THE FACTORY OF FACTORIES

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Germany's nimble manufactures are besting not only their Western rivals but the Chinese too. Could any one in Pakistan, with predominantly agro based economy, ever think that Farm Machines are boring and so low tech yet give astounding production.

An awe inspiring production if you think farm machines are boring and low-tech, you haven't seen the Lexion. The world's most efficient combine harvester is precision-guided by satellite and laser optics to mow grain at the rate of 60 metric tons an hour-enough to feed a city of 350,000 for a day. Real time sensors measure each square meter's yield, instantaneously adjusting next season's seed and fertilizer quantities. Built by Class GmbH in a German Hamlet called Harsewinkel, the Lexion's € 400,000 price tag is one third higher than the competition's top-end model, but its greater productivity means that big farm operators from Russia to Australia can't get enough of them. The 3,000-worker Harsewinkel plant, which ships 76 percent of its production abroad, has an order backlog well into 2009. Competitors in China don't worry Claas. "As long as we keep innovating, we're not afraid of anyone:' says Theo Freye, chairman of the fast-growing, €2.7 billion-a-year company.

Companies that turn ordinary metal-bending into world-beating technological wonders are a prime reason German firms have been among the leading beneficiaries of globalization. Of the world's major economies, only Germany and China have boosted their share of world exports since 2000. Germany's share is up *5* percent, while France, Japan and the United States have steadily slipped—minus 10,25 and 30 percent, respectively. The United States now represents some 8.6 percent of global exports, up from 12 percent in 2006. Germany's share rose from 8.5 to 9.4, and China's from 3.8 to 8.1.

While other Western countries worry about a slowdown, Germany seems to be chugging right along. In November, the country's machinery producers' association — which accounts for one third of German exports — revised 2007 production numbers upward, showing the sector growing by 15 percent, the fastest rate since 1969. Fresh auto-industry numbers show exports racing ahead by 11 percent in 2007; the sector has boosted employment by 20 percent, or 160,000 workers, since 1995, while the number of jobs dependent on exports has gone up from 5.9 million in 1995 to 8.3 million workers today. With other manufacturing sectors like trains, turbines and chemicals also surging, economists have recently begun to talk about the "reindustrialization of Germany" and a "second economic miracle?'

It's a miracle that is based largely on the success of the very countries that were supposed to undermine Germany — emerging markets with cheap manufacturing labor. Rather than undercutting German manufacturers, these nations have actually bolstered them, as their new middle classes buy more German cars and local factories shell out for topnotch German heavy machinery. These are sectors where German companies have long been strong, and have been gaining competitiveness vis-à-vis other Western countries. It's a trend evidenced by the fact that it was Germany, not China, that in 2003 passed the United States to become the world's leading exporter of merchandise; in 2006 German companies shipped $1.11 trillion worth of products abroad, versus America's $1.04 trillion and China's $969 billion. (If you add services, the United States remains slightly ahead.)

All this belies the idea that globalization was supposed to make life near impossible for an Old Economy, high-wage country like Germany. The future was to belong to high tech and services, not old-fashioned manufacturing. But this conventional wisdom is being upended by the Germans, who may offer something of a model for other developed economies.

As neighbors watched in some wonder, German companies regained the competitiveness they lost in the early 1990s. Smart deals with unions, for example, helped big exporters such as BMW and Siemens lower wage costs by about 15 percent relative to competitors in other major exporting countries like France. While Germany's labor market remains ossified by overregulation, the legalization of temporary workers in the 1990s also helped companies become more flexible. But that's only the well-known part of the story. Much less familiar are the global trends that German companies have been able to leverage in their favor. First and foremost is the Return of the Old Economy. Contrary to popular belief, it's not IT or made-in-China consumer goods that have driven world economic growth since the turn of the millennium. That's because the 1990s boom in IT — which benefited countries like the United States and Japan—has fizzled as prices for tech hardware have fallen.

Similarly, services have been stagnating at roughly one fifth of world trade for years. Instead, there has been an unprecedented surge of equipment-buying in emerging economies, as countries from China and Russia to the Middle East build factories, upgrade transportation and improve infrastructure — a trend economists expect will last years, if not decades. Developing and transition countries have accounted for more than a third of German export growth since 1995, and in 2006 Germany even managed to run an €11 billion trade surplus with these countries — €21 billion if energy suppliers like Russia and Kazakhstan are factored out.

Even as other Western countries have shrunk their industrial sectors, Germans have been expanding market share vis-à-vis their rivals in these strongly growing areas. That's the main reason Germany's manufacturing-heavy DAX Index soared 22 percent in 2007, 18 points more than the S&P 500 and Britain's FTSE, 21 points more than France's CAC 40, and 33 points more than Japan's Nikkei. Behind the gains were export powerhouses such as carmaker Volkswagen (up 82 percent) and industrial conglomerate Siemens (up 44 percent). "China may be the world's factory' says Hermann Simon, CEO of a German consultancy advising exporters. "But German companies are building it?' And they're finding it quite profitable to do all that building at home.

The second global trend contradicting the familiar public debate over globalization and outsourcing is the way companies increasingly compete on quality, not just on price. "We all expected China to move into certain sectors, forcing Germany to specialize in something else," says Yale trade specialist Peter Schott. Instead, economists have been astonished to see German companies stay put and even thrive, as they compete in the same products as China. The obvious conclusion, says Schott, is that more-expensive German goods have something customers want, such as better quality or services like lifetime maintenance, systems integration and upgrades. That's why Germany dominates the global markets for exotic factory machines from cocoa processors and carton creasers to warp knitters and lipstick fillers (in each of these niches, a single German company controls 70 percent or more of the global market). The new view, says Schott, is that as long as German workers stay up on quality, they can insulate themselves from Chinese competition.

One indication that German companies aren't waiting for China to catch up is that the premium customers are willing to pay for German products has been steadily rising. Germany's export prices to the United States, the world's largest importer, have risen twice as fast as China's since the late 1990s, even as Americans order more German products. In France, Germany's biggest export market, the German premium has risen even faster even as exports have gone up. Schott says that the widening price gap reflects quality upgrading, as German firms specialize in ever-more sophisticated versions of products.

Take Dorma, the world's leading manufacturer of what seems, at first glance, a lowly and exchangeable product: door locks, hinges and glass walls. Yet it's one of Germany's fastest-growing global companies, delivering to construction sites from Shanghai to Dubai.

How does Dorma beat out dozens of cheaper rivals? The €700 million-a-year firm is one of Germany's top-50 patent holders and one of the very few firms capable of installing the complex security systems to go with its door hardware for *über*-projects such as the 160-floor Burj Dubai. This isn't just about making the best locks, but about having the top security software, and the best project managers.

Similarly, Würth has turned distributing screws, bolts and construction hardware into a €7 billion-a-year global empire growing at a China-like rate of 12 percent for more than a decade. The product may be low-tech and replicable, says CEO Robert Friedmann, but no competitor can handle 24/7 product queries in 86 countries.

These seemingly old-fashioned yet secretly innovative midsize companies, as well as larger manufacturers like Siemens and Daimler, are at the heart of something like a New Knowledge Economy. Automakers like BMW and car-component specialists like Bosch churn out an estimated two thirds of the global auto industry's innovations, according to data from Oliver Wyman, a consultancy specializing in manufacturing. Germany may not be at the forefront of university-based research, says Jurgen Matthes, an economist at the Institute of the German Economy in Cologne. "But our machinery and auto industries take the IT others have developed and find innovative ways to embed it in our products?' A recent study by Germany's Fraunhofer Institute shows German manufacturers (which represent 90percent of the nation's R&D spending) are introducing new products at a rate we usually expect from the IT sector.

Machinery makers, for example, make one third of their revenue from products on the market for fewer than three years. "What these companies specialize in might not be high-tech in the conventional sense, but they're among the most complex things you can imagine," says Thomas Kautzsch, machine-industry consultant at Oliver Wyman in Munich. As a result, says Kautzsch, there are dozens of niche sectors where German companies have innovated their competitors right out of the market. Case in point: Herrenknecht, a one-man engineering business in the 1960s, now practically owns the global market for the complex heavy machinery used to dig tunnels. It's using its digging expertise to expand into geothermal energy — another rapidly expanding sector.

Coupling their wares with high-tech products and services is another clever way many German manufacturers are successfully removing themselves from low-wage competition. Claas delivers the farm-management software to go with its harvesters and offers consulting in biofuels. Schmitz Cargobull, Europe's leading manufacturer of trailers, has added a financing unit, lifetime service contracts and GPS cargo monitoring, all of which are providing an increasing share of revenues. Factory builders like Voith, the world's biggest builder of paper-production plants, or Dürr, which supplies the painting units to many of the world's car plants, also plan construction, train workers, service equipment and supply upgrades — usually with a global service network that minimizes costly shutdowns. The result is also a package no Chinese up start supplier can match without investing billions, Simon says. Economists call it an "entry barrier?' For companies like Voith and Dürr, it secures profits and jobs.

The German boom appears surprisingly resilient. Last week figures for November industrial orders surprised economists expecting a slowdown, showing a year-on-year gain of 13.6 percent. So far, neither the super-strong euro nor the subprime debacle seems to have dented German industrial prowess. Surging exports account for 80 percent of German GDP growth since 2000, helping the country outgrow neighbors such as France (2.5 vs. 1.8 percent in 2007, 2.9 vs. 2.0 in 2006). Now that export successes are feeding into the larger economy via rising employment and wage hikes, economists say rising domestic consumption could help buffer a potential global slowdown in 2008.

Outsourcing to cheaper locations such as Eastern Europe has come to a halt, says Matthes, and some companies are returning production home. Fraunhofer has identified 3,500 firms in the machine and chemical industries that have returned offshored production since 2000, often citing quality problems, logistical costs or disruptive employee-turnover rates in places like China. "We don't outsource, we in-source," explains Bernd Hoffmann, chairman of Schmitz Cargobull.

Neighbors like France are watching closely. In France, President Nicolas Sarkozy is embroiled in a debate over how to gain back the competitiveness the French economy has lost in recent years. “The gap between France and Germany has grown,” says Frédérique Sachwald, an economist at the French Ministry of Research. “French companies have been slower to control costs and innovate?’ Because of past protectionism, she says, they have been less exposed than their German rivals to the competitive pressures of global trade. The competing model for creating growth, a U.S.-style focus on high-tech innovation and entrepreneurial “creative destruction” would require large-scale changes as well. Whether countries like France look for Germany or America as a model, however, the present focus of French government planners — protecting national champions—is exactly the wrong policy, concludes a November report by Bruegel, a Brussels think tank, comparing the French and German export industries.

That’s not to say that Germany’s gungho export model is a cure-all, even at home. While the manufacturing dominance of the German economy is growing, total manufacturing jobs have only lately registered a small uptick. Because of a dramatic weeding out of uncompetitive companies and products, the share of factory labor shrank from 40 percent of the work force in 1990 to 20 percent today. The new mean, lean, tech-heavy factories need not hordes of low-skilled laborers, but highly skilled specialists and engineers who are in short supply, which is already cutting into growth at many exporters.

Government policy could make matters worse. After decades of fruitless debate over migration policy, the country remains all but shut off to skilled immigrants. Lately, Angela Merkel’s leftward-leaping ruling coalition has been discussing plans to crack down on temporary employment, which would strip German companies of some of the flexibility that’s helped them regain competitiveness in recent years.

The biggest danger, of course, is the possibility of continued financial turmoil — or a recession in the United States putting a brake on global growth. Already, inflationary pressures that are part and parcel of this trouble are making German consumers (always hypersensitive to inflation) more tightfisted. But even as they pinch pennies, German companies are struggling to keep up with a surge in orders. There’s no doubt that a sustained downturn in the United States (their No.2 export market) could change that two-track picture, pulling overall German growth down much farther. Yet, as long as China and other key emerging markets can balance things out, Germany’s re-energized Old Economy may stay one of globalization’s biggest winners for a long time to come.

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