

**Addressing the US shortfall**

More temporary visas could aid US high-tech industry

**p597**

**Germany's IT staffing woes**

Chancellor Schroeder takes steps to ease tight labour market

**p597**

**Immigrant impact**

Measuring the economic value of highly skilled immigrants

**p598**

# US Congress encouraged to lay out the welcome mat for skilled foreigners

US high-tech industry is crying out for skilled foreign workers, but there just aren't enough visas to go round. Diane Gershon explores...

A critical shortage of skilled labour in the US high-technology industry is forcing Congress to reassess its policy on H-1B temporary visas for well-qualified foreigners. Two years after enacting legislation that almost doubled the annual quota of foreign professional workers entering the United States on such visas, demand is once more outstripping supply.

A number of studies, many by the high-tech industry itself, document the shortages of skilled labour. A survey released last October by the Computing Technology Industry Association found that the shortfall in qualified personnel costs the IT industry \$4.5 billion a year in lost productivity. Almost 10 per cent of jobs (268,740 positions) in IT service and support were unfilled, which translates into a loss of more than \$100 billion for the US economy.

Non-immigrant workers with fairly specialized occupations — those that require a bachelor's degree or higher — can enter the United States with an H-1B temporary visa. This allows them to work in the country for three years, although this can be extended for a further three years. Many H-1B visa holders go on to become permanent residents.

The annual cap on H-1B visas was set at 65,000 in 1990. In fiscal years 1997 and 1998,



**Valuable visas:** highly skilled foreign workers are helping Silicon Valley to meet its shortfall in staff.

when demand for the visas outstripped supply for the first time, Congress revised the quotas. The cap was set at 115,000 for fiscal years 1999 and 2000, and 107,500 for 2001, as part of the American Competitiveness and Workforce Improvement Act of 1998. The quota is scheduled to drop back to 65,000 in 2002 unless Congress enacts further legislation.

But demand for the visas has never been higher. In 1999, the new cap of 115,000 was reached even earlier than in the previous year

when it was just 65,000. This year, the US Immigration and Naturalization Service announced that demand was up by 50,000 compared with last year, and stopped accepting H-1B visa petitions in March.

**A call for action**

The National Science Foundation is looking into the shortfall in high-tech workers in a study commissioned by Congress as part of the 1998 Act. But its findings are not expected until after Congress adjourns later this year.

Those who oppose a further increase in H-1B quotas have discredited the available studies. Historically, the US labour unions have viewed the H-1B visa programme as a threat to US workers. They claim it depresses wages and subjects older Americans to age discrimination from companies that prefer to hire younger, cheaper foreign workers.

Nevertheless, the increased demand for H-1B visas, and the fact that any significant shortage of skilled workers could pose a threat to the strength of the US economy, has made Congress sit up and listen. Several members of Congress have introduced bills that would address the issue — at least in the short term.

"We can either allow people to come here on a temporary basis to help expand these companies, or they can very quickly move their operations to where the people are," says an aide to Senator Spence Abraham (Rep-

## Germany faces up to its labour shortage

The debate over temporary visas issued to highly skilled workers is not unique to the United States. In Germany, for example, Chancellor Gerhard Schroeder recently proposed a plan to issue 20,000 (10,000 a year for two years) temporary work permits, valid for up to five years, to highly skilled, non-European Union workers to ease the perceived shortage of IT staff.

According to Magnus Lofstrom, a research associate at the Institute for the Study of Labor in Bonn, industry estimates indicate that there are about 75,000 jobs currently available in the IT sector. The temporary immigrants are expected to come mostly from India and Eastern Europe, says Lofstrom and, although the proposal has not yet

been approved, he expects some version of it (with the quota intact) to be passed by the summer.

At 9.8 per cent, Germany has an overall unemployment rate that is more than twice that of the United States. "The higher unemployment rate makes the proposed increase in immigration more vulnerable to criticism," says Lofstrom. "Many Germans feel that it is wrong to look abroad when there are so many unemployed German workers."

The somewhat improved German economy, which has shaved almost one per cent off the jobless total in a year, might make Schroeder's proposal more palatable, says Lofstrom. But the question of whether Germany can entice 20,000 foreign IT workers to its shores is a valid concern, he says.

**D. G.**

lican, Michigan). Together with Senator Orrin Hatch (Republican, Utah), Abraham has co-sponsored a bill to raise the cap on H-1B visas to 195,000 for 2000, 2001 and 2002. Colleges and universities would be exempt.

In the House of Representatives, David Dreier (Republican, California) and Zoe Lofgren (Democrat, California) have introduced a bill that would up the quota to 200,000 for 2001, 2002 and 2003. But rather than exempting colleges and universities, the bill would set aside a certain number of visas for them, as well as for applicants educated to levels of Master or the equivalent. Both bills contain provisions for educating and training US workers.

The complication in all of this is a bill introduced by Representative Lamar Smith (Republican, Texas), which would put no limits on H-1B visas over the next three years. However, an aide says Smith insists that the bill be balanced and include some provisions that are good for US workers. Compa-

nies would need to show, for example, that the median wage of their US employees had increased over the previous year. There is also a \$40,000 annual minimum wage requirement for H-1B workers, although colleges and universities would be exempted. In addition, the bill contains measures to protect against abuses of the system by so-called job shops set up solely to hire H-1B workers. Moreover, work experience would no longer be an acceptable substitute for a degree.

"Even though on the face of it he [Smith] eliminates the cap altogether, all these other provisions would serve to restrict the usefulness of the programme," says Jeanne Butterfield, executive director of the American Immigration Lawyers Association. "A \$40,000 salary floor ... may sound like a nice round number but it doesn't take into account the particularities of different pockets of the country where that might not be an appropriate equivalent wage." Butterfield says the association supports the Hatch-Abraham and

Dreier-Lofgren initiatives but she feels that Smith's bill is a "political ploy to try and undercut Dreier-Lofgren". As this is a bipartisan effort, Republicans would be unable to claim total credit for it should it pass, she says.

### Breaking the bottleneck

The Biotechnology Industry Organization (BIO), a trade association representing 920 of the estimated 1,300 US biotechnology companies, has also thrown its weight behind the Hatch-Abraham and Dreier-Lofgren bills. "The bottlenecks on personnel can be quite damaging," says Chuck Ludlam, BIO's vice-president for government relations. According to the BIO, there are 153,000 people employed in the US biotech industry, about 10 per cent of whom have H-1B visas.

Robert Tjian, a professor of molecular and cell biology at the University of California, Berkeley, understands about the tight labour market. He co-founded the biotech company Tularik in San Francisco about 10 years ago, and says that Tularik "is constantly in the market to hire more chemists".

Although the current policy debate about US immigration is focused almost entirely on highly skilled workers and the H-1B visa quota, there is a larger issue here, says Representative Smith's aide. When Congress began debating the H-1B issue again last year, Smith called it "the tip of the workforce iceberg", referring to the mismatch between the skills of permanent immigrants admitted to the United States and the needs of the workforce. "The reason why we are spending so much time and energy on temporary, basically foreign guest worker visas, is that our legal immigration system is not meeting the nation's needs," says Smith's aide. Today, 35 per cent of the almost one million legal immigrants admitted to the United States each year lack a high-school education, Smith's aide notes. At the same time, 90 per cent of new jobs require more than a high-school diploma.

"Historically in this country in times of economic success ... people are willing to be quite generous in terms of immigration policy: in times of recession and hardship, that opinion turns around," says Butterfield.

Few would argue that more needs to be done in education and training to encourage more Americans to go into computer sciences, engineering and other high-tech disciplines. But the high-tech industry argues that there are job vacancies that need filling today, and this is increasing pressure on Congress to ease restrictions on temporary foreign workers as a stop-gap measure. Although it may help with critical labour shortages in certain high-tech sectors, "it's a short-term fix for a long-term challenge", says Senator Abraham's aide.

♦ <http://www.senate.gov/~abraham>

♦ <http://www.house.gov/dreier>

♦ <http://www.house.gov/lamarsmith>

♦ <http://www.comptia.org>

## The economic impact of Silicon Valley's immigrant entrepreneurs

A study called *Silicon Valley's New Immigrant Entrepreneurs* suggests that, rather than simply displacing native-borne workers, as is sometimes argued, many highly skilled immigrants make significant contributions to the economic development of the region.

The study, conducted for the Public Policy Institute of California by AnnaLee Saxenian of the department of city and regional planning at the University of California, Berkeley, showed that foreign-born workers account for about a third of the skilled scientific and engineering workforce in Silicon Valley, with Indians and Chinese predominating. Moreover, Saxenian found that in 1998, Chinese and Indian immigrants

were running a quarter of the high-tech businesses in Silicon Valley, collectively accounting for more than \$16.8 billion in sales and over 58,000 jobs.

The primary motivating force for many of these immigrants to start companies "was the experience of a glass ceiling in established companies", says Saxenian. Gaining access to venture capital has historically been a problem for these groups, she explains. But that's changed a lot, she says, with the formation of a host of highly organized ethnic networks and associations. High-visibility business successes by the likes of Jerry Yang of Yahoo and Sabeer Bhatia of Hotmail have also "alerted the mainstream".

Saxenian says her research underscores important changes in the relationship between immigration, trade and economic development. She now feels that the immigration debate needs to be broadened to reflect the role of highly skilled immigrants in generating jobs, wealth for regional economies, as well as economic links back to their countries of origin.

Diane Gershon is Assistant Editor, New Technology, at *Nature Medicine*.

♦ <http://www.pplic.org>



Rich rewards: Silicon Valley has benefited greatly from immigrant entrepreneurs such as Sabeer Bhatia.