Iowa is home to approximately 5,980 manufacturing firms.

Manufacturing contributed $27.6 billion to Iowa’s economy in 2011, representing 18.6 percent of the state’s total GDP.

Iowa ranks sixth among all states in its percentage of GDP from manufacturing.

The manufacturing sector’s 211,998 jobs accounted for 10.8 percent of Iowa’s total employment in 2011.

More than half (53.4 percent) of Iowa’s manufacturing jobs are located in its non-metropolitan counties.

The average manufacturing job in Iowa paid $51,120 in wages and salaries in 2011.

Manufacturing accounts for 12.7 percent of total earnings in Iowa’s metropolitan areas and 19.4 percent of total earnings in non-metropolitan regions.

Iowa exported $11.7 billion worth of manufactured goods to other countries in 2011.
NUMBER OF FIRMS

Iowa is home to approximately 5,980 manufacturing firms operating from 6,440 physical establishments throughout the state.

- A large fraction of Iowa’s manufacturing firms are small proprietorships or partnerships with no paid employees other than the principals. Known as “nonemployer firms,” these establishments comprise 47.6 percent of Iowa’s manufacturing firms.

- 47.5 percent of Iowa’s manufacturing firms are owned by small or medium-sized enterprises (SMEs) with fewer than 500 paid employees.

- Large manufacturing enterprises, with 500 or more employees, account for 4.9 percent of Iowa’s manufacturing firms.

GROSS DOMESTIC PRODUCT

Gross domestic product (GDP) measures the contributions of labor and capital to the market value of goods and services produced in a state. The total GDP for Iowa’s industries in 2011 was $149.0 billion.

The manufacturing sector contributed $27.6 billion to Iowa’s economy in 2011, representing 18.6 percent of the state’s total GDP. Iowa ranks sixth among all states in the percentage of GDP derived from the manufacturing sector.

When measured by GDP size, manufacturing ranks first among Iowa’s major economic sectors. Manufacturing ranks third in GDP size among major economic sectors in the United States.

Source: U.S. Bureau of Economic Analysis

Note: Agriculture and related industries include production agriculture, agricultural services, forestry, fishing, hunting, and mining. Activities such as grain processing, ethanol production, meat slaughtering and processing, agricultural chemical and fertilizer production, and agricultural equipment manufacturing are classified within the manufacturing sector, per national industrial accounting standards.
Iowa’s manufacturing sector had 211,998 jobs in 2011, accounting for 10.8 percent of the state’s total employment. In the United States, manufacturing accounted for 7.0 percent of total employment.

Measured by employment size, manufacturing ranks fifth among Iowa’s major economic sectors. Manufacturing ranks sixth among major sectors in the United States.

More than half (53.4 percent) of Iowa’s manufacturing jobs are located in non-metropolitan areas. By county, manufacturing employment ranges from a low in Ringgold (66 jobs) to a high in Linn (19,831 jobs).

PERCENTAGE OF IOWA JOBS BY MAJOR SECTOR

- Trade: 14.6%
- Government: 13.6%
- Educational and health care services: 13.1%
- Recreational, personal and other services: 12.8%
- Manufacturing: 10.8%
- Professional and administrative services: 9.1%
- Finance and insurance: 6.5%
- Agriculture and related: 5.4%
- Construction: 5.2%
- Transportation: 3.7%
- Real estate: 3.1%
- Information: 1.6%
- Utilities and mining: 0.6%

NUMBER OF FULL-TIME AND PART-TIME MANUFACTURING JOBS BY COUNTY

Source: U.S. Bureau of Economic Analysis

Note: These employment statistics count the number of full-time and part-time jobs, as opposed to the number of employed persons.
**IOWA’S DIVERSE MANUFACTURING SECTOR**

**DURABLE AND NONDURABLE GOODS**

Industries within the manufacturing sector are frequently grouped into two broad categories: durable goods and nondurable goods. **Durable goods** are tangible products that can be stored or inventoried and that have an average life of at least three years. **Nondurable goods** have an average life of less than three years.

Durable goods production accounts for a slightly larger share of Iowa’s manufacturing activity, both in terms of GDP and employment. Durable goods production accounts for 54.0 percent of Iowa’s manufacturing GDP and 59.4 percent of its manufacturing jobs. Nationally, durable goods production accounts for 53.9 percent of manufacturing GDP and 62.0 percent of manufacturing jobs.

**SPECIALIZATION BY INDUSTRY**

Areas of relative industrial specialization within the manufacturing sector may be identified using “location quotients,” which divide a state’s percentage of employment in a given industry by that same industry’s percentage of U.S. employment. A location quotient greater than one indicates specialization and suggests the state has a relative competitive advantage in that industry. Iowa demonstrates relative specialization in the following manufacturing industries: machinery, food and beverages, wood products, primary metals, and furniture and related products.

**IOWA’S MANUFACTURING INDUSTRIES RANKED BY GDP**

<table>
<thead>
<tr>
<th>2010 GDP</th>
<th>% of Iowa Manufacturing Totals</th>
<th>Comparative U.S. Percentages</th>
<th>Location Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>($ millions)</td>
<td>GDP</td>
<td>Jobs</td>
<td>Establishments</td>
</tr>
<tr>
<td>Machinery</td>
<td>6,451</td>
<td>25.1%</td>
<td>18.3%</td>
</tr>
<tr>
<td>Food and beverages</td>
<td>6,275</td>
<td>24.5%</td>
<td>24.6%</td>
</tr>
<tr>
<td>Chemicals</td>
<td>3,304</td>
<td>12.9%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Computers and electronics</td>
<td>1,565</td>
<td>6.1%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Fabricated metals</td>
<td>1,331</td>
<td>5.2%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Plastics and rubber products</td>
<td>1,046</td>
<td>4.1%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Transportation equipment</td>
<td>825</td>
<td>3.2%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Paper</td>
<td>726</td>
<td>2.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Furniture and related products</td>
<td>715</td>
<td>2.8%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Primary metals</td>
<td>630</td>
<td>2.5%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Electrical equipment and appliances</td>
<td>621</td>
<td>2.4%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Wood products</td>
<td>507</td>
<td>2.0%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Nonmetallic mineral products</td>
<td>503</td>
<td>2.0%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>456</td>
<td>1.8%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Printing and related</td>
<td>442</td>
<td>1.7%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Petroleum and coal</td>
<td>145</td>
<td>0.6%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Textile and textile product mills</td>
<td>63</td>
<td>0.2%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Apparel</td>
<td>55</td>
<td>0.2%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

Sources: U.S. Bureau of Economic Analysis and County Business Patterns, U.S. Census Bureau
Iowa’s manufacturing workers earned an average of $51,120 in wages and salaries in 2011. Workers across all sectors of Iowa’s economy earned an average of $38,390 in wages and salaries per job.

Average earnings per job in Iowa’s manufacturing sector were 84.9 percent of the U.S. average for manufacturing jobs. Iowa’s all-sector average earnings per job were 79.5 percent of the U.S. average.

Manufacturing ranked third among Iowa’s major sectors in average wage and salary earnings per job.

By detailed manufacturing industry, average earnings were highest in Computers and electronics manufacturing, at $77,561 per job.

Manufacturing wages vary across the state, with higher levels typically found in and near metropolitan areas and larger cities. In 2011, the top three counties by average manufacturing wages and salaries per job were Linn ($75,929), Black Hawk ($61,857), and Monroe ($57,201).

Manufacturing jobs in 18 of Iowa’s 99 counties paid more than the statewide average of $51,120 in wages and salaries per job in 2011. Manufacturing pay levels were below 80 percent of the statewide average in 45 counties.

### Average Manufacturing Wages by County

![Map showing manufacturing wages by county in Iowa]

Manufacturing wages as a % of Iowa's manufacturing average:
- Below 80 percent
- 80 to 100 percent
- Above 100 percent

### Average Wage and Salary Earnings Per Job in Iowa ($000s)

#### By Major Sector

- Average for all sectors: 38.4
- Utilities and mining: 71.5
- Finance and insurance: 61.2
- Manufacturing: 51.1
- Information: 46.7
- Construction: 45.1
- Transportation: 41.3
- Professional and administrative services: 41.1
- Real estate: 39.3
- Government: 39.1
- Educational and health care services: 35.1
- Trade: 31.7
- Agriculture and related: 29.6
- Recreational, personal and other services: 19.3

#### By Manufacturing Industry

- Computers and electronics: 77.6
- Machinery: 61.8
- Chemicals: 59.0
- Primary metals: 56.0
- Petroleum and coal: 53.7
- Paper: 52.5
- Electrical equipment and appliances: 50.2
- Plastics and rubber products: 48.0
- Fabricated metals: 45.2
- Food: 44.9
- Nonmetallic minerals: 44.7
- Furniture and related: 43.4
- Wood products: 42.4
- Miscellaneous: 40.8
- Beverage and tobacco: 38.2
- Printing and related: 38.0
- Textile mills: 33.9
- Apparel: 32.8
- Leather and allied products: 31.7
- Textile product mills: 26.3
- Transportation equipment: (N/A)

EXTRACTIONS FROM I OWA

BY TYPE OF GOOD

In 2011, the state of Iowa was the transportation origin for $13.3 billion worth of tangible merchandise exports including agricultural commodities, raw materials, and manufactured goods. Manufactured goods accounted for 88 percent of the state’s total exports.

With $11.7 billion worth of manufactured exports in 2011, Iowa ranked 28th among all states on this measure (see Export Data Notes for information about export measurement).

Iowa’s single largest manufacturing export industry was Machinery manufacturing, which accounted for 32.6 percent of the state’s total manufacturing exports.

BY DESTINATION

The greatest share (45.2 percent) of Iowa’s manufactured exports are shipped to its trading partners in North America. Asia and Europe follow as the top importers of manufactured goods from Iowa.

Canada was the top destination country for Iowa’s manufactured exports in 2011, followed by Mexico and Japan.

EXPORT DATA NOTES

Origin of Movement

It is important to note that the value of agricultural and other goods that were originally produced in Iowa but ultimately exported from other states are not reflected in Iowa’s export totals. The trade statistics on this page are based on origin of movement (OM) data from the U.S. Department of Commerce. These data credit exports to the state where the goods began their final journey to the point of exit from the United States, as specified on official U.S. export declarations filed by shippers. The place from which merchandise began its export journey is not necessarily the place where the merchandise was produced. In many cases, the OM is the location of a distributor, warehouse, or cargo processing facility. Consequently, OM cannot be used to reliably describe the production origin of U.S. exports.

Source: ITA Trade Stats Express, Office of Trade and Industry Information, International Trade Administration, U.S. Department of Commerce
**Recent Trends in Iowa Manufacturing**

### Manufacturing Jobs

**Thousands of jobs**

<table>
<thead>
<tr>
<th>Year</th>
<th>Durable</th>
<th>Non-durable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>149.8</td>
<td>95.6</td>
</tr>
<tr>
<td>2002</td>
<td>139.7</td>
<td>93.2</td>
</tr>
<tr>
<td>2003</td>
<td>134.7</td>
<td>90.8</td>
</tr>
<tr>
<td>2004</td>
<td>139.4</td>
<td>89.3</td>
</tr>
<tr>
<td>2005</td>
<td>144.3</td>
<td>90.6</td>
</tr>
<tr>
<td>2006</td>
<td>146.9</td>
<td>90.4</td>
</tr>
<tr>
<td>2007</td>
<td>145.9</td>
<td>90.0</td>
</tr>
<tr>
<td>2008</td>
<td>142.7</td>
<td>90.6</td>
</tr>
<tr>
<td>2009</td>
<td>121.7</td>
<td>88.0</td>
</tr>
<tr>
<td>2010</td>
<td>120.2</td>
<td>86.5</td>
</tr>
<tr>
<td>2011</td>
<td>125.9</td>
<td>86.1</td>
</tr>
</tbody>
</table>

### Manufacturing GDP

**Real GDP in 2005 billions**

<table>
<thead>
<tr>
<th>Year</th>
<th>Durable</th>
<th>Non-durable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>10.0</td>
<td>9.3</td>
</tr>
<tr>
<td>2002</td>
<td>10.7</td>
<td>9.4</td>
</tr>
<tr>
<td>2003</td>
<td>10.6</td>
<td>10.3</td>
</tr>
<tr>
<td>2004</td>
<td>12.9</td>
<td>10.1</td>
</tr>
<tr>
<td>2005</td>
<td>13.7</td>
<td>9.5</td>
</tr>
<tr>
<td>2006</td>
<td>14.1</td>
<td>10.5</td>
</tr>
<tr>
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<tr>
<td>2008</td>
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</tr>
<tr>
<td>2009</td>
<td>13.0</td>
<td>9.8</td>
</tr>
<tr>
<td>2010</td>
<td>14.0</td>
<td>10.2</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td>10.4</td>
</tr>
</tbody>
</table>

### Iowa Manufacturing Earnings Per Job Compared to U.S. Averages

**% of U.S. average**

- **Source:** U.S. Bureau of Economic Analysis
Manufacturing has accounted for a declining share of U.S. GDP in recent decades, with the manufacturing sector’s contribution falling from 24.4 percent to 11.8 percent between 1970 and 2010. In 2011, the national percentage increased modestly to 12.3 percent.

In Iowa, the share of total GDP contributed by the manufacturing sector fell from 22.1 percent in 1970 to 18.2 percent by 2010. The share climbed to 18.6 percent in 2011.

Manufacturing activity also requires a smaller share of jobs compared to decades past. Manufacturing jobs accounted for 21.6 percent of total U.S. jobs in 1970, compared to 7.0 percent in 2010. The share was unchanged at 7.0 percent in 2011. In Iowa, manufacturing jobs now account for 10.8 percent of total employment, compared to 10.6 percent in 2010 and 17.1 percent in 1970.

Manufacturing Job Trends in Iowa


*SIC and NAICS
The North American Industry Classification System (NAICS) is used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data. NAICS replaced the Standard Industrial Classification (SIC) system in 1997. Historical data compiled under the SIC system, indicated with an asterisk (*) on this page, are not directly comparable to data compiled on a NAICS basis.
**Indicators of Innovation Potential: Where Iowa Ranks Among All States**

**Workforce**
- Percentage of adults with high school diploma or higher: 7%
- Science & engineering degrees as % of higher education degrees conferred: 29%
- Percentage of adults with bachelor’s degree or higher: 36%
- Engineers as a percentage of the workforce: 43%

**Research and Technology**
- Academic R&D in science & engineering fields per $1 million in GDP: 20%
- Utility patents awarded per 1,000 jobs: 25%
- Business R&D performance as a percentage of private sector GDP: 27%
- High-technology firms as a percentage of all business establishments: 49%

Sources: 2008-2011 American Community Survey, U.S. Census Bureau; Science & Engineering Indicators 2012, National Science Foundation; and U.S. Patent and Trademark Office
CONTRIBUTIONS TO LOCAL ECONOMIES

The manufacturing sector contributes to local economies in Iowa in a number of ways. Manufacturing firms pay wages to local workers, they purchase raw materials and services from local producers and firms, their profits accrue to local owners and investors, and they pay taxes to local and state governments.

- On average, manufacturing jobs account for 10.8 percent of total employment in Iowa. This fraction is lower in the state’s metropolitan counties (8.5 percent) and higher in non-metropolitan counties (14.1 percent), according to data for 2011.

- Manufacturing accounts for 15.3 percent of total worker earnings in Iowa. The sector’s earnings percentage exceeds its employment percentage because manufacturing jobs tend to pay higher wages than many other sectors.

- Manufacturing accounts for 12.7 percent of total earnings in Iowa’s metropolitan areas and 19.4 percent of total earnings in non-metropolitan regions.

- Of Iowa’s 99 counties, 15 derive more than one quarter of total worker earnings from manufacturing jobs.

- The top three counties by percentage of total earnings from manufacturing in 2011 were Marion (46.2%), Monroe (43.2%), and Iowa (41.3%).

MANUFACTURING PERCENTAGE OF TOTAL EARNINGS

The ISU Extension and Outreach Center for Industrial Research and Service (CIRAS) provides applied research, education, and technical assistance to Iowa industry through partnerships with Iowa's universities, community colleges, and government agencies. Assistance is supported in part by the DoC/NIST Hollings Manufacturing Extension Partnership, the DoD/DLA Procurement Technical Assistance Program, the DoD/EDA University Center Program, and the USDA BioPreferred Program. For additional information, contact Dr. Ronald Cox at rcox@iastate.edu or 515-294-0099.