

2 The Wisconsin Manufacturing Study

Critical Issues

- What can Wisconsin's manufacturing sector do to adjust to the new global economy?
- Who are its main competitors?
- How can Wisconsin address the needs of its very diverse manufacturing issues in its regions?

In light of these realities in the new global marketplace, the Wisconsin Manufacturing Extension Partnership (WMEP) asked the Manufacturing Performance Institute (MPI) "to analyze the current and future state of manufacturing in Wisconsin." MPI partnered with a team of researchers led by Dr. Edward W. (Ned) Hill, Professor and Distinguished Scholar of Economic Development at the Maxine Goodman Levin College of Urban Affairs at Cleveland State University. Dr Hill recently completed research on a similar evaluation of Pennsylvania's manufacturing economy.

The Wisconsin Manufacturing Study was initiated to look at: (1) the impact of Wisconsin business sectors relative to manufacturing statewide and compared to eight states with which its main industries compete; (2) the manufacturing industries within each of the state's seven economic regions; (3) and manufacturing issues and recommendations for the future, for both statewide and individual industries.

2.1 The Analysis

The analytical method employed in the Study is based on a technique developed by Ned Hill and John Brennan (2000). The method identifies "driver industries" and "industry clusters." From an economic perspective, driver industries are relatively concentrated in a region and produce more goods than can be consumed locally. These companies sell their product outside of the region, thereby bringing new monies back into the region. Thus, they *drive* regional economic growth.¹⁴

The driver industries form the heart of a linked group of companies, the industry clusters. These are a geographic concentration of firms in the same industry that have close buy-sell relationships with other industries in the region, use common technologies, or share a specialized labor pool that, together, provide these firms with a competitive advantage over the same industry in another region, or state, or country. The complete cluster consists of suppliers, the driver industry that produces the finished product, and the customer, or consumer of that product or service. In this Study, "industry clusters" refers to the binding of these three entities; whereas other authors generally use the word to refer to a group of industries that are similar in the product they make or the process they use to manufacture their output.¹⁵

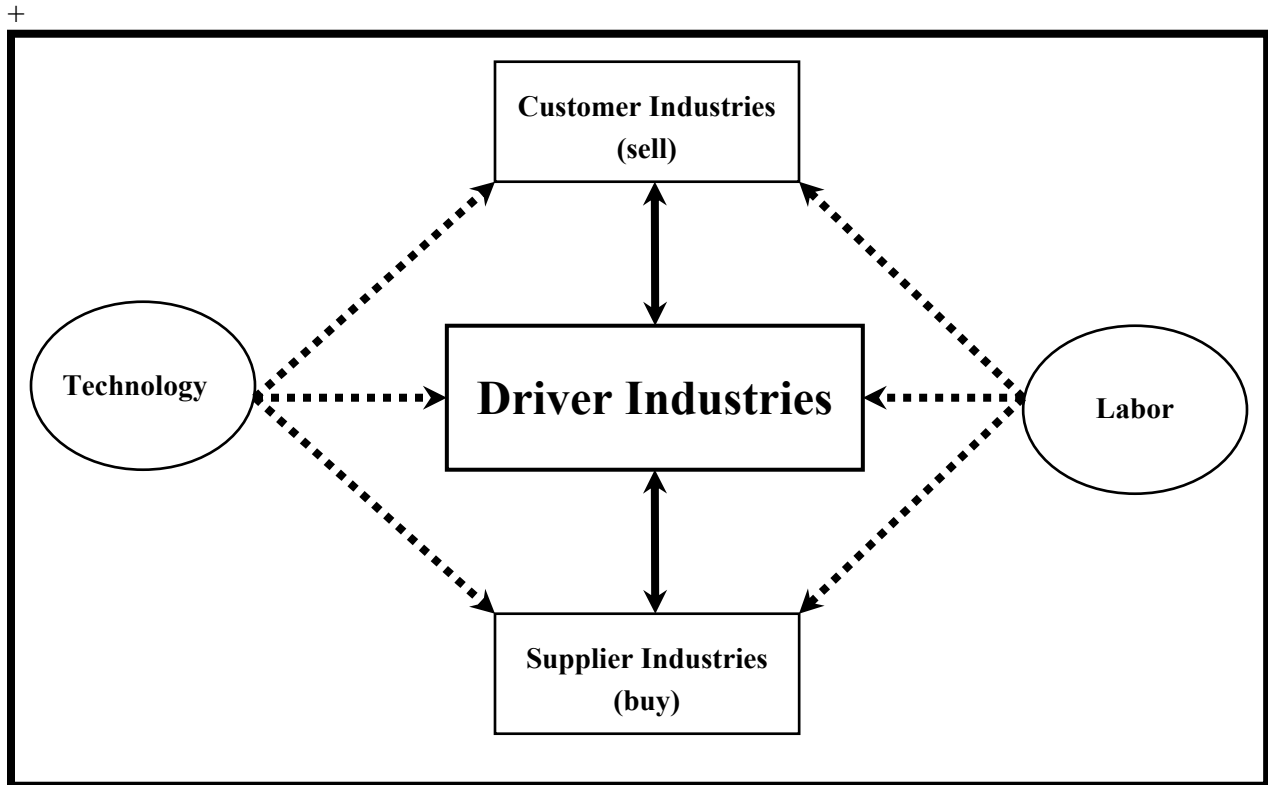
The methodology is described in detail in the Appendix.

¹⁴ E. Hill & J. Brennan (2000). A Methodology for Identifying the Drivers and Clusters: The Foundation of Regional Competitive Advantage. *Economic Development Quarterly*, 14, pp. 65-69.

¹⁵ E. Hill & J. Brennan (2000). pp. 65-69.

The relationships among the three industry cluster components are depicted graphically in Figure 2-1.

Figure 2-1 Structure of a Competitive Industry Cluster¹⁶



2.2 Wisconsin and Its Eight Competing States

In addition to identifying the driver industries and their industry clusters, the Study compares the performance of the State of Wisconsin’s manufacturing industries with those from a select group of states that are identified as “competitors.” In general, competitor states are those that have a significant concentration of firms and/or industries that compete with firms in the State of Wisconsin. The Study identifies eight states that are primary competitors for the markets of the major driver industries in Wisconsin.

These eight competitor states include two that border Wisconsin—Minnesota and Illinois—since, by their geographic location, they offer the same access to all non-governmental resources as locations within Wisconsin itself, and their proximity facilitates the flow of competing manufactured goods. That proximity also makes it possible for the workforce in these contiguous states to cross state lines for employment. Other nearby competitor states include Michigan and Indiana, as well as the State of Ohio, which historically has had an industrial base similar to that of Wisconsin. Altogether, these five Great Lakes Basin states offer many of same labor skills,

¹⁶ Hill & Brennan, 2000.

natural resources, and transportation networks that manufacturers seek in Wisconsin's driver industries.

In addition, three other states were included for their clear competitiveness. Tennessee competes in various driver industries, but especially in furniture manufacturing. California competes as well with Wisconsin in many of its driver industries, but particularly in dairy products. Finally, Texas was included as a competitor of substantial size across many of Wisconsin's driver industries.

In summary, in this Study the eight competitor states are California, Illinois, Indiana, Michigan, Minnesota, Ohio, Tennessee, and Texas.

2.3 Wisconsin's Seven Economic Regions

For the purposes of the Wisconsin Manufacturing Study, the Wisconsin Study Advisory Board and MPI differentiated the state into seven, county-based economic regions. Regions were initially identified by overlaying the current definitions of Metropolitan Statistical Areas from U.S. Office of Management & Budget with the U.S. Bureau of Economic Analysis' Economic Areas. This information was supplemented with employment and commuting pattern data across the state to arrive at the final set of seven regions that are believed to best represent "economic," rather than political or geographic, regions and was inclusive of all counties within the State.

The seven regions and the counties which comprise each are as follows:

- **Central:** Adams, Clark, Langlade, Lincoln, Marathon, Portage, Taylor, Waushara, Wood
- **East Central:** Brown, Calumet, Door, Kewaunee, Marinette, Menominee, Oconto, Outagamie, Shawano, Waupaca, Winnebago
- **North:** Ashland, Bayfield, Burnett, Douglas, Florence, Forest, Iron, Oneida, Price, Rusk, Sawyer, Vilas, Washburn
- **South:** Columbia, Crawford, Dane, Grant, Green, Iowa, Juneau, Lafayette, Marquette, Richland, Rock, Sauk, Winnebago, IL
- **Southeast:** Dodge, Fond du Lac, Green Lake, Jefferson, Kenosha, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington, Waukesha
- **West Central I:** Barron, Buffalo, Chippewa, Dunn, Eau Claire, Pepin, Pierce, Polk, St. Croix
- **West Central II:** Jackson, La Crosse, Monroe, Trempealeau, Vernon

The economic regions are presented graphically in the map titled "Economic Regions in the State of Wisconsin" at the end of this Section.

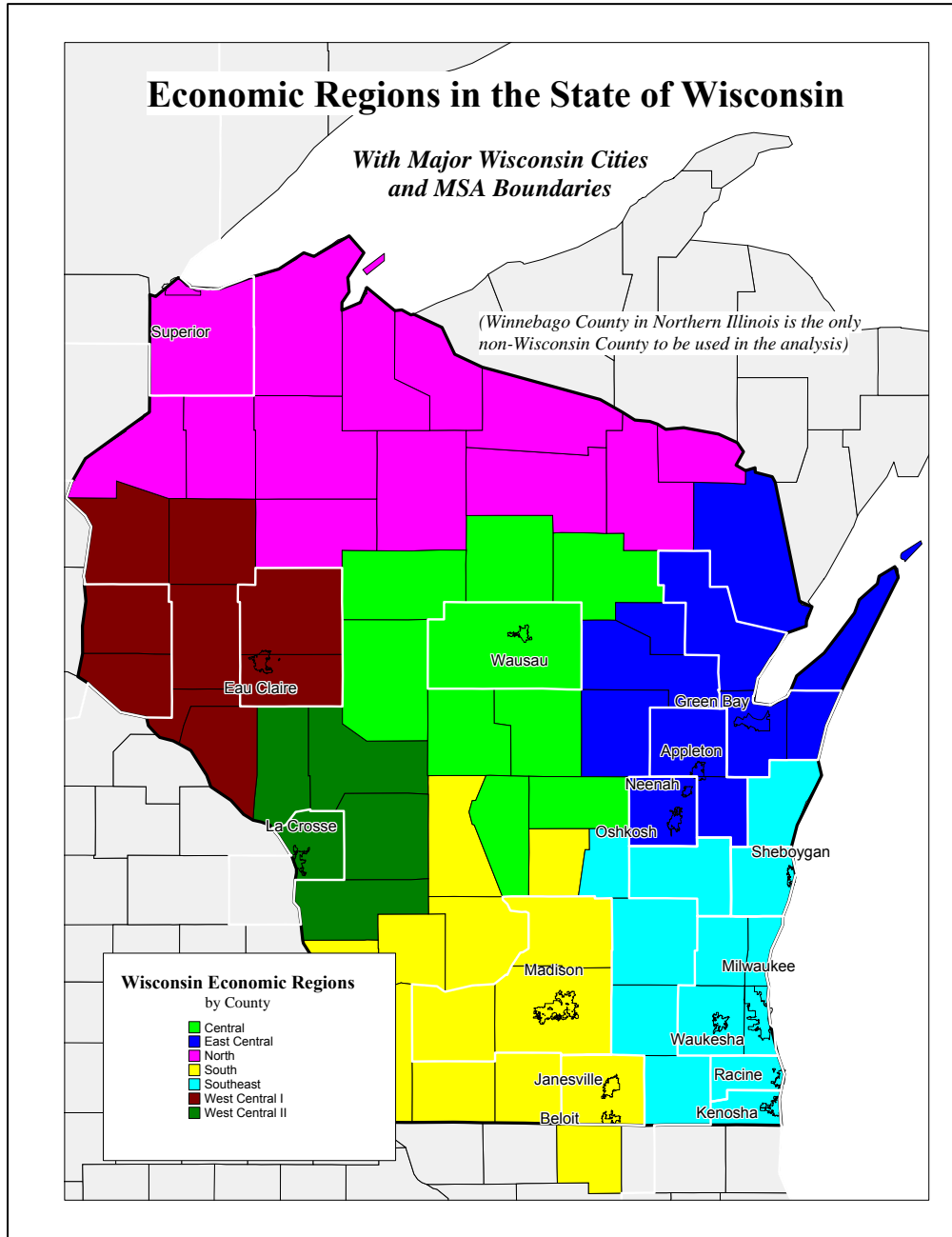
2.4 Information Dating and Data Sets

In the tables that follow in this Study, all data under a year column is historical from 1993 through 2002. Thereafter, the data is *projected* from 2003 through 2004, and *forecast* through 2008. So, 2002 figures are the last *actual* data, the normal delay for publishing the U.S.

Department of Commerce’s data from the Economic and Statistics Administration and its components¹⁷ being approximately two years.

MPI’s data sets will be available to WMEP on CD-ROM and on line.

Figure 2-2 Economic Regions of the State of Wisconsin



¹⁷ For the U.S. Department of Commerce, Economics and Statistics Administration, See www.esa.doc.gov/reports.cfm; for the Bureau of Economic Analysis, see www.bea.gov/; for the U.S. Bureau of Census, see www.census.gov/; and for STAT-USA, see www.stat-usa.gov/.