The Economist

Special report:
Outsourcing and offshoring

Reshoring manufacturing
Coming home

A growing number of American companies are moving their manufacturing back to the United States

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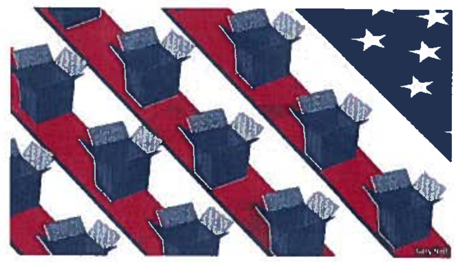

IN 2005, A START-UP company from California called ET Water Systems decided to move its manufacturing operations to China. At the time there was a general exodus to Asia in search of lower costs, recalls Mark Coopersmith, the firm's chief executive. ET Water Systems, which builds sophisticated irrigation devices for businesses, quickly started losing money, not least because it had so much capital tied up in big shipments of goods which took weeks to cross the oceans. Innovation suffered from the distance between manufacturing and design, and quality became a problem too.

When five years later Mr Coopersmith investigated the difference between the total cost of production in China and America, including the cost of shipping, customs duties and other fees, he was amazed to find that California was only about 10% more expensive than China. And that was just on the immediate numbers, without allowing for the intangible benefits of making the devices almost next door. ET Water Systems' new manufacturing partner, General Electronics Assembly, is in San Jose. As it happens, the firm's owner has a Chinese background and a large portion of its employees are of South-East Asian origin.

The number of firms known to have "reshored" manufacturing to America is well under 100. Doubtless many more are doing so quietly. Examples range from the tiny, such as ET Water Systems, to the enormous, such as General Electric, which last year moved manufacturing of washing machines, fridges and heaters back from China to a factory in Kentucky which not long ago had been expected to close. Google has attracted a great deal of attention for deciding to make its Nexus Q, a new media streamer, in San Jose.

The reshoring movement has to be kept in proportion. Most of the multinationals involved are bringing back only some of their production destined for the American market. Much of what they had moved over the past few decades remains overseas. And for many of the biggest firms the amount of work that they are still sending abroad outweighs the amount that they are bringing back onshore. Caterpillar, for example, is opening a new factory in Texas to make excavators, but has also just announced that it will expand its research and development activities in China.

According to a survey conducted by Harvard Business School last year, many firms are still deciding against basing activities in America. Professors Michael Porter and Jan Rivkin asked HBS alumni who were running businesses about their choices of location and found that many of them were deciding to leave because they thought wages abroad were lower than at home. Another important reason, though, was to be near customers in big new markets, which this report does not see as offshoring in the conventional sense. Messrs Porter and Rivkin argue that firms are now ready to reconsider offshoring. They realise that in many cases they overdid it, and are discovering hidden costs in moving production a long way from home. But, the authors argue, America's government is not making the country's business environment attractive enough for companies to want to come back.

Given the political pressure, it is natural for companies to want to publicise anything that looks like reshoring. Lenovo says that its decision to bring back computer-making to North Carolina was a way of looking after the firm's reputation as well as bringing direct business benefits. The Chinese firm's global supply-chain chief, Gerry Smith, says he has received dozens of telephone calls from former university classmates to congratulate him on the move.

But reshoring amounts to much more than public relations. It is being driven by powerful forces and will only get stronger. In a survey of American manufacturing companies by the Boston Consulting Group (BCG) in April 2012, 37% of those with annual sales above $1 billion said they were planning or actively considering shifting production facilities from China to America. Of the very biggest firms, with sales above $10 billion, 48% came out as reshorers. The most common reason given was higher Chinese labour costs. The Massachusetts Institute of Technology looked at 108 American manufacturing firms with multinational operations last summer. It found that 14% of them had firm plans to bring some manufacturing back to America and one-third were actively considering such a move. A study last year by the Hackett Group, a Florida-based firm that advises companies on offshoring and outsourcing, produced similar results. It expects the outflow of manufacturing from high- to low-cost countries to slow over the next two years and the reshoring to double over the previous two years. "The offshoring of manufacturing is now rapidly moving towards equilibrium [zero net offshoring]," says Michel Janssen, the firm's head of research.

The crucial change that has taken place over the past decade or so is that wages in low-cost countries have soared. According to the International Labour Organisation, real wages in Asia between 2000 and 2008 rose by 7.1-7.8% a year. Pay for senior management in several emerging markets, such as China, Turkey and Brazil, now either matches or exceeds pay in America and Europe, according to a recent study by the Hay Group, a consulting firm. Pay in advanced economies, on the other hand, rose by just 0.5% to 0.9% a year between 2000 and 2008, says the McKinsey Global Institute. In manufacturing, the financial crisis actually reduced pay: real wages in American manufacturing have declined by 2.2% since 2005.

By contrast, pay and benefits for the average Chinese factory worker rose by 10% a year between 2000 and 2005 and speeded up to 19% a year between 2005 and 2010, according to BCG. The Chinese government has set a target for annual increases in the minimum wage of 13% until 2015. Strikes are becoming more frequent, and when they happen, says one executive, the government often tells the plant manager to meet workers' demands immediately. Following labour unrest, wages at some factories have gone up steeply. Honda, a Japanese carmaker, gave its Chinese workers a 47% pay rise after strikes in 2010. Foxconn Technology Group, a subsidiary of Hon Hai Precision Industries, a Taiwanese firm that does a lot of manufacturing for Apple and other big technology firms, doubled pay at its factory complex in Shenzhen after a series of suicides. Its labour troubles are still continuing.

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BCG used to argue that companies unwilling to send their manufacturing to lower-cost countries were putting their very future in jeopardy. Now it says that companies will bring manufacturing back to America from China. As soon as 2015, says Hal Sirkin, a consultant at the firm, it will cost about the same to manufacture goods for the American market in certain parts of America as in China in many industries, including computers and electronics, machinery, appliances, electrical equipment and furniture. That calculation takes into account a wide variety of direct costs, including labour, property and transport, as well as indirect ones such as supply-chain risk.

After decades of complaining about American and European workers' high pay, cushy conditions and unreasonable expectations, businesspeople now increasingly moan about Chinese workers. Their aspirations are rising and they are less willing to work long hours in boring factory jobs. A new labour law introduced in 2008 brought in more protection for workers, including the right to a permanent contract after a year of employment, and workers are more aware of their rights. One consultant jokes that it is getting as hard to fire people in China as in France.

"China's labour market is so overstretched that all the high-quality labour has been exhausted, you have to hire people with lesser qualifications, and then quality becomes a problem," says Alain Deurwaerder, who until recently ran a factory in Thailand for Ducati, an Italian motorbike-maker. Another European chief executive complains about the flightiness of his Chinese workforce: "If someone on the other side of the road offers 5% more pay, they go."

Lorne Schaefer, the owner of Jenlo Apparel Manufacturing, a Canadian-owned clothing company, opened a factory in Liuzhou in southern China in 2008 because he could no longer find workers at home; second-generation Chinese and Vietnamese immigrants in Montreal, he says, no longer want to work in the industry. Now he is having similar problems in China. The latest generation of workers, thin on the ground because of the country's one-child policy, are not keen to toil in factories, nor do they want to work for companies that make goods for export, since the quality standards are far higher than for domestic consumption. So even in a labour-intensive industry such as textiles, the cost benefit that China offers is quickly eroding.

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Higher labour costs alone are not enough to prompt companies to leave China. The country has the world's best supply chains of components for industry and its infrastructure works well. Firms have already invested heavily in being there. And companies that initially came for the low labour costs now want to stay because it has become a huge market in its own right. Nonetheless, "the incremental decision to invest in new production capacity in China has become tricky," says Gordon Orr, Asia chairman for McKinsey.

One answer is to invest in other low-cost countries, of which there is no shortage. Myanmar, for instance, is attracting interest now that the West is lifting economic sanctions. But the scale, skill and productivity of the labour force there, and in countries such as Vietnam and Cambodia, nowhere near matches China's, argues Mr Sirkin. And workers in those countries, too, are demanding better pay and rights.

Mexico, which has the huge advantage of bordering the United States, is increasingly attracting production destined for the Americas that would formerly have gone to China. Average pay for Mexican manufacturing workers is now only slightly higher than for Chinese ones, and the time it takes for goods to travel to North America is measured in days not months. Some firms, such as Chrysler, a car company, are even using Mexico as a base to supply the Chinese market. The country has become an important production hub for the aerospace industry. But Mexico's poor infrastructure and highly publicised drugs-related violence may deter some firms.

Even as pay is rising rapidly in China, costs in America are falling. The successful extraction of natural gas from shale has dramatically lowered the price of energy. PricewaterhouseCoopers, an accountancy firm, reckons that these lower American energy prices could result in 1m more manufacturing jobs as firms build new factories. Companies such as Dow Chemical, a speciality chemicals firm, and Vallourec, a French steel-tubes firm, have announced new investments in America to take advantage of low gas prices and to supply extraction equipment.

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Not only have American wages declined or are rising only slightly, BCG points out, but the dollar has been weakening. The workforce is becoming more flexible and productivity continues to rise. High unemployment has brought a willingness to work for lower pay, especially in southern states. These are mostly "right to work" states where individuals are free to decide whether to give financial support to a trade union, so unions are less powerful there. The very threat that jobs will be outsourced will also have played a role in keeping wages down.

Alabama, one such state, received a big boost last year when Airbus, a European aeroplane manufacturer, said it would open a big new factory. Airbus also plans to expand its production in Asia beyond its main factory in Tianjin, China, to be close to fast-growing new markets. Fabrice Brégier, the firm's chief executive, says that for skilled workers, "China is no longer a low-cost country."

Big unions in America have sometimes been willing to let wages fall to keep jobs at home. In 2007 the United Auto Workers union (UAW) accepted a two-tier wage structure under which some new blue-collar workers are paid only half as much as longer-serving ones. In 2011, after the government had bailed out part of the motor industry, the Big Three carmakers employed more second-tier workers, reducing their overall labour costs. Ford has brought back production from China and Mexico to Ohio and Michigan, thanks to a new agreement with the UAW.

As the example of ET Water Systems showed, transport costs are playing a big part in reshoring. Rising shipping, rail and road costs are most damaging for companies that make goods with relatively low "value-density", such as consumer goods, appliances and furniture, according to a recent McKinsey report on global manufacturing. That makes reshoring or nearshoring more attractive. Emerson, an electrical-equipment maker, has moved factories from Asia to Mexico and North America to be closer to its customers. IKEA, a Swedish firm that makes products for the home, has opened its first factory in North America as a way to cut delivery costs, and Desa, a power-tools firm, has returned production from China to America because savings on transport and raw materials offset the higher labour costs.

In the longer term reshoring will be boosted by the use of advanced manufacturing techniques that promise to alter the economics of production, making it a far less labour-intensive process. 3-D printing, a process in which individual machines build products by depositing layer upon layer of material, is already being used in research departments and factories. Disney is developing 3-D printed lighting for interactive toys, and says that in future the interactive devices inside such toys may be printed rather than assembled by hand. Additive manufacturing machines can be left alone to print day and night. For now they are used mainly for prototyping and for complex parts, but in future they will increasingly make final products too.

Robots are already making a difference to the share of labour in total costs. Cheaper, more user-friendly and more dextrous robots are currently spreading into factories around the world, and they cost just the same in America as they do in China. Relative to the cost of labour, average robot prices since 1990 have fallen by 40-50% in many advanced economies, according to McKinsey. Baxter, a new generation of robot made by Rethink Robotics, an American firm, costs $22,000 apiece and is so safe and simple that it can be taught by an unskilled worker and operate right next to real people.

Baxter and his ilk may mean there will be fewer manufacturing jobs overall, but those that remain can stay close to a firm's domestic headquarters. And even if the manufacturing activity itself does not employ many people, the supply chains that spring up around it will create new work.

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