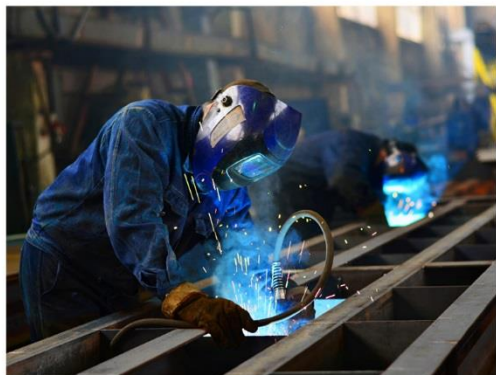




FLORIDA DEPARTMENT *of* ECONOMIC OPPORTUNITY

## Regional DOSsIER

### A Manufacturing Overview for the Port St. Lucie MSA



**2017**

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## Executive Summary

This regional Demographic, Occupational, and Sub-sector Industry Evaluation Report (DOSsIER) examines the manufacturing industry in the Port St. Lucie Metropolitan Statistical Area (MSA). It contains useful information for determining the strengths and weaknesses of the manufacturing sector and its component subsectors, and provides a perspective on both long term and emerging trends in the area. The report provides analysis through several measures of economic activity, including employment, wages, firm counts, gross domestic product (GDP), and worker demographic characteristics.

In 2015, manufacturing employment totaled 6,234 private sector jobs in the Port St. Lucie MSA. This accounted for 5.4 percent of all private sector jobs in the area. Employees in the manufacturing sector earned an average annual wage of \$50,248, \$12,250 higher than the average annual wage for the MSA as a whole. However, the annual wage for the manufacturing sector at the statewide level exceeds that of Port St. Lucie by \$7,121. Manufacturing contributed \$602 million to Port St. Lucie's annual GDP in 2015, which accounts for 6.2 percent of the area's total private GDP.

The two largest manufacturing subsectors in Port St. Lucie are transportation equipment manufacturing and food manufacturing, which make up a combined 41.4 percent of manufacturing employment in the area. Of the 14 subsectors examined in the report, 8 trailed the statewide level in terms of average annual wage.

The majority of Port St. Lucie manufacturing workers are male; males make up 78.5 percent of all manufacturing employees in the area. The two largest categories of educational attainment for manufacturing employees in the MSA are high school or equivalent (no college) and some college or Associate's degree, making up 57.9 percent of workers. The manufacturing sector has a high concentration of production workers. 41.9 percent of manufacturing workers in the area are production workers, compared with 8.2 percent in the area as a whole. This is roughly the same distribution as at the statewide level, where 42 percent of workers are production workers.

Manufacturing in Port St. Lucie has not yet fully recovered from the losses it incurred during the recession. As of 2015, employment has regained 87.8 percent of the jobs lost since peak employment in 2006. In 2015 GDP is 96.9 percent of its peak 2007 level. Labor productivity increased from 2001 – 2015 and nominal wages continued to grow through the recession. When adjusted for inflation, the average annual wage passed its pre-recession peak in 2015.

DEO determined that Port St. Lucie has competitive advantage in manufacturing by two different measures, a location quotient analysis and a shift-share analysis. The location quotient analysis revealed that Port St. Lucie's relative concentration in manufacturing has increased every year since 2010, and that the area overtook the state in 2013. According to the results of the shift-share analysis, most of Port St. Lucie's growth in manufacturing is due to its local competitive advantage. The analysis also showed that Port St. Lucie outperformed the state in 10 out of 14 major manufacturing subsectors.



## Port St. Lucie Manufacturing in 2015

This section of the report presents an overview of the current state of the manufacturing sector in Port St. Lucie. Topics covered include employment, firm count, firm size, annual wages, and worker demographics. All data presented are annual averages for the year 2015, which is the most recent complete year of data.

### Employment and Firm Size

Average annual employment and firm counts for each manufacturing subsector in Port St. Lucie for the year 2015 are presented below. The data comes from the Quarterly Census of Employment and Wages (QCEW).

The 2015 average annual employment for the Manufacturing sector in the Port St. Lucie MSA was 6,234. The largest contributors to manufacturing employment in the area were transportation equipment manufacturing, food manufacturing, fabricated metal product manufacturing, computer and electronic product manufacturing, and wood product manufacturing. These five subsectors made up 65% of all manufacturing employment in the area. Table 1 shows the breakout of manufacturing employment by 3-digit NAICS subsector.

| Table 1<br>Port St. Lucie Manufacturing Employment by Subsector<br>2015 Annual Average |  |              |                |
|--|--|--------------|----------------|
| NAICS  | Subsector                                | Employment   | Share of Total |
| <b>31-33</b>   | <b>Manufacturing</b>                     | <b>6,234</b> |                |
| 336  | Transportation Equipment Manufacturing   | 1,807        | 29.0%          |
| 311  | Food Manufacturing                       | 773          | 12.4%          |
| 332  | Fabricated Metal Product Manufacturing   | 517          | 8.3%           |
| 334  | Computer and Electronic Product Mfg      | 489          | 7.8%           |
| 321  | Wood Product Manufacturing               | 469          | 7.5%           |
| 339  | Miscellaneous Manufacturing              | 379          | 6.1%           |
| 327  | Nonmetallic Mineral Product Mfg          | 334          | 5.4%           |
| 333  | Machinery Manufacturing                  | 331          | 5.3%           |
| 323  | Printing and Related Support Activities  | 269          | 4.3%           |
| 326  | Plastics & Rubber Products Manufacturing | 269          | 4.3%           |
| 337  | Furniture and Related Product Mfg        | 167          | 2.7%           |
| 314  | Textile Product Mills                    | 128          | 2.1%           |
| 325  | Chemical Manufacturing                   | 104          | 1.7%           |
| 335  | Electrical Equipment and Appliances      | 79           | 1.3%           |

Source: Quarterly Census of Employment and Wages



In 2015, there were 352 manufacturing firms in the Port St. Lucie MSA. The subsectors with the largest concentration of firms were fabricated metal product manufacturing, miscellaneous manufacturing, transportation equipment manufacturing, furniture and related product manufacturing, and food manufacturing. These five subsectors made up 56.9 percent off all manufacturing firms in the area. Table 2 shows the breakout of manufacturing firms by 3-digit NAICS subsector.

**Table 2**  
**Port St. Lucie Manufacturing Firms by Subsector**  
**2015 Annual Average**

| NAICS        | Subsector                                | Firms      | Share of Total |
|--------------|--|------------|----------------|
| <b>31-33</b> | <b>Manufacturing</b>                     | <b>352</b> |                |
| 332          | Fabricated Metal Product Manufacturing   | 53         | 15.1%          |
| 339          | Miscellaneous Manufacturing              | 46         | 13.1%          |
| 336          | Transportation Equipment Manufacturing   | 44         | 12.5%          |
| 337          | Furniture and Related Product Mfg        | 31         | 8.8%           |
| 311          | Food Manufacturing                       | 26         | 7.4%           |
| 323          | Printing and Related Support Activities  | 21         | 6.0%           |
| 334          | Computer and Electronic Product Mfg      | 21         | 6.0%           |
| 327          | Nonmetallic Mineral Product Mfg          | 19         | 5.4%           |
| 321          | Wood Product Manufacturing               | 18         | 5.1%           |
| 333          | Machinery Manufacturing                  | 17         | 4.8%           |
| 314          | Textile Product Mills                    | 12         | 3.4%           |
| 335          | Electrical Equipment and Appliances      | 12         | 3.4%           |
| 325          | Chemical Manufacturing                   | 10         | 2.8%           |
| 326          | Plastics & Rubber Products Manufacturing | 9          | 2.6%           |

Source: Quarterly Census of Employment and Wages

Notably, transportation equipment manufacturing and food manufacturing contributed much more to the employment count than they did to the number of firms in the area. Combined, food and transportation equipment made up 41.4 percent of all manufacturing employment while making up only 19.9 percent of firms. These observations are reflected in Table 3, where we see that transportation equipment and food manufacturing are first and tied for second, respectively, in terms of employment concentration. Employment concentration is a rough measure of average firm size, and most of the employment in these two sectors is likely to be concentrated in a small number of firms.



**Table 3**  
**Port St. Lucie Manufacturing Employment Per Firm**  
**Calculated Using 2015 Annual Averages**

| NAICS        | Industry                                 | Employment<br>Per Firm |
|--------------|--|------------------------|
| 336          | Transportation Equipment Manufacturing   | 41                     |
| 311          | Food Manufacturing                       | 30                     |
| 326          | Plastics & Rubber Products Manufacturing | 30                     |
| 321          | Wood Product Manufacturing               | 26                     |
| 334          | Computer and Electronic Product Mfg      | 23                     |
| 333          | Machinery Manufacturing                  | 19                     |
| <b>31-33</b> | <b>Manufacturing</b>                     | <b>18</b>              |
| 327          | Nonmetallic Mineral Product Mfg          | 18                     |
| 323          | Printing and Related Support Activities  | 13                     |
| 314          | Textile Product Mills                    | 11                     |
| 325          | Chemical Manufacturing                   | 10                     |
| 332          | Fabricated Metal Product Manufacturing   | 10                     |
| 339          | Miscellaneous Manufacturing              | 8                      |
| 335          | Electrical Equipment and Appliances      | 7                      |
| 337          | Furniture and Related Product Mfg        | 5                      |

Source: Quarterly Census of Employment and Wages, author's calculations

### Wage Distribution

Average annual wages for each manufacturing subsector in Port St. Lucie for the year 2015 are presented below. The data used in this section was taken from the Quarterly Census of Employment and Wages (QCEW).

In 2015 the average annual wage for the manufacturing sector in Port St. Lucie was \$50,247.97, \$12,250 higher than the average annual wage for the MSA as a whole. Chemical manufacturing had the highest average annual wage at \$123,183.08, more than double electrical equipment and appliances, the next highest subsector. The two subsectors with the highest employment, transportation equipment manufacturing and food manufacturing, both earned higher annual wages than the manufacturing sector as a whole. Furniture and related product manufacturing had the lowest average annual wage at \$32,037.42. Table 4 shows the average annual wage of each manufacturing subsector for the year 2015.



**Table 4**  
**Port St. Lucie Manufacturing by 2015 Average Annual Wage**

| NAICS        | Industry                                 | Average Annual Wage |
|--------------|--|---------------------|
| 325          | Chemical Manufacturing                   | \$123,183.08        |
| 335          | Electrical Equipment and Appliances      | \$60,945.42         |
| 333          | Machinery Manufacturing                  | \$56,575.98         |
| 336          | Transportation Equipment Manufacturing   | \$56,153.79         |
| 334          | Computer and Electronic Product Mfg      | \$54,093.93         |
| 311          | Food Manufacturing                       | \$50,905.76         |
| <b>31-33</b> | <b>Manufacturing</b>                     | <b>\$50,247.97</b>  |
| 332          | Fabricated Metal Product Manufacturing   | \$50,012.92         |
| 314          | Textile Product Mills                    | \$46,600.01         |
| 323          | Printing and Related Support Activities  | \$45,942.65         |
| 339          | Miscellaneous Manufacturing              | \$44,395.55         |
| 327          | Nonmetallic Mineral Product Mfg          | \$40,957.49         |
| 326          | Plastics & Rubber Products Manufacturing | \$38,269.37         |
| 321          | Wood Product Manufacturing               | \$34,379.97         |
| 337          | Furniture and Related Product Mfg        | \$32,037.42         |

Source: Quarterly Census of Employment and Wages

For the manufacturing sector as a whole, Florida wages outpaced wages in Port St. Lucie by \$7,120.56 (or 14.2 percent) annually. Wages in Port St. Lucie trailed wages in Florida in 8 out of 14 subsectors. Among the five subsectors with the highest employment in Port St. Lucie, three (transportation equipment, computer and electronic products, and wood products) were below their statewide equivalents. Computer and electronic product manufacturing trailed in Port St. Lucie by \$29,178.72 (or 53.9 percent).

Food manufacturing, Port St. Lucie’s second largest subsector, outpaced the statewide subsector by \$8,217.65 (or 19.3 percent). Chemical manufacturing, although the second smallest subsector in Port St. Lucie, outpaced the statewide level by \$49,071.88 (or 66.2 percent). Table 5 contains average annual wages by subsector for both Port St. Lucie and Florida.



**Table 5**  
**2015 Average Annual Wage, Port St. Lucie vs Florida**

| <b>NAICS</b> | <b>Industry</b>                          | <b>Port St. Lucie</b> | <b>Florida</b>     |
|--------------|--|-----------------------|--------------------|
| <b>31-33</b> | <b>Manufacturing</b>                     | \$50,247.97           | <b>\$57,368.53</b> |
| 311          | Food Manufacturing                       | <b>\$50,905.76</b>    | \$42,688.11        |
| 314          | Textile Product Mills                    | <b>\$46,600.01</b>    | \$38,154.15        |
| 321          | Wood Product Manufacturing               | \$34,379.97           | <b>\$39,048.32</b> |
| 323          | Printing and Related Support Activities  | <b>\$45,942.65</b>    | \$42,749.65        |
| 325          | Chemical Manufacturing                   | <b>\$123,183.08</b>   | \$74,111.20        |
| 326          | Plastics & Rubber Products Manufacturing | \$38,269.37           | <b>\$47,131.82</b> |
| 327          | Nonmetallic Mineral Product Mfg          | \$40,957.49           | <b>\$50,764.38</b> |
| 332          | Fabricated Metal Product Manufacturing   | <b>\$50,012.92</b>    | \$46,298.69        |
| 333          | Machinery Manufacturing                  | \$56,575.98           | <b>\$60,990.74</b> |
| 334          | Computer and Electronic Product Mfg      | \$54,093.93           | <b>\$83,272.65</b> |
| 335          | Electrical Equipment and Appliances      | <b>\$60,945.42</b>    | \$56,358.13        |
| 336          | Transportation Equipment Manufacturing   | \$56,153.79           | <b>\$68,363.10</b> |
| 337          | Furniture and Related Product Mfg        | \$32,037.42           | <b>\$38,442.27</b> |
| 339          | Miscellaneous Manufacturing              | \$44,395.55           | <b>\$57,838.98</b> |

Source: Quarterly Census of Employment and Wages

## Worker Demographics

Demographic breakouts of workers employed in the manufacturing sector in Port St. Lucie are presented below. The categories examined include gender, occupation, means of transportation to work, class of employer, and educational attainment. The data in this section was taken from the American Community Survey (ACS) 2011-2015 5-year estimates and the Quarterly Workforce Indicators database, both of which are products of the U.S. Census Bureau.

In 2015, 78.5 percent of manufacturing workers in the Port St. Lucie MSA were male and 21.5 percent were female. This gap is quite large compared to the employed population of the MSA as a whole, which is 51.6 percent male and 48.4 percent female. At the state level, manufacturing workers are 70.6 percent male and 29.4 percent female. Nationally, female employment in manufacturing has remained steady since 2010. There is evidence that women are less likely than men to work in some of the durable goods industries that have experienced the largest employment gains, such as fabricated metal products and transportation equipment manufacturing.<sup>1</sup> Table 6 contains demographic data for manufacturing in Port St. Lucie by gender.

<sup>1</sup> Mark Levinson. "Job Creation in the Manufacturing Revival," Congressional Research Service. June 28, 2016.





| <b>Table 6</b>                                 |                         |
|--|-------------------------|
| <b>Port St. Lucie Manufacturing Employment</b> |                         |
| <b>Gender</b>                                  | <b>Share of Workers</b> |
| Male   | 78.5%                   |
| Female   | 21.5%                   |

Source: ACS 2011 - 2015 5-year estimates, U.S. Census Bureau

A combined 90.2 percent of manufacturing workers in Port St. Lucie either drove alone or carpooled to work in 2015. This is a similar distribution to the MSA as a whole, of whom 89.8 percent either drove alone or carpooled. Of the remaining 9.8 percent in Port St. Lucie, 6.1 percent worked at home. Table 7 contains transportation data for manufacturing in Port St. Lucie.

| <b>Table 7</b>                                 |                         |
|--|-------------------------|
| <b>Port St. Lucie Manufacturing Employment</b> |                         |
| <b>Means of Transportation to Work</b>         | <b>Share of Workers</b> |
| Car, truck, or van - drove alone               | 81.0%                   |
| Car, truck, or van - carpooled                 | 9.2%                    |
| Public transportation (excluding taxicab)      | 0.8%                    |
| Walked   | 1.0%                    |
| Taxicab, motorcycle, bicycle, or other means   | 2.0%                    |
| Worked at home                                 | 6.1%                    |

Source: ACS 2011 - 2015 5-year estimates, U.S. Census Bureau

In 2015 87.8 percent of manufacturing employees in Port St. Lucie worked for a private business. This is a high proportion compared to the total employed population of the MSA, in which 67.3 percent of workers were employed by a private business. Of the remaining 12.2 percent in Port St. Lucie, 7.9 percent were self-employed. Table 8 contains demographic data for manufacturing in Port St. Lucie by class of employer.

| <b>Table 8</b>                                 |                         |
|--|-------------------------|
| <b>Port St. Lucie Manufacturing Employment</b> |                         |
| <b>Type of Employer</b>                        | <b>Share of Workers</b> |
| Employee of private company                    | 87.8%                   |
| Self-employed in own incorporated business     | 4.9%                    |
| Private not-for-profit                         | 3.0%                    |
| Local, state, and federal government           | 1.3%                    |
| Self-employed in own not incorporated business | 3.0%                    |

Source: ACS 2011 - 2015 5-year estimates, U.S. Census Bureau



In 2015, 41.9 percent of manufacturing workers in Port St. Lucie were employed in production, transportation, and material moving occupations. This is a high proportion compared to the total employed population of the MSA, where 8.2 percent of workers fall in that category. The statewide manufacturing sector had roughly the same distribution, where 42 percent of manufacturing workers were production workers. An additional 33.6 percent work in management, business, science, and arts occupations. Table 9 contains demographic data for manufacturing in Port St. Lucie by occupational category.

| <b>Table 9</b>   |                         |
|--|-------------------------|
| <b>Port St. Lucie Manufacturing Workers By Occupation</b>    |                         |
| <b>Occupation</b>  | <b>Share of Workers</b> |
| Management, business, science, and arts occupations          | 33.6%                   |
| Service occupations  | 2.2%                    |
| Sales and office occupations                                 | 14.0%                   |
| Natural resources, construction, and maintenance occupations | 8.3%                    |
| Production, transportation, and material moving occupations  | 41.9%                   |

Source: ACS 2011 - 2015 5-year estimates, U.S. Census Bureau

The two largest categories of educational attainment for manufacturing workers in Port St. Lucie are (1) high school or equivalent, no college and (2) some college or Associate's degree. Together these two categories make up 57.9 percent of workers. The third largest category is Bachelor's degree or advanced degree at 18.6 percent, followed by less than high school at 17.1 percent.

The two highest paid subsectors, chemical manufacturing and electrical equipment, appliance, and component manufacturing, also have the two highest proportions of workers with Bachelor's degrees or advanced degrees. Table 10 contains a breakout of educational attainment by subsector.

| <b>Table 10</b>   |                         |
|---|-------------------------|
| <b>Port St. Lucie Manufacturing by Educational Attainment</b>     |                         |
| <b>Subsector by Educational Attainment</b>                        | <b>Share of Workers</b> |
| <b>31-33 Manufacturing</b>  |                         |
| Less than high school   | 17.1%                   |
| High school or equivalent, no college                             | 29.1%                   |
| Some college or Associate degree                                  | 28.8%                   |
| Bachelor's degree or advanced degree                              | 18.6%                   |
| Educational Attainment not available (workers aged 24 or younger) | 6.5%                    |

Source: Quarterly Workforce Indicators, U.S. Census Bureau



**Table 10 (continued)**  
**Port St. Lucie Manufacturing by Educational Attainment**

| <b>Subsector by Educational Attainment</b>                        | <b>Share of Workers</b> |
|---|-------------------------|
| <b>311 Food Manufacturing</b>                                     |                         |
| Less than high school   | 19.3%                   |
| High school or equivalent, no college                             | 27.4%                   |
| Some college or Associate degree                                  | 27.0%                   |
| Bachelor's degree or advanced degree                              | 16.3%                   |
| Educational Attainment not available (workers aged 24 or younger) | 10.0%                   |
| <b>314 Textile Product Mills</b>                                  |                         |
| Less than high school   | 20.2%                   |
| High school or equivalent, no college                             | 34.6%                   |
| Some college or Associate degree                                  | 26.0%                   |
| Bachelor's degree or advanced degree                              | 19.2%                   |
| Educational Attainment not available (workers aged 24 or younger) | NA                      |
| <b>321 Wood Product Manufacturing</b>                             |                         |
| Less than high school   | 20.7%                   |
| High school or equivalent, no college                             | 26.6%                   |
| Some college or Associate degree                                  | 27.5%                   |
| Bachelor's degree or advanced degree                              | 16.8%                   |
| Educational Attainment not available (workers aged 24 or younger) | 8.4%                    |
| <b>323 Printing and Related Support Activities</b>                |                         |
| Less than high school   | 12.2%                   |
| High school or equivalent, no college                             | 29.2%                   |
| Some college or Associate degree                                  | 31.0%                   |
| Bachelor's degree or advanced degree                              | 22.5%                   |
| Educational Attainment not available (workers aged 24 or younger) | 5.2%                    |
| <b>325 Chemical Manufacturing</b>                                 |                         |
| Less than high school   | 11.6%                   |
| High school or equivalent, no college                             | 26.4%                   |
| Some college or Associate degree                                  | 32.6%                   |
| Bachelor's degree or advanced degree                              | 27.1%                   |
| Educational Attainment not available (workers aged 24 or younger) | 2.3%                    |
| <b>326 Plastics and Rubber Products Manufacturing</b>             |                         |
| Less than high school   | 19.4%                   |
| High school or equivalent, no college                             | 29.3%                   |
| Some college or Associate degree                                  | 26.3%                   |
| Bachelor's degree or advanced degree                              | 15.8%                   |
| Educational Attainment not available (workers aged 24 or younger) | 9.3%                    |

Source: Quarterly Workforce Indicators, U.S. Census Bureau



**Table 10 (continued)**  
**Port St. Lucie Manufacturing by Educational Attainment**

| Subsector by Educational Attainment                                     | Share of Workers |
|---|------------------|
| <b>327 Nonmetallic Mineral Product Manufacturing</b>                    |                  |
| Less than high school   | 24.4%            |
| High school or equivalent, no college                                   | 26.9%            |
| Some college or Associate degree  | 26.5%            |
| Bachelor's degree or advanced degree                                    | 14.9%            |
| Educational Attainment not available (workers aged 24 or younger)       | 7.3%             |
| <b>332 Fabricated Metal Product Manufacturing</b>                       |                  |
| Less than high school   | 15.5%            |
| High school or equivalent, no college                                   | 30.9%            |
| Some college or Associate degree  | 30.1%            |
| Bachelor's degree or advanced degree                                    | 17.9%            |
| Educational Attainment not available (workers aged 24 or younger)       | 5.6%             |
| <b>333 Machinery Manufacturing</b>                                      |                  |
| Less than high school   | 15.6%            |
| High school or equivalent, no college                                   | 28.8%            |
| Some college or Associate degree  | 31.2%            |
| Bachelor's degree or advanced degree                                    | 19.4%            |
| Educational Attainment not available (workers aged 24 or younger)       | 5.0%             |
| <b>334 Computer and Electronic Product Manufacturing</b>                |                  |
| Less than high school   | 14.9%            |
| High school or equivalent, no college                                   | 28.8%            |
| Some college or Associate degree  | 30.7%            |
| Bachelor's degree or advanced degree                                    | 22.0%            |
| Educational Attainment not available (workers aged 24 or younger)       | 3.6%             |
| <b>335 Electrical Equipment, Appliance, and Component Manufacturing</b> |                  |
| Less than high school   | 11.1%            |
| High school or equivalent, no college                                   | 22.2%            |
| Some college or Associate degree  | 33.3%            |
| Bachelor's degree or advanced degree                                    | 33.3%            |
| Educational Attainment not available (workers aged 24 or younger)       | NA               |
| <b>336 Transportation Equipment Manufacturing</b>                       |                  |
| Less than high school   | 15.4%            |
| High school or equivalent, no college                                   | 30.7%            |
| Some college or Associate degree  | 29.3%            |
| Bachelor's degree or advanced degree                                    | 18.6%            |
| Educational Attainment not available (workers aged 24 or younger)       | 6.0%             |

Source: Quarterly Workforce Indicators, U.S. Census Bureau



**Table 10 (continued)**  
**Port St. Lucie Manufacturing by Educational Attainment**

| Subsector by Educational Attainment                               | Share of Workers |
|---|------------------|
| <b>337 Furniture and Related Product Manufacturing</b>            |                  |
| Less than high school   | 13.8%            |
| High school or equivalent, no college                             | 31.9%            |
| Some college or Associate degree                                  | 29.7%            |
| Bachelor's degree or advanced degree                              | 18.1%            |
| Educational Attainment not available (workers aged 24 or younger) | 6.5%             |
| <b>339 Miscellaneous Manufacturing</b>                            |                  |
| Less than high school   | 16.4%            |
| High school or equivalent, no college                             | 27.7%            |
| Some college or Associate degree                                  | 30.1%            |
| Bachelor's degree or advanced degree                              | 21.1%            |
| Educational Attainment not available (workers aged 24 or younger) | 4.7%             |

Source: Quarterly Workforce Indicators, U.S. Census Bureau

## Long-Run Manufacturing Trends

Long-run trends and changes in Port St. Lucie’s manufacturing sector look very positive. Changes since the end of the recession and longer-run trends that predate the economic downturn are discussed below. Included in this section are data pertaining to employment, firms, wages, GDP, worker productivity, and demographic characteristics.

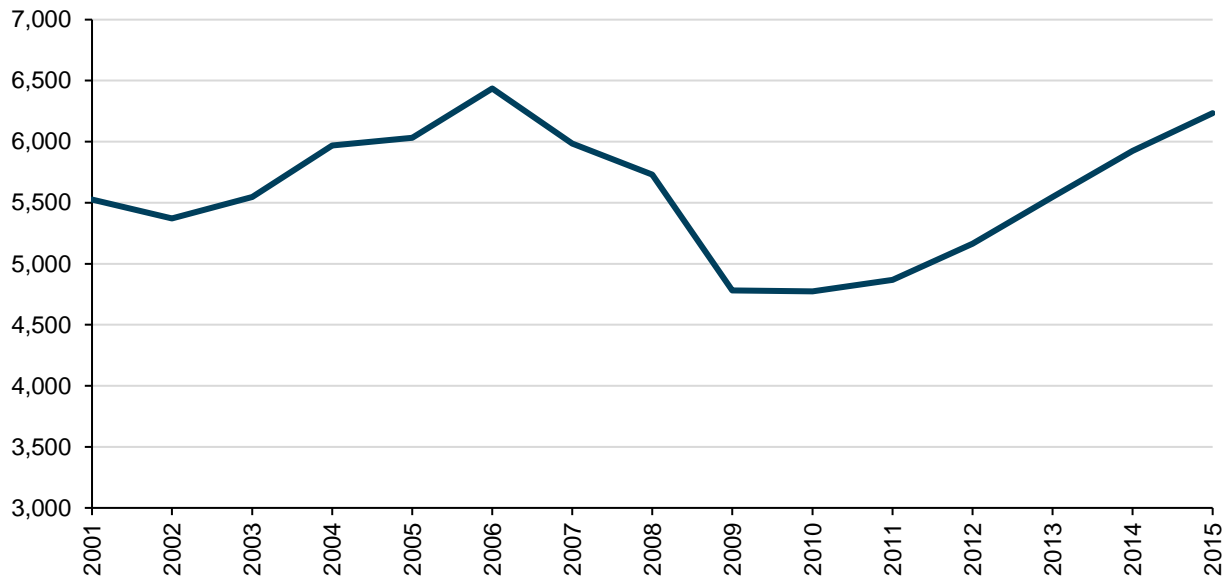
### Employment, Firm, and Wage Trends

Changes in employment, number of firms, and wages both before and after 2010, which was the low point for Port St. Lucie manufacturing employment after the recession of 2008-2009, are discussed below. The data in this section was taken from the Quarterly Census of Employment and Wages.

In the Port St. Lucie MSA, manufacturing employment peaked in 2006 at 6,436 jobs and hit its low point in 2010 at 4,774 jobs. As of 2015, manufacturing employment had regained 87.8 percent of the jobs lost since 2006. The average employment for Port St. Lucie manufacturing over this time period was 5,593; the 2015 annual average exceeded this by 641 jobs (or 11.5 percent). Figure 1 graphs Port St. Lucie manufacturing employment since 2001.



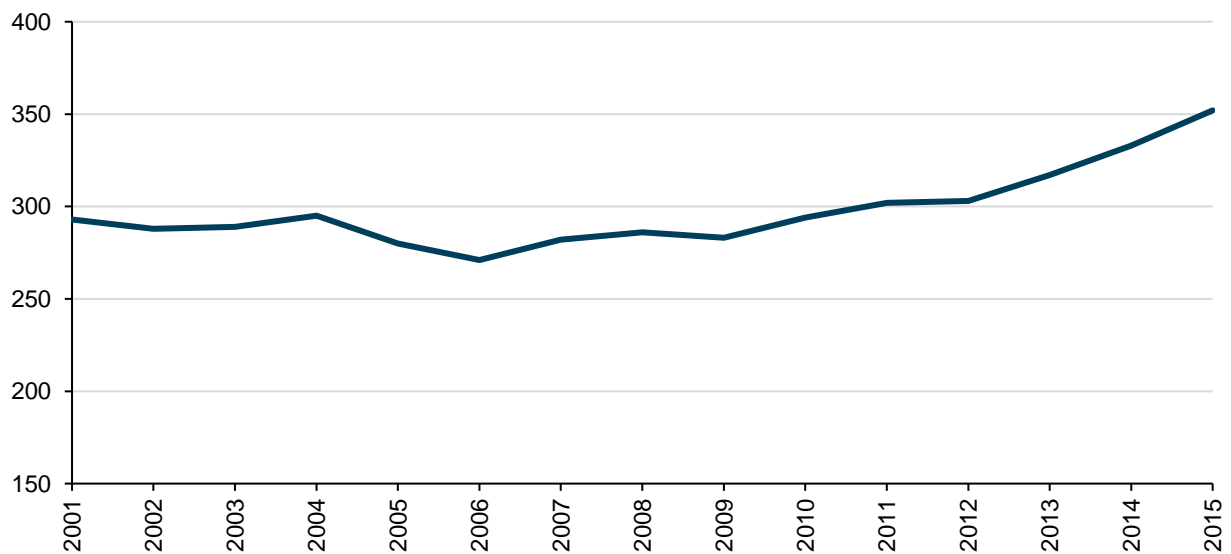
**Figure 1**  
**Port St. Lucie Manufacturing Employment**



Source: Quarterly Census of Employment and Wages

There were 352 manufacturing firms in the Port St. Lucie MSA in 2015. Port St. Lucie has gained 81 manufacturing firms since the low point in 2006. Figure 2 graphs manufacturing firms in Port St. Lucie since 2001, showing a picture of strong recovery coming out of the recession.

**Figure 2**  
**Port St. Lucie Manufacturing Firms**

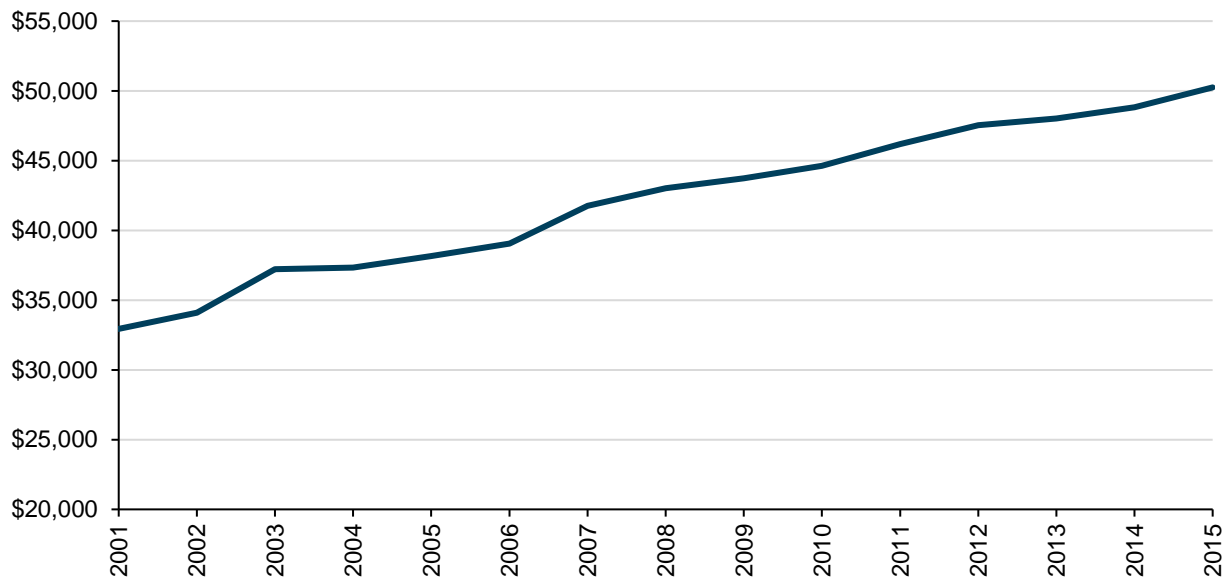


Source: Quarterly Census of Employment and Wages



Average annual earnings for the Port St. Lucie’s manufacturing sector were \$50,247.97 in 2015. It is worth noting that the area’s manufacturing sector has been seeing increases in nominal wages since before 2001, and that wages continued to grow through the recessionary years. Figure 3 graphs average annual wages for Port St. Lucie manufacturing since 2001.

**Figure 3**  
**Port St. Lucie Manufacturing Average Annual Earnings**



Source: Quarterly Census of Employment and Wages

### Subsector Trends

The performance of each manufacturing subsector in Port St. Lucie since 2010 is discussed below. It contains information regarding employment, firm counts, and wages. The data in this section are from the Quarterly Census of Employment and Wages.

All but two subsectors have experienced employment growth since the end of the recession. Manufacturing in Port St. Lucie as a whole has gained 1,460 jobs since 2010, of which 970 came from transportation equipment manufacturing and wood product manufacturing. Printing and related support activities and electrical equipment and appliances manufacturing have lost jobs over this time period.

Port St. Lucie has added manufacturing firms in 12 out of 14 subsectors since 2010. Out of 58 total firms added, 17 belong to transportation equipment manufacturing and food manufacturing. Over this time period, Port St. Lucie has lost firms in printing and related support activities and textile product mills. Tables 11 and 12 show the changes for each subsector in employment and firms counts, respectively.



**Table 11**  
**Port St. Lucie Manufacturing**  
**Change in Employment 2010 - 2015**

| <b>NAICS</b> | <b>Industry</b>                          | <b>Change in Employment</b> |
|--------------|--|-----------------------------|
| <b>31-33</b> | <b>Manufacturing</b>                     | <b>1460</b>                 |
| 336          | Transportation Equipment Manufacturing   | 674                         |
| 321          | Wood Product Manufacturing               | 296                         |
| 311          | Food Manufacturing                       | 134                         |
| 339          | Miscellaneous Manufacturing              | 89                          |
| 337          | Furniture and Related Product Mfg        | 74                          |
| 332          | Fabricated Metal Product Manufacturing   | 70                          |
| 333          | Machinery Manufacturing                  | 68                          |
| 326          | Plastics & Rubber Products Manufacturing | 67                          |
| 325          | Chemical Manufacturing                   | 56                          |
| 327          | Nonmetallic Mineral Product Mfg          | 27                          |
| 334          | Computer and Electronic Product Mfg      | 27                          |
| 314          | Textile Product Mills                    | 19                          |
| 323          | Printing and Related Support Activities  | -44                         |
| 335          | Electrical Equipment and Appliances      | -60                         |

Source: Quarterly Census of Employment and Wages

**Table 12**  
**Port St. Lucie Manufacturing**  
**Change in Number of Firms 2010 - 2015**

| <b>NAICS</b> | <b>Industry</b>                          | <b>Change in Firms</b> |
|--------------|--|------------------------|
| <b>31-33</b> | <b>Manufacturing</b>                     | <b>58</b>              |
| 332          | Fabricated Metal Product Manufacturing   | 9                      |
| 311          | Food Manufacturing                       | 8                      |
| 321          | Wood Product Manufacturing               | 7                      |
| 337          | Furniture and Related Product Mfg        | 7                      |
| 336          | Transportation Equipment Manufacturing   | 6                      |
| 335          | Electrical Equipment and Appliances      | 4                      |
| 334          | Computer and Electronic Product Mfg      | 3                      |
| 325          | Chemical Manufacturing                   | 2                      |
| 326          | Plastics & Rubber Products Manufacturing | 2                      |
| 327          | Nonmetallic Mineral Product Mfg          | 2                      |
| 339          | Miscellaneous Manufacturing              | 1                      |
| 333          | Machinery Manufacturing                  | 0                      |
| 314          | Textile Product Mills                    | -1                     |
| 323          | Printing and Related Support Activities  | -4                     |

Source: Quarterly Census of Employment and Wages





Average annual wages in the Port St. Lucie manufacturing sector have increased by \$5,622.54 since 2010. All but one subsector experienced wage growth over this time period (electrical equipment and appliances -\$11,941.20). Changes in average annual wage for each subsector can be seen in Table 13.

Annual wages in chemical manufacturing more than doubled from \$54,523.81 to \$123,183.08. This is by far the largest increase in wages out of the 14 subsectors. Chemical manufacturing is a relatively small industry in Port St. Lucie, with only 10 firms and 104 employees in 2015. This small number of firms and employees makes the area sensitive to large changes caused by one or two firms entering or leaving the area. It is possible that one firm with a few high-wage employees entered the area and caused this change.

| <b>Table 13</b><br><b>Port St. Lucie Manufacturing</b><br><b>Change in Average Annual Wage 2010 - 2015</b> |  |                        |
|--|--|------------------------|
| <b>NAICS</b>   | <b>Industry</b>                          | <b>Change in Wages</b> |
| 325  | Chemical Manufacturing                   | \$68,659.26            |
| 311  | Food Manufacturing                       | \$9,381.30             |
| 339  | Miscellaneous Manufacturing              | \$8,144.22             |
| 326  | Plastics & Rubber Products Manufacturing | \$7,388.88             |
| 323  | Printing and Related Support Activities  | \$7,335.15             |
| <b>31-33</b>   | <b>Manufacturing</b>                     | <b>\$5,622.54</b>      |
| 332  | Fabricated Metal Product Manufacturing   | \$4,618.38             |
| 327  | Nonmetallic Mineral Product Mfg          | \$4,509.45             |
| 336  | Transportation Equipment Manufacturing   | \$4,184.10             |
| 334  | Computer and Electronic Product Mfg      | \$3,713.80             |
| 314  | Textile Product Mills                    | \$3,340.84             |
| 321  | Wood Product Manufacturing               | \$2,325.27             |
| 337  | Furniture and Related Product Mfg        | \$2,139.00             |
| 333  | Machinery Manufacturing                  | \$1,850.78             |
| 335  | Electrical Equipment and Appliances      | -\$11,941.20           |

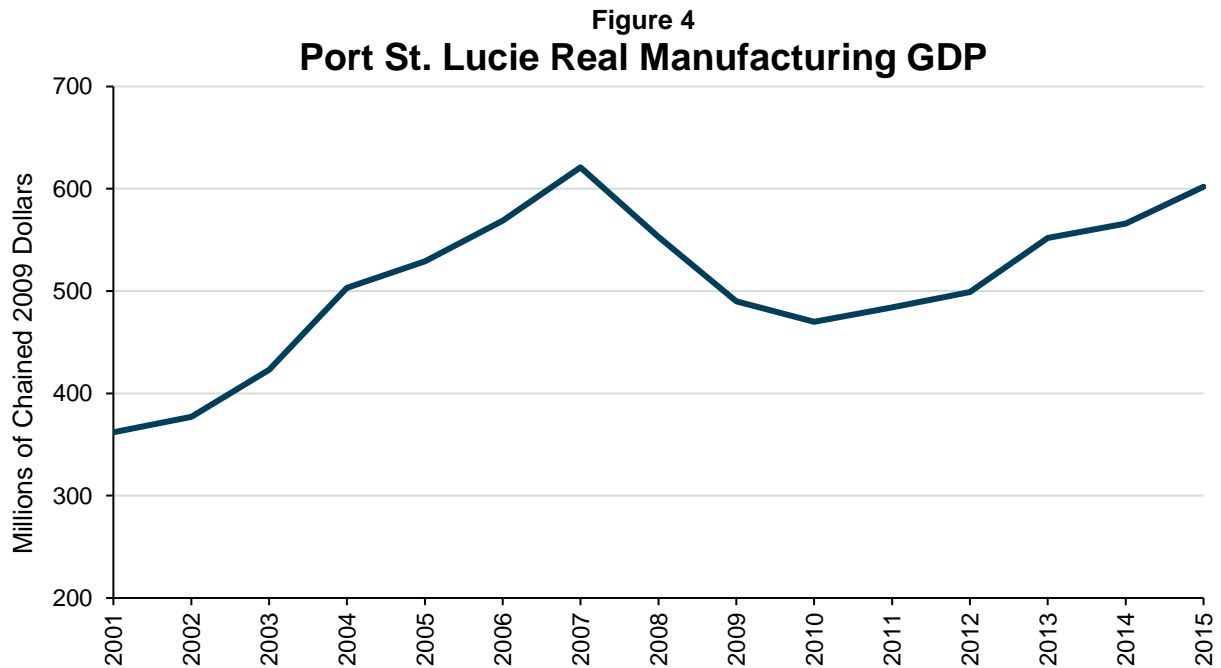
Source: Quarterly Census of Employment and Wages



## Manufacturing Production Trends

Changes in Port St. Lucie manufacturing GDP and employee productivity are discussed below. The report looks at changes that occurred both before and after 2010, which was the low point for manufacturing GDP in the area after the recession. The data in this section was taken from the Quarterly Census of Employment and Wages.

Real GDP for Port St. Lucie's manufacturing sector peaked in 2007 at \$621 million and dropped to its low point in 2010 at \$470 million. As of 2015, real manufacturing GDP was \$602 million. Real GDP since 2001 can be seen in Figure 4.

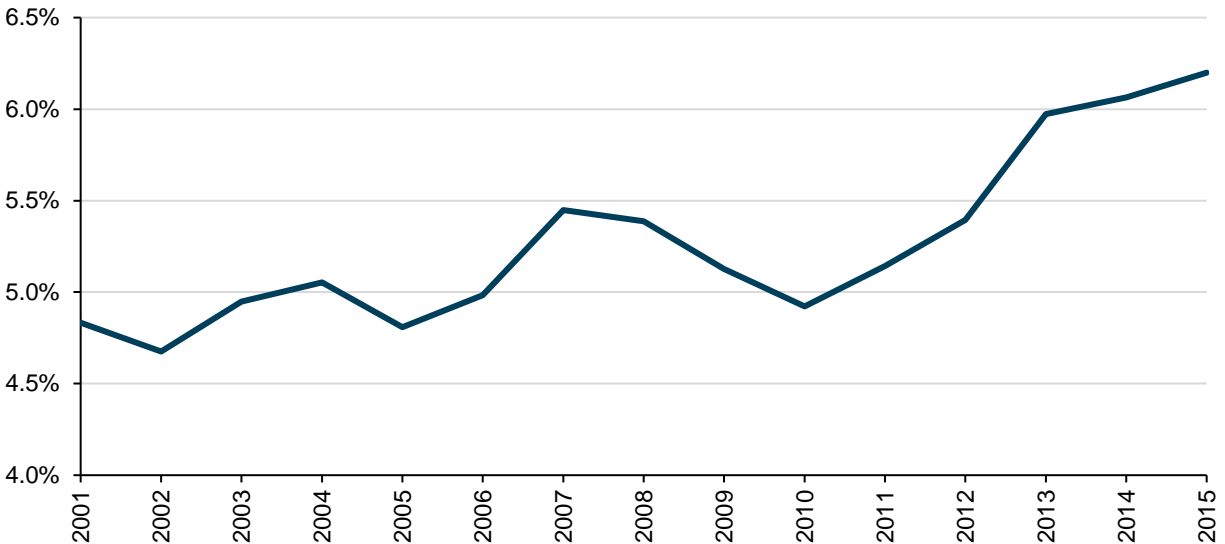


Source: U.S. Department of Commerce, Bureau of Economic Analysis

Manufacturing has been increasing as a share of Port St. Lucie's Economy. This is a trend that predates the recession of 2008-2009. Between 2001 and 2015 manufacturing GDP has grown from 4.8 percent of to 6.2 percent of total private GDP in the area. Figure 5 contains Port St. Lucie manufacturing GDP as a percent of total private GDP since 2001.



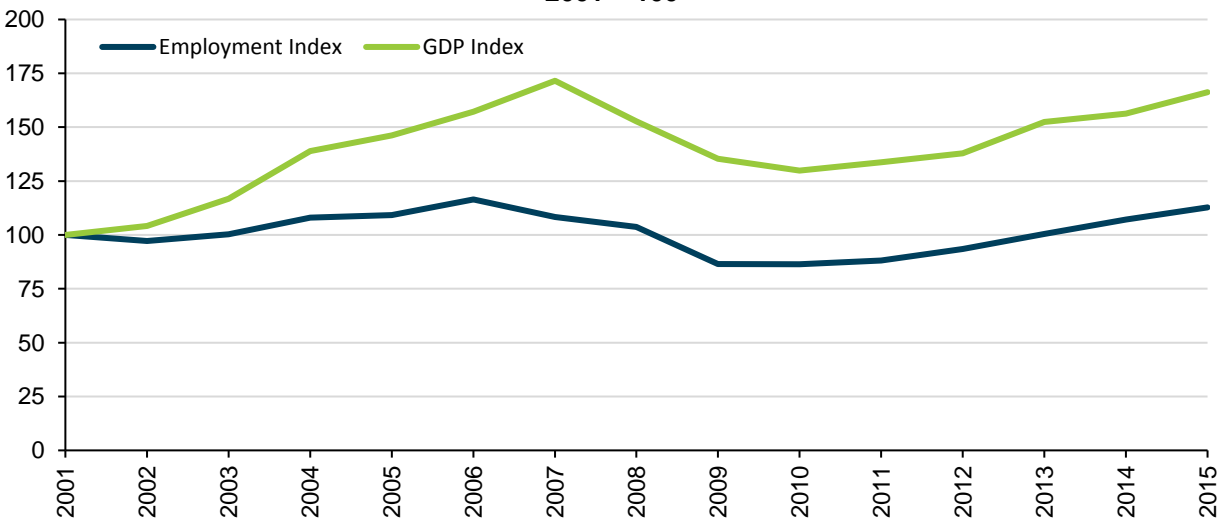
**Figure 5**  
**Port St. Lucie MSA Manufacturing GDP**  
**As a Percent of Total Private GDP**



Source: U.S. Department of Commerce, Bureau of Economic Analysis; author's calculations

GDP growth outpaced employment growth between 2001 and 2007, indicating an increase in per-employee productivity in the manufacturing sector. Growth in per-employee productivity is an indicator of an industry where firms have embraced technological innovation and are replacing low-skilled workers with automated processes. Between 2008 and 2015 the gap between GDP growth and employment growth has held constant. GDP growth and employment growth trends can be seen in figure 6.

**Figure 6**  
**Port St. Lucie Manufacturing Employment vs GDP**  
**2001 = 100**



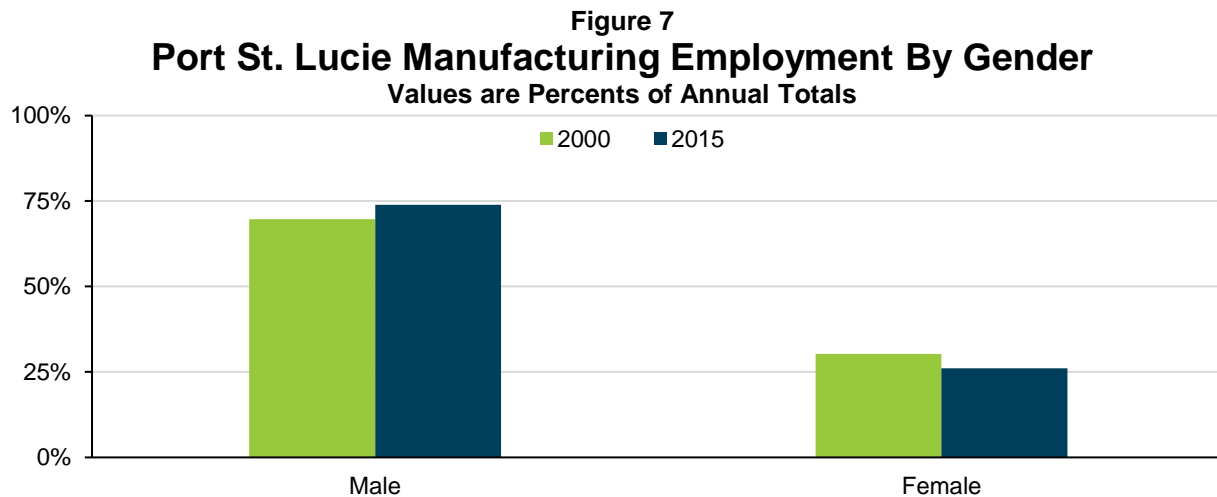
Source: U.S. Department of Commerce, Bureau of Economic Analysis; Quarterly Census of Employment and Wages; author's calculations



## Demographic Trends

Changes in the demographic composition of manufacturing workers in Port St. Lucie are discussed below. In order to detect long-run trends, the report looks at changes that have occurred since 2000. The data in this section are taken from the American Community Survey 5-year estimates and the U.S. Census Bureau Quarterly Workforce Indicators database.

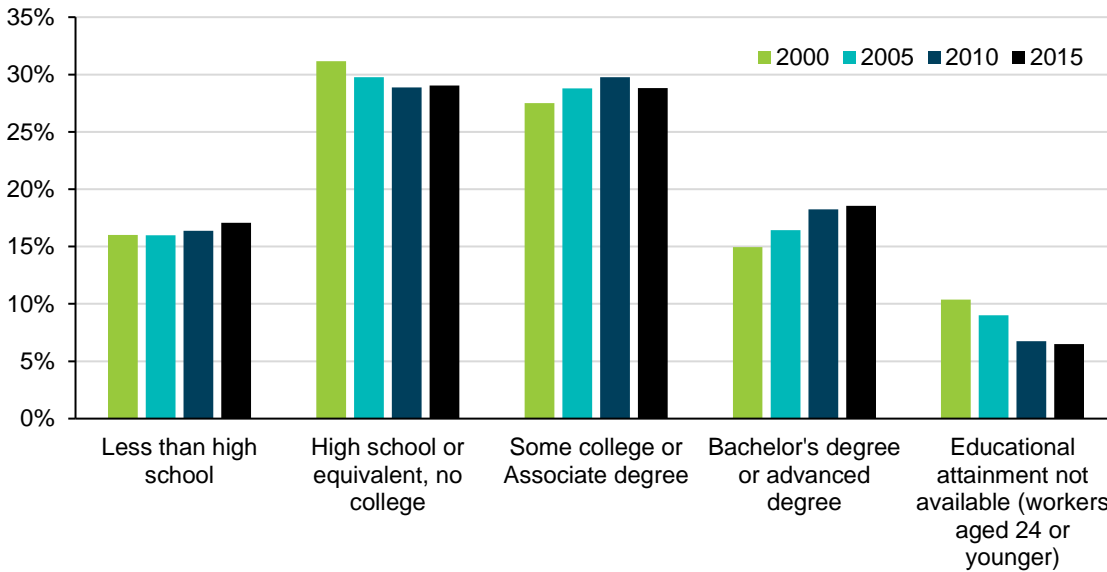
Manufacturing in Port St. Lucie is becoming more male dominated. The percentage of male workers increased from 69.7 percent to 73.9 percent. Change in gender composition in the manufacturing sector for the MSA are shown in Figure 7.



Source: Quarterly Workforce Indicators, U.S. Census Bureau

Manufacturing employers in Port St. Lucie are hiring more educated workers. Since 2000, the percentage of employees that have a bachelor's degree or higher has risen from 14.9 percent to 18.6 percent. The proportion of workers with only a high school equivalent education has fallen from 31.2 percent to 29.1 percent over the same time period. Workers with some college or associates degrees became a greater share of the manufacturing workforce between 2000 and 2010, but their proportion decreased from 29.8 percent to 28.8 percent by 2015. Figure 8 shows changes in Educational attainment in the manufacturing sector for the Port St. Lucie MSA.

**Figure 8**  
**Port St. Lucie Manufacturing Employment By Education**  
 Values Are Percents of Annual Totals



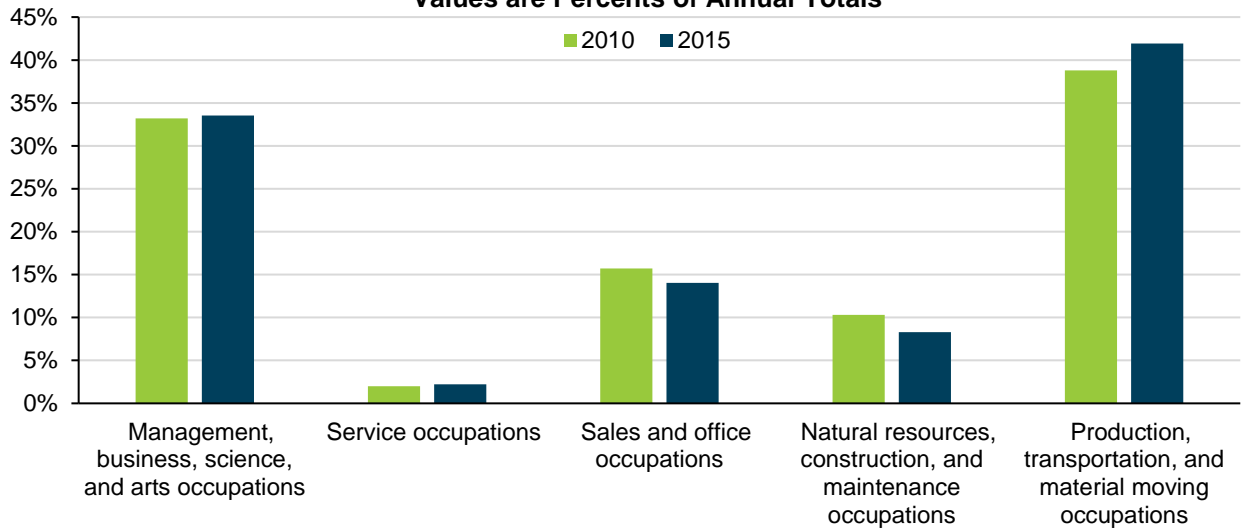
Source: Quarterly Workforce Indicators, U.S. Census Bureau

Production workers, typically a large share of manufacturing employees, have become an even greater share of manufacturing employment in Port St. Lucie since 2010. Sales and office occupations have decreased as a share of total manufacturing employment. This trend is the opposite of occupational trends at the national level, where firms are hiring fewer production workers and more managerial and professional employees.<sup>2</sup> It is also interesting that the level of production employees has been trending upward at the same time that the share of workers with higher levels of education is also trending upward. These trends indicate that the largest and fastest growing manufacturing subsectors in Port St. Lucie are ones that require large amounts of highly skilled labor for their production processes. Figure 9 shows the changes in occupational composition between 2010 and 2015.

<sup>2</sup> Mark Levinson, "Job Creation in the Manufacturing Revival," Congressional Research Service.



**Figure 9**  
**Manufacturing Employment By Occupation**  
 Values are Percents of Annual Totals



## Regional Competitiveness

### Location Quotient Analysis

| Year | Manufacturing Location Quotient |
|------|---------------------------------|
| 2010 | 0.92                            |
| 2011 | 0.94                            |
| 2012 | 0.98                            |
| 2013 | 1.05                            |
| 2014 | 1.07                            |
| 2015 | 1.08                            |

Source: Bureau of Labor Statistics

Location quotients measure the relative concentration of a given industry in a particular location. The location quotients in Table 14 represent the concentration of manufacturing employment in Port St. Lucie relative to the state of Florida. Where the location quotients are greater than one, Port St. Lucie has a higher concentration of manufacturing employment than the state, and where they are less than one, Port St. Lucie has a lower concentration. In every year since 2010, which was the post-recession low point for manufacturing employment, Port St. Lucie’s manufacturing location quotient has increased, indicating a greater and greater concentration in manufacturing



in the area. In 2013, manufacturing employment in Port St. Lucie became more concentrated than it was in the state of Florida and has continued to rise.

## Shift Share Analysis

**Table 15**  
**Port St. Lucie Manufacturing Shift-Share Analysis**

| NAICS        | Industry                                 | Actual Employment Change 2010 – 2015 | State Growth Effect | Industry Mix Effect | Regional Shift |
|--------------|--|--------------------------------------|---------------------|---------------------|----------------|
| <b>31-33</b> | <b>Manufacturing</b>                     | <b>1460</b>                          | <b>758</b>          | <b>-219</b>         | <b>921</b>     |
| 336          | Transportation Equipment Manufacturing   | 674                                  | 180                 | 13                  | 481            |
| 321          | Wood Product Manufacturing               | 296                                  | 27                  | 58                  | 210            |
| 311          | Food Manufacturing                       | 134                                  | 101                 | -31                 | 64             |
| 325          | Chemical Manufacturing                   | 56                                   | 8                   | -7                  | 55             |
| 337          | Furniture and Related Product Mfg        | 74                                   | 15                  | 12                  | 47             |
| 334          | Computer and Electronic Product Mfg      | 27                                   | 73                  | -93                 | 47             |
| 326          | Plastics & Rubber Products Manufacturing | 67                                   | 32                  | -12                 | 46             |
| 339          | Miscellaneous Manufacturing              | 89                                   | 46                  | -1                  | 44             |
| 333          | Machinery Manufacturing                  | 68                                   | 42                  | -3                  | 29             |
| 314          | Textile Product Mills                    | 19                                   | 17                  | -21                 | 23             |
| 332          | Fabricated Metal Product Manufacturing   | 70                                   | 71                  | 36                  | -37            |
| 323          | Printing and Related Support Activities  | -44                                  | 50                  | -52                 | -41            |
| 327          | Nonmetallic Mineral Product Mfg          | 27                                   | 49                  | 32                  | -54            |
| 335          | Electrical Equipment and Appliances      | -60                                  | 22                  | -12                 | -70            |

Source: Quarterly Census of Employment and Wages

Table 15 contains the results of a shift-share analysis that DEO conducted for the manufacturing sector in Port St. Lucie. A shift-share analysis is used identify how much of a local industry’s growth is due to local economic conditions, and how much is due to other effects like statewide growth and industry-specific factors. For each subsector, the shift-share analysis isolated three components of growth: the state growth effect, the industry mix effect and the regional shift. The state growth effect is the change in employment due to statewide economic trends. The industry mix effect is the change in employment due to industry-specific factors. The third component, the regional shift, is the change in employment due to local economic factors. This is the variable of interest in a shift-share analysis. The regional shift describes to what extent industry growth (or decline) at the local level is attributable to factors that are unique to the local economy, and is often used as a measure of the location’s competitive advantage in the industry of interest. A positive regional shift value indicates that the local industry outperformed the state industry; a negative regional shift indicates that the local industry underperformed the state industry.

DEO’s analysis examined the change in employment between 2010 and 2015 for manufacturing as a whole and for each subsector. The manufacturing sector in Port St. Lucie experienced a large positive regional shift over this time period. 921 of the total 1460 jobs gained were due to



the competitive advantage of the local industry. The top two subsectors in terms of job growth, transportation equipment manufacturing and wood product manufacturing, can attribute the majority of their gains to local economic factors. Overall, ten out of 14 subsectors experienced a positive regional shift effect.

## Conclusion

DEO's research suggests that the St. Lucie MSA has a strong track record of growth in manufacturing employment and wages. The regional-specific growth shown in the shift-share analysis is good evidence that St Lucie has a regional advantage for many manufacturing subsectors, and this regional advantage has contributed to its strong wage growth.

The report was prepared the Economic Analysis unit in the Labor Market Statistics office of Florida's Department of Economic Opportunity. A special thanks to economic consultant Jerry Heijkoop and research associate James Heckman for their expert analysis, feedback, and hard work.

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