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## Southwest Ohio: Industry Driver and Occupational Highlights

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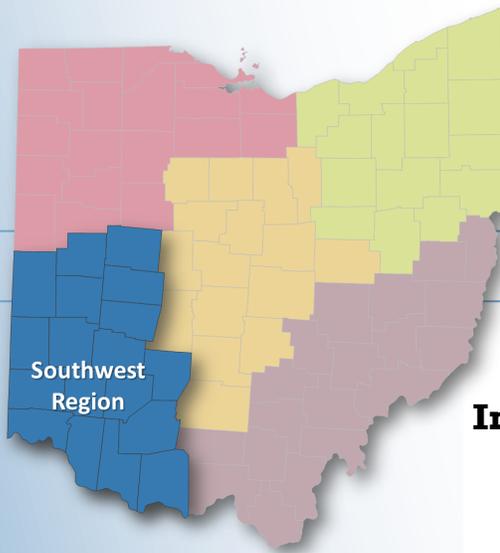
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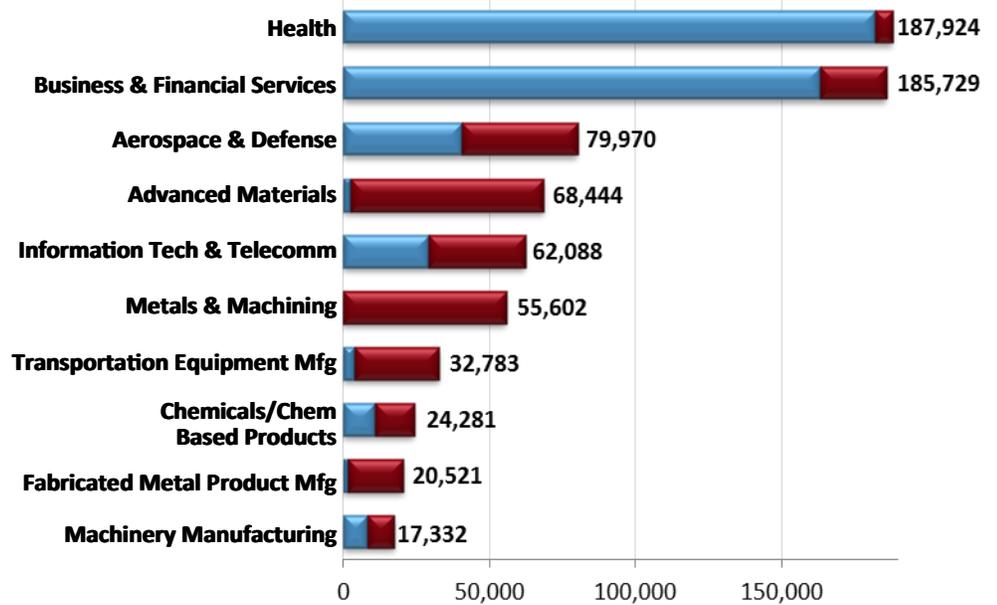
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## Southwest Ohio:

### Industry Driver & Occupational Highlights

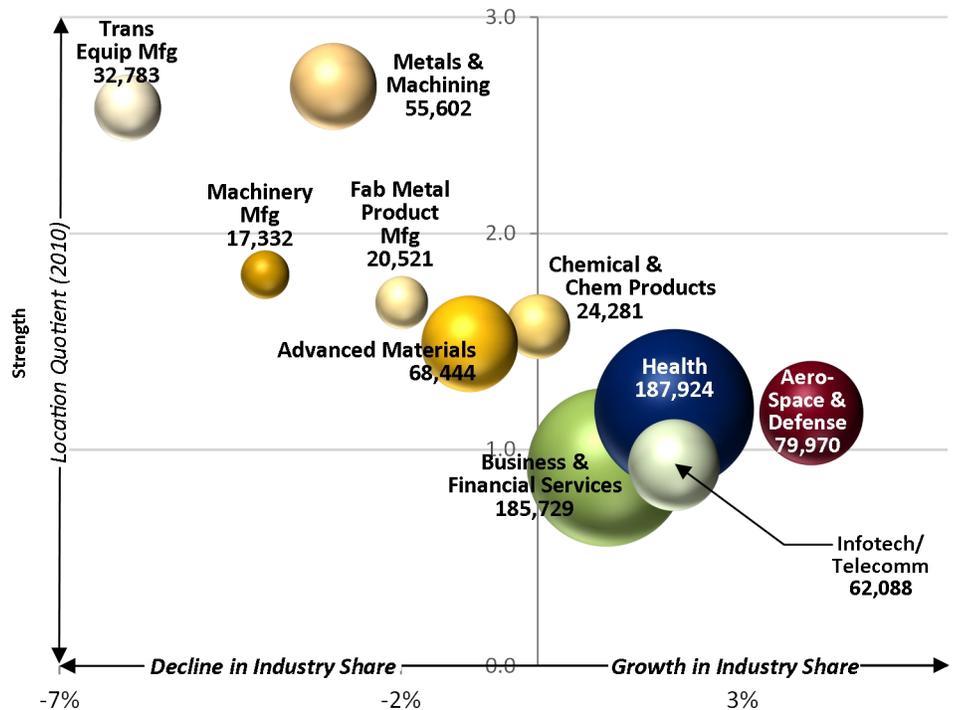
#### Industry Drivers



Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011

#### Current Job Base Analysis & Estimated 5-Year Change

Bubble size represents number of current employees



Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011

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.

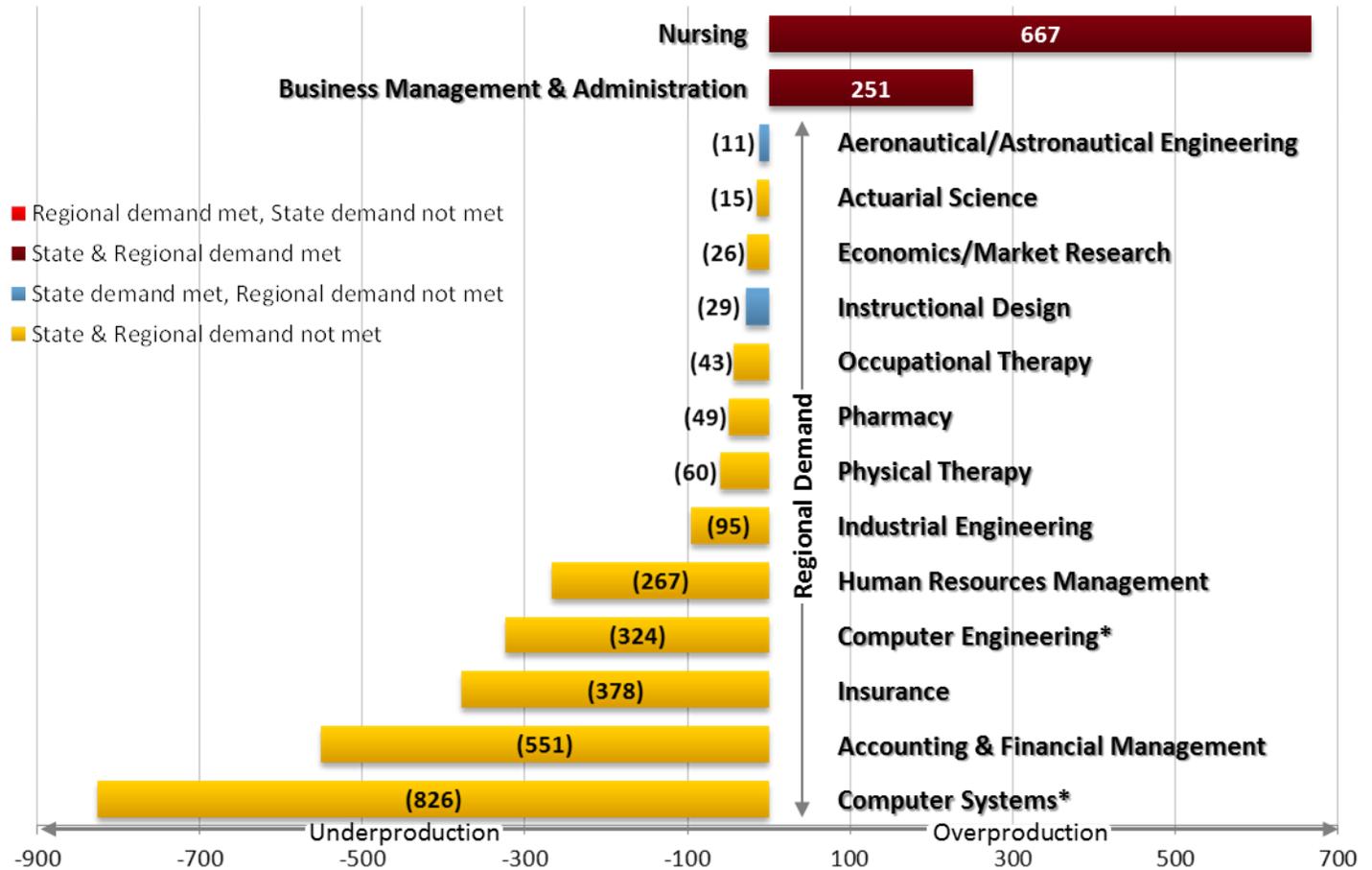
The bar chart presents total employment in each industry group, with the red shaded area of the bar indicating employment that is double counted across more than one industry group.

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.

Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011



## 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.

	Nursing	Computer Engineering	Computer Systems	Aeronautical/Astronautical Engineering	Industrial Engineering	Human Resources Management	Pharmacy	Actuarial Science	Insurance	Occupational Therapy	Physical Therapy	Economics/Market Research	
<b>2011 LQ</b>	1.2	1.1	1.1	2.1	1.7	1.1	1.1	1.7	1.2	1.1	1.1	1.1	
<b>2011 Jobs</b>	31,484	11,264	31,490	1,506	3,460	10,281	2,882	331	15,540	1,278	2,244	3,765	<b>Southwest Ohio</b>
<b>2011-16 Growth</b>	2,915	1,346	1,948	34	96	868	284	26	728	153	319	476	
<b>Annual Openings</b>	1,120	369	1,106	44	126	436	120	15	574	53	90	194	
<b>2011 Jobs</b>	18,969	6,688	20,043	792	1,894	6,564	1,930	291	10,646	827	1,485	2,512	<b>Cincinnati MSA</b>
<b>2011-16 Growth</b>	1,892	716	1,080	-3	85	585	196	22	233	102	215	312	
<b>Annual Openings</b>	701	200	674	18	65	281	81	13	365	35	60	128	
<b>2011 Jobs</b>	9,974	4,264	9,895	675	980	2,786	682	34	3,029	343	588	1,039	<b>Dayton MSA</b>
<b>2011-16 Growth</b>	841	582	750	28	-19	156	58	2	72	40	83	128	
<b>Annual Openings</b>	340	158	373	24	36	103	27	2	86	14	23	52	

Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011

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.

SOC Code	Description	2011 Jobs	2016 Jobs	2011-2016 Replacement Needs	Median Hourly Wage
<b>51-4000</b>	Metal workers and plastic workers	35,796	32,840	4,017	\$16.84
<b>51-4011</b>	Computer-controlled machine tool operators, metal and plastic	3,476	3,425	456	\$18.99
<b>51-4031</b>	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	3,218	2,841	345	\$14.39
<b>51-4041</b>	Machinists	8,221	7,841	662	\$17.85
<b>51-4121</b>	Welders, cutters, solderers, and brazers	3,657	3,476	607	\$17.57

Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011