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If You Can Make It Here ...

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MILWAUKEE

MATTHEW S. LEVATICH hovers intently over the shiny red-and-chrome [Harley-Davidson](#) motorcycle parked near his office. He is annoyed. A reporter has questioned the American purity of Harley cycles and Mr. Levatich, as the vice president in charge of procurement, is defending the faith. He is slowly circling an employee's bike, identifying the source of each visible part.

True, the silvery, cylindrical shock absorbers, which rise like a "V" from the front-wheel axle, are from abroad. So are the aluminum wheels and spokes. That is because such things are not manufactured in the United States, or not as well here as they are in other countries. Various dashboard gauges are also imported. Once made in the United States, they are not anymore - feeding the perception that American manufacturing is in decline.

But the leather seat and saddle bags are from a supplier here in Milwaukee, Mr. Levatich said, tapping them emphatically as if they were items on a checklist. So are the metal brackets that attach the bags to the bike. The fenders, the gas tank, the brake system, the headlight assembly, the engine, the transmission, the muffler and the exhaust - all these were also Made in America, and the entire motorcycle was assembled here, too.

"We have more domestic content than we had 15 years ago," Mr. Levatich said, "but it is a very fluid situation, very dynamic right now."

The United States may not be the industrial dynamo it was a half-century ago, but reports of the death of American manufacturing are greatly exaggerated. The country has not even been toppled from first place among nations. Measured as value added, the United States accounted for 23.8 percent of the world's manufacturing output in 2004, according to the World Bank. And despite more than two decades of globalization, the country's share has barely dipped. The annual average since 1982 has been 24.6 percent.

"Value added" is the Cadillac measure of manufacturing performance. It calculates the dollar value created within each country when materials and labor are melded into finished products. (The whole is worth more than the sum of its parts.) Japan was second, at 20.9 percent - a perennial also-ran, narrowing the gap in some years since 1982 and falling back in others. China, however, although still a distant third at not quite 9 percent, has marched steadily upward, overtaking Germany in 2003. South Korea, in sixth place at 4.1 percent, has also gained ground, passing Italy just last year.

"When you go to conferences of manufacturers," said L. Josh Bivens, an economist at the Economic Policy Institute, "it is really surprising the number of companies still manufacturing in this country." More than 100,000 have at least 20 employees, the Census Bureau reports.

Some are foreign, like [Toyota](#) or [Honda](#) or BMW. But the great majority of manufacturers that stay put in the country, resisting globalization, are American-owned and share certain characteristics that help to keep them at home. More often than not, they are the nation's small and midsize manufacturers - those employing fewer than 1,000 people - but together they account for nearly 80 percent of the country's value added, according to Census Bureau data.

Whatever the corporate size, many of the chief executives grew up with their companies, gaining considerable expertise along the way and an unusual attachment to the products they make. James L. Ziemer, 54, Harley's chief executive, started at the company as a freight elevator operator while he was still in high school, drawn by Harley factory workers who lived in his blue-collar neighborhood here and who raced Harleys on weekends.

"I'd say to myself, wow, these guys are being paid to ride motorcycles and burn rubber and everything else," Mr. Ziemer said, "so I said, one day I'm going to be paid to ride a motorcycle." He owns three Harleys now and rides one regularly to work, parking it in a lot reserved for employees' cycles.

GENE F. HAAS, 52, the founder, owner and president of Haas Automation Inc. in Oxnard, Calif., worked as a machinist while he was in high school and college, and he stuck to that trade, although he graduated with an accounting degree. From his experience and ingenuity - and that of a high school classmate, Kurt Zierhut, now the director of electrical engineering - came a line of computerized machine tools that makes Haas Automation a powerful presence in an industry otherwise all but lost to the Japanese and the Europeans.

The similarities continue. Innovation is often compulsively pursued at the manufacturing companies that stay in America. The engineers and designers at Harley and Haas - they constitute more than 10 percent of each work force - are constantly altering the companies' products in ways that are not easily imitated by lower-priced foreign competitors. The resulting cachet helps to sustain demand.

"There are tweaks to the product that we do regularly," said Rod Copes, general manager of Harley's main engine and transmission plant in Milwaukee. "It could be just the relocation of a hole in a casting. Having production here, we can make that happen."

Mr. Ziemer and Mr. Haas eschew layoffs, but in exchange for job security they require their workers to help squeeze out labor costs through automation and other efficiencies. More to the point, the manufacturers that stay put in America cannot add workers, in the opinion of Mr. Ziemer and Mr. Haas. Labor must be less than 20 percent of the manufacturing cost to withstand foreign competitors who employ more labor at very low wages, these executives argue.

"If the government expects manufacturers to employ more people over the next decade," Mr. Haas said, "it isn't going to happen."

The nation's manufacturing employment fell rapidly during the 2001 recession and the slow recovery that followed, but as output has rebounded,

employment has not. One reason, apart from automation, is the migration of production abroad, not only by big multinationals but by some of their suppliers as well, companies like Hiwassee Manufacturing in Jacksonville, Ark., which makes steel strips for the control panels of appliances and is considering a plant in northern Mexico to be near a big customer, [General Electric](#).

Timely government regulation has played a role in sustaining domestic production. Without tariffs and import quotas in the 1980's, for example, Harley and Haas Automation might not be here today. Quotas gave Haas a protected market for midsize computer-controlled machine tools just when Mr. Haas was starting up, and tariffs on "heavyweight motorcycles" - defined as those having engines with a total displacement of more than 700 cubic centimeters - discouraged the Japanese from exporting to the United States the muscular, ornate, throaty-engined bikes that are Harley's specialty. That gave Harley breathing room just when it was close to going under.

The pressure for intervention that existed in the 1980's and that prompted President Ronald Reagan to act is less evident today. With the birth of the World Trade Organization and the entry of China into that group, free trade is more established now than it was then. That makes it easier for American manufacturers, particularly big multinationals, to shift production abroad and to export back to the United States. Companies like Harley and Haas that keep their factories in America are also under pressure to globalize, but in a different way. Materials and parts that go into their products come incessantly from abroad.

Mr. Levatich, Harley's procurement chief, says he tries to buck the flow. He argues that working with nearby suppliers enhances quality. In addition, he says, Harley calls on parts makers to make frequent changes in the components they supply, and having suppliers in this country makes that practice easier.

"We are not buying off-the-shelf components just on price - not even a fastener," Mr. Levatich said, adding that before Harley looks for parts abroad, "we have to be certain that we can't get what we need in the United States."

Robert Whaley, the procurement chief at Haas Automation, is more philosophical. Some things that Haas needs for its machine tools, like high-grade electric motors, flat-screened computer panels and some specialty steels, are no longer made in America, so Mr. Whaley must buy them overseas, and the value added to make those components goes to the foreign suppliers. Other parts are off-the-shelf commodities, and Haas buys them from the lowest bidder that is qualified.

Machine tools shape metal into finished parts, using dozens of tools to cut, drill, grind and bend. Some of those tools - drill bits, for example - do not change from one year to the next, so it makes sense to buy them from suppliers, some located overseas. And that is what Haas does. The cast metal housing for a water pump falls into the same category, and these come from Asia.

"There has been a gradual increase in overseas content," Mr. Whaley said, "and further down the line, my suppliers in America are buying more offshore than they did 10 years ago."

Harley-Davidson

Patriotism, Yes,

And Union Pacts

Ask Mr. Ziemer or any of his executives - or the leaders of Harley's unions, which work hand-in-hand with the company - why they keep production in the United States, and the answer comes back almost as a chorus: the Harley motorcycle is an American icon, a way of life, the vehicle of choice for open-road individualism. Its customers would not tolerate production abroad.

"People are even aware of the parts, where they might come from," Mr. Ziemer said. "Not every single person, but a lot of our customers. And there are a lot of motorcycle magazines that write on this theme - hey, we're metal, we're not plastic; we're American made, we're not foreign made."

But put aside the American-centric explanation and more fundamental reasons emerge. Harley nearly failed 25 years ago, when it was caught up in a disastrous merger, endless labor strife and shoddily made motorcycles. A leveraged buyout in 1981 featured a group of Harley executives who wanted to save the company and eventually did. Mr. Ziemer, who still sometimes comes to work in the factory-worker clothing of his early days, rose in this milieu, becoming chief financial officer in 1991 and chief executive last April. The company now has more than \$5 billion in annual revenue.

What he and the others did along the way was not always pretty. For openers, to survive, they axed 40 percent of the work force. But as motorcycle sales gradually revived - thanks in part to four years of tariff protection starting in 1983 - Harley's managers made an unusual deal with their unions, the International Association of Machinists and the Paper, Allied-Industrial, Chemical and Energy Workers. A partnership arrangement was written into the union contracts, requiring labor and management to agree on decisions affecting workers.

The unions, for example, had a say in the selection of a new assembly plant site in the mid-1990's. Two of the three members of the site selection committee were from the unions, and Kansas City, Mo., got the nod, rather than a lower-wage state with a right-to-work law (which wouldn't require workers to join or support a union). Assembly is done at the Kansas City plant and at an older facility in York, Pa., while engines and transmissions are made in Milwaukee, the headquarters city. The pay for all this is \$17 to \$33 an hour and rising at 2.5 percent a year. Still, with the partnership as a framework, labor costs are continuously whittled down as a condition for keeping production in America.

Management recently proposed going to Germany to buy the gears for a new transmission, rather than making them at the main plant here. The union wanted the work in-house and got it, but only after agreeing, as an offset, that future retirees would pay health insurance premiums beyond a certain cap. The company now pays the premiums without a cap.

"The unions have been forced to negotiate things we would have preferred not to negotiate," said Richard Krause, president of the Paper, Allied-Industrial, Chemical and Energy Workers local here, who was laid off himself for nearly five years in the early 1980's. "We've changed work rules, and we've reduced job classifications considerably. But we are involved in running the business, and that means accepting changes that keep the company competitive."

Management, on the other hand, cannot transfer "core production" overseas without union consent. Nor can it lay off workers unilaterally. Adhering to this restriction, the company retrained and reassigned more than 60 workers who were displaced when Harley went to robotic welding of motorcycle frames at the Kansas City plant. "Most companies would have put those people out," said Harold A. Scott, vice president for human resources.

But maintaining job security while shaving labor content keeps Harley on a difficult treadmill. Production has to rise continuously - and sales, too, of course - as automation reduces the labor required to make each motorcycle. Enough additional motorcycles must be manufactured to absorb workers who are idled by the automation, thus keeping the number of workers constant.

Production and sales have indeed risen every year for more than a decade, and the work force, now at just over 9,700, even grew by 80 last year. Production will rise again this year, Mr. Ziemer said, although not quite to the original target of 339,000 motorcycles. Two-thirds of the customers are Americans ages 35 to 54, and perhaps because the baby boomers are aging, this demographic group is no longer buying at quite the old pace.

That means selling more Harleys abroad, particularly in China, where the company has yet to sell its first motorcycle. While other companies often set up production in China, Harley will export motorcycles there, Mr. Ziemer says, once it has a distribution network in place.

"Folks are driving BMW's and Lexuses and Lamborghinis and everything else, and they are exported to China," he said, "so why not a Harley, which is a \$20,000 product compared to those others that are much greater than that? There's just no pressure to make Harleys there."

#### Haas Automation

#### How Labor Costs

#### Are Kept in Check

For all its anonymity, Haas Automation is a significant player in a very important industry. Without machine tools, manufacturing would be primitive. Every piece of merchandise with metal in it requires a machine tool to shape that metal, and to accomplish this task, American manufacturers channel 70 percent of their spending on machine tools to the Japanese and the Europeans.

What makes Haas stand out in this relentlessly competitive field is the niche that the company dominates. Nine hundred machine tools a month are shipped from a vast, still-expanding off-white factory set among strawberry fields and new industrial parks about 60 miles up the coast from Los Angeles. Haas machine tools are smaller than most foreign models; when Mr. Haas was getting started in the 1980's, quotas discouraged the Japanese from entering the smaller machine-tool market. "The Japanese elected to sell the big, expensive stuff, which is what they still do today," he said.

His own factory floor uses Japanese machine tools costing \$2 million or \$3 million each, which is five times as much as the most expensive Haas product. The Japanese machines are large enough to run unattended overnight, cutting and grinding one chunk of metal after another into the pieces that become the framework of a Haas machine tool. That sort of automation has reduced labor to about 10 percent of production costs, Mr. Haas said, perhaps low enough to stave off the Chinese when they finally get into the midsize machine tool market as a direct competitor.

"We basically produce one machine tool a month per person," he explained. "If you were to go over to China, their labor cost is probably 50 people per machine tool per month." Even at \$1 or \$2 an hour, that adds up to considerably more than Haas's labor cost, given its wage scale of \$10 to \$25 an hour.

Haas cites other tactics that keep it competitive while rooted in America. Breaking with the practice of most machine tool manufacturers, Haas maintains at its own expense an inventory of parts at each of its distributors. Because machine tools are complex mechanisms, they can break down, no matter who makes them. And a new part, specially ordered, can take weeks to arrive. In Haas's case, a distributor delivers one quickly out of inventory. "It's a way to stay in business," Mr. Zierhut said.

Haas makes most of its machine-tool components in-house, giving the company an edge in quality, its executives say. And the cost is not that much more, Mr. Zierhut said. His department, for example, makes the computer system that controls the machine tools, assigning 45 people to the task. Others buy computer controls from suppliers, mainly the Japanese. "When we looked at a company doing that," Mr. Zierhut said, "they still had 30 people whose job it was to adopt the purchased controls to their product."

STILL, the pressure to go abroad for components does not let up. Each month, Haas buys 300 tons of iron castings that it grinds and shapes to build its machine tools. Until recently, all of these castings came from foundries in the United States, but as those foundries have gone out of business, Haas has started to buy castings in Canada. "We talked about, actually, having our own foundry, maybe in Mexico," Mr. Haas said.

Haas Automation sells its machine tools mostly within the United States, to small and midsize manufacturers engaged not in mass production of standardized products, which are vulnerable to offshoring, but in the making of specialty products that low-cost foreign competitors cannot easily match. But the mix is changing. Forty percent of the \$550 million that the company expects in revenue this year is from exports, mostly to Europe, and Mr. Haas says he wants to raise that figure to 60 percent very soon. He expects much of the growth to come from building up exports to Asia - particularly to China, already the company's fastest-growing market.

Like Harley's executives, those at Haas count on rising sales to absorb workers idled by automation. Shrinking the work force, they say, would be a last resort. "I did one mass layoff in '98-'99 and it really harmed the culture," said Robert Murray, general manager of the Oxnard factory.

All Haas machine tools share a basic design, and that commonality helps to hold down production costs. More than 200 engineers and software experts, out of a total work force of nearly 1,100, configure the basic design into 100 models and variants to suit specific customers' needs. So much tinkering could not happen if production was shifted to China, Mr. Murray said. Keeping the whole process in the United States still leaves a profit margin of more than 5 percent of revenue, according to Haas executives.

Mr. Haas himself is not specific. As the sole owner of a company free of debt, he does not have to answer to Wall Street - a constraint that

contributes to the pressure on other manufacturers to move production offshore in search of lower cost. He marches to a different tune.

"One of the secrets to manufacturing in the United States is that you have a lot of alternatives," he said. "If something gets to be too costly, there's always a way of substituting something else. If your labor costs get to be too expensive, then automate."

#### Hiwasse Manufacturing

##### A Reluctant Step

##### Into Mexico

J. Richard Derickson, chief executive of Hiwasse Manufacturing, a family-owned concern started by his father, feels the pressure to go overseas in a different way.

Mr. Derickson and his 70 employees in Jacksonville, Ark., manufacture steel strips used in control panels for stoves, refrigerators and other appliances. General Electric, Whirlpool, [Maytag](#), Electrolux and other appliance makers buy thousands of them for \$5 to \$10 apiece; Hiwasse had revenue of \$8.5 million last year and will have more this year, Mr. Derickson said.

G.E. is a big customer, and Hiwasse ships not only to its plants in this country but also to those in northern Mexico. No company in Mexico makes the panels, and now G.E. wants Mr. Derickson to put a factory near its Mexican operations. Mr. Derickson says he is setting up shop in Mexico, but reluctantly. Given the efficiencies of his Arkansas plant, he says, he cannot make the control panels less expensively in Mexico, even allowing for shipping costs and lower-wage Mexican labor.

"The happiest scenario," he said, "is a sister plant that allows us to work back and forth - maybe do part of the finishing in Arkansas and send the panels to Mexico for the rest of the work."

Given his druthers, Mr. Derickson would probably dispense with the sister plant and stay in America.