufacturing workers in Kansas in 2015, 72 percent were production workers, and 28 percent were nonproduction workers. There were 0.39 nonproduction workers for each production worker in the state, lower than the national average for other fabricated metal product of 0.41 nonproduction workers for each production worker.

Between 2014 and 2015, total employment in other fabricated metal product manufacturing decreased in both Kansas and the United States, with the relative decrease in the United States being smaller than Kansas, a 0.8 percent loss compared to a 1.5 percent loss. There was a total decrease in Kansas of 30 workers, a result of a decrease of 43 production employees and an increase of 13 nonproduction workers.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015

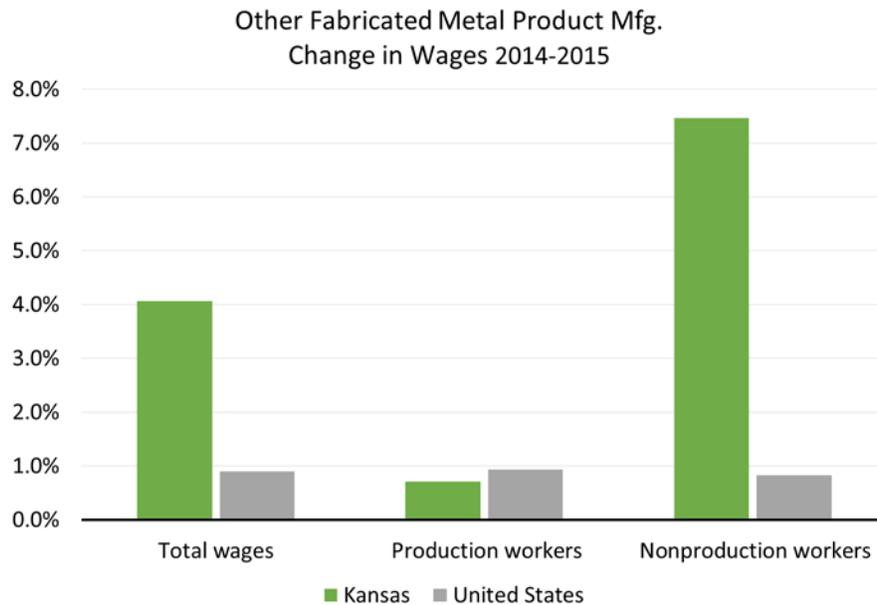
Wages

Jobs in other fabricated metal product manufacturing pay below average wages for production and nonproduction workers in Kansas. The average salary in 2015 for this industry in Kansas was \$50,413, 9.7 percent lower than the average salary for manufacturing in the state. At \$40,887 annually, production workers in industrial machinery earned 14.1 percent less than the average for production workers in Kansas. At \$74,869 a year, nonproduction workers earned 2.1 percent less than the average for nonproduction workers in manufacturing in Kansas.

Other Fabricated Metal Product Mfg. Annual Wage per Worker 2015	
Total employment	\$50,413
Production workers	\$40,887
Nonproduction workers	\$74,869

Source: U.S. Census Bureau Annual Survey of Manufacturers

Between 2014 and 2015, total average wages in Kansas in other fabricated metal product manufacturing increased by 4.1 percent, considerably more than the national average of 0.9 percent. The relatively large increases can be attributed to increases in the average wage of nonproduction workers in Kansas.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015 - Inflation adjusted growth rate.

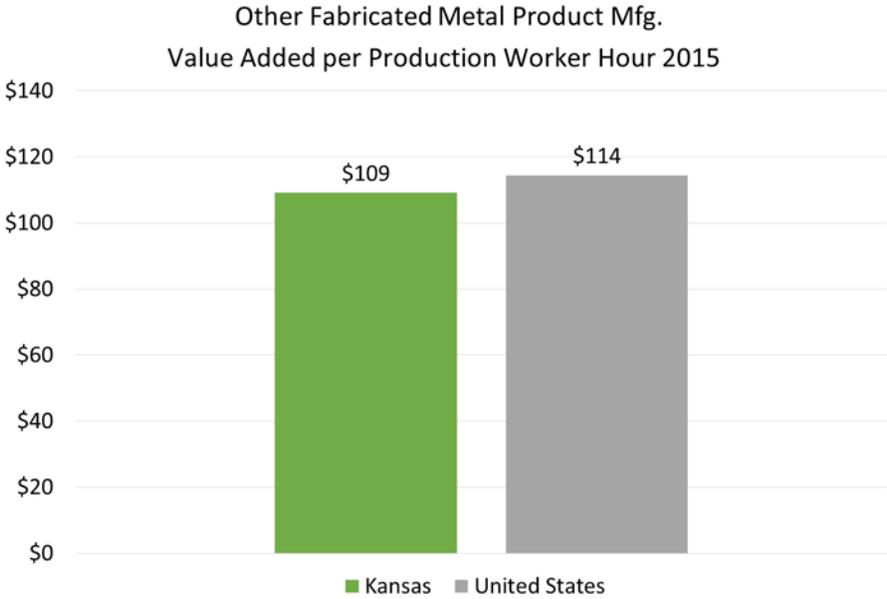
In Kansas, there has been an increase in wages and a decrease in employment for production workers in other fabricated metal product manufacturing, an indication of a decreased supply of these workers. There has been an increase in wages and employment of nonproduction workers, indicating an increase in demand for skilled workers.

Productivity

In 2015, other fabricated metal product manufacturing workers in Kansas worked an average of 40.43 hours a week, up 1.8 percent from 2014, more than the national average of 39.39 hours, which increased 0.2 percent from 2014. It is more than the mean for manufacturing in Kansas of 39.06 hours a week.

In the United States, the average value added per production worker hour in manufacturing, in general, was \$152 in 2015. In 2015 the average value added per production worker hour for other fabricated metal product manufacturing was \$114 in the United States. The Kansas average was \$109. This difference in productivity may be attributed to the difference in the specific type of manufacturing done

in Kansas, the amount of capital investment by local companies, the skill and experience of local production workers, or other factors.



Source: U.S. Census Bureau Annual Survey of Manufacturers 2015