



MANUFACTURING POWERS



MANUFACTURING HAS BECOME BOTH BIGGER AND SMALLER.

During the past 10 years the worldwide value of manufactured products has grown, in inflation-adjusted terms, by more than 60 percent, surpassing US \$12 trillion in 2015. • Meanwhile, the *relative* importance of manufacturing is dropping fast, retracing the earlier retreat of agriculture (now just 4 percent of the world's economic product). Based on the United Nations' uniform national statistics, the manufacturing sector's contribution to global economic product declined from 25 percent in 1970 to about 15 percent by 2015. • The decline has registered in the stock market, which values many service companies above the largest manufacturing firms. At the end of 2015, Facebook, that purveyor of updated selfies, had a market capitalization of nearly \$300 billion, about 50 percent more than Toyota, the world's premier maker of passenger cars. And SAP, Europe's largest software provider, was worth about 75 percent more than Airbus, Europe's largest maker of jetliners. • And yet manufacturing is still important for the health of a country's economy, because no other sector can generate nearly as many well-paying jobs. Take Facebook, which at the end of last year had 12,691 employees, versus the 344,109 that Toyota had at the end of its fiscal year, in March 2015. Making things still matters. • The top four economies remain the top four manufacturing powers, accounting for about 55 percent of the world's manufacturing output in 2015. China is at the top of the list, followed by the United States (whose gross national product is still nominally No. 1), Japan, and Germany. But these countries differ markedly in the relative importance of manufacturing to their economies. The sector contributed about 28 percent of China's GDP in 2014, second only to South Korea, with 30 percent. In the same

year, manufacturing's share came to about 23 percent in Germany, 19 percent in Japan, and only 12 percent in the United States total.

If you rank countries by per capita manufacturing value, then Germany, with more than \$9,500 in 2014, came out on top among the big four, followed by Japan with nearly \$7,000, the United States with about \$6,500, and China with only \$2,100. But the global leader here was Switzerland, with more than \$15,000 per capita. Think about not only the sales of high-value products, such as the pharmaceuticals of Novartis and Roche and the watches of the Swatch Group (which includes Longines, Omega, Tissot, and other famous brands) but also machinery (ABB) and agrochemicals (Syngenta).

The share of manufactured goods in a country's total merchandise trade indicates the sector's importance in earning foreign exchange. Here, once again, China was at the top, with 94 percent of its 2014 exports attributable to manufactured items, tied with Bangladesh and Cambodia. Manufacturing accounted for 93 percent of exports in Israel, 90 percent in Japan and Switzerland, 86 percent in South Korea, 83 percent in Germany, and 62 percent in the United States.

The net balance of international trade in manufactured items is also revealing because it indicates two things: the extent to which a nation can satisfy its need for products and the demand for its products abroad. Switzerland again came out on top, with a 2014 per capita surplus of about \$5,200, followed by Germany with \$5,100 and South Korea with nearly \$4,400. The United States, however, had a manufacturing trade *deficit* of about \$1,800 per capita.

The United States enjoyed generations of manufacturing trade surpluses until 1982; China had chronic deficits until 1989. What are the chances of the United States redressing its massive manufactured trade imbalance with China, or of India (with only a tiny surplus in 2014) replicating China's manufacturing success? ■