



## America, don't throw global talent away

Rhetoric and policy are keeping innovators out, warns **William Kerr** — specialist visa applications have fallen by one-fifth in the Trump presidency.

US President Donald Trump is part of a chilling parade of politicians — Turkey's Recep Tayyip Erdoğan, Hungary's Viktor Orbán, French National Front leader Marine Le Pen, Brazil's Jair Bolsonaro — who have risen to prominence in the past decade by fueling anti-immigrant sentiment. But when Trump is grandstanding about how illegal aliens “infest” our country, there's something he neglects to mention: immigrant success benefits the United States. As people in my country celebrate Thanksgiving this week, we should be grateful for what global talent has done for our economy.

Since 1900, immigrants have made up one-third of US recipients of Nobel prizes in chemistry, physics, medicine and economics. Immigrants account for more than one-quarter of the approximately 110,000 patents filed in the United States each year. There are more than 1 million foreign students in US universities, representing about 5% of enrollees and providing an estimated US\$39-billion annual stimulus to the economy.

The United States came to its leading position in science and technology in part because talented immigrants could thrive here, as I document in my recent book, *The Gift of Global Talent*. The global nature of US academia seeds connections and collaborations that make it stronger. The influx of scientists and engineers fleeing Nazi Germany (including Albert Einstein and computer scientist John von Neumann) remains the most dramatic example.

Researchers and entrepreneurs immigrate because the United States offers access to the global scientific frontier, from biotechnology to artificial intelligence. It has large, unified markets and mostly welcomes new arrivals: for example, Sergey Brin, co-founder of Google, was born in Russia; Dara Khosrowshahi, chief executive of Uber, in Iran; and Rafael Reif, president of the Massachusetts Institute of Technology, in Venezuela. The US economy improves and grows owing to ideas that immigrants develop.

But I fear the country is losing ground as the pre-eminent destination for tomorrow's science and technology leaders. Since 2016, applications for H-1B visas, which most foreign specialists need to work in the United States, have fallen by 19%. Foreign postgraduate-student applications to US business schools are down by 11% (compared with a 2% drop in domestic applicants). And numbers of international students have flattened out for the United States while continuing to increase for other countries, including Australia and Canada. Surveys of applicants and institutions suggest significant concerns about future US visa policy and openness to immigrants.

For all Trump's talk about his predecessors flinging wide US doors, the immigration process is onerous. It takes years to go from student visa to H-1B to citizenship, even for highly talented people in much-needed specialties. Until the past couple of years, talented people

felt the gain to be worth the pain. Now, uncertainty is eroding this cost-benefit calculus. People are most willing to invest when they are confident. Add volatility, and we become less likely to buy a home, launch a big project or relocate to a new country for education or work.

An unintended experiment shows this uncertainty bogeyman in action. In 2004, the annual cap on the H-1B visa supply reverted from 195,000 to 65,000 (today, the cap is 85,000). This made it harder for most foreign graduating students to find work in the United States. But legislative quirks left citizens of five countries (Australia, Canada, Chile, Mexico and Singapore) unaffected. Undergraduate enrolments from those nations did not change from 2000–01 to 2006–07; those from affected countries dropped by 14%.

Who was most likely to look elsewhere? The best students: standardized-test scores of applicants from affected countries declined by 20 points (1.5%). The H-1B visa cap was not intended to stop promising students enrolling in university and paying tuition fees, but it had that effect.

More-recent US policy changes make it harder for foreigners to launch businesses, have a working spouse or untangle visa problems. These will reduce the opportunity that migrants see in the United States.

But, in my view, what will do most to scare global talent away is hostile political rhetoric. In the days before the mid-term elections in early November, Trump deployed troops to the Mexican border to guard against Central American migrants, and claimed that he could retroactively remove the Constitution's provision of birthright citizenship.

Already, the antiquated H-1B visa system offers too few visas and allocates them poorly, awarding spots by lottery rather than need. In the first few days after the application window opened in April 2018, the government received 190,000 applications for 85,000 total slots, nowhere near enough for the numbers of international job applicants and the many tens of thousands of foreign students and postdocs already here.

Americans — including 55% of Trump voters, according to a 2017 poll (see [go.nature.com/2zyaer](http://go.nature.com/2zyaer)) — broadly support expanding skilled immigration. Reasonable people can disagree about the optimal numbers and types of immigration. But at a time when the nation most needs this discussion, its dialogue is full of vitriol. Regardless of political affiliation: how many talented people outside the United States now think more highly of the country? How many will be less likely to do their research and make discoveries and inventions in the United States?

This is not just a lost opportunity: it spells disaster. ■

**William Kerr** co-directs the *Managing the Future of Work* project and is a professor at the Harvard Business School in Boston, Massachusetts. e-mail: [wkerr@hbs.edu](mailto:wkerr@hbs.edu)

WE SHOULD BE  
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FOR WHAT  
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**ECONOMY.**