

### INTERNATIONAL STUDENTS SHAPING THE WORLD IN THE TWENTY-FIRST CENTURY

What is happening both on the demand and supply sides of international higher education is fundamentally reshaping the size and direction of international student mobility flows. In a strange way, they are reshaping global academic inequalities. At the same time, they are also redefining where and how the future professionals and leaders of the twenty-first century will be educated. Academic education was an important instrument shaping the post-WWII global order. Likewise, the current changes in international education will have a profound impact around the world in the twenty-first century. ■

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## Attracting and Retaining Global Talent: International Graduate Students in the United States

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The new *Open Doors* 2017 data was released in November 2017 during a time of much speculation in the US higher education sector on whether the flows of international students to the United States would decline. But these data, as well as several snapshot surveys conducted in 2017 by IIE and partner higher education associations, ultimately revealed a mixed picture. While there were clear declines in new enrollments, pointing to a flattening of international student numbers at best and a future decline at worst, there were some surprises: whether or not institutions saw declines was based on the type of institution, its geographic location, and its selectivity. Among those that saw declines, there was clearly a mix of factors to which this downturn could be attributed, and the flattening of numbers actually preceded the political and social developments in the United States in 2017.

In the context of this uncertain climate, some populations of international students deserve closer attention.

While the *Open Doors* survey includes international students at all levels of postsecondary education, this article focuses on the status of international graduate students in the United States.

### WHAT ATTRACTS INTERNATIONAL GRADUATE STUDENTS TO THE UNITED STATES?

Three key aspects of the US higher education sector have been instrumental in attracting graduate students and top talent from around the world. The first is the quality and diversity of US institutions—over 4,000 of them. Surveys of prospective international students have shown that the United States is ranked the highest for the quality of its institutions and overall academic experience. Second, the significant investments and emphasis on science, technology, and innovation within the higher education sector; campus-based research facilities; and university–industry collaborations are critical components of US graduate education, attracting graduate students from all over who aim to pursue advanced research. Third, and relatedly, is the availability of poststudy opportunities such as Optional Practical Training (OPT), which enables international graduate students to apply their academic knowledge while also serving as a pathway for longer-term employment and retention in the US workforce and talent pool.

### CURRENT FINDINGS

Against this backdrop, what does the current evidence tell us about the status of international graduate students at various points of the talent pipeline—from enrollment, to work–study opportunities immediately following their graduation, and to full-time employment in the United States? Looking first at current enrollment, we note that 36 percent (or 391,124) of all international students enrolled in the United States are graduate students. In recent years, the absolute numbers of international graduate students in the United States have continued to rise, and the United States hosts more graduate students than any other competing host country, as indicated by Project Atlas. Nonetheless, findings from the recent *Open Doors* data on new enrollments, based on a Fall 2017 snapshot survey and two recent reports by the National Science Foundation (NSF) and the Council of Graduate Schools (CGS), suggest that international graduate student growth might be slowing down. The NSF analysis found a decline of almost 6 percent in international graduate enrollment between 2016 and 2017, and the CGS survey of new international graduate enrollment also found an overall decline of almost 3 percent. The latter declines were at the master's and certificate program levels and at less research-intensive institutions, indicating once again that the current fluctuations in international student enrollments vary by institutional type.

International graduate students in the United States are predominantly from Asia (73 percent), with half of them from India and China alone. Thus, the flows of students from these two key countries matter. While the enrollment of Indian graduate students declined by 13 percent between 2016 and 2017, the number of new Chinese graduate students increased by 5 percent. Despite this mixed picture, institutions report that both Indian and Chinese students, particularly at the graduate level, are concerned about possible future constrictions of either OPT or work visas. Overall (regardless of academic level), international students from India and China accounted for more than half of all OPT approvals from 2012 to 2015, according to an analysis by the Pew Research Center.

OPT, the next step in the pipeline, is where international student numbers have increased over the past couple of years, with more and more students availing themselves of a work-study opportunity. Thus, more students have remained within the US higher education system, while the enrollment of new, incoming students has not grown at the same rate. As of fall 2016, 175,000 students were on OPT, due in large part to the extension for STEM students, who can remain in the United States for a total of 36 months

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under the terms of the program. A majority of international graduate students (62 percent) are in STEM fields and thus avail themselves of the expanded OPT option. However, this has also resulted in a situation where there are large numbers of international graduate students who complete OPT, but not enough H1B visas (employment-based, non-immigrant visas for temporary workers) for those who may wish to stay in the workforce. An analysis by the Pew Research Center shows that H1B visa applications have exceeded supply over the past five years. Indeed, 41 percent of campus administrators who reported declines in new international enrollments in IIE's Fall 2017 snapshot survey indicated that the drops could be due to student concerns about not being able to secure a job in the United States after study completion.

An additional challenge around retaining international graduate students relates to financial support, and the fact that students have long relied on research and teaching assistantships provided by their departments. A decade ago, in 2006–2007, roughly equal proportions of international

graduate students supported themselves through personal resources (45.4 percent) and through college and university funding (46.6 percent), primarily in the form of teaching and research assistantships. A decade later, the proportion of graduate students funding their studies primarily through personal and family means has grown to 61 percent. This could be due to a combination of reasons, including an increasing number of international master's students who may be less likely to receive assistantships that are more common at the doctoral level, as well as overall declining support for all graduate students (domestic and international). Add to this the fact that the average cost of a US higher education for an international student obtaining a master's degree at a public institution increased by 52 percent between 2008 and 2016, and by 46 percent at private institutions.

The multiplier effects of international graduate students and what they bring to the US higher education enterprise cannot be underestimated. A recent 2017 analysis by Kevin Shih shows that international graduate students help expand the enrollment of domestic graduate students, while also subsidizing the enrollment of domestic students. For those international graduate students who stay on, many go on to fuel the US knowledge economy. For instance, a substantial proportion of firms in Silicon Valley were founded by what might be considered new immigrant entrepreneurs—most of whom came to the United States as international students—and many of the US-based Nobel laureates also came to the country as international graduate students. Finally, those who return to their home countries help establish trade, diplomatic, and educational ties between other countries and the United States, especially in the form of joint research and international partnerships.■

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## What an International Branch Campus Is, and Is Not: A Revised Definition

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