

The Advanced Manufacturing Project

Understanding how to strengthen the U.S. manufacturing base

The Advanced Manufacturing Project (AMP) is a research consortium consisting of COWS staff and their colleagues at the Center for Regional Economic Issues at Case Western Reserve University, the University of Chicago, and the Michigan Manufacturing Technology Center. The project's goal is to identify the factors that lead companies to adopt "high road" versus "low road" competitive strategies. To that end, AMP looks at firms in the component-manufacturing sector. Heavily concentrated in the Upper Midwest, this sector is widely regarded as critical to the future of U.S. manufacturing as a whole.

AMP's work is supported primarily by the Alfred P. Sloan Foundation, with additional funding from the Wisconsin Manufacturing Extension Partnership. (WMEP is the Wisconsin affiliate of the federal Manufacturing Extension Program, which operates through the Department of Commerce to assist small and medium-sized firms.)

Within the component-manufacturing sector, AMP focuses specifically on the relationship between *suppliers* and *customers*. The suppliers are typically smaller manufacturing firms, with fewer than 500 workers, that fabricate metal and plastic parts. (These include, for example, machine shops, metal-stamping and metal-fabricating firms, and auto-parts suppliers.) Their customers are usually larger firms — known as "original equipment manufacturers" (OEMs) — that produce and sell automobiles, electrical appliances, and mining, transportation, and farm equipment.

Customer-supplier relations in component manufacturing, as in manufacturing generally, have changed dramatically in recent years. Prompted by unstable market demand, growing competition, and rapid technological change, OEMs have outsourced an increasing amount of work to suppliers, while shrinking their own production base. Just a generation ago, of the total value of goods sold by OEMs, the share that originated with suppliers averaged 40 percent. Today, the average share is about 80 percent!

With suppliers accounting for such a large proportion of final product, OEMs are naturally concerned with limiting suppliers' costs while preserving quality, responsiveness, and the capacity to take on increasingly complex subassembly tasks. But these demands are often in tension with each other.

December 2002

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How OEMs choose to deal with these tensions, and how suppliers respond to OEM strategies, will largely determine what U.S. manufacturing will look like in the years to come. It might be a low-road world, where OEMs buy supplies "on the spot" and base purchasing decisions largely on obtaining the lowest price. Or it could be a high-road scenario, in which OEMs treat suppliers as extensions of the firm — seeking to establish ongoing close relations, working to assist suppliers in upgrading capacity while reducing costs, and sharing in suppliers' productivity gains.

Right now, the low road seems well underway. The very shift from OEMs to suppliers is a telling example: While OEMs tend to be capital-intensive, highly productive, and high-wage, their suppliers — which are more labor-intensive and less productive — tend to offer fewer benefits and lower pay. In addition, suppliers risk going out of business if they can't meet the demand for lower prices; alternatively, they may respond to OEM pressures by cutting labor costs even further — that is, by taking the low road themselves. Either way, what were once family-sustaining jobs for many Midwesterners — especially minority employees with limited access to educational opportunities — are now at risk.

By fostering cooperation between OEMs and suppliers, however, it's possible to reverse these trends. In the late 1990s, the WMEP joined forces with the Wisconsin Manufacturers Development Consortium (comprised of a half-dozen leading OEMs, including John Deere and Harley-Davidson) to launch the Supplier Training Program. In the first year alone, 50 suppliers sent some 1,600 staff to classes, where they learned techniques for enhancing performance and increasing competitiveness. In evaluating the program, COWS found that participating suppliers modernized their operations and showed tangible improvements in productivity, quality, delivery time, and costs. They also raised wages and improved plant safety. OEMs, suppliers, and workers all benefited from these results.

AMP represents an extension of these efforts beyond the state. Component manufacturing is important not only in Wisconsin but also in its sister states of Ohio, Illinois, Michigan, and Indiana. Through interviews, data analysis, and other techniques, AMP researchers are identifying the key elements that determine whether suppliers in the region can succeed. They are comparing findings with those of colleagues in other countries like Germany, Italy, and Denmark.

Also, in conjunction with the AFL-CIO's Working for America Institute, AMP researchers plan to study how the shift from OEMs to suppliers has affected workers and their unions, and how unions can help employers to take the high road of high performance, high productivity, and high-wage jobs.

Component-manufacturing suppliers are now key players in the economy, accounting for some 75,000 jobs in Wisconsin (fully 20 percent of the state's durable-goods manufacturing employment) and some two million jobs nationwide. By encouraging them to strengthen their ties with OEMs, we can encourage suppliers to operate profitably and productively on their own terms while serving OEM needs. And by targeting suppliers as the focus of job-preservation and economic-development strategies, we can strengthen the state and regional economies as a whole.