

## Nightmare scenarios

Western worries about losing jobs and talent are only partly justified

**I**NDIA'S high-tech enclaves exude euphoria. Proud techies take their parents on tours of company campuses. Proud parents boast that their children earn more than the rest of the family combined. Mr Nilekani of Infosys says that his company's greatest achievement is not its \$2 billion turnover but the fact that it has taught Indians to redefine the possible.

The mood in America, the country that is driving the outsourcing boom, could hardly be more different. People view the global war for talent with foreboding. Their fears take two forms. The first is that well-paying jobs in services will follow manufacturing jobs to the developing world. Norman Augustine, a former boss of Lockheed Martin, says that "virtually no one's job seems safe." Craig Barrett, the chairman of Intel, admits that "I worry for my grandchildren."

The second fear is that America may no longer be able to attract more than its fair share of the world's brains. Half the Americans who won Nobel prizes in physics in the past seven years were born abroad. More than half the people with PhDs working in America are immigrants. A quarter of Silicon Valley companies were started by Indians and Chinese. Intel, Sun

Microsystems and Google were all founded or co-founded by immigrants. But now India and China are sucking back their expats, and America's European competitors have woken up to the importance of retaining their talent. To cap it all, the immigration authorities are making life harder for foreigners.

Are Americans right to worry? One misconception is that the number of jobs is fixed, so if some of them go abroad there must be fewer left at home. If a farmer in Palo Alto in 1900 had been told that in a hundred years' time agricultural workers would account for only 2% of the American workforce, he would have expected the Valley to become a desert rather than a global technological hub. But even if the number of good jobs were fixed, the fears of a great job migration are exaggerated.

The McKinsey Global Institute has conducted a large-scale study of the offshoring market and concluded that constraints on both the demand and the supply side will keep the number of service jobs moving offshore much lower than is widely believed. It will probably rise from 1.5m in 2003 to 4.1m in 2008, or 1.2% of the demand for labour in the developed world. That figure is dwarfed by the normal job

churn in America, where 4.6m Americans start with a new employer every month.

There is clearly plenty of eager talent in the developing world. But McKinsey argues that only about 13% of that talent is capable of working for a Western multinational in a high-grade job at the moment (although the stock of suitable professionals is expanding a lot faster in developing than in rich countries). There are problems with cultural and language skills, particularly in China. The quality of education is often inadequate. China may have twice as many engineering graduates as America, but only 10% of them are equipped to work for a Western multinational. Geography also imposes limits. In large countries such as India and China many graduates live far away from international airports. In China only about half the talent pool is accessible to multinationals, according to McKinsey.

There are other worries too. In his recent book, "Three Billion New Capitalists: The Great Shift of Wealth and Power to the East", Clyde Prestowitz quotes a Chinese friend: "We've had a couple of hundred bad years, but now we're back." Yet shrugging off the burden of history is not so easy, particularly when, as recently as

- 1966-76, the brightest and sparkiest people were dumped in labour camps. The Chinese have been able to turn their country into a manufacturing giant because of their willingness to work harder and longer; but turning it into a service giant, let alone an innovation hub, will require different qualities.

China's biggest problem is a culture of deference—a culture that was refined by the mandarin tradition and then reinforced by the Communist Party. For many Chinese it is bad form to question superiors. So far, China has been much more adept at borrowing other people's ideas than producing its own, particularly when it comes to high-level innovation. But there are plenty of other problems, ranging from poor English-language skills to weak intellectual-property rights. Many Western companies are rightly nervous about developing new products in a country where ideas are routinely stolen.

India's difficulties have more to do with another intractable problem: poor government. The country's infrastructure is crumbling and the education system is hugely uneven. The Indian Institutes of Technology are very good at producing a highly educated elite, but run-of-the-mill colleges are often of poor quality. The result is graduate unemployment of 17% at a time when the high-tech economy is booming.

### Don't overdo the gloom

Americans are right to worry about losing out in the international competition for talented people, particularly as highly qualified Indians and Chinese based in America go home. America's immigration system is hopelessly antiquated, geared more towards reuniting families than attracting high-quality workers. The 2005



allocation for H1B visas for skilled workers ran out on the first day of the fiscal year. The terrorist attacks of September 11, 2001 have made things worse. Students complain that they have to wait months for a visa, and some decide to accept offers elsewhere. One-third of American companies report serious delays in bringing skilled employees into the country.

But again these worries are exaggerated. America remains the world's number one destination for foreign students, soaking up almost 30% of the global supply. There is every reason to think that the absolute number of people from India and China who want to study in America will rise as those countries get richer. It is true that some foreigners who might have stayed in America a few years ago are going home. But David Zweig, of the Hong Kong University of Science and Technology, argues that the best Chinese students remain abroad. The pattern of geographical mobility is likely to get more complicated in the future as people divide their careers between the developed and the developing world, but America is unlikely to be denuded of talent.

Another concern is that America is suffering from a brain drain from science and engineering, starting in high schools, where there are too few teachers qualified to teach difficult subjects and too few pupils willing to grapple with them. The Higher Education Research Institute at the University of California at Los Angeles found that the proportion of incoming undergraduates planning to major in computer science is now 70% below its peak in the early 1980s. But here, too, things are not as bad as they seem. Many of the figures that have set alarm bells ringing—those millions of Chinese engineers, for example—are misleading because they fail to take quality into account. McKinsey calculates that, in 2003, America had far more

young engineers who were capable of working for multinational companies than China—540,000 against 160,000.

Besides, the argument is based on a misunderstanding of how science progresses. America does not become less competitive because China invests more in science; indeed, outside highly proprietary areas, Chinese investment in science will help to advance scientific knowledge in general.

America still has overwhelming advantages in the war for talent. One is the quality of its universities, which regularly dominate global league tables. The second is the quality of its business environment—from the availability of venture capital to the quality of its management cadre to its willingness to pay for the best people. The state of California alone has more venture capital than any country outside the United States. Robert Huggins Associates, a British-based economics consultancy, found that the world's top seven regional "knowledge economies", measured by things such as patent registrations, investment in R&D and the proportion of knowledge workers, were all in the United States.

Europe has less reason to be cheerful than America. Business is burdened by rigidities and regulations. The universities are not what they were. The EU invests 30% less in R&D than America does, and most of its 400,000 researchers working on the other side of the pond have no intention of returning. Yet Europe, too, still has huge strengths in the "tacit" skills that are at such a premium in a knowledge economy. Germany has deep expertise in engineering, Italy in design and Finland in wireless technology. Europe is also doing more than America to reform its immigration system in hopes of attracting talent. All the same, Europe needs to get serious about freeing its economy and its universities from intrusive controls. •

