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OUTSOURCING AND OFFSHORING

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Here, there and everywhere



Here, there and everywhere

After decades of sending work across the world, companies are rethinking their offshoring strategies, says Tamzin Booth

EARLY NEXT MONTH local dignitaries will gather for a ribbon-cutting ceremony at a facility in Whitsett, North Carolina. A new production line will start to roll and the seemingly impossible will happen: America will start making personal computers again. Mass-market computer production had been withering away for the past 30 years, and the vast majority of laptops have always been made in Asia. Dell shut two big American factories in 2008 and 2010 in a big shift to China, and HP now makes only a small number of business desktops at home.

The new manufacturing facility is being built not by an American company but by Lenovo, a highly successful Chinese technology group.

Founded in 1984 by 11 engineers from the Chinese Academy of Sciences, it bought IBM's ThinkPad personal-computer business in 2005 and is now by some measures the world's biggest PC-maker, just ahead of HP, and the fastest-growing.

Lenovo's move marks the latest twist in a globalisation story that has been running since the 1980s. The original idea behind offshoring was that Western firms with high labour costs could make huge savings by sending work to countries where wages were much lower (see box overleaf). Offshoring means moving work and jobs outside the country where a company is based. It can also involve outsourcing, which means sending work to outside contractors. These can be either in the home country or abroad, but in offshoring

they are based overseas. For several decades that strategy worked, often brilliantly. But now companies are rethinking their global footprints.

The first and most important reason is that the global labour "arbitrage" that sent companies rushing overseas is running out. Wages in China and India have been going up by 10-20% a year for the past decade, whereas manufacturing pay in America and Europe has barely budged. Other countries, including Vietnam, Indonesia and the Philippines, still offer low wages, but not China's scale, efficiency and supply chains. There are still big gaps between wages in different parts of the world, but other factors such as transport costs increasingly offset them. Lenovo's labour costs in North Carolina will still be higher than in its factories in China and Mexico, but the gap has narrowed substantially, so it is no longer a clinching reason for manufacturing in emerging markets. With more automation, says David Schmoock, Lenovo's president for North America, labour's share of total costs is shrinking anyway.

Second, many American firms now realise that they went too far in sending work abroad and need to bring some of it home again, a process inelegantly termed "reshoring". Well-known companies such as Google, General Electric, Caterpillar and Ford Motor Company are bringing some of their production back to America or adding new capacity there. ▶▶

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A list of sources is at Economist.com/specialreports

An audio interview with the author is at Economist.com/audiovideo/specialreports



► In December Apple said it would start making a line of its Mac computers in America later this year.

Choosing the right location for producing a good or a service is an inexact science, and many companies got it wrong. Michael Porter, Harvard Business School's guru on competitive strategy, says that just as companies pursued many unpromising mergers and acquisitions until painful experience brought greater discipline to the field, a lot of chief executives offshored too quickly and too much. In Europe there was never as much enthusiasm for offshoring as in America in the first place, and the small number of companies that did it are in no rush to return.

Firms are now discovering all the disadvantages of distance. The cost of shipping heavy goods halfway around the world by sea has been rising sharply, and goods spend weeks in transit. They have also found that manufacturing somewhere cheap and far away but keeping research and development at home can have a negative effect on innovation. One answer to this would be to move the R&D too, but that has other drawbacks: the threat of losing valuable intellectual property in far-off places looms ever larger. And a succession of wars and natural disasters in the past decade has highlighted the risk that supply chains a long way from home may become disrupted.

Third, firms are rapidly moving away from the model of manufacturing everything in one low-cost place to supply the rest of the world. China is no longer seen as a cheap manufacturing base but as a huge new market. Increasingly, the main reason for multinationals to move production is to be close to customers in big new markets. This is not offshoring in the sense the word has been used for the past three decades; instead, it is being "on-shore" in new places. Peter Löscher, the chief executive of Siemens, a German engineering firm, recently commented that the notion of offshoring is in any case an odd one for a truly international company. The "home shore" for Siemens, he said, is now as much China and India as it is Germany or America.

Companies now want to be in, or close to, each of their big-

gest markets, making customised products and responding quickly to changing local demand. Pierre Beaudoin, chief executive of Bombardier, a Canadian maker of aeroplanes and trains, says the firm used to focus on cost savings made by sending jobs abroad; now Bombardier is in China for the sake of China.

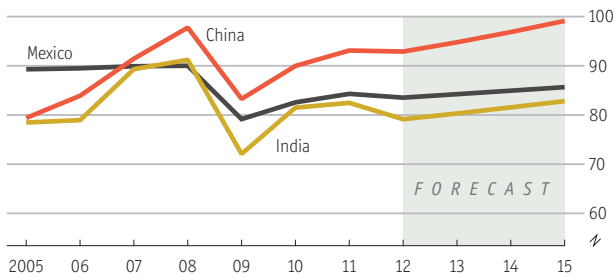
Lenovo, as a Chinese company, has its own factories in China. The reason it is moving some production to America is that it will be able to customise its computers for American customers and respond quickly to them. If it made them in China they would spend six weeks on a ship, says Mr Schmoock.

Under this logic, America and Europe, with their big domestic markets, should be able to attract plenty of new investment as companies look for a bigger local presence in places around the world. It is not just Western firms bringing some of their production home; there is also a wave of emerging-market champions such as Lenovo, or the Tata Group, which is making Range Rover cars near Liverpool, that are coming to invest in brands, capacity and workers in the West.

Such changes are happening not only in manufacturing but increasingly in services too. Companies may either outsource or ►►

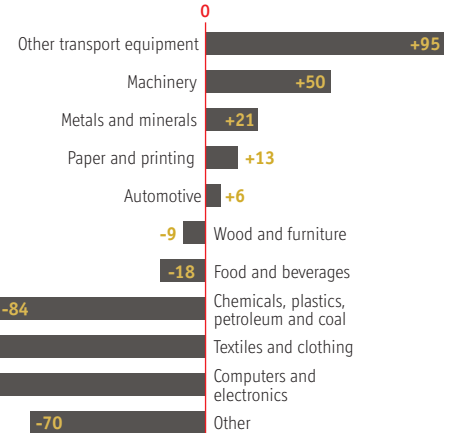
Manufacturing outsourcing cost index

% of US cost



Change in US jobs because of outsourcing

2000-10, '000



Companies' intentions to change manufacturing source, worldwide, % of capacity



Sources: AlixPartners; McKinsey; Hackett



▶ and back-office work to other companies, which could be in the same country or abroad, or offshore it to their own centres overseas. Software programming, call centres and data-centre management were the first tasks to move, followed by more complex ones such as medical diagnoses and analytics for investment banks.

As in manufacturing, the labour-cost arbitrage in services is rapidly eroding, leaving firms with all the drawbacks of distance and ever fewer cost savings to make up for them. There has been widespread disappointment with outsourcing information technology and the routine back-office tasks that used to be done in-house. Some activities that used to be considered peripheral to a company's profits, such as data management, are now seen as essential, so they are less likely to be entrusted to a third-party supplier thousands of miles away.

Coming full circle

Even General Electric is reversing its course in some important areas of its business. In the 1990s it had pioneered the offshoring of services, setting up one of the very first "captive", or fully owned, offshore service centres in Gurgaon in 1997. Up until last year around half of GE's information-technology work was being done outside the company, mostly in India, but the company found that it was losing too much technical expertise and that its IT department was not responding quickly enough to changing technology needs. It is now adding hundreds of IT engineers at a new centre in Van Buren Township in Michigan.

This special report will examine the changing economics of offshoring in the corporate world. It will show that offshoring in its traditional sense, in search of cheaper labour anywhere on the globe, is maturing, tailing off and to some extent being reversed. Multinationals will certainly not become any less global as a result, but they will distribute their activities more evenly and selectively around the world, taking heed of a far broader range of variables than labour costs alone.

That offers a huge opportunity for rich countries and their workers to win back some of the industries and activities they

The story so far

Offshoring has brought huge economic benefits, but at a heavy political price

ONCE UPON A time the rich world's manufacturing firms largely produced in the rich world for the rich world, and most services were produced close to where they were consumed. Then Western firms started sending manufacturing work abroad on a large scale. By the 1980s this was well established. The movement was overwhelmingly in one direction: away from rich countries to places where workers with adequate skills were much cheaper.

Whether openly stated or not, lower labour costs were almost always the chief rationale. For many firms their very survival was at stake, since new competitors were undercutting them on price. This often involved shutting capacity in America and Europe as new factories were opened in China, Mexico, Taiwan, Thailand, eastern Europe or wherever offered the lowest costs.

The footloose, opportunistic philosophy of the time was best expressed by Jack Welch, then chief executive of General Electric, an American conglomerate. He said the ideal strategy for a global company would be to put every factory it owned on a barge and float it around the world, taking advantage of short-term changes in economies and exchange rates.

The economic benefits of offshoring have been immense. For workers in low-cost countries it has meant jobs and rapidly rising standards of living. Rich-world workers have been able to leave the drudge work to someone else. For companies lower labour costs have brought higher profits. Western consumers have enjoyed access to more goods at far lower prices than if production had stayed at home.

But offshoring from West to East has also contributed to job losses in rich countries, especially for the less skilled, yet increasingly for the middle classes too. It has become the aspect of globalisation that workers in the developed world dislike and fear the most. Around a decade ago firms realised they could use the internet to

offshore information technology and back-office work to places such as India and the Philippines. India's outsourcing industry took wing and is still growing.

How many jobs in manufacturing and services have left rich countries is the subject of debate, since definitions are slippery and companies do not give out numbers. If a factory shuts and another one opens halfway round the world the effect is clear, but if a French firm, say, keeps all its workers at home and adds capacity in Morocco to sell into France, have jobs been offshored? Estimates of the overall numbers can vary by tens of millions, but Alan Blinder, an economics professor at Princeton University, wrote in 2006 that sending service jobs abroad could cause some 40m American jobs to disappear to India and other emerging countries.

Such dramatic forecasts caused widespread alarm. In a survey by NBC News and the *Wall Street Journal* in 2010, 86% of Americans polled said that offshoring of jobs by local firms to low-wage locations was a leading cause of their country's economic problems. France's new Socialist government has appointed a minister, Arnaud Montebourg, to resist "delocalisation". Germany's chancellor, Angela Merkel, worries publicly about whether the country will still make cars in 20 years' time.

High levels of unemployment in Western countries after the 2007-08 financial crisis have made the public in many countries so hostile towards offshoring that many companies are now reluctant to engage in it. Public concern over the issue has also encouraged politicians to bash companies that send their work abroad, compounding the effect. Barack Obama's presidential campaign last year repeatedly claimed that his rival, Mitt Romney, had sent thousands of jobs overseas when he was working in private equity. Mr Romney, in turn, attacked Chrysler, a car firm, for planning to make Jeeps in China.

have lost over the past few decades. Paradoxically, the narrowing wage gap increases the pressure on politicians. With labour-cost differentials narrowing rapidly, it is no longer possible to point at dollar-bottom wages in emerging markets as the reason why the rich world is losing out. Developed countries will have to compete hard on factors beyond labour costs. The most important of these are world-class skills and training, along with flexibility and motivation of workers, extensive clusters of suppliers and sensible regulation. ■

Reshoring manufacturing

Coming home

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

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.

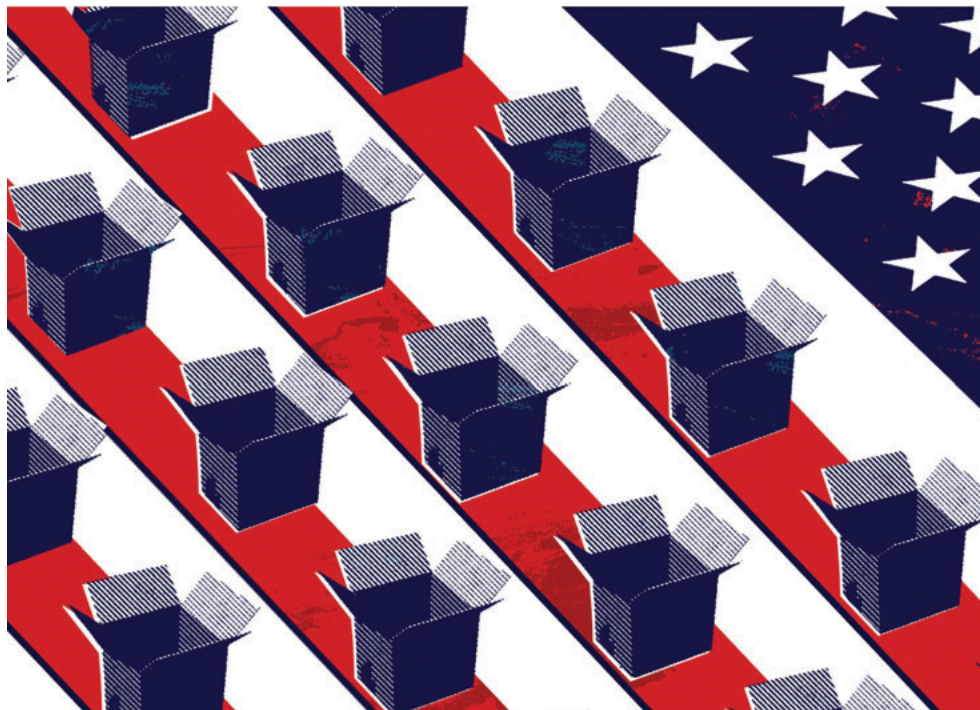
The reshoring movement has to be kept in proportion. Most of the multinationals involved are bringing back only some of their production destined for the American market. Much of what they had moved over the past few decades remains overseas. And for many of the biggest firms the amount of work that they are still sending abroad outweighs the amount that they are bringing back on-shore. 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 reshorners. 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 be-

coming 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 car-maker, 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.

Higher labour costs alone are not enough to prompt com- ▶▶

Staying put

European jobs are not coming back because few of them went in the first place

RESHORING IS LARGELY an American phenomenon. Although the migration of jobs to Asia has caused plenty of angst in parts of Europe too, the continent has little hope of wooing back many of the jobs it has lost. There are some signs that in Britain firms are starting to look for local suppliers in order to simplify their supply chains. But China's importance as a low-cost supplier to continental Europe will continue to rise, for several reasons.

First, Europe's labour markets are still fairly inflexible and costly, so even if conditions in China and elsewhere are becoming less favourable there is still a substantial labour arbitrage to be had. Second, European firms had been offshoring less in the first place. Cultural factors are partly responsible; Germany's *Mittelstand* of mid-sized family firms, for instance, sell their products globally but are more inclined to make things in their own backyard, says Hans Leentjes, head for northern Europe of Manpower, an employment agency. Europe has a high

concentration of family companies, and families tend to be more loyal to their countries of origin.

Companies in northern Europe are the most inclined to offshore, whereas French, Spanish and Italian firms have been held back by political and social pressures. Restrictive rules on firing employees mean that it is difficult and expensive to shut down capacity at home. So for the time being European firms, if anything, want to offshore more. Indian outsourcing firms hope that Europe will provide them with their next decade of growth.

Many European firms have exported jobs to countries in eastern Europe. German firms have sent work to a place even closer to home: former East Germany, where pay is still lower than in the country's west. France Inc often looks towards Morocco and Romania. This "near-shoring" avoids some of the transport cost and cultural difficulties of sending production to places a long way from home, as many Anglo-Saxon companies have done.

► panies 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.

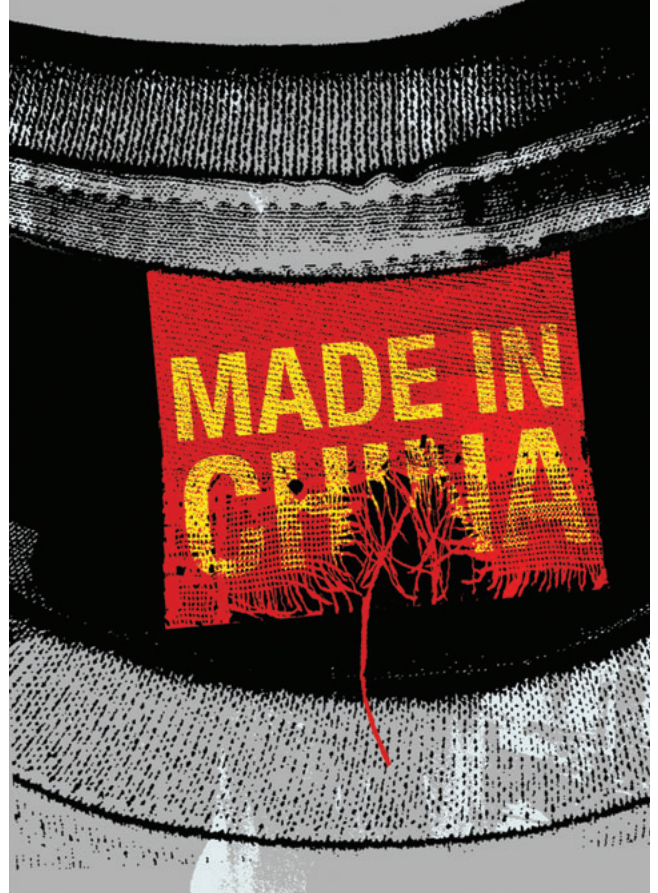
...and the pullu

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. ■

Home or abroad?

Herd instinct

Companies need to think more carefully about how they offshore and outsource

WHAT AND HOW much of its production to offshore to other countries is one of the most important choices a company can make. France's two big carmakers illustrate the point. PSA Peugeot Citroën, the younger of the two, has tried over time to find cheaper places than around Paris to make its cars; in the 1950s and 60s Citroën opened a factory in Brittany and started manufacturing in Spain and Portugal, the China and Vietnam of their time for offshoring. Nowadays it makes cars cheaply in Slovakia and in the Czech Republic. But two-fifths of its global production is still in France, where it has seven expensive factories. One reason is that the company is family-owned, and families tend to be particularly loyal to their countries of origin.

Renault, on the other hand, has determinedly pursued a low-cost strategy, setting up factories in Morocco, Slovenia, Turkey and Romania, and now makes only a quarter of its cars at home. Unsurprisingly, it is Peugeot that is now in dire financial straits. Last autumn, amidst a fierce political storm, the company announced plans to stop car production at one of its biggest French factories, at Aulnay-sous-Bois, just outside Paris. But that may be too little, too late.

Yet there are also examples of highly successful companies that choose not to offshore to any great extent, even in labour-intensive industries. Zara, the main clothing brand of Inditex, a Spanish textile firm, is famous for making its high-fashion clothes in Spain itself and in nearby Portugal and Morocco. This costs more than it would in China, but a short, flexible supply chain allows the firm to respond quickly to changes in customer tastes. It sells the vast majority of its outfits at full price rather than at a discount. Its decision to stay close to home has become its main source of competitive advantage.

The practice of outsourcing is as old as business itself. A 19th-century manufacturing company might have had its own machines but not its own fleet of horse-drawn drays to distribute its wares. The fashion for what to subcontract and what to keep inside the firm has ebbed back and forth over time. At one time

the conglomerate, owning everything it could, was all the rage, but for the past few decades firms have been outsourcing ever more of their operations, in the belief that as long as they kept the "core" of their business in-house, the rest could safely be sent anywhere in the world.

That belief has not always turned out to be justified. After Boeing, an aeroplane-maker, outsourced 70% of the development and production work on its new 787 Dreamliner to around 50 suppliers, it suffered huge delays because its outsourcing partners failed to produce parts on time. In 2005 Deloitte Consulting looked at 25 big companies that had outsourced operations and found that a quarter of them soon brought them back "in-house" because they could do the work themselves better and cheaper.

But most companies outsource to save money, so doing more of it has increasingly meant sending work to cheaper countries. In 2003, according to TPI, a company that advises on outsourcing, about 40% of all outsourcing contracts entered into by American and European firms involved offshore workers; that figure has since risen to 67%. In turn, compa-



Moving production a long way off and separating it from research and development risks harming a firm's long-term ability to innovate

nies that decide to offshore production often have little choice but to outsource as well. Local firms are often in a better position to operate in a particular environment, and they may control supply chains. Most of America's and Europe's textile industry, for instance, subcontracts work to outside firms in China, Vietnam and Bangladesh. Production of consumer electronics is largely outsourced to huge contract manufacturers such as Taiwan's Foxconn and Quanta. This report concentrates on work that is done overseas, either inside the firm but in an offshore location or outsourced to foreign contractors, because this part of corporate globalisation has caused the most controversy.

Most firms do not give enough thought to choosing where to produce. To an alarming degree, says McKinsey, "companies continue to indulge in herd behaviour" when deciding where to base their operations and how to arrange their supply chains. Many of them, says the consulting firm, simply follow each other around to low-cost countries or allow themselves to be drawn in by governments waving wads of cash and other incentives.

David Arkless, head of government and corporate affairs for Manpower, which advises large companies on their locations, recalls the story of two rival technology firms from Idaho some years ago. One of them moved its production to the state of Penang in Malaysia. The other, having seen its foe reduce its labour costs by half and slash prices by 15%, pursued it to exactly the same place, he says. The pair quickly started competing for labour with each other and local wages soared. Mr Arkless has seen whole clusters of industries move to Shenzhen in tandem. "Within a year or so the labour costs go up to near the level of the original place," he says. Manpower advises Western firms that if labour makes up 15% or less of their product's total cost, they would do better not to offshore. And even if the share is higher, there is usually scope for improvement at home. "Going somewhere else for the sake of cheaper labour is usually a quick fix and avoids the real problems," says Mr Arkless.

Companies rarely analyse past location decisions to see ▶▶

It still makes sense

Share of American and European companies' outsourcing contracts* with an offshore element, %



*Advised on by Information Services Group (ISG), an outsourcing consultancy, which covers about half the total

Source: ISG

†Year to date

Decisions, decisions

Reshoring, selection of companies

2

Company	What and where	Why
Chesapeake Bay Candle	Production was shifted from China to Maryland in 2011. The company will export to China from there	Rising labour costs in China; wanting to respond more quickly to customers
Ford Motor Company	Production of medium-duty trucks is moving from Mexico to Ohio, saving 2,000 jobs. Adding extra capacity to a Michigan plant will save another 1,200	Thanks to an agreement with the trade union, the firm can now hire new workers at \$14 an hour
Otis Elevator	A factory is being moved from Mexico to South Carolina	To keep R&D closer to manufacturing and reduce logistics costs
General Electric	Production of large household appliances (eg, water heaters, fridges) is being shifted from China and Mexico to Kentucky	Having manufacturing, design and development close together; being more responsive to customers
Sleek Audio	Production of high-end earphones has moved from Dongguan in China back to Florida	Quality problems in China

Sources: Boston Consulting Group; PricewaterhouseCoopers; press reports; *The Economist*

► whether they have proved right, note Michael Porter and Jan Rivkin of Harvard Business School in a paper, “Choosing the United States”, published last year. One reason why companies rush into offshoring may be that they are looking for a quick solution to existing troubles. According to “The Handbook of Global Outsourcing and Offshoring”, by Leslie Willcocks, Julia Kotlarsky and Ilan Oshri, companies are most likely to consider offshoring their operations when their profits are already falling.

Two sets of strategic problems can arise from offshoring production to another part of the world, especially if it is poorly thought out. The first of these concerns the logistics of supply. The more that firms spread their operations around the globe, the more vulnerable they become to disruption from unexpected events such as natural disasters or political unrest. The second strikes at the heart of what companies try to do: sell more and better widgets to customers than their rivals down the road. Often, the more a firm offshores and outsources, the worse it will be at responding to customers quickly.

Ideas factory

Over the past few decades it became conventional wisdom that factory jobs could be done cheaply in some far-flung corner of the world but more important innovation work should stay in-house in high-cost countries. Manufacturing was seen as just a cost centre, so it was often offshored. Now many companies reckon that production makes a big contribution to the success of research and development, and that innovation is more likely to happen when R&D and manufacturing are in the same place, so increasingly they want to bring manufacturing back in-house.

Foreign suppliers of parts not infrequently turn into competitors, and for many companies the risk of losing intellectual property either through theft or imitation in China and elsewhere remains high. Indeed, says Richard Dobbs of the McKinsey Global Institute in Seoul, big South Korean groups reckon that American and European companies are making a mistake in outsourcing as much manufacturing as they do, because this allows other firms a great deal of insight into their processes. They should know: Samsung, an electronics giant, was once an outsourcing partner for several Japanese firms but now dwarfs its former customers. South Korean firms offshore production to

their own factories overseas, but they seldom outsource.

Many companies are now rethinking the outsourcing of ever more important functions. Lenovo wants to own more of its capacity in China and elsewhere; it gets better results from its own facilities than from its outside contractors, says Gerry Smith, the firm’s global head of supply chain. That often means taking the work back home.

The most prominent current example of the opportunities and risks of offshoring is the relationship between Apple and Foxconn. From a strategic point of view the partnership could not be more successful. In 2010 Foxconn took a huge chance by investing billions of dollars in building enough capacity in China to manufacture Apple’s iPhone on the scale required. It built a uniquely flexible and responsive supply chain for the American firm. On one recent occasion, according to a report in the *New York Times*, Apple redesigned the iPhone’s screen at the last minute and Foxconn woke up its workers in the middle of the night to get the job done in time. “The reason Apple is what it is today is Foxconn,” says a consultant in Taipei who prefers not to be named. The two companies, he says, are inextricably bound to each other.

But Apple may be wishing it was not quite so dependent on Foxconn. After a spate of reports of poor working conditions for the firm’s employees (including excessive hours), Apple’s chief executive, Tim Cook, ordered an investigation, and Foxconn is making a number of changes. Even so, the bad news has not stopped. In September Foxconn had to close a factory for a while when a brawl among employees turned into a full-scale riot. In October the firm admitted that it had employed “interns” as young as 14 in its factories. In December Mr Cook announced that Apple would bring some production of Mac computers back from China to America. He said the main aim was to create jobs in America, but the move may also appease critics of Apple’s partnership with Foxconn. The Taiwanese firm said that it, too, would expand its operations in America, explaining that important customers wanted more work done there. ■

India’s outsourcing business**On the turn****India is no longer the automatic choice for IT services and back-office work**

IF TATA CONSULTANCY SERVICES (TCS), an Indian outsourcing firm, wanted to impress its customers with its dedication, it could do no better than take them to its engineering-services division in Bangalore’s Electronics City. In one room sit rows of young men working on computer simulations of crashing and accelerating cars. Next door is a laboratory full of engines and parts from TCS’s client, a big Detroit carmaker. It is festooned with garlands of bright orange marigolds to celebrate Dussehra, a Hindu festival. Next to one car engine is a shrine to Durga, a many-armed goddess. Celebrating everyday tools is part of the festival. “We worship the car engines,” explains one of TCS’s engineers. He sends photographs of the ceremony back to Detroit each year. The American car bosses, he says, are a little surprised but delighted to see their engines being prayed to.

However, they like to keep quiet about the work that gets done in India. TCS is not allowed to name its customer (clue: Bruce Springsteen, Prince and Don McLean have all written ►►



► songs about its cars). Ten years ago TCS, part of the Tata Group, which includes Tata Motors and Tata Steel, did only very basic work for the car firm. Now it tests thousands of engine components, using computer models, and suggests improvements for their design.

For the offshoring of manufacturing China is by far the most important destination, but in services most of the work has gone to India. Of the ten leading cities for offshoring, according to “The Handbook of Global Outsourcing and Offshoring”, six are Indian. In 2008 India claimed 65% of all offshored IT work and 43% of offshored business-process work. Brazil, Russia and China are also important, and by 2011 as many as 125 offshore locations were offering IT and BPO services, but no other offshoring destination has come close to India, with its huge supply of IT and engineering graduates and its English-language skills.

Indian ingenuity

The painstaking work of Indian programmers has gone into innumerable Western products, from cars to Disney cartoons to Microsoft’s Windows range of software. In 2004 Indian engineers in Mumbai created a virtual Oscar figure for that year’s Academy Awards which melted away like the liquid metal machine in “Terminator 2: Judgment Day”. Nielsen, a ratings firm on which America’s media industry depends, in turn relies heavily on TCS for its data.

The killer application for the Indian “bodyshops”, as they were originally known, was providing labour to perform simple IT tasks at a very low cost. One of their first tasks was to check that the so-called millennium bug would not cause chaos in millions of computer systems at the end of 1999. Indian firms also saw rapid growth in business-process outsourcing (BPO), defined as the export of routine work such as customer care or insurance-claims processing, though IT services still have much the biggest share. Now, as demonstrated by TCS and the car giant, India’s outsourcing vendors are taking on far more difficult tasks for multinationals in many fields, such as testing new products, design and complex analysis.

The panic about Western jobs arose because whereas the traditional Western outsourcing providers, such as HP or Logica, used to employ mainly locals, the young Indian companies took the work offshore. The big Western firms themselves then rushed to hire in India; IBM is now India’s second-largest private-sector employer, just after TCS. Companies can choose to off-

shore IT and back-office services either directly to a firm headquartered in India or “under the covers” via a Western firm with a big offshore presence, explains one consultant.

Hackett, a Florida-based firm that advises companies on outsourcing, estimates that over the period from 2002 to 2016 offshoring is likely to claim a total of 2.1m business-services jobs (including IT, human resources, procurement and finance) at big American and European companies. Still more jobs will have been lost in business processes, including call centres and claims processing. Hackett says that about 150,000 business-services jobs a year are still being shifted from Europe and America; the offshoring of services remains in full swing. But the firm also predicts that the migration of services to India and to other offshore locations such as China and Brazil will slow down after 2014 and stop entirely by 2022.

The main reason for this startling prediction is that most of the easily offshorable jobs have already gone. Pralay Das, an equity analyst with Elara Capital in Mumbai, estimates that American and European banks and financial-services firms have already offshored about 80% of what they can reasonably send to India and other offshore locations.

A second reason is that a lot of the jobs that might have been offshored by Western firms in the coming years have already been wiped out by productivity improvements. New jobs in Western economies tend to be of a more demanding, higher-level kind and are less likely to be sent abroad.

All this has sent the Indian IT and BPO industry into a funk. There are fears that it will either stop growing or be forced to accept much lower profit margins as demand for its services falls. It is clear that for Indian IT vendors, demand for traditional outsourcing, meaning routine software and application development and maintenance, is already levelling off, says Pankaj Kapoor, an equity analyst at Standard Chartered Bank in Mumbai. The work used to roll in at you, explains an executive at one large Indian vendor; now you have to go out and search for it.

It is not only that the offshoring of jobs is reaching saturation point, but also that Western companies, after a decade of experience, are changing their attitude to the practice. KPMG, a global consulting firm, even announced “The Death of Outsourcing” in a research paper last year. After all, offshoring important tasks to an outside provider is quite a risky thing to do and carries significant hidden costs. Companies in services as well as manufacturing are now far more aware of the pitfalls. ►►

▶ Until recently the most important reason for companies to send large chunks of important business functions abroad was to drive down costs. A decade ago wages in emerging markets were a tenth of their level in the rich world, an opportunity too good to miss. During the recession of 2008-09, says Cliff Justice, KPMG's leading expert on outsourcing and offshoring, the race offshore accelerated, and more higher-value and complex work was sent overseas too.

But now many companies are finding that they lost their connection with important business functions, says Mr Justice. At the same time the cost advantage that drew firms offshore in the first place is disappearing. Salaries for software engineers are going up rapidly and inflation is high. For IBM, says Bundeep Rangar, chief executive of IndusView, an advisory firm, the total cost of its employees in India used to be about 80% less than in America; now the gap is 30-40% and narrowing fast.

The industry also continues to have a huge labour turnover (see chart 3), which can mean quality problems. That is chiefly because the vast majority of the work being offshored is repetitive and dull, and often well below the qualification levels of the people doing it. Increasingly, local industries such as retail, insurance and banking are offering more interesting jobs with better career prospects than much of what is on offer in IT and business-process outsourcing.

To be sure, much of the work that has gone to India in recent years is more demanding, but in that part of the market the cost of labour has soared. Good analysts and product developers in India and China are few and far between, so pay for such jobs has been rising by up to 30% a year. According to Mr Justice, pay for workers with such skills in India and China can be even higher than in America or Europe, with all the disadvantages of being several time zones away from head office.

Reasons why not

When outsourcing abroad was still relatively new in the 1990s, the idea was that outside partners would be better than insiders at IT and back-office work because they were specialists. And even if they were no better at it, at least they were a lot cheaper. This line of thinking is known inside the industry as "your mess for less". It has now become clear that outside firms usually cannot do boring back-office work any better and often do it worse. Many offshore outsourcing relationships have proved disappointing and some have ended in lawsuits.

Some chief executives found that outsourcing relationships turned sour after a few years. The boss of one global European engineering firm points out that outsourcing partners are

mainly concerned with their own profits. "They give you a good deal for two to three years and then they suck your blood," he says. A firm that outsources a lot of IT also risks losing its expertise in a key area and can get trapped in legacy systems, he adds.

Some American firms that have outsourced a lot to India and elsewhere are building "shadow capability" in services in their home countries, says KPMG's Mr Justice. Using unofficial budgets, he says, some chief information officers are hiring people back home to do the same kind of work that their offshore teams do, just to have them next door. Only a small number of firms have gone to such extremes, yet the fact that it happens at all indicates the value that firms place on proximity, says Mr Justice. And some of the biggest original pioneers of outsourcing, including General Electric and General Motors, have already taken the plunge and brought their IT work home. ■

Services

The next big thing

Developed countries are beginning to take back service-industry jobs too

HARLEY DAVIDSON, A motorcycle-maker, had a difficult time after the financial crisis and nearly took the road out of Milwaukee, Wisconsin, its home town since 1901, to go in search of cheaper labour. It stayed in the end, but had to prune other costs. Last summer it announced it would outsource 70 information-technology and other back-office jobs to India's Infosys. "Just more and more of our great motorcycle company being done by other countries," lamented one hog-owner from Pennsylvania in an online forum on hearing the news. In fact, Infosys will be serving Harley and other firms from a new office full of Americans in Milwaukee.

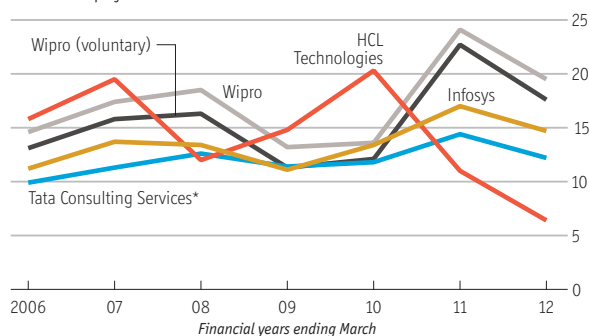
This is the 18th new office Infosys has opened in America in recent years. The company will hire a total of around 2,000 locals in the year to March 2013, up on last year's 1,200. Other big firms are hiring at a similar level. According to NASSCOM, the trade body for India's IT sector, the industry has doubled the number of locals it has hired in America in the past five years. It now employs 280,000 people there and is planning to recruit many more in the next few years.

So far companies are not reshoring services even on the modest scale seen in manufacturing. That is partly because information goes down the wire, so rising transport costs do not play a role. But as the previous section has shown, the offshoring of services is slowing down because most of the work that can be done remotely has already gone, and because firms are becoming more aware of the disadvantages of sending work to the other side of the world. More and more companies want IT and business-process tasks to be done locally, especially when the work is complex and strategic. Indian offshoring firms are responding by hiring in developed markets.

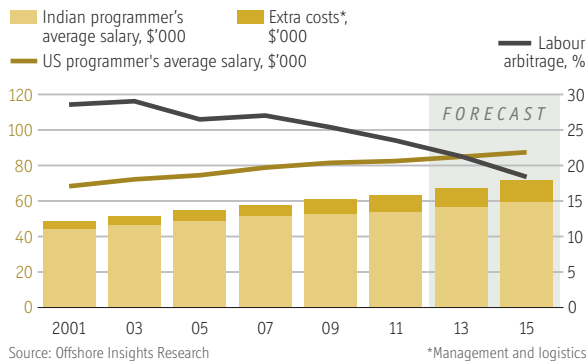
A survey of outsourcing executives by Hf's Research in Boston last summer found that America is seen as the world's most desirable region for expanding IT and business-services centres in the next two years. India now comes second, despite its lower labour costs. Chief information officers once rushed to send their software-development work offshore, said CIO magazine last year, but now they want to keep it nearby. The magazine cited the example of Standard & Poor's, a credit-rating agency, ▶▶

Revolving door

Labour turnover in Indian outsourcing firms
% of total employment in those firms



Fading advantage



- ▶ which used to offshore much of its IT work but now wants to send it no farther away than three hours from Manhattan.

You do not have to go far outside the big cities to find that costs come right down. In a study of job-creation in America McKinsey found that workers for high-level IT support in the cheaper parts of the country cost less than in Brazil or eastern Europe and just 24% more than in India. In a paper, "IT Services: The new Allure of Onshore Locales", McKinsey's consultants show that labour costs in different parts of America can vary by as much as 30%, with similar differentials between, say, the cost of skilled IT workers in Paris and northern France, or eastern and western Germany.

Hiring locals certainly helps to placate public opinion, but

the business argument for it is even more important. Since most routine tasks have already been sent offshore, low-cost vendors are now trying to win higher-value work, such as managing human resources and complex, multi-faceted projects. But to get that kind of business they have to be near their clients. For example, one outsourcing vendor, Cognizant, with a CEO of Indian origin and a big Indian workforce but headquarters in New Jersey, is currently taking market share from rivals such as Infosys. The Indian component of its workforce makes up about 60% of the total, compared with around 80-90% for TCS and others. A typical recent deal, says Malcolm Frank, the firm's head of strategy, was one it did in 2012 with the American arm of ING, a Dutch bank, under which Cognizant will take over business processes for insurance. Instead of sending the work to India, the firm will open new centres in Iowa and North Dakota and take on ING's existing employees. "The client wanted local voices answering the telephones," says Mr Frank, "and the economics of that part of the US means that the numbers work for us."

Some big firms which originally led the way in the offshoring of services are now taking work back in-house and onshore. For most of the past decade, General Electric had been aiming to outsource the vast majority of its global IT jobs, with most of that outsourced work going to India. When Charlene Begley, the firm's chief information-technology officer, recently re-evaluated its global balance of labour, she found that half the IT work was being done by outside providers and the firm was losing some of the skills it needed. With the rise of mobile devices and iPads, GE wanted to be able to develop new applications for customers far more quickly. Now the firm is hiring 1,100 IT engineers for a centre it opened in Michigan in 2009. The company has said that the new American employees will not replace GE's offshore ▶▶

Rise of the software machines

The attractions of employing robots

ELIZA DOOLITTLE ENTERS the stage unkempt and talking in a strong Cockney accent, but by the end of George Bernard Shaw's play "Pygmalion" she speaks in a much more ladylike fashion. Another Eliza was invented by Joseph Weizenbaum, a scientist from the Massachusetts Institute of Technology, in the early 1960s. His computer program was named after Shaw's character because it learned to speak more clearly over time. It played the role of a psychotherapist, sometimes well enough to convince patients that it was human.

Now a third Eliza, named after Mr Weizenbaum's invention, is set to turn the offshoring business upside down. IPsoft is a young company started by Chetan Dube, a former mathematics professor at New York University. He reckons that artificial intelligence can take over most of the routine information-technology and business-process tasks currently performed by workers in offshore locations. "The last decade was about replacing labour with cheaper labour," says Mr Dube.

"The coming decade will be about replacing cheaper labour with autonomics."

IPsoft's Eliza, a "virtual service-desk employee" that learns on the job and can reply to e-mail, answer phone calls and hold conversations, is being tested by several multinationals. At one American media giant she is answering 62,000 calls a month from the firm's information-technology staff. She is able to solve two out of three of the problems without human help. At IPsoft's media-industry customer Eliza has replaced India's Tata Consulting Services.

Mr Dube is sorry to see so much of India's intellectual capital being expended on mundane, repetitive tasks. Much of the work that is offshored is boring, which helps to explain the industry's huge labour turnover (see chart, previous page). A small British start-up, Blue Prism, has developed a software-development toolkit that allows people within a company to create their own software "robots" to automate business processes. "Greetings from Robotistan, outsourcing's cheapest new destination,"

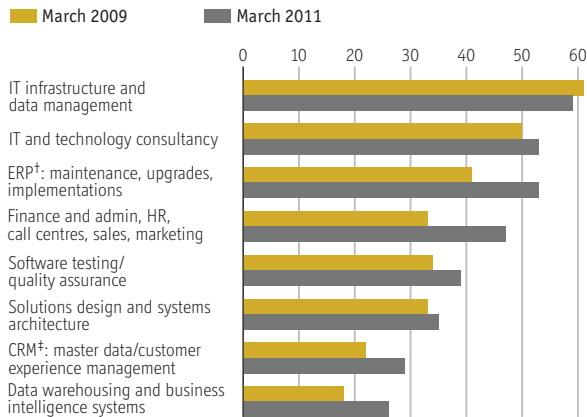
wrote Hfs Research, an outsourcing blog.

The economics of Robotistan are certainly compelling. An onshore information-technology worker may cost \$80,000 a year and an offshore one perhaps \$30,000, wrote James Slaby, Hfs's research director, in a recent report. But Blue Prism's robots cost at most \$15,000 a year. They can perform only routine, rules-driven tasks, but there are plenty of those about. One telecoms company, says Hfs, replaced 45 offshore employees, costing a total of \$1.35m a year, with ten of Blue Prism's software robots, costing \$100,000. The telecoms firm then spent its savings of \$1.25m on hiring 12 new people to do more innovative work locally at its headquarters.

But nationality still plays a part. Because Indians often speak strongly accented English, the country lost a lot of call-centre business to the Philippines. Mr Dube's Eliza will have a slight American twang, modelled on a Filipino call-centre operator.

Keep it going

European companies' outsourcing* by department, %



Source: "The Handbook of Global Outsourcing and Offshoring" by Ilan Oshri, Julia Kotlavy, Leslie Willcocks

*Mostly offshored
 †Enterprise resource planning
 ‡Customer relationship management

▶ workforce, but the move is seen in the industry as an important sign of the times. GE was one of the firms that made it respectable to outsource, so its decision to bring some of the IT work home is expected to prompt other companies to follow.

The most prominent reshorer of services has been General Motors. Like GE, GM has had plenty of experience with outsourcing. Between 1984 and 1996 it owned EDS, a company founded by Ross Perot that pretty much invented the outsourcing industry. In July 2012 GM announced that it was reversing its rule of outsourcing 90% of its IT work to other firms. In a few years' time it hopes to be doing 90% of the work inside the firm. In the process it will be reshoring many of those jobs.

GM's reasons for doing this may well apply to many other firms too. "IT has become more pervasive in our business and we now consider it a big source of competitive advantage," says Randy Mott, GM's chief information officer, who has been responsible for the reversal of the outsourcing strategy. While the work was being done by outsiders, he said, most of the resources that GM was devoting to IT were spent on keeping things going as they were rather than on thinking up new ways of doing them. The company reckons that having its IT work done mostly in-house and nearby will give it more flexibility and speed and encourage more innovation.

Don't call us

Of all the back-office work that has been outsourced, the call-centre business is the one that has made the most abrupt exit from India. With information technology, outsourcing firms such as TCS and Wipro are dealing with global companies, but with call centres they are dealing with customers. "We just can't get the accents right," sighs one Mumbai-based outsourcing executive. They tried hard to get workers in Bombay and Bangalore to enunciate their vowels just so. One recent web sketch showed operators imitating Sean Connery, a Scottish actor, for the Scottish market. But many customers had trouble understanding them and were infuriated.

For India, the call-centre business is "on its deathbed", says Mr Kapoor. The Philippines has won a lot of work, thanks to its cultural affinity with America. And many firms, especially in financial services, have brought call centres back to America, Britain and Europe, often with the twist that to speak to someone in your own country you have to pay extra. ■

What to do now

Shape up

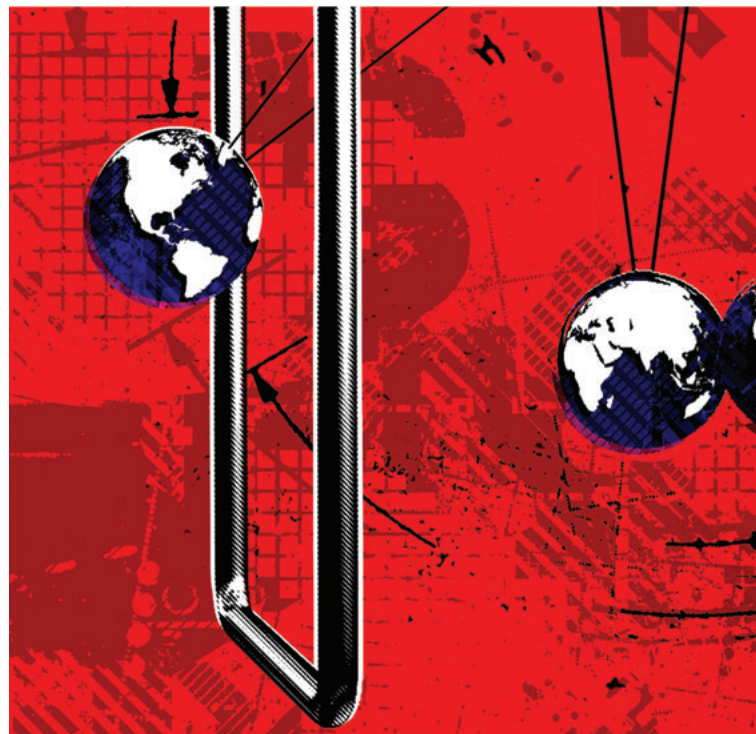
For offshored jobs to return, rich countries must prove that they have what it takes

THE WEST HAS become so obsessed with losing vast numbers of jobs to globalisation that its anxiety is now the butt of jokes. The *Onion*, a satirical website, recently reported that parents are outsourcing child care to India and Sri Lanka, using cardboard boxes to ship their offspring across the oceans.

A country's overall level of employment is determined by macroeconomic forces; trade and offshoring affect the mix of employment and wages. Within particular industries, outsourcing and offshoring have been among globalisation's most disruptive consequences. The threat of losing jobs to developing countries has helped to depress middle-class pay in the rich world. But despite all the scares about job losses in the West, the trend is already slowing and may soon start to tail off. The main fear in recent years has been the migration of white-collar work, which makes up the majority of jobs in rich countries. Yet offshoring has destroyed far fewer service jobs than originally feared, and in manufacturing, where blue-collar jobs in industries such as computers, cars and textiles have been on the wane for decades, reshoring could even bring a revival.

Mr Blinder of Princeton University was among the most prominent economists to give early warning about the impact of sending services abroad. In an article in *Foreign Affairs* in 2006 he said that up to 42m American services jobs could eventually be lost; the shift could add up to a third industrial revolution.

It has now become clear that the worst fears have not been ▶▶



realised. Nobody knows exactly what offshoring has done to American employment since 2006, but estimates by specialist consulting firms such as the Hackett Group, based on confidential data from corporate clients, come up with relatively low figures. According to Hackett, the net number of business-services jobs in big American and European companies lost between 2002 and 2016 is likely to be around 3.7m, and only 2.1m of those will have been due to offshoring. That works out at a loss from that cause of just 150,000 jobs a year.

The firm's current estimate of how much has been lost and what is still to come is much closer to a forecast by Forrester Research back in 2004 that 3.4m American services jobs would move offshore by 2015, or about 300,000 jobs a year. McKinsey has also been far more sanguine than Mr Blinder; it said in 2006 that 11% of service jobs around the world could in theory be carried out "remotely". In practice, it thought, only about 650,000 jobs a year would be affected. So far the optimists have been proved right.

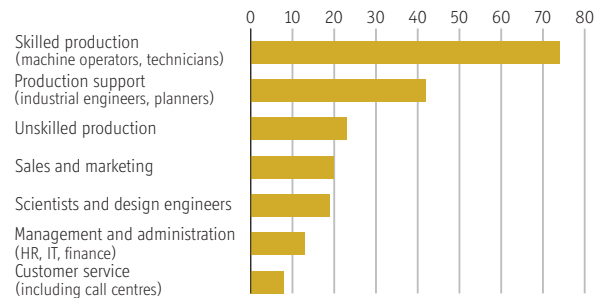
The number one job-killer in America in recent years has been the recession, says Mr Blinder: "Only a trivial percentage of jobs has been claimed by offshoring." He thinks that the move to reshore some manufacturing jobs is important, even though the scale of it is still small, but that a wave of services offshoring could yet hit Western countries. The main reason is advances in information and communications technology that could allow more and more senior and skilled jobs to be sent abroad. But it would take big cost savings to justify having such sophisticated, "high-touch" services done at a distance, and those savings are gradually disappearing, as this report has shown. Pay for highly skilled, English-speaking workers in developing countries who could offer such services is rising rapidly. And companies are becoming increasingly concerned that offshoring services may do longer-term damage.

The best argument for locating activities overseas nowadays is to be close to fast-growing new markets, and it will only

The limits to reshoring

US companies, 2011, % of respondents

In which employee segments have skill shortages hindered your company's ability to expand or improve productivity?



Source: Deloitte, The Manufacturing Institute

become stronger. McKinsey estimates that by 2025 developing economies will account for nearly 70% of demand for manufactured goods. Whereas in the past firms treated such markets as sources of cheap labour, they are now looking for a deep local presence. ABB, for instance, has gone from having what it calls a "cost arbitrage" strategy for countries such as China to taking an "in country for country" approach, meaning that it wants not only manufacturing but also functions such as product management and R&D to be based there.

Strong growth in emerging countries will also prompt their own new multinationals to set themselves up as "local" in the West. The Rhodium Group, a consulting firm, says that Chinese investment in America has already created nearly 30,000 jobs there, and that by the end of the decade Chinese firms will employ up to 400,000 Americans.

Will reshoring and the move of emerging-country multinationals into Western markets generate lots of new jobs in the rich world? The Boston Consulting Group thinks that reshoring alone could generate 2m-3m jobs in manufacturing by 2020, up to 1m of which would come direct from factory work and the rest from support services such as construction, transport and retail.

A trickle, not a flood

But it is important not to overestimate the impact of reshoring on jobs. Manufacturing work will often come back only when it has been partly automated, so the number of jobs returning will be smaller than the number lost in the first place. Most companies that have recently built new facilities or expanded existing ones in America have brought in more automation, says BCG's Mr Sirkin. NatLabs, for instance, a Florida-based manufacturer of dental implants, reshored much of its production from China because it was able to automate a large part of it. The best that can be hoped for, says Michel Janssen of Hackett, is not that millions of high-paying jobs will return and things will be as they were before, but that "the leak of jobs out of America will be largely stopped."

Governments around the world have used generous financial incentives in an effort to attract companies to move to their countries. These range from hard cash and corporate-tax holidays to cheap loans. For instance, back in 2005 Dell was promised incentives worth up to \$280m by the state of North Carolina and the city of Winston-Salem to open a factory there. When Dell pulled out in 2009 it had to pay back much of the \$24m it had already received. In 2007 North Carolina offered Google a \$260m package to expand a server farm near the Blue Ridge



▶ Mountains—which the internet giant eventually declined.

Companies are becoming more sceptical about short-term enticements, and governments would do much better to work on the most useful and durable sort of incentive: the business environment they offer. In recent years policymakers have been able to point to the global labour arbitrage as the obvious and overwhelming reason why firms offshore. When Harvard Business School surveyed companies that were moving activities outside America, it found that lower wage rates were the main attraction for 70% of them. But a third also said that they were moving out to get better access to skilled labour.

As the gap in worldwide wage rates narrows further, it will become more obvious that other factors, such as skills, labour law, clusters of industries, infrastructure, tax and regulation are playing an ever more important role when companies decide where to put their production. Now that many firms are taking another look at their outsourcing and offshoring policies, governments need to give them every reason to come back. “If companies are offshoring because of fixable policy problems at home,” says Mr Porter, “that is unforgivable.”

Can't get the staff

In a recent report on global manufacturing, McKinsey said that in the near future the world is likely to have too few high-skilled workers and not enough jobs for low-skilled workers. Companies' decisions on where to locate will increasingly be driven by where they can find the skilled workers they need. In 2011 a survey of 2,000 American companies found that 43% of manufacturing firms took longer than six months to fill some of their vacancies. The United States has a particular problem because it is producing too few college graduates and too many high-school dropouts. In Japan, four-fifths of companies have problems finding technicians and engineers. As a result, many firms will be unable to reshore because they cannot find workers with the right skills.

Another big problem is labour flexibility, which still varies greatly from coun-



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try to country. In Britain, says Hans Leentjes, president for northern Europe at Manpower, an employee can be fired by following due process and paying a week's severance money for each year worked. In Germany, by contrast, companies have to negotiate a settlement and pay between one and two months' salary for each year worked. The German employee can still go to court and the company may have to reinstate him. “In a global economy where firms can go where they want, these differences have an effect,” says Mr Leentjes.

There are signs that labour in rich countries is becoming more flexible at the same time as workers in Asia are slowly acquiring more rights. Multinationals now recognise America's low-cost, flexible workforce as an important attraction. Spurred by the euro crisis, Spain and Italy have both introduced big labour-market reforms. Another sign of the times is that Western carworkers are willing to work night shifts again. In August last year Jaguar Land Rover, owned by Tata, announced the return of

night shifts at its factory near Liverpool, and the Big Three American carmakers are increasingly working around the clock. At the same time carworkers in South Korea, once the sort of hard-working, poorly paid competition feared in the West, succeeded in abolishing night shifts at Hyundai and Kia, two big firms.

But it is probably only in America and Britain that labour is flexible enough to have a good chance of persuading companies to reshore production. At the other extreme sits France, where Arnaud Montebourg, the minister appointed to rebuild his country's industry, late last year told Lakshmi Mittal, an Indian steel tycoon, that he was not wanted in France after his struggling company, ArcelorMittal, tried to shut down blast furnaces.

And where firms are able to keep production onshore, it is often thanks to immigrant workers. Jenlo Apparel Manufacturing relied on workers of Chinese and Vietnamese origin in Montreal, and ET Water Systems reshored to a San Jose-based contractor employing workers of South-East Asian origin. An important element of the low-cost tier of American labour is immigration, both legal and illegal, from Mexico. “The more that free movement of people is allowed between countries, the less companies need to offshore,” says Darryl Green, one of Manpower's presidents.

Agencies providing temporary staff, such as Manpower, play their part, allowing firms to treat workers as a flexible resource not a fixed cost. It is no accident that Manpower's biggest market is France. In Japan the labour market is also rigid. Back in 2007 Fujio Mitarai, chief executive of Canon, a maker of optical products, said that temporary agencies had helped manufacturing firms avoid the “hollowing out” of industry. But now the government has restricted the use of temporary workers. Along with the appreciation of the yen, that is prompting more offshoring by Japanese firms, says Manpower's Hiroyuki Izutsu.

Lenovo's North Carolina headquarters, inherited from IBM, sits at the heart of the state's Research Triangle Park, a regional cluster of universities and hi-tech businesses. It is an example of the sort of business ecosystem that is capable of drawing corporate investment from around the world. The area boasts competitive costs, highly skilled workers, a close partnership with local universities and a business-friendly environment. Unlike Dell, Lenovo is taking no money at all from the state government for starting to manufacture at Whitsett.

Internally the firm's factories compete hard with each other on cost, productivity and quality. It will quickly become clear if “Made in America” is a luxury or whether it creates sustained value for the Chinese firm. Tony Pulice, the firm's factory manager in North Carolina, is ready to show what his country can do. ■



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