



October 26, 2020

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Acting Regulatory Unit Chief
Office of Policy and Planning
U.S. Immigration and Customs Enforcement
Department of Homeland Security
500 12th Street SW
Washington, DC 20536

Via Federal e-Rulemaking Portal: <http://www.regulations.gov>

Re: Establishing a Fixed Time Period of Admission and an Extension of Stay Procedure for Nonimmigrant Academic Students, Exchange Visitors, and Representatives of Foreign Information Media; 85 Fed. Reg. 60526; Docket No. DHSB-2019-0006; RIN: 1653-AA78

Dear Acting Chief Hageman:

The Center for Security and Emerging Technology (“CSET”) respectfully submits this comment on the proposed rule entitled “Establishing a Fixed Time Period of Admission and an Extension of Stay Procedure for Nonimmigrant Academic Students, Exchange Visitors, and Representatives of Foreign Information Media” (the “Proposed Rule” or “rule”), published by the Department of Homeland Security (“DHS”) on September 25, 2020 at 85 Fed. Reg. 60526. The Proposed Rule threatens U.S. national security and should be withdrawn.

A policy research organization within Georgetown University’s Walsh School of Foreign Service, CSET produces data-driven research at the intersection of security and technology, providing nonpartisan analysis to the policy community. CSET researchers have extensively studied trends among international students and scholars and their impact on U.S. national security, producing analyses that are relied upon in both the legislative and executive branches. This comment draws on CSET’s publications and ongoing research on this topic.

The Proposed Rule places new, fixed limits on the period of admission for foreign students and scholars, replacing the current “duration of status” admission period. DHS states “the intent of the proposed rule is to enhance national security.”¹ According to DHS, some

¹ Establishing a Fixed Time Period of Admission and an Extension of Stay Procedure for Nonimmigrant Academic Students, Exchange Visitors, and Representatives of Foreign Information Media, 85 Fed. Reg. 60526, 60572 (Sept. 25, 2020) [hereinafter the Proposed Rule].

visiting students and scholars knowingly violate the terms of their immigration status or other U.S. laws, and imposing a time limit will help the agency detect and deter them.²

However, the Proposed Rule fails to recognize the national security costs of this change. The F and J categories are critical, irreplaceable sources of talent for America's national security innovation base,³ especially in strategic fields such as artificial intelligence (AI) and advanced computing. America's national security leaders recognize their importance. The National Security Commission on Artificial Intelligence (NSCAI) states that America's "universities, companies, and innovation culture are magnets for the world's best AI talent. We need to encourage that talent to come, contribute, and stay."⁴ The House Armed Services Committee's bipartisan Future of Defense Task Force points out that current "immigration policy hinders the U.S.'s ability to attract and retain foreign STEM talent that instead flows to other countries, including competitors. . . . The U.S. must recognize this immigration shortfall by aggressively expanding visas for STEM talent."⁵

By adding uncertainty, complexity, and cost to an already faltering immigration system, the Proposed Rule is likely to deter talented students and scholars from coming to America, and drive many already in the country away. DHS overlooks the harm this would cause to national security. Moreover, DHS does not adequately assess the Proposed Rule's disproportionate and harmful effect on two especially important groups for national security: PhD students and Optional Practical Training (OPT) participants.

America's adversaries are openly working to exploit U.S. immigration restrictions for their own military and economic purposes. The Proposed Rule would bolster their efforts. DHS has failed to recognize this national security risk, properly weigh it against the rule's uncertain benefits, or consider reasonable alternatives. The Proposed Rule should be withdrawn.

1. Foreign students and scholars are critical national security assets

America's security depends on its continued scientific and technological leadership.⁶ In particular, emerging technologies such as AI are central to geopolitical competition in the 21st

² *Id.* at 60533-66.

³ See *The National Security Strategy of the United States*, WHITE HOUSE 21 (Dec. 2017), <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf> (the national security innovation base "is the American network of knowledge, capabilities, and people—including academia, National Laboratories, and the private sector—that . . . protects and enhances the American way of life.").

⁴ NAT'L SEC. COMM'N ON ARTIFICIAL INTELLIGENCE, INTERIM REPORT 16 (Nov. 2019), <https://drive.google.com/file/d/153OrxnuGEjsUvlxWsFYauslwNeCEkvUb/view> [hereinafter NSCAI INTERIM REPORT].

⁵ FUTURE OF DEFENSE TASK FORCE REPORT 2020, HOUSE ARMED SERV. COMM. 17 (Sept. 23, 2020), https://armedservices.house.gov/_cache/files/2/6/26129500-d208-47ba-a9f7-25a8f82828b0/6D5C75605DE8DDF0013712923B4388D7.future-of-defense-task-force-report.pdf.

⁶ *Id.* at 20.

century.⁷ Human capital is the essential resource in this competition.⁸ The United States is the world’s leading destination for talent: its renowned universities, vibrant private sector, and openness to people from other countries have long drawn the world’s best and brightest, making the nation safer, richer and more innovative.

Although newcomers of all sorts contribute to America’s security, CSET’s research shows that foreign students and scholars are especially critical.⁹ Two-thirds of graduate students in U.S. computer science and electrical engineering programs are international students.¹⁰ Sixty-six percent of America’s top 50 AI companies have immigrant founders, and nearly three-quarters of these founders came to the United States on student visas.¹¹ Today, former international students lead SpaceX, Google, Microsoft, and AI chipmaker NVIDIA; former J visa holders include Yann LeCun, an AI luminary and key figure in the development of modern machine learning.¹²

America’s geopolitical adversaries are acutely aware of the U.S. advantage in recruiting foreign talent, and are working to exploit restrictions and disruptions in the U.S. immigration system.¹³ “While the U.S. is driving talent away,” one prominent Chinese venture capitalist explained recently, “it is the perfect time for us to race to bring them back to China. . . . We rely on scientific and tech talent in achieving breakthroughs, so it is of the utmost importance that we

⁷ See *National Strategy for Critical and Emerging Technologies*, WHITE HOUSE (Oct. 2020), <https://www.whitehouse.gov/wp-content/uploads/2020/10/National-Strategy-for-CET.pdf>.

⁸ See, e.g., NSCAI INTERIM REPORT, *supra* note 4, at 16 (“Talent remains the most important driver of progress in all facets of AI.”); *Why Is Xi Jinping’s ‘First Resource’ So Important?* (习近平眼里的“第一资源”为何如此重要), CHINA CENT. TELEVISION (July 18, 2018), <http://politics.people.com.cn/n1/2018/0718/c1001-30155931.html>.

⁹ Remco Zwetsloot et al., *Keeping Top AI Talent in the United States: Findings and Policy Options for International Graduate Student Retention*, CTR. FOR SEC. AND EMERGING TECH. vii-viii (Dec. 2019), <https://cset.georgetown.edu/research/keeping-top-ai-talent-in-the-united-states/> [hereinafter *Keeping Top AI Talent In the United States*].

¹⁰ *Id.* at 2-3. Although some worry that immigrants displace native-born Americans, in strategic fields such as AI, the available data indicate that foreign students and scholars are filling a shortage in the U.S. labor market. *See id.* at vii. The evidence for “crowding out” in other STEM fields is mixed. *See* Remco Zwetsloot, *US-China STEM Talent “Decoupling”: Background, Policy, and Impact*, JOHNS HOPKINS UNIV. APPLIED PHYSICS LAB. 14 (2020), <https://www.jhuapl.edu/assessing-us-china-technology-connections/dist/407b0211ec49299608551326041488d4.pdf>.

¹¹ Tina Huang et al., *Most of America’s “Most Promising” AI Startups Have Immigrant Founders*, CTR. FOR SEC. AND EMERGING TECH. (forthcoming 2020).

¹² Yann LeCun (@ylecun), Twitter (June 23, 2020, 5:07 PM), <https://twitter.com/ylecun/status/1275536059426844674>.

¹³ *See, e.g.*, NSCAI INTERIM REPORT, *supra* note 4, at 18; Catherine Wong, *Tough US immigration policy could be the key to China winning technology race, says top AI investor*, S. CHINA MORNING POST (Oct. 30, 2019), <https://www.scmp.com/news/china/diplomacy/article/3035546/tough-us-immigration-policy-could-be-key-china-winning>.

attract more talent.”¹⁴ Capitalizing on new restrictions and uncertainty in U.S. visa policy, Chinese universities and employers are actively recruiting U.S.-based students and scholars.¹⁵

At the same time, CSET research shows that economic competitors such as the United Kingdom, France, Canada, and Australia are liberalizing their immigration systems, in many cases with the explicit aim of drawing talent away from the United States.¹⁶ This summer, one Dutch city even launched a recruitment campaign targeting foreign nationals in U.S. college towns. Its slogan: “Stop waiting for the American Dream.”¹⁷

The stakes of this global competition for talent are sky high. If foreign students and scholars avoid the United States, some will go to work for America’s rivals, boosting their economies and militaries at America’s expense. Meanwhile, security-critical domestic employers, from semiconductor manufacturers to aircraft designers, could experience labor shortages. This will slow domestic innovation and put essential civilian and military supply chains at risk.¹⁸ To recruit and retain the talent they depend on, many U.S. employers will have no choice but to offshore operations to other countries with large domestic talent pools or more accommodating immigration policies.¹⁹ Beyond the obvious economic and employment impacts on the United States, this shift could increase risks of espionage and diversion.

2. The Proposed Rule will deter foreign students and scholars from coming to the United States, harming national security; DHS’s analysis of this risk is inadequate

Foreign students and scholars are critical to U.S. national security, and other countries are working hard to attract them - or keep them home in the first place. In this high-stakes

¹⁴ Wong, *supra* note 13.

¹⁵ See, e.g., Luz Ding, *Chinese scientists in America face special scrutiny. Why?*, SUPCHINA (Mar. 25, 2020), <https://signal.supchina.com/chinese-scientists-in-america-face-special-scrutiny-why>; Andrea Widener, *Concerns about scientist immigration to the US have amplified during the COVID-19 pandemic*, CHEM. & ENG’G NEWS (June 29, 2020), <https://cen.acs.org/policy/Concerns-about-scientist-immigration-to-the-US-have-amplified-during-the-COVID-19-pandemic/98/i25>; Hepeng Jia, *China’s science ministry gets power to attract more foreign scientists*, NATURE INDEX (Mar. 23, 2018), <https://www.natureindex.com/news-blog/chinas-science-ministry-gets-power-to-attract-more-foreign-scientists>.

¹⁶ Huang et al., *supra* note 11; see, e.g., *Other Countries Court Skilled Immigrants Frustrated by U.S. Visa Laws*, WASH. POST (Feb. 18, 2013), https://www.washingtonpost.com/national/other-countries-court-skilled-immigrants-frustrated-by-us-visa-laws/2013/02/18/73d9f7ce-7137-11e2-ac36-3d8d9dcaa2e2_story.html.

¹⁷ *Wervingscampagne Nederlandse techsector voor talent uit VS*, NOS (July 10, 2020), <https://nos.nl/artikel/2340183-wervingscampagne-nederlandse-techsector-voor-talent-uit-vs.html>.

¹⁸ See, e.g., Declaration of Patrick Duffy, Wash. Alliance of Tech. Workers v. U.S. Dep’t of Homeland Sec., No. 1:16-cv-01170 (D.D.C. Oct. 18, 2018), ECF No. 37-3.

¹⁹ See Britta Glennon, *How Do Restrictions on High-Skilled Immigration Affect Offshoring? Evidence from the H-1B Program* (NBER Working Paper No. w27538, July 24, 2020), <https://ssrn.com/abstract=3658832>; Ana Monteiro, *U.S Visa Curbs See Firms Hire More Workers in Overseas Units*, BLOOMBERG (Sept. 24, 2020), <https://www.bloomberg.com/news/newsletters/2020-09-24/supply-chains-latest-u-s-visa-curbs-spur-more-hiring-in-overseas-units>.

environment, policymakers should avoid any measures that could significantly disrupt talent inflows into the United States. Unfortunately, the Proposed Rule takes the opposite approach.

Earning an undergraduate degree, finishing a PhD thesis, and completing postdoctoral research are all long and uncertain endeavors. Predicting ahead of time exactly how long they will take is often impossible. Nonetheless, the Proposed Rule limits foreign students' and scholars' time in the United States to a fixed period, not to exceed four years - significantly shorter than many courses of study.²⁰ If the rule enters into effect, anyone considering studying in the United States will have to weigh the risk of being forced out of the country before their work is done.

The Proposed Rule's extension process will do little to relieve the uncertainty. As other commenters correctly note, it is not at all clear that immigration officers, who will often be unfamiliar with any given applicant's discipline or program of study, will be able to apply the rule's extension criteria fairly and consistently.²¹ In any event, applying for an extension will be a disruptive, months-long process²² that, according to DHS, will routinely cost more than \$1000.²³ The Proposed Rule estimates it will add hundreds of thousands of extension applications to DHS's paperwork queue every year, potentially exploding processing times and raising questions about the quality of review DHS will be able to provide.²⁴

In turn, the Proposed Rule will deter foreign students and scholars from coming to the United States. As the NSCAI recently reported, “[t]he United States is facing new competition for global STEM talent . . . We are beginning to see troublesome signs that America's ability to attract and keep the top global talent may be weakening.”²⁵ Already, international student enrollment is falling, processing delays are historically high, and many skilled foreign-born

²⁰ NAT'L CTR. FOR SCI. & ENG'G STATISTICS, SURVEY OF EARNED DOCTORATES 2018, Table 31 (Dec. 2019), <https://ncses.nsf.gov/pubs/nsf20301/data-tables/>. Some groups are subject to 2-year limits; the rule's basic limit - a period of admission expiring in four years or on the date indicated on Form I-20 or Form DS-2019 - applies in all other cases. Proposed Rule at 60543-44.

²¹ See, e.g., Comment of NAFSA: Association of International Educators, ICEB-2019-0006-24910 at 15 (Oct. 22, 2020), <https://www.regulations.gov/document?D=ICEB-2019-0006-24910>. Cf. *Fundamental Research Security*, MITRE CORP. 37 (Dec. 2019), https://www.nsf.gov/news/special_reports/jasonsecurity/JSR-19-2IFundamentalResearchSecurity_12062019FINAL.pdf (“[T]he IC and law enforcement agencies lack an understanding of how academic research labs operate, and the advising and mentoring relationships that exist between faculty members and the range of researchers who work with them.”).

²² See Proposed Rule at 60552 (students will apply for extensions of stay using Form I-539); *Historical National Average Processing Time (in Months) for All USCIS Offices for Select Forms By Fiscal Year*, U.S. CITIZENSHIP & IMMIGRATION SERV. (accessed Oct. 22, 2020), <https://egov.uscis.gov/processing-times/historic-pt> (showing months-long, increasing wait times for forms including Form I-539).

²³ See Proposed Rule at 60570.

²⁴ *Id.* at 60568.

²⁵ NSCAI INTERIM REPORT, *supra* note 4, at 18; see Andrea Widener, *Trump throws international science immigration into turmoil*, CHEM. & ENG'G NEWS (June 23, 2020), <https://cen.acs.org/policy/Trump-throws-international-science-immigration/98/i25>.

graduates face years- or decades-long waits for green cards.²⁶ In surveys, U.S. schools identify visa issues as the leading cause of declining international enrollment.²⁷ America’s top AI experts are also increasingly concerned, with one reporting in 2019 that “visa restrictions have been one of the largest bottlenecks to our collective research productivity over the past five years”²⁸ and another worrying that “increasingly restrictive immigration policies are systematically depriving our universities of some of the world’s top talent.”²⁹

To this faltering system, the Proposed Rule adds still more uncertainty and cost. In an era when other countries are increasingly attractive destinations for talent, these new burdens will make fewer students and scholars choose the United States, with serious implications for America’s prosperity and national security. Even a relatively small talent outflow could cause major damage.³⁰

The Proposed Rule acknowledges this risk, but its analysis is superficial. In a discussion amounting to two paragraphs of the 73-page rule, DHS concedes that “nonimmigrant students and exchange visitors may be incentivized to consider other English-speaking countries for their studies,” causing economic harm to the United States - but then discounts this possibility, reasoning that “many factors that make the United States attractive to nonimmigrant students and exchange visitors beyond the allowable admission period. . . . These factors may outweigh the perceived impacts from the proposed admission for a fixed period.”³¹ This analysis both misunderstands the harm the Proposed Rule will cause and underestimates the rule’s likely deterrent effect.

²⁶ See Catherine Aiken et al., *Immigration Pathways and Plans of AI Talent*, CTR. FOR SEC. AND EMERGING TECH (Sept. 2020), <https://cset.georgetown.edu/research/immigration-pathways-and-plans-of-ai-talent/> (“60 percent of AI PhDs working in the United States who are not U.S. citizens report difficulties with the U.S. immigration system.”); Zachary Arnold et al., *Immigration Policy and the U.S. AI Sector*, CTR. FOR SEC. AND EMERGING TECH. (Sept. 2019), <https://cset.georgetown.edu/research/immigration-policy-and-the-u-s-ai-sector>; Elizabeth Redden, *International Student Numbers in U.S. Decline*, INSIDE HIGHER ED (Apr. 23, 2019), <https://www.insidehighered.com/quicktakes/2019/04/23/international-student-numbers-us-decline>; *Crisis Level USCIS Processing Delays and Inefficiencies Continue to Grow*, AM. IMMIGRATION LAWYERS ASS’N (Feb. 26, 2020), <https://docs.house.gov/meetings/JU/JU01/20200729/110946/HHRG-116-JU01-Wstate-Dalal-DheiniS-20200729-SD002.pdf>.

²⁷ Jodi Sanger and Julie Baer, *Fall 2019 International Student Enrollment Snapshot Survey*, INST. FOR INT’L EDUC. 6 (Nov. 2019), <https://www.iie.org/-/media/Files/Corporate/Open-Doors/Fast-Facts/Fall-2019-Snapshot-Survey.ashx>.

²⁸ Ian Goodfellow (@goodfellow_ian), Twitter (Feb. 13, 2019, 11:51 AM), https://twitter.com/goodfellow_ian/status/1095727254057840640.

²⁹ Oren Etzioni, *What Trump’s Executive Order on AI is Missing*, WIRED (Feb. 13, 2019), <https://www.wired.com/story/what-trumps-executive-order-on-ai-is-missing/>.

³⁰ See, e.g., Will Hunt and Remco Zwetsloot, *The Chipmakers: U.S. Strengths and Priorities for the High-End Semiconductor Workforce*, CTR. FOR SEC. AND EMERGING TECH. 4 (Sept. 2020), <https://cset.georgetown.edu/research/the-chipmakers-u-s-strengths-and-priorities-for-the-high-end-semiconductor-workforce/> (“even a small number of skilled returnees could help to accelerate China’s progress toward the cutting edge” in semiconductors).

³¹ Proposed Rule at 60573.

First, the analysis ignores that losing foreign students and scholars will harm national security, not just the economy. The only cost DHS acknowledges is financial: “reduced demand could result in a decrease in enrollment, therefore, impacting school programs in terms of forgone tuition and other fees, jobs in communities surrounding schools, and the U.S. economy.”³² Nowhere does DHS consider how the rule would affect America’s national security innovation base, and how this affects the Proposed Rule’s overall balance of costs and benefits.

Compounding this error, the analysis incorrectly assumes that anyone the Proposed Rule deters from coming to the United States will opt instead for “other English-speaking countries.”³³ Although countries such as Canada and Great Britain will probably be top destinations,³⁴ a meaningful number of the deterred students and scholars will choose to return to or stay in China, increasing the innovative capacity of one of America’s leading adversaries.³⁵

Second, the Proposed Rule is much more likely to deter foreign students and scholars than DHS acknowledges. DHS argues that other factors, such as job opportunities and scholarships available in the United States, may outweigh the rule’s deterrent effect.³⁶ To support this argument, DHS cites a single study, which is in turn based on a survey of a small, nonrandom sample of business students in 2006 and 2007.³⁷ This survey did not include any questions about visa restrictions, or any other immigration-related factor. It does not show that students consider these factors less important than others, as DHS appears to imply.³⁸

The Proposed Rule’s analysis overlooks a large body of more recent and rigorous research. This research shows that meaningful losses of talent are not just possible, as DHS suggests, but *very likely* when immigration restrictions such as the Proposed Rule are enacted:

- In a recent CSET survey, more than half of students who graduated from U.S. AI PhD programs and then left the country reported that immigration restrictions were relevant to their decision to leave, citing obstacles such as restrictive stay limits, excessive

³² *Id.* DHS notes elsewhere that lower enrollment would also reduce fees collected by the immigration authorities. *Id.* at 60576.

³³ *Id.* at 60573.

³⁴ Aiken et al., *supra* note 26, at 16.

³⁵ See, e.g., Shelly Banjo and Olivia Carville, *Foreign STEM Graduates Are Being Shut Out of the U.S. Job Market*, BLOOMBERG QUINT (May 19, 2020), <https://www.bloombergquint.com/technology/foreign-stem-students-are-being-shut-out-of-u-s-job-market>; Ding, *supra* note 15; Widener, *supra* note 15. Chinese nationals will probably account for most or nearly all of those returning to or staying in China. See Remco Zwetsloot and Dahlia Peterson, *The US-China Tech Wars: China’s Immigration Disadvantage*, THE DIPLOMAT (Dec. 31, 2019), <https://thediplomat.com/2019/12/the-us-china-tech-wars-chinas-immigration-disadvantage/>.

³⁶ Proposed Rule at 60573.

³⁷ *Id.* (citing Cynthia M. Daily, Stephanie Farewell and Gaurav Kumar, *Factors Influencing the University Selection of International Students*, 14 ACAD. OF EDUC. LEADERSHIP J. 59 (2010)).

³⁸ Daily, Farewell and Kumar, *supra* note 37, at 63-64, 71, 73.

requirements, high costs, and long wait times. Thirty-three percent said immigration difficulties were “extremely relevant” to their decisions.³⁹

- In the same survey, 46 percent of foreign graduates from U.S. AI PhD programs who were still in the United States reported that immigration difficulties were making them more likely to leave.⁴⁰
- Chen, Howell and Smith (2020) found that “a higher anticipated F-1 student visa refusal rate . . . decreases international student enrollment in the US. The decreases are larger among international students with higher measured academic achievement.”⁴¹
- Kato and Sparber (2013) found that new limits on H-1B visas, a key path to post-graduate employment, led to declines in prospective international students’ SAT scores, concluding that “restrictive immigration policy disproportionately discourages high-ability international students from pursuing education in the United States.”⁴²
- Kahn and MacGarvie (2020) found that “limits on permanent visas for those from China and India with advanced degrees are significantly associated with declines in stay rates.”⁴³
- Shih (2015) found that new limits on H-1B visas caused a large decrease in international student enrollment.⁴⁴

In addition to ignoring relevant research, DHS further underestimates the Proposed Rule’s deterrent effect by analyzing the rule in isolation. If enacted, the rule’s time limits and complex new requirements will join hundreds of other changes and restrictions added to the immigration system over the past several years.⁴⁵ This context will magnify the rule’s deterrent

³⁹ Aiken et al., *supra* note 26, at 2-3.

⁴⁰ *Id.* at 3 (“60 percent of AI PhDs working in the United States who are not U.S. citizens report difficulties with the U.S. immigration system . . . [Of these,] 77 percent said their immigration difficulties made them more likely to leave the United States.”)

⁴¹ Mingyu Chen, Jessica Howell and Jonathan Smith, *Best and Brightest? The Impact of Student Visa Restrictiveness on Who Attends College in the US* (Princeton University Industrial Relations Section Working Paper No. 640, Apr. 2010), <https://dataspace.princeton.edu/handle/88435/dsp01c534fr83n>.

⁴² Tadao Kato and Chad Sparber, *Quotas and Quality: The Effect of H-1B Visa Restrictions on the Pool of Prospective Undergraduate Students from Abroad*, 95 REV. ECON. STAT. 109, 109 (March 2013), https://www.mitpressjournals.org/doi/pdf/10.1162/REST_a_00245.

⁴³ Shulamit Kahn and Megan MacGarvie, *The impact of permanent residency delays for STEM PhDs: Who leaves and why*, 49 RESEARCH POL’Y 103879 (Nov. 2020), <https://www.sciencedirect.com/science/article/abs/pii/S004873319301982>.

⁴⁴ Kevin Shih, *Labor Market Openness, H-1B Visa Policy, and the Scale of International Student Enrollment in the United States*, 54 Econ. Inquiry 121, 121 (Jan. 2016), <https://onlinelibrary.wiley.com/doi/abs/10.1111/ecin.12250>.

⁴⁵ See Sarah Pierce and Jessica Bolter, *Dismantling and Reconstructing the U.S. Immigration System: A Catalog of Changes under the Trump Presidency*, MIGRATION POL’Y INST. (July 2020), <https://www.migrationpolicy.org/research/us-immigration-system-changes-trump-presidency>.

effect, making it more likely that a rigid time limit or uncertain extension process will be the “last straw” for any particular student or scholar.

In sum, the Proposed Rule is likely to deter many foreign students and scholars from coming to the United States. DHS’s analysis underestimates both the likelihood of deterrence and the harm to national security that will result. DHS has a legal duty to meaningfully assess the Proposed Rule’s potential costs.⁴⁶ It has not fulfilled this duty.

3. The Proposed Rule will disproportionately deter PhD students and OPT participants, who are especially important to U.S. national security

The Proposed Rule will make the United States a less attractive destination for students and scholars of all types, but two important populations will be especially harmed. If the rule is enacted, most foreign STEM PhD students will have to seek costly and uncertain extensions, as will *all* students pursuing post-completion Optional Practical Training (OPT). DHS does not meaningfully analyze how the Proposed Rule will disproportionately burden these groups, or how this unequal burden will damage America’s national security.

Foreign PhD students are the linchpin of America’s world-leading doctoral STEM programs. Their research, scholarship, and hard work sustains America’s continued leadership in science and technology, especially in strategic fields such as AI and advanced computing. Foreign-born graduates of U.S. PhD programs, working for U.S. companies and universities, invented the transistors that underpin virtually all modern electronics.⁴⁷ As of 2016, more than 60 percent of PhD graduates from U.S. computer science programs were born abroad.⁴⁸ These talented students don’t only fuel American science while studying: after graduating, they overwhelmingly stay in the United States and work for U.S. employers, driving innovation that benefits native-born and foreign-born Americans alike.⁴⁹

Today, the global competition for STEM doctoral students is fierce. For decades, the United States was the obvious choice for cutting-edge STEM education and research. But now,

⁴⁶ See, e.g., *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (a rulemaking that “fail[s] to consider an important aspect of the problem” violates the Administrative Procedure Act).

⁴⁷ Hunt and Zwetsloot, *supra* note 30, at 7-8.

⁴⁸ Zwetsloot et al., *supra* note 9, at 3-4.

⁴⁹ *Id.* at iv.

universities around the world boast programs that often match or exceed America's. China's rise has been particularly rapid, especially in emerging and strategic fields.⁵⁰

In this competitive environment, it is self-destructive to increase the cost and uncertainty of an American PhD, which is what the Proposed Rule would do. The median length of a U.S. STEM PhD program is over five years, meaning that most foreign students will exceed the rule's four-year limit.⁵¹ To complete their work, they will have to submit to a long, uncertain extension process, hoping that an immigration officer unfamiliar with their research will deem it "compelling" enough to continue.⁵² On its own, this burden will discourage at least some PhD students; together with other recent restrictions and delays, it risks driving a great many away.

DHS indirectly acknowledges this problem, but dismisses it because there are relatively few PhD students to be affected.⁵³ This reasoning is incomplete. First, foreign doctoral students are a small category relative to undergraduates and masters' students, but not in the absolute: tens of thousands of foreign-born STEM PhD students graduate from U.S. universities every year.⁵⁴ As explained above, the Proposed Rule will affect most of these students, which is clearly a significant burden. Second, and more fundamentally, the costs of the Proposed Rule depend not only on how many students are affected, but on each student's contributions to America's prosperity and national security. There may be relatively few PhD students, but in important respects, each one has a much greater impact; PhD students are more advanced, more specialized, and more engaged in teaching and research than students on shorter programs, such as undergraduates and masters' students. Burdening and deterring this important group will cause harm disproportionate to the number of individual students who are affected.

The rule imposes an even greater burden on students participating in post-completion Optional Practical Training - and again fails to address the harm this will cause to national security. If the Proposed Rule is enacted, virtually every student who wants to pursue post-

⁵⁰ See, e.g., *Fundamental Research Security*, *supra* note 21, at 9 ("[T]here is little doubt that China is a world leader in fields that are increasingly important to U.S. national security, including artificial intelligence and hypersonics."); Ellie Bothwell, *THE World University Rankings 2021: results announced*, TIMES HIGHER EDUC. (Sept. 2, 2020), <https://www.timeshighereducation.com/news/world-university-rankings-2021-results-announced> ("Chinese universities have made several historic gains . . . with data revealing that the Asian giant is closing in on, and in some areas overtaking, the US in terms of research.").

⁵¹ NAT'L CTR. FOR SCI. & ENG'G STATISTICS, *supra* note 20. Worse, some PhD students will face a two-year limit, meaning they could need several extensions. *See* Proposed Rule at 60543-45.

⁵² *See* Proposed Rule at 60592 (extensions may be granted for "compelling academic reasons," "a documented illness or medical condition," and "circumstances beyond the student's control, including a natural disaster, national health crisis, or the closure of an institution."). The latter categories are unlikely to apply in most cases.

⁵³ Proposed Rule at 60538.

⁵⁴ Remco Zwetsloot et al., *Trends in U.S. Intention-to-Stay Rates of International Ph.D. Graduates Across Nationality and STEM Fields*, CTR. FOR SEC. AND EMERGING TECH. 6 (Apr. 2020), <https://cset.georgetown.edu/research/trends-in-u-s-intention-to-stay-rates-of-international-ph-d-graduates-across-nationality-and-stem-fields/>.

completion OPT will have to seek an extension of stay.⁵⁵ STEM OPT students will need two extensions.⁵⁶ This alteration to OPT alone will add tens or hundreds of thousands of applications to DHS's queue every year.⁵⁷ Moreover, it is far from clear how immigration officers, who will often be unfamiliar with students' programs of study and work opportunities, will apply the Proposed Rule's extension criteria to OPT-related requests. At best, this makes the extension process less certain; at worst, it suggests OPT-related extension requests will often be denied.

Foreign students consistently rate the opportunity to work in the United States as one of their top reasons for considering American schools.⁵⁸ By making their key pathway to U.S. work experience - OPT - universally more difficult and costly, the Proposed Rule will discourage them from studying and working in America. Above all else, this will harm U.S. employers, including employers essential to national security. Because it allows companies to temporarily hire foreign-born graduates, and provides those graduates a bridge to other immigration statuses that permit longer-term employment, OPT gives American employers vital access to the world's best and brightest workers. 84% of foreign-born AI PhDs working in the United States have relied on OPT at some point.⁵⁹ CSET estimates that tens of thousands of AI-skilled graduates currently work for American employers through OPT.⁶⁰ In the security-critical U.S. semiconductor sector, one leading producer, Intel, has said that "without OPT, we would be able to hire just 30 percent of the highly skilled graduates we currently hire."⁶¹

The Proposed Rule will disproportionately burden and deter OPT participants. It is incumbent on DHS to thoroughly assess the harm this will cause, whether it can be mitigated, and how. But there is no such assessment in the Proposed Rule. The brief discussion of the rule's deterrent effect, reviewed above, does not even mention OPT.⁶²

⁵⁵ The Proposed Rule limits the period of admission to the end date of the student's formal course of study, as indicated on Form I-20. Proposed Rule at 60536. By definition, post-completion OPT begins after that date. In theory, students might avoid extensions by graduating early and completing short OPT internships before their periods of admission expire, but these would be unusual cases.

⁵⁶ One extension for regular post-completion OPT (one year) and another for the STEM OPT extension (two years). Any exceptions would be rare; see *supra* note 55.

⁵⁷ Proposed Rule at 60565-66; see *2007 to 2019 Annual Growth in OPT, STEM OPT and CPT Authorizations and Employment Authorization Document (EAD) Issuances*, U.S. Immigration and Customs Enforcement (2020), <https://www.ice.dhs.gov/doclib/sevis/pdf/data-ApprovedEmploymentAuthorizations2007-2019.pdf> (reporting over 200,000 OPT-related employment authorizations annually from 2017 to 2019).

⁵⁸ See, e.g., Aiken et al., *supra* note 26, at 4; Widener, *supra* note 15.

⁵⁹ Aiken et al., *supra* note 26, at 10.

⁶⁰ Arnold et al., *supra* note 26, at 6. Although some fear that OPT participants crowd out native-born graduates, there is little evidence of a crowding-out effect. Zachary Arnold and Remco Zwetsloot, *Optional Practical Training*, CTR. FOR SEC. AND EMERGING TECH. (Sept. 2020), <https://cset.georgetown.edu/research/optional-practical-training/>.

⁶¹ Declaration of Patrick Duffy, *supra* note 18, at 4-5.

⁶² The omission is especially conspicuous given DHS's argument, on the same page, that "opportunities for post-graduation employment" are especially important to foreign students considering American schools. Proposed Rule at 60573. Making OPT harder and costlier to access will diminish these opportunities.

In sum, the Proposed Rule will disproportionately burden PhD students and OPT participants. DHS has not meaningfully assessed this problem or its implications for national security, which could be grave. Consider a hypothetical foreign-born engineering student at one of America's leading universities. She finishes her PhD program faster than most, completing coursework and thesis research in four and a half years. After graduating with honors, she uses OPT to work at a U.S.-based firm that designs high-security computer chips for civilian and military customers. Three years later, after multiple attempts, she manages to secure an H-1B visa, enabling her employer to hire her longer-term and opening the door to a green card.⁶³

Under the Proposed Rule, this student would have to apply for at least *three separate extensions of stay* - one during her PhD program, one for post-completion OPT, and one for STEM OPT.⁶⁴ Each would entail months of uncertainty and hundreds or thousands of dollars in application expenses. How many thousands of foreign-born students would face similar burdens if the Proposed Rule is enacted? How many will choose not to pursue OPT, or not to study in the United States at all, as a result? How much damage will this cause to America's national security? To properly assess the Proposed Rule's costs and benefits, these questions must be answered. But DHS never asks them.

4. The national security costs of the Proposed Rule will very likely outweigh its benefits

Foreign students and scholars are critical assets to America's national security innovation base. The Proposed Rule is very likely to deter them, potentially in large numbers, from coming to the United States. There is no reserve of qualified U.S. citizens to make up for this talent shortfall.⁶⁵ Worse, the rule's deterrent effect will be concentrated in especially important populations - PhD students and OPT participants. All of this will slow domestic innovation and growth, improve America's adversaries' technological capabilities, and push U.S. companies to shift operations overseas, in each case undermining America's national security and threatening America's leadership in strategic fields such as AI.

Of course, if the rule produces even greater national security benefits, these costs could be justified. However, this is unlikely. In the Proposed Rule, DHS argues the status quo "places research universities and the nation at risk for economic, academic, or military espionage," pointing to "well-documented cases of espionage through the student program" and a handful of specific incidents involving J visa holders.⁶⁶ Preventing unauthorized technology transfer is

⁶³ This trajectory - from F-1, to OPT, to H-1B, to permanent residence - is common. See Zwetsloot et al., *supra* note 9, at 19-23.

⁶⁴ The student would need more than three extensions if, for example, she came from a country subject to the two-year limit, or attended a school not participating in E-Verify. See Proposed Rule at 60543-45.

⁶⁵ See Arnold et al., *supra* note 26, at 1.

⁶⁶ Proposed Rule at 60535.

important.⁶⁷ But just as DHS fails to properly assess the Proposed Rule’s national security costs, as discussed above, it also fails to properly assess its national security benefits. In reality, these benefits are highly unlikely to outweigh the costs.

First, the Proposed Rule will at best modestly improve DHS’s ability to detect bad actors; it is equally plausible that it will have little or no impact. DHS asserts throughout the Proposed Rule that a fixed time limit, and the additional screenings it produces, will help the agency detect bad actors. In fact, the processes USCIS and its peer agencies use to screen visa applicants for national security risks are already under-resourced and can be subverted.⁶⁸ Adding more screenings will not solve this problem; if anything, the huge volume of new screenings could reduce the time and attention DHS is able to give each one, potentially helping bad actors slip through undetected. And even if they were improved, these screening processes can only do so much. As one former senior counterintelligence officer recently wrote, “enhanced screening of Chinese students and scholars coming to the United States . . . will almost certainly fail at determining an individual’s future course of action. Few scholars come to the US with the premeditated intention of stealing technology that has, quite likely, yet to be invented.”⁶⁹

Second, few foreign students and scholars pose a national security threat. The Proposed Rule offers no estimates of the number of students and scholars who are bad actors, and cites no relevant data. Instead, it points to a handful of individuals suspected of illicit activities. These individuals are not representative. Even among Chinese students and scholars, widely considered an unusually high-risk population for espionage, federal officials assess that only a “small minority” are bad actors.⁷⁰ One senior counterintelligence official estimates that “ninety-nine point nine percent” of Chinese students pose no threat.⁷¹ With the goal of better tracking this small fraction of wrongdoers - again, a goal the Proposed Rule is not certain to accomplish - DHS estimates it will subject hundreds of thousands of foreign students and scholars to a

⁶⁷ See, e.g., William Hannas and Huey-Meei Chang, *China’s Access to Foreign AI Technology*, CTR. FOR SEC. AND EMERGING TECH. (Sept. 2019), <https://cset.georgetown.edu/research/chinas-access-to-foreign-ai-technology/>.

⁶⁸ See, e.g., Zwetsloot et al., *supra* note 9, at 32-33; DEP’T OF HOMELAND SEC. OFFICE OF INSPECTOR GEN., OIG-14-137, THE DHS VISA SECURITY PROGRAM 1 (Sept. 2014), https://www.oig.dhs.gov/assets/Mgmt/2014/OIG_14-137_Sep14.pdf.

⁶⁹ Nicholas Eftimiares, *China’s Theft & Espionage: What Must Be Done*, BREAKING DEF., April 19, 2019, <https://breakingdefense.com/2019/04/chinas-theft-espionage-what-must-be-done/>.

⁷⁰ *United States Strategic Approach to the People’s Republic of China*, WHITE HOUSE 10 (May 20, 2020), <https://www.whitehouse.gov/wp-content/uploads/2020/05/U.S.-Strategic-Approach-to-The-Peoples-Republic-of-China-Report-5.20.20.pdf>.

⁷¹ Bill Gertz, *China using students as spies*, WASH. TIMES (Apr. 25, 2018), <https://www.washingtontimes.com/news/2018/apr/25/china-uses-students-as-spies/> (quoting National Counterintelligence and Security Center director Bill Evanina). See also Eftimiares, *supra* note 69 (“[T]here are 360,000 Chinese scholars and students in the US. . . it is unlikely that even one percent are involved in technology theft.”); David Brunnstrom and Matt Spetalnick, *U.S. targets only one percent of Chinese students over security: White House official*, REUTERS (Sept. 30, 2020), <https://www.reuters.com/article/us-usa-china-students/u-s-targets-only-one-percent-of-chinese-students-over-security-white-house-official-idUSKBN26M41X>.

burdensome new extension process each year.⁷² This imbalance suggests the Proposed Rule’s national security costs will far outweigh its benefits.

5. DHS did not consider reasonable alternatives to the Proposed Rule

To the extent the Proposed Rule offers any national security benefit, other policies could give the same benefit (or more) with much lower cost. In addition to assessing the Proposed Rule’s costs and benefits, DHS must consider reasonable alternatives.⁷³ For example, instead of subjecting every foreign student and scholar in the country to the Proposed Rule’s time limits and extension process, DHS could:

- Apply a time limit only when risk factors are present, e.g., ties to a foreign military
- Randomly audit and/or re-interview a sample of F and J visa holders every year
- Invest in the agency’s SEVIS data analysis capabilities in order to detect more bad actors
- Train immigration officers to better identify red flags in students’ initial applications
- Train DSOs to better identify and screen students who may pose national security threats
- Expand OPT employer site visits

In many, if not most cases, existing authorities already empower DHS to enact these measures.⁷⁴ The Proposed Rule overlooks all of them, save one - applying a time limit to high-risk individuals only, as identified using SEVIS data.⁷⁵ In a one-paragraph discussion, DHS dismisses this approach for two main reasons: SEVIS’s “technical compliance” data “does not readily lend itself to this purpose,” and “abuse is not limited to one particular type of school or program.”⁷⁶ But DHS wouldn’t need to rely on individuals’ schools or programs as risk factors, or, for that matter, on any other single data point; multifactor approaches would likely yield better results. In addition, SEVIS already collects an enormous amount of data on students’ and scholars’ activities in the United States, much of which is useful for risk screening.⁷⁷ There is

⁷² See Proposed Rule at 60565-66.

⁷³ See *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 46-48, 51 (1983).

⁷⁴ See, e.g., 8 C.F.R. § 214.3(g)(1) (2020) (requiring schools to furnish certain specified information “on any individual student or class of students” to DHS upon request); 8 C.F.R. § 214.2(f)(10)(ii)(C)(11) (2020) (“DHS, at its discretion, may conduct a site visit of any [OPT] employer.”).

⁷⁵ DHS also considers the “alternative” of applying the Proposed Rule with even shorter time limits. This is clearly untenable, and DHS rejects it. Proposed Rule at 60576-79. While that is the right decision, DHS does not fulfill its duty to consider reasonable alternatives by rejecting obviously bad alternatives. Finally, DHS summarily rejects the “no action” alternative as inadequate. *Id.* at 60576. In fact, as explained above, withdrawing the rule in favor of the status quo will very likely do more good than harm, and DHS’s arguments to the contrary are flawed.

⁷⁶ Proposed Rule at 60579. DHS also asserts that the more targeted approach would cause unspecified “operational . . . challenges.” *Id.* It is unclear what DHS means by this, or how severe these unspecified challenges would be. DHS acknowledges that the Proposed Rule itself would cause extensive operational challenges, so the mere fact that other approaches would also pose challenges no reason to reject them. *See id.* at 60568-75.

⁷⁷ See DEP’T OF HOMELAND SEC., DHS/ICE/PIA-001, PRIVACY IMPACT ASSESSMENT FOR THE STUDENT AND EXCHANGE VISITOR PROGRAM (SEVP) 5-8 (Feb. 20, 2020), <https://www.dhs.gov/sites/default/files/publications/privacy-pia-ice-sevp-001-february2020.pdf>.

little evidence that DHS has exhausted this resource. And even if existing information were insufficient, it does not follow that DHS needs to create a massive, burdensome new process in order to augment the data. DHS could instead change SEVIS procedures, or propose regulatory changes that would improve them - or supplement SEVIS with data collected using other DHS authorities (e.g., through OPT employer site visits). Again, there is no evidence that DHS explored these options.

Of course, even a more targeted, SEVIS-driven approach, or any of the other alternatives mentioned above, could harm national security more than help. CSET does not necessarily endorse any of these options; more analysis is needed. It is first and foremost DHS's duty to conduct this analysis, and DHS has not done so.

6. The Proposed Rule should be withdrawn

Foreign students and scholars are critical to U.S. national security. The Proposed Rule will deter them from coming to the United States, threatening America's scientific and technological leadership. The rule's national security harms are very likely to outweigh its benefits; DHS has yet to acknowledge or properly analyze these harms. Accordingly, DHS should withdraw the Proposed Rule.

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