Southwest Ohio: Industry Driver and Occupational Highlights

Ohio Board of Regents

Wright State University, Center for Public and Urban Affairs

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Southwest Ohio's most competitive industries include the Metals and Machining Industries (focusing on parts manufacturing and machine shops), Transportation Equipment Manufacturing Industries (mainly aircraft and motor vehicle parts manufacturing), and Machinery Manufacturing Industries (including machine tool manufacturing as well as tool and die shops).

Supporting and complementing these industries are two industry groups that employ 3.5 times as many people as the most competitive industries. These two industry groups are the Business and Financial Services Industries and the Health Industries, which include some specialization in biomedical sectors, especially in the Cincinnati area. Beyond these two service industries, the Aerospace and Defense Industries are forecasted to grow at a higher rate than any other industry group.

The bar chart presents total employment in each industry group, with the red shaded area of the bar indicating employment that is double counted across more than one industry group.

The bubble chart presents the location quotient (LQ) for the industry groupings. Economists commonly cite LQs over 1.25 as indicating competitive advantage. A regional LQ of 1.25 means regional employment is 25% higher than the national average in the selected industries. The chart shows that Southwest Ohio’s highly concentrated industries are manufacturing-related, but most of these are expected to become less concentrated in the future. Growing industries are indicated on the right portion of the chart.

Regional and State Supply Challenges

The US Department of Labor’s Occupational Supply and Demand System relates occupations with postsecondary courses. In this way, the demand for occupations can be related to the supply of graduates. Gaps between supply and demand may be created by oversupply or undersupply. The chart below indicates substantial undersupply of Computer Systems and Engineering graduates, along with financial, insurance, and human resource-related occupations. Substantial oversupply is occurring among business management graduates and nursing graduates. If there were an undersupply at the state level for either of these graduates, then Southwest Ohio could help fill the state’s gap. However, additional analysis shows an oversupply for these graduates at the state level, too. On the other hand, Southwest Ohio is not producing a sufficient number of graduates in economics and market research and in aeronautical/astronautical engineering, but the state is overproducing such graduates and so there is opportunity to meet regional demand via statewide recruitment.

* Estimate based on 2010 Completers. 2010 CIPs more accurately reflect Computer Engineering & Computer Science program completers.

Note: A retention factor was applied to the completers total. According to the Performance Report for Ohio’s Colleges & Universities, 2006, the in-state retention rate for those with a bachelor’s degree or higher was roughly 73% for Ohio & 87% for individuals with an associate’s degree. In Engineering, the retention factor is 68% for those with a bachelor’s degree, 44% for those with a master’s degree, and 28% for those with a doctoral degree.

Occupational Concentration

The table below presents a comparison of occupational groups in terms of their relative concentration in Southwest Ohio, the projected job growth and annual openings. Occupations that require an associate’s degree or more are presented. Honing in on the computer occupation groups again indicates that Southwest Ohio has a slightly higher concentration of these occupational groups than the national average, but not enough for competitive advantage or to meet demand. The chart shows that over 31,000 people in Southwest Ohio are employed in the Computer Systems Group with annual openings of nearly 1,100 and average annual wages of $62,000. Another 11,000 people are employed in Computer Engineering Group occupations, with annual openings of 369 and average annual wages of $80,000.

Aeronautical/Astronautical Engineering (LQ=2.2), Actuarial Sciences (LQ=1.7), and Industrial Engineering (LQ=1.7) indicate the strongest competitive advantage across all occupational groupings. Occupations within these groups receive high wages, but present modest growth and job openings.

Occupational specializations within Southwest Ohio are made evident when comparing the Dayton Region to the Cincinnati Region. Most of the demand for Aeronautical/Astronautical Engineers is coming from Dayton, which exemplifies the impact of Wright-Patterson Air Force Base’s presence. The Cincinnati Region represents most of the demand for Occupational and Physical Therapists and for Insurance and Actuarial Sciences, indicating the strength of the Health and Insurance Industries in that region.

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<tbody>
<tr>
<td>51-4000</td>
<td>Metal workers and plastic workers</td>
<td>35,796</td>
<td>32,840</td>
<td>4,017</td>
<td>$16.84</td>
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<td>51-4031</td>
<td>Cutting, punching, and press machine setters, operators, and tenders, metal and plastic</td>
<td>3,218</td>
<td>2,841</td>
<td>345</td>
<td>$14.39</td>
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<tr>
<td>51-4041</td>
<td>Machinists</td>
<td>8,221</td>
<td>7,841</td>
<td>662</td>
<td>$17.85</td>
</tr>
<tr>
<td>51-4121</td>
<td>Welders, cutters, solderers, and brazers</td>
<td>3,657</td>
<td>3,476</td>
<td>607</td>
<td>$17.57</td>
</tr>
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As presented on the first page of this report, Southwest Ohio’s industry concentration is strongest in manufacturing industries equating to over 120,000 production workers. Among these production workers is an occupational group called metal and plastic workers. Employing 36,000 workers, this occupational group represents nearly 1 out of 3 production jobs in Southwest Ohio. While new openings are not forecasted for the metal and plastic occupational group, there is demand for 4,000 replacement workers from 2011 to 2016.