

US attracting fewer educated, highly skilled migrants according to study

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An empty immigration line. Credit: Nicola Romagna / Flickr

The U.S. economy has long been powered in part by the nation's ability to attract the world's most educated and skilled people to its shores.

But a new study of the worldwide migration of professionals to the U.S. shows a sharp drop-off in its proportional share of those workers – raising the question of whether the nation will remain competitive in attracting top talent in an increasingly globalized economy.

The study, which used a novel method of tracking people through data from the [social media](#) site LinkedIn, is believed to be the first to monitor

global migrations of professionals to the U.S., said co-author Emilio Zagheni, a University of Washington assistant professor of sociology and fellow of the UW eScience Institute.

"This is the first time a worldwide data set has been used to answer this question," he said. "That hasn't been done before."

The [study](#), which was presented at the recent SocInfo conference in Barcelona, Spain, found that:

- While 27 percent of migrating professionals among the sample group chose the U.S. as a destination in 2000, in 2012 just 13 percent did.
- The decline was seen across professionals with bachelor's, master's and doctoral degrees.
- The biggest drop was among those in the science, technology, engineering and math (STEM) fields, from 37 to 15 percent.
- Asian countries saw the highest increase in professional migrants worldwide, attracting a cumulative 26 percent in 2012, compared with just 10 percent in 2000.
- Australia, Oceania, Africa and Latin America also saw an uptick in their share of the world's professional migration flows.
- The U.S. attracted 24 percent of graduates from the top 500 universities worldwide in 2000, but just 12 percent in 2012.

"These other countries are attracting not only a higher share of migrants, but also migrants from the top universities in the world," Zagheni said. "That was surprising."

The study, which comes at a time when the nation is mired in a divisive fight over immigration reform, counters conventional wisdom that the U.S. is the incontestable top choice for professionals migrating from other countries.

"The U.S. is still the top destination for migrations, but [the study] shows that this is something that should not be taken for granted," said co-author Bogdan State, who worked on the study as a Stanford University graduate student alongside co-author Mario Rodriguez, a LinkedIn senior data scientist.

The study suggests numerous possible reasons for the proportional migration decline – the U.S.'s complex visa system, greater demand for professionals in other countries, fewer opportunities for immigrants due to the dot-com collapse of the early 2000s and the 2008 recession.

Charles Hirschman, a UW sociology professor and expert on immigration to the U.S., said the findings underscore the emergence of other nations in sectors once dominated by the United States.

"The United States has to work really hard to stay competitive in this environment," Hirschman said. "Even if we're doing everything right, we're still going to face increasing competition."

Tracking international [migration patterns](#) is key to making fiscal projections and shaping effective policies. But migration data tend to be inconsistent across countries and expensive to gather. And there's no consensus between nations on what constitutes a migrant.

Zagheni and other researchers realized a few years ago that the borderless and ubiquitous nature of social media made it a virtual goldmine of migration data. In 2012, Zagheni and Ingmar Weber, then a research scientist at Yahoo, [analyzed the Internet Protocol addresses](#) of 43 million Yahoo mail users to calculate migration rates to and from countries worldwide, producing the first-ever curve of U.S. emigration by age and gender.

Earlier this year, Zagheni, State and researchers from the Qatar

Computing Research Institute published a [study](#) that estimated migration patterns among Organization for Economic Cooperation and Development countries by analyzing 500,000 Twitter users. They found that migration rates from Mexico to the U.S. had dropped, while migration increased from European countries hit hard by the economic crisis, such as Greece and Ireland.

Zagheni acknowledges that the LinkedIn research has limitations. For example, since the study did not include citizenship information, researchers couldn't distinguish between U.S. expatriates returning to the country and in-migration of foreign workers.

More significantly, LinkedIn users aren't a representative sample of the entire population of highly skilled migrants in the U.S. The researchers addressed that by dividing the data set into 10 groups, one for each new cluster of users annually since 2004, and confirmed that there was a significant downward trend in U.S. migration among all 10 groups.

Respecting the privacy of LinkedIn's members was a primary concern. LinkedIn researchers used algorithms to generate the dataset used in the study, which did not include any personal information, according to a LinkedIn representative. The company declined to specify how many LinkedIn users were involved in the study.

Zagheni thinks social media data can be valuable to demographers, geographers and economists to help understand long-term migration patterns and develop improved theories. Hirschman lauded the researchers' work as "a major step forward" in effectively using data from social media.

"This is a very, very creative approach, and I think it's opening up a whole new world of data analysis that's going to enrich the field of demography and international [migration](#) studies," he said.

Provided by University of Washington

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