

Not Coming to America

Falling Behind in the Race to Attract International Students



Not Coming to America: Falling Behind in the Race to Attract International Students

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KEY FINDINGS

- ▶ International students are vital to university teaching, research, innovation, and business, particularly in **science, technology, engineering, and math** (STEM) fields.

In 2015, more than 42 percent of STEM graduate students at U.S. universities were international students. In computer science and electrical engineering—the building blocks of the 21st century knowledge economy—more than 79 percent of U.S. graduate students were from abroad.

- ▶ In 2016 and 2017, the number of new international students enrolled at U.S. universities **fell for the first time** since regular tracking began in 2004.

Between fall 2015 and fall 2017, the number of international students enrolled declined by a total of 9.6 percent, with the steepest overall declines at colleges and universities in the Midwest and South Central regions.¹

- ▶ Declining international student enrollment **negatively impacts university budgets and local economies.**

International students—who pay two-thirds of their college costs with money from outside the United States—contributed \$39 billion to the U.S. economy in the 2017-2018 academic year and supported more than 455,000 American jobs.

- ▶ Even though the number of international students around the world has more than doubled since 2000, **fewer international students are choosing to come to the United States.**

America's competitors are investing in recruitment efforts and aligning their immigration policies to attract foreign-student talent at the same time that U.S. policies seem to be convincing fewer international students to come study. By 2016, more than 17 percent of the college students in Australia, New Zealand, and the United Kingdom were international students, compared to just 5 percent of postsecondary students in the United States. Overall, the U.S. share of the world's international student population dropped from 27.4 percent in 2000 to 19.4 percent in 2016.

Introduction

For decades, the best and brightest students from around the world have vied for a chance to study at U.S. universities. And for decades, America has reaped the benefits. International students spend billions of dollars a year in tuition and living expenses—a net financial gain for colleges and towns—and make outsize contributions in teaching, research, and innovation. These are contributions critical to both American higher education and to our nation’s ability to compete in the global knowledge economy.

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Now, however, what once stood as a uniquely American advantage—recall the invaluable work of scientists who fled Europe in the 1930s for the United States—is at risk. Just as the number of students around the world seeking an international education is on the rise, the number choosing to study in the United States is seeing a sharp decline, leaving other nations to pick up the gains from the education market and to better compete for high-skill talent. In Australia, for example, a 50 percent increase in foreign students in the last five years is credited with contributing AU\$35 billion² (US\$25 billion) to the economy in 2018, supporting more than 240,000 jobs, and increasing the number of working-age people in the country.³

In this brief, part of a series of follow-ups to New American Economy’s (NAE) 2012 report "Not Coming to America," we provide an overview of the extensive value that international students bring to the U.S. economy and U.S. educational institutions, including the direct benefits they provide American students. We also examine the recent decline in international student interest in the United States—even as the number of students choosing to study outside their home countries is rapidly increasing worldwide. Finally, and perhaps most critically, we take a look at what other countries are doing to attract international students, and assess how America’s passive approach to recruitment could negatively affect both the U.S. economy and the country’s competitiveness in high-tech, innovation-driven fields.

PART I

Why International Students Are Important

Economic Contributions

In 2018, the United States was home to 1.1 million international students. This group, which we define as anyone studying at a college or university on a temporary visa, was remarkably diverse, with students hailing from everywhere from China to Lithuania. They studied disciplines as varied as electrical engineering and anthropology. Despite their different backgrounds and disciplines, they all shared one common trait: They made important contributions to the U.S. economy as students and often, after graduation, as workers.

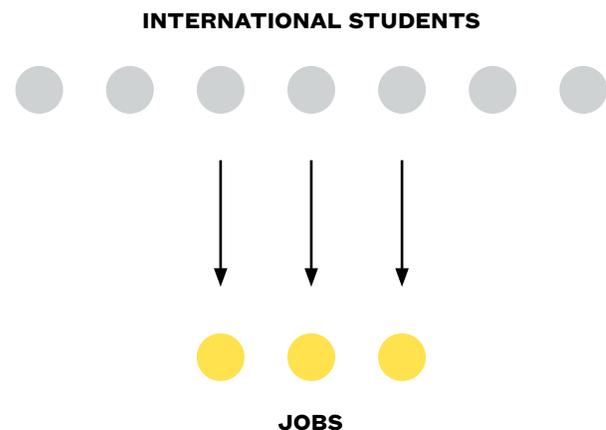
To appreciate the economic impact of international students, it's important to first understand how they fit into the U.S. economy. When international students spend money in the United States—whether on groceries, textbooks, or car repairs—it supports American businesses, allowing them to hire more workers or succeed in ways they might not be able to otherwise. International students are also uniquely well positioned to bring money into the country. Because they are ineligible for many forms of financial aid, about two-thirds of the money that international students spend comes directly from foreign sources.⁴ This infusion of foreign capital is so large that international education ranked as the country's fifth-largest service export last year.⁵

NAE has previously studied the economic impact of international students using data from the Department of Education on enrollment in higher education and the work of organizations such as NAFSA and the Institute of International Education. Although the number of newly enrolled students from abroad has declined in

recent years—a factor we discuss more in this report—our analysis of the latest data shows that international students still make a meaningful impact. International students in the United States during the 2017-2018 academic year contributed \$39 billion to the U.S. economy and created or supported 455,622 jobs. Looked at another way, every seven international students supported three jobs in America.⁶

FIGURE 1: JOBS CREATED OR SUPPORTED BY INTERNATIONAL STUDENTS, 2017-18 ACADEMIC YEAR

In 2017-18, every 7 international students created or supported 3 jobs in the United States.



Source: NAFSA, "Benefits from International Students," 2018.

In addition to their economic contributions, international students and graduates are instrumental to American research and education initiatives, particularly in STEM fields. They also help make tuition more affordable for American students and spur innovation in the country as a whole. Without these contributions, America's universities and industries are at risk of losing their competitive edge to other nations—something that could have deeply negative effects on the country's future economic growth.

Strengthening STEM Disciplines

When Professor David Pokrajac served on his department's hiring committee at Delaware State University in the 2000s, he and his colleagues hired six new professors to join the university's Department of Computer and Information Sciences. Five of the six had come to the country as international students and earned their PhDs in the United States. "We were trying, actually, to find Americans," Pokrajac recalls. "But the overwhelming majority who applied were foreign-born ... They were the most qualified."

It is, in some ways, a classic American story. The United States built a university system that became the envy of the world by borrowing from foreign ideas and attracting international talent. Previously, Germany had dominated higher education, thanks to its pioneering model of the research university, which encouraged professors to not only teach but conduct groundbreaking research as well. The system attracted the world's top scholars and directly fueled Germany's scientific global dominance prior to World War II. American universities adapted the model and leapfrogged ahead of German universities when intellectuals and scholars fled Europe in the 1930s and 1940s and took up posts at U.S. institutions—a move that also significantly aided the American war effort.

Today, foreign-born scholars are no less vital to American interests. As nations scramble to produce the high-skilled talent needed to compete in a global, high-tech economy, the United States is failing to produce enough advanced degree graduates in science, technology, education, and math (STEM) fields to

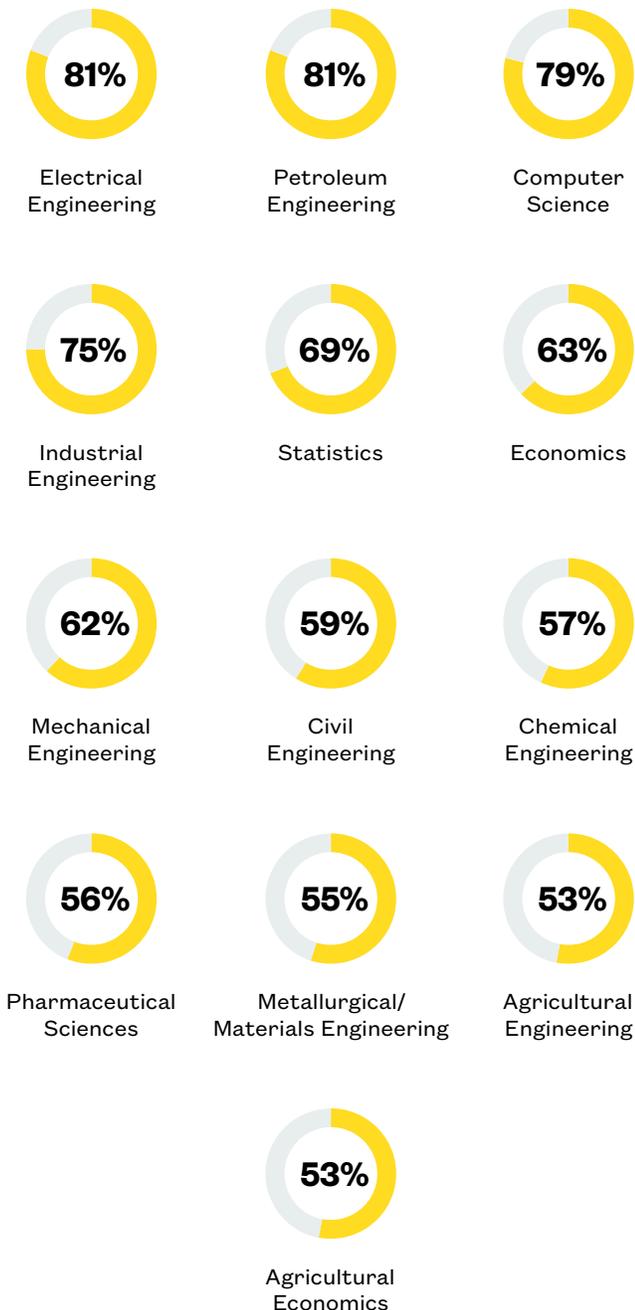


"I don't think we've thought about the economic implications to our cities when fewer international students enroll. It's part of an economic microcosm that you're pulling a string out of."

JAMES SMITH

President of Eastern Michigan University

FIGURE 2: SHARE OF FULL-TIME GRADUATE STUDENTS IN KEY FIELDS AT U.S. UNIVERSITIES WHO WERE INTERNATIONAL STUDENTS, 2015



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2016.

prepare the next generation of American workers.⁷ And it is international students who are filling the gap.

In 2015, 42 percent of STEM master’s degree graduates and 43 percent of STEM PhD graduates from U.S. universities were international students, according to an NAE analysis of federal education data.⁸ In computer science and electrical engineering—the building blocks of the 21st century knowledge economy—as well as petroleum engineering, almost eight out of every 10 graduate students in the United States were international.

These students are training at a time when the need for educated STEM workers in America is growing increasingly dire. The United States is expected to be short 1 million STEM graduates⁹ by 2022 and have 2.4 million unfilled STEM positions¹⁰ in manufacturing alone by 2028, predominantly in computer-technology related roles. At the same time, the United States is experiencing a teacher shortage in computer science. Although American undergraduates have begun to enroll in computer science courses in record-high numbers,¹¹ many U.S. colleges are unable to provide them the training they need due to a nationwide shortage of qualified professors.¹²

“If we shut off the pipeline to international students, we could have a problem in the future where we will not have enough people around to teach American students in these important STEM fields,” says Kevin Shih, an economics professor at Queens College CUNY. “Our workforce is going to need educated people in these fields.”

International students could help fill that gap. Three-quarters of all foreign-born science and engineering doctorates say they plan to stay in the United States after graduation—and many pursue teaching roles. In 2015, 30 percent of science and engineering faculty were foreign-born individuals with doctorates from U.S. schools—a group largely made up of those who came to the United States on student visas—compared to just 12 percent in 1973.¹³ In some fields, such as engineering and computer and information sciences, more than half of professors—or 53 and 52 percent, respectively—were foreign-born individuals with PhDs from U.S. institutions in 2015. Having qualified professors with training from top U.S.

universities helps ensure that U.S.-born students will be able to play a larger role in STEM fields in the future. One 1999 study of U.S. undergraduates found that 90 percent of those who switched out of STEM majors—despite an intent to pursue a STEM field and very high math scores—cited “poor teachers” and the inability to get academic help as reasons.¹⁴

Beyond our university systems, international students fill other important gaps in the American workforce.

One recent study from the National Science Foundation found that although immigrants comprised just 13 percent of the U.S. population in 2015, they constituted nearly one-third of college-educated employees in science and engineering fields, and almost half of doctoral-level employees in such disciplines.¹⁵ Although those workers represent a broader group than just international students, the outsized role of these foreign-born workers is notable.



SPOTLIGHT ON

Germany

Germany, much like the United States, has faced a demographic challenge in recent decades: Its population is rapidly aging, causing worker shortages and a strain on social welfare programs. But instead of making visas more difficult to obtain, Germany is throwing open the doors to international students. In 2012, the government enacted Germany’s Blue Card, which allows non-EU citizens with a university degree and a job that meets or exceeds a minimum salary to work in the country for four years, during which time they may apply for permanent residency. (EU residents can study and live in the country without a visa.)

The country also does not put the same pressure on students as the United States does to have a job immediately after earning their degrees. International students in the European economic powerhouse are allowed to remain in the country for 18 months after graduation, during which time they can look for a job and work in a position unrelated to their major to support themselves. About half decide to stay and 40 percent plan to remain at least 10 years.¹⁶ Former international students now outnumber migrants who came to the country from outside Europe on high-skilled visas.¹⁷ “International students who stay in Germany as skilled workers are one of the biggest talent pathways we have,” says Simon Morris-Lange,¹⁸ a lead researcher with SVR,¹⁹ a nonprofit, nonpartisan think tank that analyzes immigration.

Germany also offers free tuition to all students, including those from outside the EU, and provides more than 1,400 academic degree programs taught entirely in English, many in STEM disciplines. The country also recently committed an additional €100 million (US\$111.6 million) to help integrate refugees at its higher education institutions.²⁰

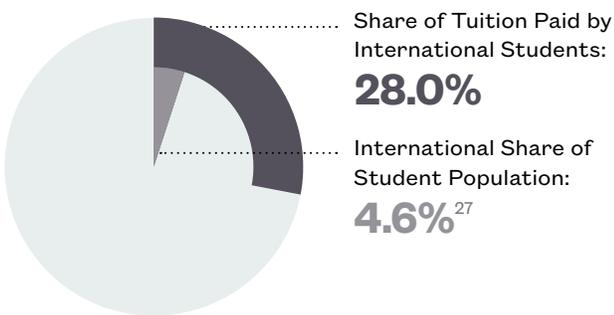
Germany’s efforts to lure students are already paying hefty dividends. In 2011, the last year for which data is available, international students spent an estimated €1.3 billion (US\$1.5 billion) and generated tax revenues of roughly €400 million (US\$446 million).²¹ A healthy population of high-skilled workers has also helped the country evolve to meet the needs of the current economy. In 2018, the World Economic Forum Global Competitiveness Report²² ranked Germany as the most innovative economy in the world,²³ outperforming the United States, which ranked second.

Lowering the Cost of Tuition for American Students

At America’s public colleges and universities, tuition rates are two to three times higher for international students than they are for those from in-state. “That’s not by accident,” Shih says.²⁴ “That’s a strategic decision. The tuition price that in-state students pay does not cover the actual costs, and universities have come up with very clever ways to subsidize public universities to provide education at a discount to domestic students.”

In 2015, foreign students paid more than \$9 billion in tuition and fees to U.S. public universities—an amount that constituted about 28 percent of total public university tuition even though international students comprised just 4.6 percent of the student population that year.²⁵ Through their larger tuition contributions, international students make it possible for more American students to be able to afford to attend college. When Shih analyzed a decade of international graduate student data, he found evidence of this symbiotic relationship.²⁶ When international graduate student enrollment rose from 1996 to 2000, net tuition paid by American students dropped an average of \$1,000 a year. When international student enrollment declined from 2000 to 2004, domestic tuition increased.

FIGURE 3: INTERNATIONAL STUDENT SHARES OF POPULATION AND TUITION PAID AT PUBLIC UNIVERSITIES, 2015



Source: Loudenback, 2016.

“The fact is that the STEM programs could stand to grow. We don’t have enough applications.”

JOSEPH STEINMETZ

Chancellor of University of Arkansas

Sustaining Academic Disciplines

University departments do not have a finite number of positions. Just as high-skill workers stimulate the economy to add jobs, international students allow departments to boost hiring and research, creating additional spots for American students. “It is a thriving ecosystem,” says Rajika Bhandari, a senior research advisor with the Institute of International Education.²⁸

“We have to disabuse people of the notion that when you bring an international student in that somehow they’re taking a seat away from an American student,” says University of Arkansas Chancellor Joseph Steinmetz. “The fact is that the STEM programs could stand to grow. We don’t have enough applications.”

In the past, when international student enrollment has declined, as it did briefly after September 11, graduate STEM programs have been disproportionately affected, Bhandari says. “There have been departments that have faced the threat of having to end their programs,” she explains. “Then the question becomes: Can an institution afford to keep a program afloat, not just for international students, but for American students as well?”



SPOTLIGHT ON

The Netherlands

While the U.S. government does not provide public financial aid to international students, Netherlands has opted for a far different approach. There, the government contributes to as many as 770 annual €5,000 (US\$5,575) scholarships to first-year international students.²⁹ The country also grants international students one-year residency permits, which allow them to work without restrictions, for the year prior to their matriculation and the year after their graduation.

Such measures have been effective at attracting international students. The number of foreign students in the country has tripled since 2004, with the steepest gains seen in universities offering a high volume of coursework in English. Roughly 25 percent of international students stay after graduation, contributing a combined €1.64 billion (US\$1.8 billion) in annual taxes and other direct government payments.³⁰

Conducting Cutting-Edge Research

International graduate students do not have access to U.S. loans or public sources of financial aid, and most, at least in scientific fields, fund their education by working as teaching and research assistants. It is the existence of these assistants that draws top faculty from around the world, who then have the help they need to conduct groundbreaking research and win grants.

“In the STEM fields, a very large percentage of the faculty and researchers are people who came to the United States to begin with as international students,” Bhandari says. That includes more than one-fifth³¹ of the founders of U.S. startup companies valued at \$1 billion or more, and many of the 101 Fortune 500 companies³² that were founded by immigrants. One prominent example is Elon Musk, a South African who came to the United States to study at the University of Pennsylvania. His electric car company, Tesla, has six U.S. factories and 46,000 employees alone.

International graduate students often carry out much of the work behind America’s greatest innovations.

In fact, they are involved in so many U.S. patents that a World Bank policy paper determined that for every 100 international students who receive science or engineering PhDs from U.S. universities the nation gains 62 future patent applications.³³

Realities on the Ground

At the University of Arkansas National Center for Reliable Electric Power Transmission (NCREPT), a team of electrical engineers, physicists, and computer and mechanical engineers are designing systems to power the world’s future. Electric vehicle transmissions and batteries, electrified transportation and communications systems, robots, computer semiconductors, cell phones, security scanners— all depend on complex electrical engineering systems designed by high-level researchers.

AT NCREPT, most of those researchers are foreign-born: Two-thirds of last year’s 93 graduate student researchers were international students, and eight of the program’s 14 faculty members were foreign-born; seven of those eight professors came to the United States as international students.

“It’s very difficult to convince Americans to stay in school for a PhD in electrical engineering,” says Dr. Alan Mantooth, NCREPT’s executive director. “We’re sort of a victim of our success in that you can get a great job with a bachelor’s.”

In short, the United States is not producing enough graduates in electrical engineering—as well as in computer science and some other STEM fields—to do the top-flight research needed to fuel the advanced technology economy.³⁴ Toyota, Ford, Caterpillar, John Deere, Boeing, and others—all of which have large manufacturing facilities in the United States—have funded and used NCREPT research and design. NCREPT operated on \$10 million in industry and government grants in FY2019.

“To do the amount of work that we do, and to have the impact that we have, it takes all of our students,” Mantooth says. “Right now, we have 93, and we need 140. It’s hard to find qualified, good people. We scour the earth for them.”

“Extrapolate me to the rest of the nation’s university research facilities,” he says. “They couldn’t cut themselves back by two-thirds. That would have a significant impact on the nation’s ability to differentiate itself and stay ahead as the number one economy in the world.”

Providing Cross Cultural Exposure

When Rohan Bhatnagar moved into his dorm at Embry-Riddle Aeronautical University in 2008, he quickly realized he was a novelty. Bhatnagar is from India, and was raised in Nigeria. All five of his suitemates were white Americans with little to no foreign travel under their belts. Bhatnagar recalls that one gave him a bit of a hard time—at first. “But because of me, he looked up where India is; he looked up Africa and Nigeria. His horizons completely broadened,” Bhatnagar says. “In accepting me, he accepted everyone like me. And that was something that he was not able to do at the onset.”

University leaders say one of the most valuable contributions international students make is to expose American students to new cultures and perspectives.

Only one in 10 U.S.-born undergraduates study abroad, an experience that is cost-prohibitive to many. Yet on U.S. campuses, all have the opportunity to study, live, and work with young people from more than 200 countries—experience that is vital in our increasingly global economy. “We look at this as a very strong aspect of our education,” says Alan Cramb, president of the Illinois Institute of Technology (IIT). “We want our students to be successful when they leave the university, and to do that they need to be able to work with people in different situations.”

In fact, research suggests that cross cultural exposure translate into meaningful wage benefits for U.S. workers. A 2017 NAE study found that when a given workplace or metropolitan area became more diverse, wages for workers at all skill levels increased as a result.³⁵

“To do the amount of work that we do [...] it takes all of our students. Right now, we have 93, and we need 140. It’s hard to find qualified, good people. We scour the earth for them.”

DR. ALAN MANTOOTH

Executive director of the University of Arkansas National Center for Reliable Electric Power Transmission

PART II

Fewer International Students Coming to America

After decades in academia, University of Arkansas Chancellor Joseph Steinmetz has begun to witness a new phenomenon: international students forgoing an opportunity to study in the United States.

He is not alone. Universities across the country are reporting an alarming drop in the number of international student enrollments over the past two years. Of particular concern are indications that many of these students are not passing up an international education—they are simply taking a pass on the United States. “You can look at it as it’s a recruitment of talent away from us,” Steinmetz says.

Other than a dip following September 11, international student enrollment has enjoyed a steady rise since the 1970s, according to IIE’s Open Doors survey.³⁶ But in fall 2016 and again in fall 2017, the number of first-time international student enrollments dropped, by a total of 9.6 percent, or 29,005 students. When Rahul Choudaha, a research associate at the University of California, Berkeley’s Center for Studies in Higher Education, analyzed total enrollment numbers using National Science Foundation data, he found that between fall 2016 and fall 2017 the total number of actively enrolled international students declined by 7.7 percent, or 31,520 students.³⁷ Using a conservative estimate that each of these students spends \$25,000 a year in tuition and fees, that translated to a potential revenue loss to U.S. higher education of \$788 million in a single year. With domestic enrollment already down after a six-year

slide,³⁸ many universities cannot make up the difference and have been slashing programs that serve all students.³⁹

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“It may seem like a small population, but there’s a massive, massive economic impact,” says Bhandari, who oversees research for IIE. “Then with the direct connection of science and engineering to the overall global competitiveness of the United States, there are real implications when those numbers start to fall.” As Choudaha notes, nearly half of the 2017 decline was due to a decrease of 14,730 international graduate students in science and engineering.⁴¹

Universities’ concerns extend well beyond their own campuses. Leaders like Steinmetz worry how they’ll supply industry at home with skilled workers if international student numbers continue to drop. The University of Arkansas received 12.8 percent fewer applications from international undergraduates and 8 percent fewer from international graduate students for

FIGURE 4: INTERNATIONAL STUDENTS IN STATES WITH STEEPEST DECLINE IN INTERNATIONAL STUDENT ENROLLMENT FROM FALL 2016 TO FALL 2017

	DECLINE IN INTERNATIONAL STUDENT ENROLLMENT, FALL 2016 TO FALL 2017	ECONOMIC CONTRIBUTION OF 2017-18 INTERNATIONAL STUDENTS	NUMBER OF JOBS THEY CREATED OR SUPPORTED
AR	5,376 international students, Fall 2017 -16.7%	\$148.0M	1,075
MT	1,485 international students, Fall 2017 -13.7%	\$46.9M	467
TN	8,870 international students, Fall 2017 -10.9%	\$323.8M	4,119
ND	2,179 international students, Fall 2017 -8.9%	\$52.0M	481
OK	8,945 international students, Fall 2017 -8.6%	\$285.7M	2,848
MS	3,450 international students, Fall 2017 -8.4%	\$90.3M	912
KS	9,571 international students, Fall 2017 -6.5%	\$260.2M	2,499
SC	6,207 international students, Fall 2017 -6.5%	\$191.7M	2,017
NH	4,391 international students, Fall 2017 -6.0%	\$155.0M	1,935
OR	12,580 international students, Fall 2017 -4.8%	\$462.9M	4,997
NM	3,426 international students, Fall 2017 -4.7%	\$96.0M	924

the 2018 fall semester than they had for the fall of 2017. Steinmetz needs those students to help him expand two key programs: logistics and supply chain management; and data science. “These are areas where we need growth to help the business community, as well as Arkansas,” he says. “In essence, that puts a halt on that.”

Of the states, Arkansas colleges and universities experienced the steepest declines on average in international student enrollment, with a 16.7 percent drop from fall 2016 to fall 2017. In general, states in the South-Central Region—defined here as including Arkansas, Texas, Oklahoma, and Louisiana—as well as the broader Midwest tended to have the highest

losses. These are areas with a higher proportion of large, public universities without the kind of high-profile international reputations enjoyed by some institutions on the East Coast, which fared better, Bhandari says. “The West Coast is a bit of mixed picture,” she adds. The regions hit the hardest by dropping international enrollment are also the areas where higher education is forecast to experience the steepest declines in domestic enrollment over the next decade due to low U.S. birthrates.⁴² Rural areas also tended to fare worse than urban ones, says Bhandari, in part because they are seen as less ethnically diverse and potentially less friendly toward immigrants.



SPOTLIGHT ON

Russia

Russia began tackling the international education market in earnest in 2012, when it launched its 5/100 initiative, a program designed to ensure at least five of the country’s universities rank in the top 100 in the world by 2020. That effort pumped 60.5 billion rubles (US\$956.5 million) into the nation’s universities from 2013 to 2017 alone. While some of those funds went toward developing new academic programs and building out labs, a meaningful share was devoted to the country’s goal of recruiting top talent: The government set a target that 15 percent of students and 10 percent of university lecturers be international by 2020. In 2017, the country announced it hoped to go further, tripling the number of international students studying in Russia by 2025, to 710,000.

To achieve these goals, Russian schools have dramatically expanded coursework in English⁴³ and begun awarding tuition and housing to 15,000 foreign students⁴⁴ annually. Many faculty members teaching courses in English or publishing in Western journals are given hefty bonuses and financial rewards.⁴⁵ The country is also both fast-tracking and extending the duration of student visas.⁴⁶ Russia hopes these methods will attract more students from beyond the former Soviet bloc and ultimately heighten its international and influence.

“Without a doubt, higher education is one of the leading instruments of soft power,” Alena Nefedova, a junior research fellow at the Higher School of Economics in Moscow, told an Ozy reporter.⁴⁷

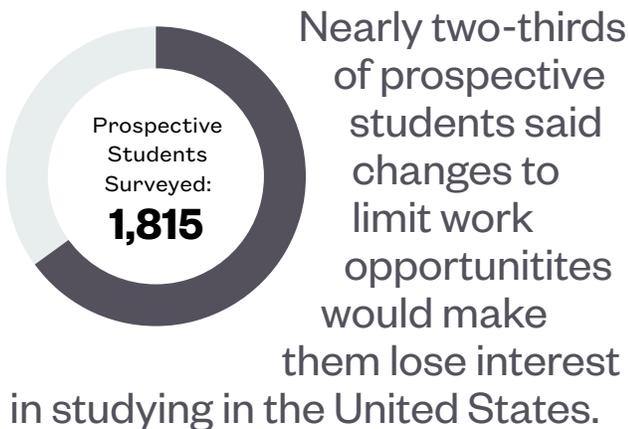
Although the country has faced challenges meeting its aggressive targets, recent programs seem to be having an impact. The number of international students rose 40 percent from 2013 to 2017, to comprise 5.6 percent of its student population.⁴⁸ Given current trends, the government has predicted that the value of Russian education exports will reach RUB373 billion (US\$6.3 billion) a year by 2025, more than quadruple what it was in 2017.⁴⁹

“Students—and even families—have started saying, ‘I’m not sure that the United States is the number one choice for me,’ which before was never even questioned.”

RAHUL CHOUDAHA

Research associate at the University of California, Berkeley’s Center for Studies in Higher Education

FIGURE 4: STUDYPORTALS SURVEY RESULTS, APRIL 2018



Source: Choudaha, 2018.

Restrictive Immigration Policies Contribute to Declines

Many educators attribute the sudden decline in international student numbers to a simultaneous push and pull: a recent rise in anti-immigration sentiment in the United States, and a concurrent rise in attractive alternatives elsewhere as other countries woo international students. The unfortunate combination means the United States can no longer count on being the first-choice destination for the world’s best and the brightest minds.

“It regularly happens now,” says Choudaha, who also serves as executive vice president of global engagement and research at Studyportals, an international education consultancy. “Students—and even families—have started saying, ‘I’m not sure that the United States is the number one choice for me,’ which before was never even questioned. It was a given that the United States was your number one choice. If you don’t get in, then you look for alternatives.”

Since 2017, the Trump administration has increased visa fees; limited entry to students from China and Muslim-majority countries; and proposed limiting the duration of student visas and cracking down on overstays. The administration has also imposed extreme and discretionary vetting policies that can include a DS-5535 Form, which asks for an applicant’s social media accounts and a 15-year history of addresses, travel, and employment; and announced a coming comprehensive overhaul of the programs that international students typically use to work in the country after graduation, the H-1B and the Optional Practical Training (OPT).

Several surveys suggest that the recent changes are already taking a toll. One recent study by Studyportals, for instance, found that nearly two-thirds of prospective students said changes to limit work opportunities would make them lose interest in studying in the United States.⁵⁰ Similarly, in an IIE survey of 500 U.S. higher education institutions, 83 percent cited the visa application process as a driver of international student declines, and at least half cited both the current social and political environment, and “feeling unwelcome in the United States.”⁵¹



SPOTLIGHT ON

Japan

After decades with a reputation as a relatively closed society, Japan—currently the fastest aging country in the world—has taken dramatic steps to attract and retain international students. Before 2012, skilled workers like college graduates had to live in the country for at least 10 years before they were eligible for permanent residency.⁵² In 2012, the country introduced a points-based system that cut that time period for many recent graduates to just five years. Today, under a special fast-track program, skilled graduates are often able to apply to remain in the country long term after a single year in the workforce.

Realizing employability plays a big role in whether students remain after graduation, Japan has also started subsidizing private-company internships for international graduates and providing additional Japanese language courses in the workforce.⁵³ International graduates are also given two years to find a job after graduation and are not required to work in their university field of study—a sharp contrast to the restrictions on U.S. graduates in the OPT program.

“This is a significant shift, providing an unprecedented opportunity for international students to remain in Japan post-graduation,” writes Thomas Brotherhood, of the UK’s Centre for Global Higher Education.⁵⁴

Signs indicate that students are taking advantage of what Japan has to offer. In 2014, the country set a goal of having 300,000 international students enrolled in its colleges and universities by 2020. Since then, the rate of growth in the international student population has averaged in the double digits each year. The country is expected to easily meet its 2020 enrollment goals.⁵⁵

The changing and sometimes vague nature of the administration’s directives have created confusion for schools, which report unusually lengthy visa delays and inexplicable denials; and fear among students, who could now effectively be denied re-entry for years based on a paperwork error that they have neither been informed of nor given the opportunity to resolve.⁵⁶ In this environment, some U.S. employers have become nervous about hiring international STEM graduates altogether.⁵⁷

Realities on the Ground

Steinmetz had an Iranian molecular biology graduate student whose visa was delayed for 15 months while the university held his spot open, “another thing I don’t

remember happening before,” he says. At Eastern Michigan University, teachers were perplexed as to why some Nepalese students were denied who, Smith says, “in the past would have been issued a visa.” The university’s international student enrollment is down 20 percent overall, and down 32 percent in the computer sciences. Recruiters have been going to either China or India at least every other month, and the university has dropped its international tuition rate. Still, Smith joins other administrators in sympathizing with students opting to pursue studies in another country instead.

“If they know they can get into an institution in Australia and have no problem getting a visa, do they want to give that up and try to get into the United States?” he says.

“The bigger issue is: Do they feel they will be welcomed in the United States?”

In an effort to alleviate such fears, the university has launched a welcoming campaign that includes more than 100 posters hung across town. He wants students to feel welcome and the university to have diversity and full enrollment, but gaining the confidence of international students is also an economic imperative. “There are a thousand engineering jobs open right now in Michigan,” he explains.

Reading the news that U.S. immigration services issued 3 percent fewer student visas last year—California alone had 8,337 fewer international students in 2019—Smith raises the alarm.⁵⁸ “Eight thousand students have a lot of buying power,” he says. “Is this the start of a rapid decline? If it is, it’s not just an Eastern Michigan problem or a Cal State problem. It’s a national problem. I think our industries will clearly struggle. I think the economies locally will be damaged.”

*California alone
had 8,337 fewer
international
students in 2019.*

The Struggle of Getting Work Visas After Graduation

When considering whether to study in the United States, international students must also assess whether they will be able to stay and work in the country after graduation. It is here where U.S. immigration policy is most clearly falling behind other developed nations.

In the United States, international graduates can stay and work in their field on the OPT visa, but only for one year, or three years if they are in a STEM field. After their OPT expires, they must obtain a different work visa if

they wish to stay. Unfortunately, however, those options are increasingly limited.

In most cases, these graduates must turn to the H-B visa for high-skilled immigrants. However, while many countries now use a points-based system to accept foreign skilled workers based on their country’s economic needs, the United States continues to use an outdated, arbitrary, and inadequate quota system. The U.S. government issues a maximum of 65,000 H-1B visas for private industry employment, with an additional 20,000 for master’s level graduates. In a country that graduated almost 237,000 international students in 2016 alone—and brings in thousands of additional skilled foreign workers to fill the needs of high-tech firms like Facebook, Microsoft, and Google—these caps are grossly insufficient. In 2015, U.S. Citizenship and Immigration Services received 233,000 H-1B visa applications from U.S. companies in the first seven days of the application window. Although the Trump administration stopped reporting the total number of applications received, the government has met the annual H-1B cap within five days every year since 2014.

Even physicians, which the United States needs to combat doctor shortages in many areas, may be forced to practice elsewhere after completing their residency program. Most international doctors train in the United States under the J-1 visa, but the J-1 visa requires recipients to return to their home countries for two years after their residency unless they are able to obtain a waiver, which can be difficult to do. Similarly, the O-1 visa, reserved for those with “extraordinary ability,” is effectively an option for a very limited number of graduates, such as those who have done groundbreaking research and received national recognition for their work.⁵⁹ Immigration experts say few people can reach that level of acclaim immediately after graduation.

“We have now created a big barrier for international students to gain work experience here in the United States,” says Choudaha. “Once they have graduated, they are finding this wall. They are literally bouncing back with no alternatives to their home countries or to a third destination, which is creating a negative word of mouth for new students. It creates a spiral. We lose talent as opposed to gaining talent.”

PART III

How Other Countries Are Pulling Ahead

Facing the same challenges as the United States—an aging population and a critical need for high-skilled talent—many countries are stepping up their efforts to recruit international students, using both university initiatives and immigration reforms. As this brief

demonstrates, such efforts have put many nations on a far different path than the United States: While U.S. schools have seen international enrollment drop, many other countries are benefitting from the booming international education market.



SPOTLIGHT ON

Australia

Starting in the mid 1990s, Australia began expanding its skills-based immigration system in an effort to counteract an aging population.⁶⁰ Today the country is on track to be the youngest of the English-speaking nations and the countries of Western Europe, a reality seen as critical to funding health and pension programs for retirees. Much of the credit goes to international students, whose numbers have grown by 560 percent in the last 20 years alone.⁶¹

The government invests AU\$200 million (US\$138 million) a year in international student scholarships.⁶² In return, foreign students contribute AU\$35 billion (US\$25 billion) to the economy, making international education Australia's third largest export.⁶³ An Australian university consortium claims that every three international students at a research university stimulates an additional AU\$1 million (US\$690,000) of economic activity over the course of their degrees.⁶⁴

In 2013, Australia introduced the temporary graduate visa, which allows international students under the age of 50 with a bachelor's degree to stay and work for two years—longer if they have a master's research or doctoral degree.⁶⁵ A 2019 provision adds an additional year for graduates from regional campuses as part of a broader federal effort to boost economic activity in rural areas.⁶⁶

“The benefit of a strong international education program,” the Australian Chamber of Commerce and Industry wrote, “is that these migrants are trained here, which makes their skills more relevant to Australia, yet without the costs of their education being paid for by Australians.”⁶⁷



SPOTLIGHT ON

France

Citing growing competition from Germany, Russia, Canada, and China, France

has increased the number of courses its universities offer in English to 1,328, a fivefold increase since 2004. The country plans to continue adding coursework as part of its goal to increase foreign-student numbers by 5 percent annually through 2027, to 500,000.⁶⁸ “In this field, just as in other economic ones, the world’s balance of power is shifting,” French Prime Minister Edouard Philippe said. “That’s why we need to welcome more foreign students.” France also plans to increase its overseas marketing, triple the number of international student scholarships to 21,000, prioritize its student visa processing, and make it easier to work in the country after graduation. The government already pays two-thirds of the real cost of tuition for international students; through its national initiative “Bienvenue en France” (Welcome to France), it has pledged €10 million additional euros (US\$11.1 million) to improve services for foreign students.⁶⁹

“The key part I would highlight is that countries that are succeeding in having this bigger ambition of attracting global talent are making sure the government policies are aligned with institutional strategies,” Choudaha says. “That’s coming at a level where it’s not just one university or ten universities saying we want international students, it’s the countries saying we want top talent.”



SPOTLIGHT ON

New Zealand

Days before it launched the New Zealand Education Strategy 2018–2030 to improve and grow its international education sector, New Zealand announced it was relaxing work regulations for foreign students.⁷⁰ Under the country’s new open work visa, students no longer need a job offer to get a post-study work visa. Graduates of bachelor’s or master’s programs can receive a three-year open work visa, with five-year extensions through the Essential Skills Work Visa for students who can show they have critical, in-demand skills.⁷¹

“What we are saying with these changes is that the pathway to residency from study is one that is based on skills—skills that are in demand here in New Zealand,” Immigration Minister Iain Lees-Galloway said when announcing the policy. She added that the flexibility and work rights New Zealand was offering its international graduates were “second only to Canada” and done with the express purpose of competing against other countries for top students.

Those sorts of changes have helped the tiny nation of New Zealand rapidly grow its profile among international applicants. International students contributed NZ\$4.8 billion⁷² (US\$3.1 billion) to New Zealand’s economy in 2017, almost twice⁷³ the amount they were responsible for just three years earlier. International education is now the country’s fourth-largest export.

Many factors have contributed to the recent growth in the number of students seeking an international education. Perhaps most importantly, rising incomes in developing nations such as China, India, and South Korea have allowed more young people than ever before to seek some form of higher education. Worldwide the number of college students has more than doubled since 2000, reaching 220 million in 2018. Yet with often limited university capacity at home, many of those students are seeking that education abroad.⁷⁴ From 1999 to 2016, the number of these mobile university students more than doubled, from 2 million to 5 million.⁷⁵ Looking forward, both the number of global students⁷⁶ and global mobile students (or those studying away from their home country) are expected to continue to rise.⁷⁷ For developed nations, this represents a golden opportunity to lure the best and the brightest students and future workers.

America's competitor nations have already set ambitious targets to widen their share of the international education pie. Canada set a target to have 450,000 international students by 2022, up from just 136,000 in 2001. Meanwhile Japan, long a country ambivalent to foreign nationals, set a target of 300,000; Germany, of 350,000; and China, of 500,000, all by 2020. Each represents at least a twofold increase—notably, a tenfold increase for Germany—over their 2010 numbers.

China, Canada, and Germany all met their targets early, and Japan was only 1,020 students shy of its goal by 2018. China is building out its university system, and reaching quality in some scientific fields at its top universities that is comparable with the average U.S. university, says Choudaha. China today is luring greater numbers of students from Africa and Asia, many of whom may not have been able to afford to study in the United States.

Providing Student Funding and English-Language Degree Programs

Six countries—Germany, Norway, Iceland, Finland, Brazil, and the Czech Republic—now offer free tuition at their public universities to international students from any country, including those from outside the European

Countries that offer free tuition to international students:

Germany

Norway

Iceland

Finland

Brazil

Czech Republic

Union. In most cases, to qualify for the same free education that its own citizens receive, international students must take coursework in the host country language, with the exception of doctoral programs, which are often conducted in English.

However, many countries are making concerted efforts to add programs taught in English to attract foreign students, including those that do not offer free tuition but provide degrees at costs that are often substantially lower than those in the United States. The number of degree programs taught in English in these often-small countries is striking. In the Netherlands research universities alone offer 411 bachelor's programs and 702 master's programs taught in English.⁷⁸ Germany offers 123 bachelor's, 996 master's, and 181 doctoral programs taught in English.⁷⁹ In the last decade, China tripled the number of universities with courses taught in English to more than 100.⁸⁰ Even Japan is paying universities to offer programs in English, among other efforts to compete for young talent.⁸¹

Immigration Policy Designed to Attract Students

Indeed, in many countries outside of the United States, immigration policy is increasingly used in sophisticated ways to both attract—and retain—top international talent. The Organization for Economic Cooperation and Development (OECD) reports that most of its 36 member nations—comprised of the world’s most advanced economies—have lowered barriers to entry for international students and fund programs to support student mobility. In addition to attracting international students, many countries have begun granting their foreign graduates temporary, open work visas, which allow graduates to find work in any field and easily switch employers if need be, something international graduates in America are typically unable to do under U.S. immigration policy.

One increasingly popular method these countries are using is the points-based visa system, which allots points

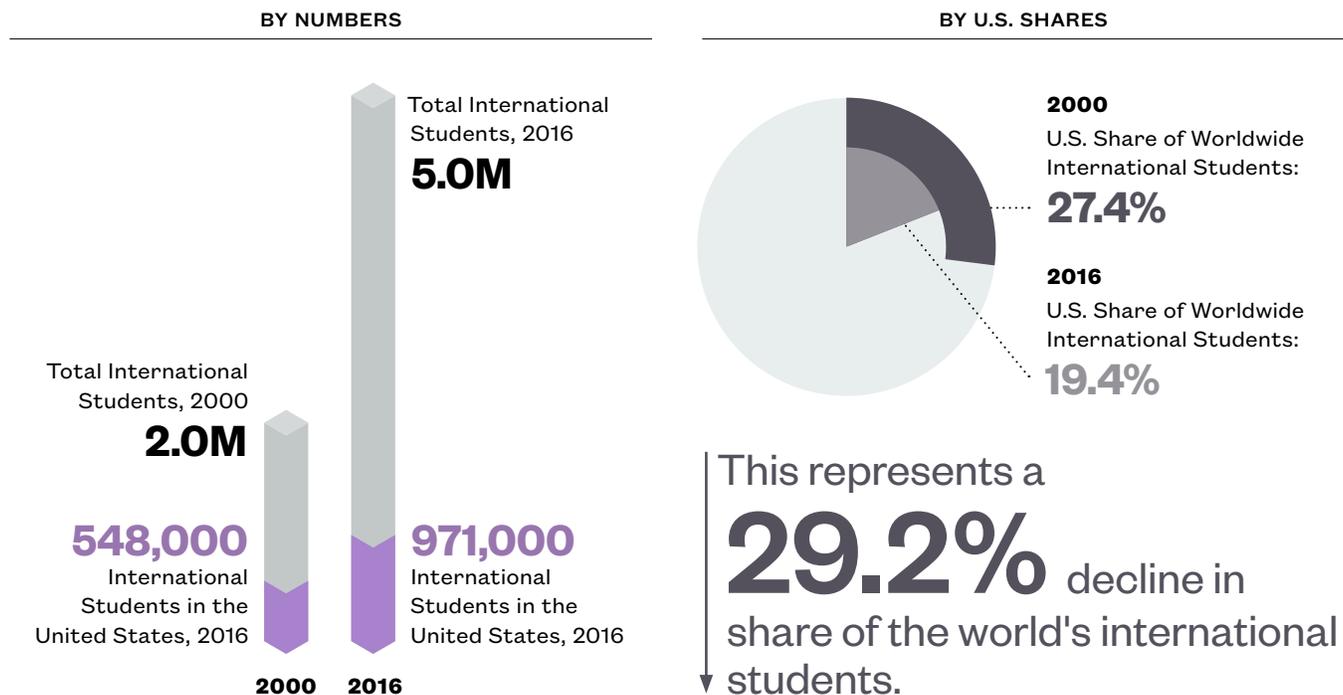
based largely on an immigrant’s potential to contribute to the economy and, as such, gives higher points to those with needed skills or a higher education—metrics that give a leg up to international students. Countries such as Canada, Australia, and New Zealand have relied on such systems for decades. Japan debuted a points program in 2012 that explicitly gives extra points to graduates of its colleges and universities. While the Trump administration has paid lip service to creating a points-based system, no action has yet been taken.

“The race is on,” Choudaha says. “And unless the immigration policies in the United States become more proactive, we will be in a place where we lose talent and future competitiveness.”

America Is Losing the Competition for Skilled Youth

Once the go-to destination for ambitious international students, the United States can no longer take a huge

FIGURE 5: CHANGE IN INTERNATIONAL STUDENT ENROLLMENT, 2000–2016



Source: OECD, 2002, 2018.

chunk of the international education market for granted. While 27.4 percent of international students worldwide chose to study in the United States in 2000, that figure had dropped to just 19.4 percent by 2016. Had the United States been able to hold on to its 2000 market share, 384,000 more international students would be studying in the country today.⁸²

There are signs that many other countries—which often boast friendlier immigration policies than the United States does—are seizing the moment. In Australia, New Zealand, Canada, and the UK—competitors in the lucrative English-language education market once easily dominated by America—between 11.9 percent and 19.8 percent of enrolled postsecondary students in 2016



SPOTLIGHT ON

Canada

In recent years, Canada's international education market has been booming. Between 2000 and 2018, the number of international students in Canada rose by almost 500 percent, from 122,665 foreign students to a record 572,415.⁸³ In contrast to the United States, which saw a drop in international students the last two years, Canada's international student population grew by 16 percent in 2017 and by an additional 20 percent in 2018.

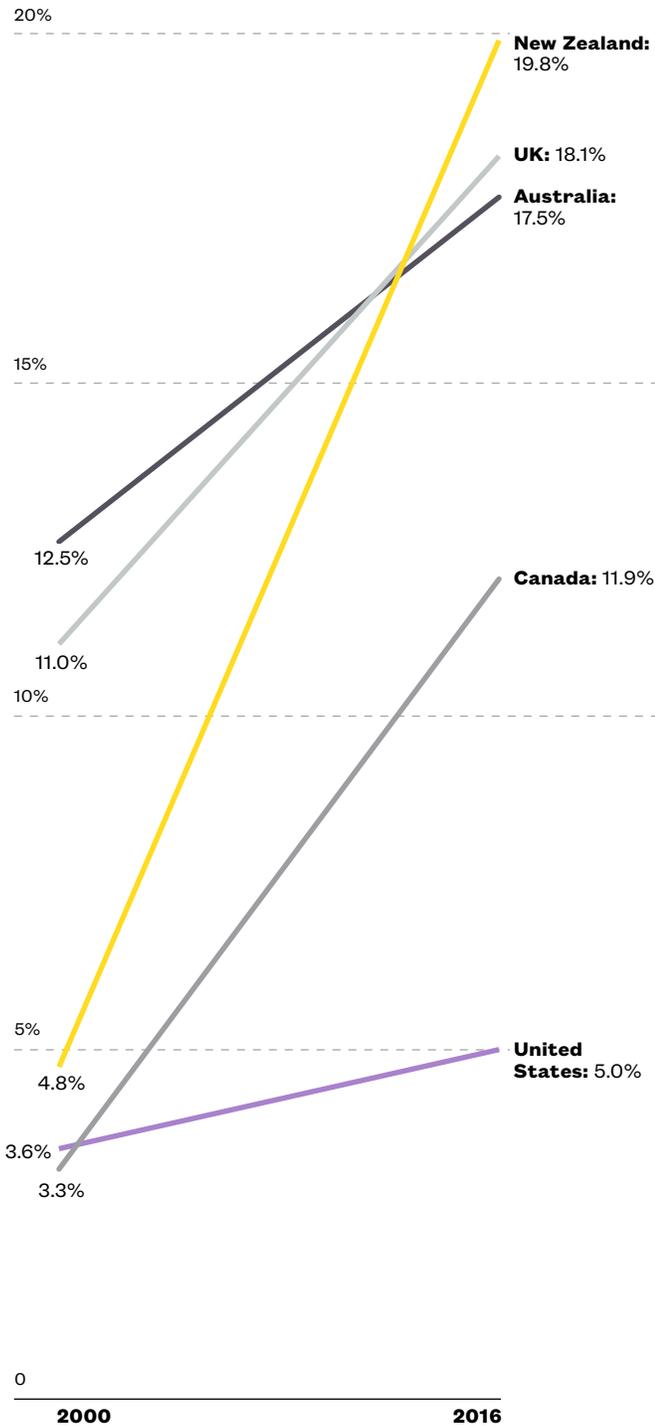
Many factors have contributed to Canada's success. While enrolled, international students in Canada can work in any field, part time during the school year and full time during breaks. In the United States, international students may only work off campus after completing their first year, and only in their field of study. They also must obtain permission from USCIS before doing so. Any hours international students in the United States work off campus are later deducted from the 12 months of OPT they are granted after graduation.

Canada's international students also have a particularly smooth transition to permanent residency. In 2019, Canada extended to 180 days the time international students have to apply for a post-graduation work visa.⁸⁴ With very few exceptions, all international graduates automatically qualify for an open work visa, which does not require a job offer and is good for up to three years. They are eligible for permanent residency after one year of work, or immediately upon graduation if they have enough points based on experience, age, education, and other factors.

To put that figure into context: A foreign national who graduated from a U.S. school and then went on the H-1B visa for high-skilled workers would typically have to wait at least six years before being able to transition to permanent residency. Individuals from India or China, two countries with a backlog of green card applicants, commonly wait more than a decade.

More broadly, Canada continues to refine its points-based immigration system—the first in the world when it debuted in 1967—to better retain international student talent. In 2016, the government started giving extra points to international student graduates, which helped triple the annual number of former international students granted permanent residency.⁸⁵ The hundreds of thousands of currently enrolled students, meanwhile, remain a boon to the country's economy. The government's most recent education trade report estimates international students added CA\$15.5 billion (US\$11.2 billion) to the country's economy in 2016, including CA\$2.8 billion (US\$2.1 billion) in tax revenue.⁸⁶

FIGURE 6: SHARE OF POSTGRADUATE STUDENTS WHO ARE INTERNATIONAL, 2000-2016



Source: OECD, 2002, 2018.

were from abroad. Those shares were two to three times that of those in the United States, where just 5.5 percent of those enrolled in U.S. colleges and universities were international students. Moreover, the UK, after having removed a two-year working visa available to international graduates of British universities in 2012, reversed course in 2019 and is planning to introduce the post-graduation working visa in the hopes of increasing international students' interest in studying in the UK.

“We’re not recruiting now against other U.S. institutions, we’re recruiting against Australia and Canada and Great Britain, and that’s new for us,” says Smith, of Eastern Michigan State. “I think our industries will clearly struggle. I think the economy locally will be damaged.”

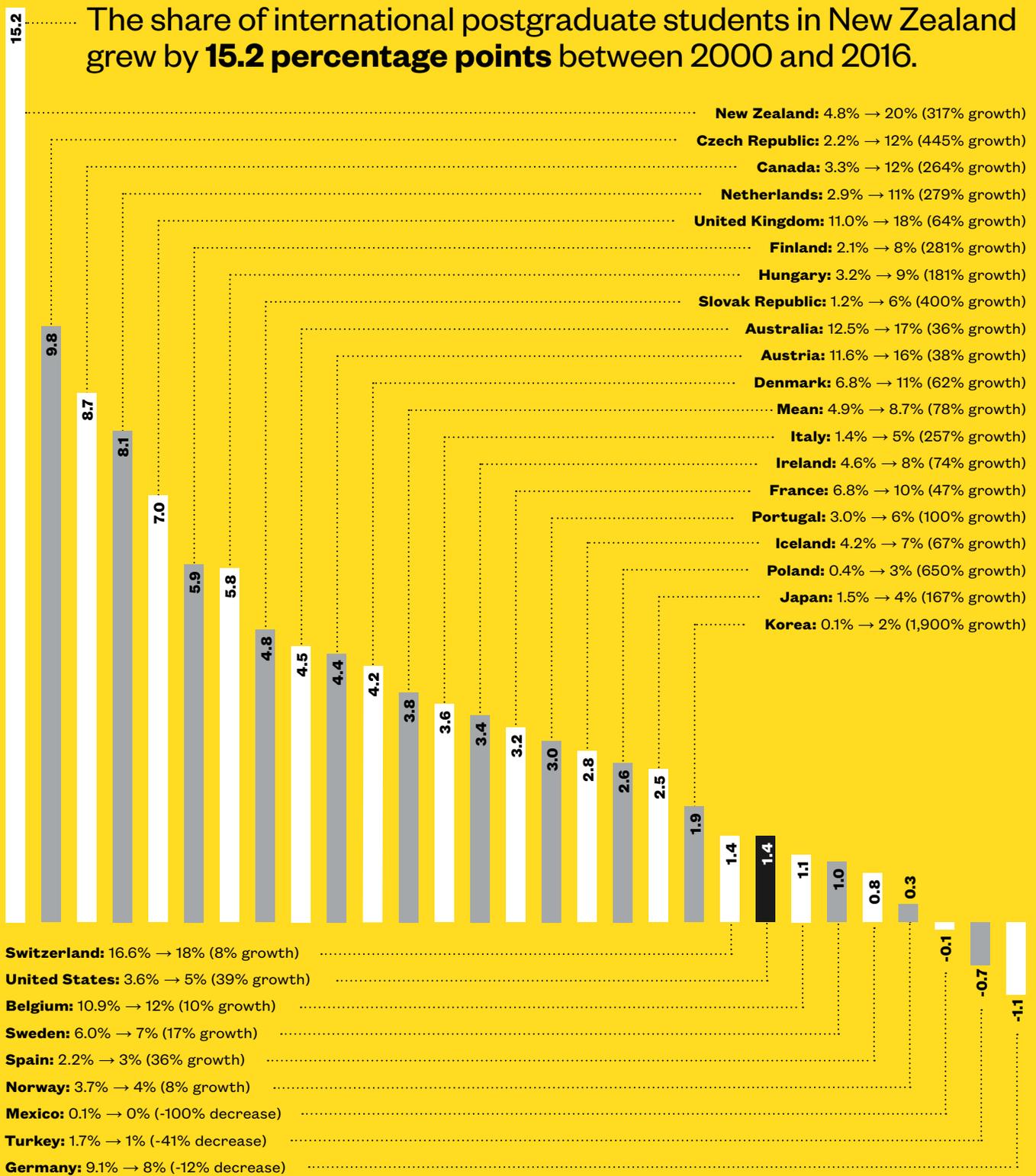
Cramb, the president of the Illinois Institute of Technology, bemoans the loss of talent and worries about the long-term impact on American companies. “We’re talking about students that now will never come,” he says. “These are missed opportunities in this country. I think we’ll be in a situation where we’ll be seeing industries going elsewhere because there isn’t the talent pool here. We’re just building a wonderful technical force in another country that would have been here.”

*“I think we’ll be in a situation where we’ll be seeing **industries going elsewhere** because there isn’t the talent pool here.”*

ALAN CRAMB

President of the Illinois Institute of Technology

FIGURE 7: SHARE OF POSTGRADUATE STUDENTS WHO ARE INTERNATIONAL, 2000-2016



Note: OECD figures from 2016 were published only as whole integers. Mean was calculated from the reported statistics.
 Source: OECD, 2002, 2018.

Conclusion

International students are an important part of the U.S. economy and the country's ability to compete on a global scale. International students make up 42 percent of those studying for a graduate-level degree in STEM fields, which are critical to U.S. innovation, and actively enrolled students already contribute \$39 billion to the economy each year. Yet in recent years, the country's place as the number one destination for the best and the brightest has been slipping. While 27.4 percent of international students worldwide were studying in the United States in 2000, that share fell to 19.4 percent by 2016—and all signs indicate it is still falling.

In this report, we described how the United States immigration system puts unnecessarily difficult burdens on those who want to come and study—and ultimately, contribute their talents—to the United States. America would be well served if it followed the lead of other developed countries, creating open-work visas for recent graduates, placing a higher cap on the number of skilled visas available each year, and implementing a merit-driven, points-based system to help evaluate green card applications. In today's Washington, however, where rhetoric on immigrants is highly charged and the 2020 election is the dominant focus, that sort of meaningful, transformative progress seems unlikely.

Yet, while Congress puts off taking concrete action, the administration continues to take unprecedented steps towards discouraging international student enrollment. This fall, public comment will open on a proposed ICE rule that would reverse decades of policy by putting a cap on the number of years a person can remain in the United States on a student visa.⁸⁷ Many advocates and university leaders worry limiting the number of years a student can stay will unduly harm the best and the brightest students working towards PhDs or multiple degrees. At the same time, the administration continues to fight a preliminary court injunction issued in May on the issue of how it defines “unlawful presence” of those

on F, M, or J visas.⁸⁸ If Washington's legal challenge succeeds, federal officials will be able to take a more aggressive stance on how they count the number of days a student has been in the country without a valid visa status. Advocates worry that common clerical errors on the part of a school or student—like not quickly reporting a student's change of address or part-time work opportunity—could result in students unknowingly accruing days out of status, which can result in deportation and multiyear bans from reentering the United States.

More than 60 U.S. universities signed on to amicus briefs opposing the recent unlawful presence rule—including top-flight postsecondary schools like Yale University, Harvard University, and Princeton University.⁸⁹ In Texas, graduate student associations from the state's top research institutions—including Rice University, University of Texas at Austin, and Texas A&M—have been similarly vocal about their opposition to the recent ICE rules.⁹⁰ If the United States hopes to win the global war for talent, however, it will take more than just the voices of university leaders to reverse the troubling immigration trends towards students detailed in this report. Given the essential role that the best and the brightest international students and researchers have played making the United States a leader in innovation and global competitiveness, the current assault on students should not just be a niche issue of concern to educators—but one of several immigration issues influencing American voters when they head to the voting booth in 2020.

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ABOUT

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