

Benchmarking Competitiveness: How QWI can be used to identify areas with high concentrations of high technology employment and to assess the competitiveness of a region.

Question your work tried to answer	Where are the most competitive regions of the country
Local Employment Dynamics data sources used	☐ OnTheMap ☒ QWI ☐ Industry Focus ☐ Raw data files from CD or VRDC ☐ Other: _____
Other data sources used	Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES) National Occupational Employment and National Cross Industry Occupational Employment Matrix (2002 through 2009).
Software/ data processing tools used	1) Open Indicators Consortium: Weave Description: Open Source Analysis and Visualization Environment (www.openindicators.org) 2) Oracle: MySQL Workbench and MySQL Community Server Description: Open Source Database Server and Graphical Administrator (www.mysql.com/downloads/) 3) Oracle: Open Office Calc Description: Open Source Spread Sheet Program (www.openoffice.org)
Brief description of methodology (if someone wanted to do a similar analysis, how should they approach it?)	Create a National Benchmark: The national percentage of technology oriented employment across all industries was calculated for 2009. Establish an Empirical Standard: The percentage employment in technology oriented occupations for each 4 digit NAICS was calculated. Those industries found to have a percentage employment of technology oriented occupations twice the national average were deemed high technology industries. In addition subsets of high technology industries were defined if more than three-fold and over four times the national average. Apply Standard to Assess Regional Competitiveness: The 35 industries deemed high technology were mapped by

	county using the Q4 2009 QWI data. The location quotient of the various levels of high technology industry were mapped and segmented by urban and rural population totals. Geospatial analysis and (near fully) tiled public micro data helps create insight for regional policy makers.
Benefits of methodology/ data	This approach supports a dynamic method for the assessment of high technology based on workforce standard that can be updated as the occupational composition of industry changes. This Method creates a standard to benchmark regional competitiveness. The Quarterly Workforce Indicators provides the most completely tiled public use data source for 4-digit NAICS industry data available at the county level.
Drawbacks/problems with methodology/data	The OES National Cross Industry Employment Matrix does not include self-employment which is included in the BLS Employment Projection Program (EPP). However, the EPP does not archive its data for detailed occupational comparisons over time and excludes a significant number of industries. The QWI dataset does not yet have sufficient coverage to conduct time series analysis of these industries for all states.
Anything else?	Location Quotients are often extremely large in counties with extremely low populations. To account for this location quotients can be weighted by population size or segmented by a population standard. In this analysis a population standard of 75,000 (from the 2000 U.S. Census) was used to distinguish urban and rural counties. Another standard could be used for this analysis to account for this phenomenon.
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