

Immigrant policy harms economy

Editor's Note: Vivek Wadhwa is a fellow with the Labor and Work life Program at Harvard Law School and executive in residence/adjunct professor at the Pratt School of Engineering at Duke University. He lives in Chapel Hill.

Xuegong Yu is a professor at Zhejiang University in China. He was a talented post-doctoral researcher who spent 16 months working in the labs of Prof. George A. Rozgonyi, a renowned expert in semiconductor materials at N.C. State.

Yu was a top-notch researcher and would have made an excellent university professor, filing materials patents and building U.S. competitiveness, as well as the regional economic vigor of North Carolina. He left because of bureaucratic delays in his work visa processing and the opportunities in China were far better.

Over the past five years, Duke computer science professor Pankaj Aggarwal has also seen a change in the long-term plans of his foreign students. Before, graduates would look for jobs in the U.S and would most likely stay permanently. Now they are opting to return home to countries like India and China to economic opportunities and social situations they deem to be superior.

Duke students like Satish Govindrajan, who developed a sophisticated model for ecological forecasting, would have taken an academic or industry job in the U.S. Instead, Govindrajan opted to take a faculty position at Indian Institute of Science, Bangalore, a premier institute in India.

I have witnessed this phenomena develop quickly among my own students at Duke. When I joined their masters of engineering management program in 2004, nearly all of my foreign students said they planned to stay in the U.S. for at least a few years. In the class of 2009, the majority now expect to return straight home.

They return for several reasons. Visas are very hard to get and will likely be even harder to get in the developing xenophobic political climate. Students feel that career opportunities are now superior in their home countries and quality of life is equal. The trend is rapidly robbing America of many of the best and brightest minds who only five years ago would have stayed put. This exodus presents a serious danger to the U.S. economy. Here's why.

Innovation hampered

Emerging research highlights the outsized contributions made by foreign nationals to the U.S. economy and undercuts contentions that foreign students may be "crowding out" Americans in science and engineering and leading them to pursue careers in professions like medicine or law. A paper by William R. Kerr of Harvard Business School and William F. Lincoln of the University of Michigan found that holders of a temporary work visa called the H-1B visa add

significantly to U.S. innovation. They also found no evidence that increasing H-1B visa awards diminished innovation by U.S.-born researchers in the form of patent applications, a situation that is often described as "crowding out."

This means that increasing the critical mass of knowledge workers at worst did no harm to non-immigrant knowledge workers. More telling still, Kerr and Lincoln found that in periods when H-1B visa numbers went down, so did patent applications filed by immigrants. The research showed that Indian and Chinese H-1B holders are disproportionately represented among those who file for patents, especially in the computer field, and tech companies were highly dependent on Indians and Chinese for their innovation. In 2006, these groups contributed to 33 percent of patents filed by Intel and 22 percent at IBM.

Jump-starting startups

My research, too, has found significant immigrant contributions to U.S. innovation. More than half of Silicon Valley startups were founded by immigrants over the last decade. These immigrant-founded tech companies employed 450,000 workers and had sales of \$52 billion in 2005.

Jennifer Hunt of McGill University and Marjolaine Gauthier-Loiselle of Princeton University analyzed long-term changes in a paper published in January titled "How Much Does Immigration Boost Innovation?" They calculate that, for every percentage point rise in the share of immigrant college graduates in the U.S. population, the total per capita number of patents for the entire population should increase by an astonishing 6 percent.

Waiting for a visa

As of Sept. 30, 2006, there were 1.18 million educated and skilled professionals waiting to gain legal permanent-resident status. These workers were on visas like the H-1B. To make matters worse, there is a yearly allotment of only 120,000 permanent-resident visas for such skilled workers and a 7 percent limit on how many visas can go to immigrants from any one country.

So immigrants from populous countries such as India and China could be waiting decades for a permanent-resident visa unless immigration quotas are relaxed. Many like Xuegong Yu are simply getting fed up with the delays.

Layoffs lead to exodus

The economic downturn has made matters much worse. When American workers who have the skills to file patents and develop new technologies get laid off, they often start new companies. And these companies generate employment and help the economy recover.

When workers on H-1B visas get laid off, they usually have no choice but to return home and start their companies abroad. So they are planting the seeds for future economic growth in their home countries, seeds that could easily have been planted in the U.S.

This is not an easy problem to address. But make no mistake. The U.S. needs to figure out a way to retain these people or else the next RTP or Silicon Valley won't be in the U.S. -- it will be in Shanghai or Hyderabad.