

Manufacturing employment**Industrial metamorphosis**

Sep 29th 2005

From The Economist print edition

**Factory jobs are becoming scarce. It's nothing to worry about**

FOR the first time since the industrial revolution, fewer than 10% of American workers are now employed in manufacturing. And since perhaps half of the workers in a typical manufacturing firm are involved in service-type jobs, such as design, distribution and financial planning, the true share of workers making things you can drop on your toe may be only 5%. Is this cause for concern?

Our figure of 10% comes from dividing the number of manufacturing jobs—just over 14m, say the latest figures—by an estimated total workforce (including the self-employed, part-timers and the armed forces) of 147m. In 1970, around 25% of American workers were in manufacturing.

The share of manufacturing has also been falling in all other developed economies since 1970. The sharpest decline has been in Britain, where such jobs have dropped from 35% to 14% of the workforce (see chart 1). Indeed, the actual number of manufacturing jobs has fallen by half since 1970. The smallest drop has been in Italy, where manufacturing still accounts for 22% of employment. Germany is the only other big economy where more than one-fifth of workers are still in the business of making things. In Japan, the share has dropped to 18%.

Most people today work in services: in America, as many as 80%. But this trend is hardly new. As early as 1900, America and Britain already had more jobs in services than in industry. Even at its peak, early in the 20th century, employment in manufacturing never exceeded one-third of America's workforce.

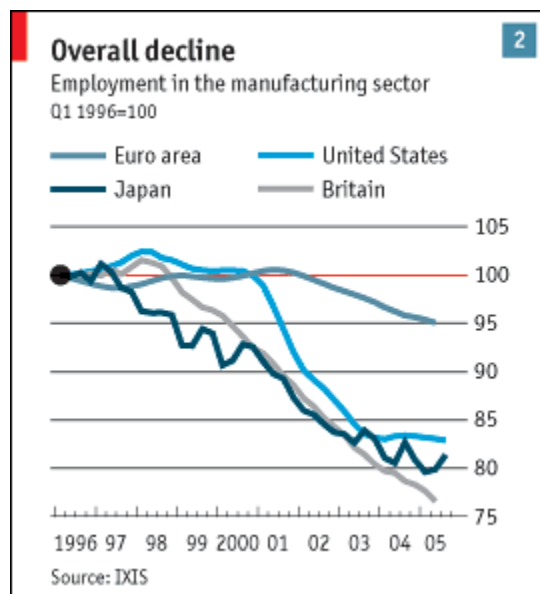
What is new is the recent absolute decline in factory employment. Although manufacturing has long been shrinking as a proportion of America's expanding workforce, the number of industrial jobs stayed more or less the same between 1970 and the late 1990s. Since then, however, manufacturing employment has fallen in every year. Chart 2 shows that since 1996 the number of manufacturing jobs has shrunk by close to one-fifth in America, Britain and Japan. In the euro zone, the average loss has been only 5%.

Similarly, manufacturing output has fallen as a proportion of GDP (measured in current prices), although in most countries manufacturing's share of total production is slightly higher than its share of jobs. For instance, it currently makes up 13% of America's

GDP, down from 26% in 1970. However, a closer look at the figures shows that the slide in manufacturing's share of GDP largely reflects a fall in the prices of goods relative to services. Measured in constant prices, the share of manufacturing in GDP has been broadly unchanged in America, and in developed countries as a whole, since 1980.

For all the bellyaching about the "decline of American manufacturing" and the shifting of production *en masse* to China, real output has been growing at an annual pace of almost 4% since 1991, faster than overall GDP growth. And despite China being widely acclaimed as the new workshop of the world, America remains the world's biggest manufacturer. Japan is in second place, with China a distant third, producing \$700 billion-worth of manufactured goods, a mere half of America's total.

China has around six times as many manufacturing workers as America, but they are much less productive. And even China has not escaped the worldwide decline in manufacturing employment. Between 1995 and 2002 (the latest figures available) the number of such jobs fell by 15m in China, mainly due to the restructuring of inefficient state-owned enterprises. Manufacturing's share of employment has also been falling in Singapore, South Korea and Taiwan since 1990.



Since, contrary to conventional wisdom, manufacturing output has been growing strongly not declining, the fall in employment in America and elsewhere should be seen as a good thing. It does not represent a wholesale shift of production from developed economies to China. Instead, it largely reflects rapid productivity growth. And because unemployment rates in most developed economies have not increased during the past decade, even though manufacturing jobs have been lost, it would appear that most laid-off factory workers have found new jobs.

Deindustrialisation—the shrinkage of industrial jobs—is popularly perceived as a symptom of economic decline. On the contrary, it is a natural stage of economic development. As a country gets richer, it is inevitable that a smaller proportion of workers will be needed in manufacturing. The first reason is that households need only so many cars, fridges or microwaves, so as they become richer they tend to spend a bigger chunk of their income on services, such as holidays, health and education, rather than on goods.

Second, it is much easier to automate manufacturing than services, replacing men by machines. Faster productivity growth than in services means that manufacturing needs fewer workers. In turn, as workers move into more productive areas, this gives a boost to overall productivity and hence living standards.

From this point of view, the fact that manufacturing is still such a high share of jobs and output in Germany and Italy could be a symptom of economic weakness. Not only have both countries tried to protect manufacturing jobs with employment-protection laws, but a tangle of red tape also discourages the creation of new jobs in services. These two countries will therefore be more challenged by growing competition from emerging economies in years to come.

Any analysis of labour-market trends soon gets bogged down in a statistical swamp. For instance, a small part of the fall in manufacturing jobs is a statistical illusion caused by manufacturers contracting out services. If a carmaker stops employing its own office cleaners and instead buys cleaning services from a specialist company, then output and employment in the service sector appear to grow overnight, and those in manufacturing to shrink, even though nothing has changed.

A redundant distinction

More generally, the line between manufacturing and services is blurred. McDonald's counts as a service company, but a visit to any of its restaurants puts one in mind of an industrial assembly line, turning out cooked meat products. Similarly, an increasing slice of value-added in manufacturing consists of service activities, such as design, marketing, finance and after-sales support. Last but not least, Britain's number-crunchers stick *The Economist*, along with the whole publishing and printing industry, in manufacturing, even though almost all our staff are engaged in service-like activities.

The division between manufacturing and services has become redundant. A more sensible split now is between low-skilled and high-skilled jobs. Neither manufacturing nor services is inherently better than the other; they are interdependent. Computers are worthless without software writers; a television has no value without programmes. The issue is not whether people work in factories or not, but whether they are creating wealth. Manufacturing once delivered the highest value-added; high-tech industries, such as drugs and aerospace, still do. But in developed economies today, telecoms, software, banking and so on can create more wealth than making jeans or trainers. Writing a computer program creates more value than producing a computer disc.

Before long no one will much care whether firms are classified under manufacturing or services. Future prosperity will depend not on how economic activity is labelled, but on economies' ability to

innovate and their capacity to adjust.

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