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March 28, 2024

Hon. Richard L. Revesz  
Administrator, Office of Information and Regulatory Affairs  
Office of Management and Budget  
725 17th Street, NW  
Washington, D.C. 20503

Re: Improving the Exchange Visitor Skills List, as Directed in the President's Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence

Dear Administrator Revesz,

As you are aware, the President recently issued an extensive [Executive Order](#) on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence. As an important part of the comprehensive national AI strategy initiated by that Executive Order, the President established a policy to "attract the world's AI talent to our shores — not just to study, but to stay — so that the companies and technologies of the future are made in America." The President directed responsible agencies to take steps to upgrade and update the nation's immigration system to draw and keep experts from other countries whose skills can help advance national interests surrounding AI.

In Section 5.1(b) of Executive Order 14110, the President directed the State Department to consider updating the J-1 exchange visitor "skills list." This list can trigger a requirement that certain exchange visitors, including those with critical AI and other STEM expertise, return to their home country for two years, rather than remaining in the United States to contribute their abilities here. The President also directed the State Department to consider rulemaking to establish new criteria to make skills list designations. The Executive Order emphasized that such new criteria should account for "those skills that are critical to the United States."

The State Department has submitted for your office's review a final rule to act on the President's directions. We write to offer views on anomalies in the current skills list, and on the way it is reviewed and maintained. As explained below, today's skills list often results in a two-year home residency requirement for exchange visitors with AI and related "skills that are critical to the United States," blocking their ability to stay in this country to help ensure that "the companies and technologies of the future are made in America," contrary to the goals of the Executive Order. Your office's review process should eliminate these anomalies.

## Background and Basis for this Letter

Fragomen established the Center for Strategy and Applied Insights to identify and analyze issues and trends key in immigration systems, and to offer insight-based suggestions to help those systems function fairly, transparently, and efficiently. As a longstanding immigration advisor to employers in the United States and around the world, our work involves listening and addressing employers' related concerns in practical ways.

In recent years, many multinational firms have concluded that the exchange visitor skills list obstructs the ability to retain top science, technology, engineering, and mathematics research talent. This obstruction arises from the way that the skills list triggers a two-year physical presence requirement in an individual's home country before an individual who is a former J-1 visa holder can obtain lawful permanent residency in the United States, return to work in the United States as an L-1 intracompany transfer, or take a role in the United States as an H-1B specialty occupation professional. The home residency requirement serves an important congressional goal, in principle: to ensure that the benefits of the skills that an exchange visitor gains or sharpens during the exchange visit can afterward accrue to that visitor's home country when those skills are "clearly required" back home. Today, the skills list frustrates, rather than serves, U.S. skills needs, and it does so without updated attention to the extent to which the skills at issue are "clearly required" in the home country.

As currently administered, the skills list seems disconnected from the principles reflected in section 212(e) of the Immigration and Nationality Act (INA). Administration of the skills list follows a two-part analysis. Created by a 1970 amendment to the INA, section 212(e) requires the State Department to identify when the skills an individual is building while a J-1 program participant are "clearly required" in the home country. The State Department has traditionally included a second step, reflected today in the most recent [skills list published in 2009](#), considering whether the skill set at issue is clearly required "for the development" of the home country. We understand that in practice, the State Department has considered whether the skill set at issue is necessary to the "economic development" of the home country.

We commonly see scenarios in which multinational firms targeting an expert living in a third country cannot recruit that person to the United States, because that expert was previously a J-1 Specialist or J-1 Research Scholar and is not in a position to return home. If the recruiting company does not have operations in the person's home country, then even if the person were in a position to return home, there is not even the opportunity for that employer to benefit from that expert's services during the fulfillment of the home residency requirement. Nor can specialized hiring needs typically be put on hold for two years, while the person fulfills the requirement with another employer in the home country. Either scenario frustrates the goal to ensure that "the companies and technologies of the future are made in America."

Mandating where talented individuals must reside no longer works as a default in a global economy. Where that mandate can originate in the skills list, it is crucial to make careful decisions about which skill sets are clearly necessary to the development of which countries. Further, those decisions should, as the Executive Order suggests, account for "skills that are critical to the United States."

The specific methodology the State Department follows to inform, create, and update the skills list is not public, and we are not aware of any requirement that it must be. What is clear is that the skills list has not been reviewed and revised as relevant circumstances have changed. In the preamble to the original skills list in 1972, the State Department envisioned that it would review the list continuously and amend it annually as necessary. Since that original skills list,

which was revised in 1978, the State Department has only published new lists in 1984, 1997, and 2009.

In the decade and a half since that last update, the state of economic development in the home countries of many J-1 exchange visitors has evolved along with the skill sets “clearly necessary” to such development. At the same time, “those skills that are critical to the United States” have also evolved. In the AI sphere alone, self-driving vehicles have proliferated, AI players have trounced the human best at Go, Chat GPT aced the bar exam, and countless other threats and opportunities have arisen at a dizzying and accelerating pace. As part of the comprehensive strategy to maximize those opportunities and contain the threats, the Executive Order wisely focused on the need for administrative immigration reforms to attract and keep the best AI and other STEM talent, as well as on the need for the exchange visitor skills list to keep pace with a changing world.

### **When Skills are Not Best Considered “Clearly Required”: the China Example**

One powerful illustration of the fact that the skills list needs revision—in both its content and in the process for keeping it up to date—is China. The list of STEM areas of activity for J-1 visa holders native to China includes physical sciences, biomedical sciences, engineering disciplines, and mathematics. In these and other STEM and AI-related skill areas, the obstacles to talent recruitment described above arise regularly. Yet the relevant data indicates that considering these skills as clearly necessary to the development of China, economic or otherwise, is not consistent with realities in 2024.<sup>1</sup> Nor does including them on the exchange visitor skills list for China account properly for the skills needed in the United States. We believe that this example highlights at least part of the direction that OMB and the State Department should take in tackling revisions to the skills list.

China displays very high performance in science and engineering. The skills list for China, though, is packed with science and engineering skills, reflecting a U.S. Government determination that those skills are clearly required for China’s economic development. Key measures of performance include the following.<sup>2</sup>

#### *How much do the country’s companies innovate?*

A country’s “business innovation rate,” as the National Science Board (NSB) measures it, is an important indicator of the state of that country’s economic development. While the NSB’s approach is just one of several to quantify innovation capacity, this [table](#) shows that by this measure China already ranked near to but ahead of the United States in 2018. 18.1 percent of U.S. firms show innovative product generation, while the figure for China is 18.7 percent.

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<sup>1</sup> The Center is grateful to [Patrick Collard](#), a PhD student in economics at the University of California, Berkeley, and a Nonresident Fellow at the nonprofit Institute for Progress, a think tank focused on innovation policy. His research and analysis are the basis for the following discussion.

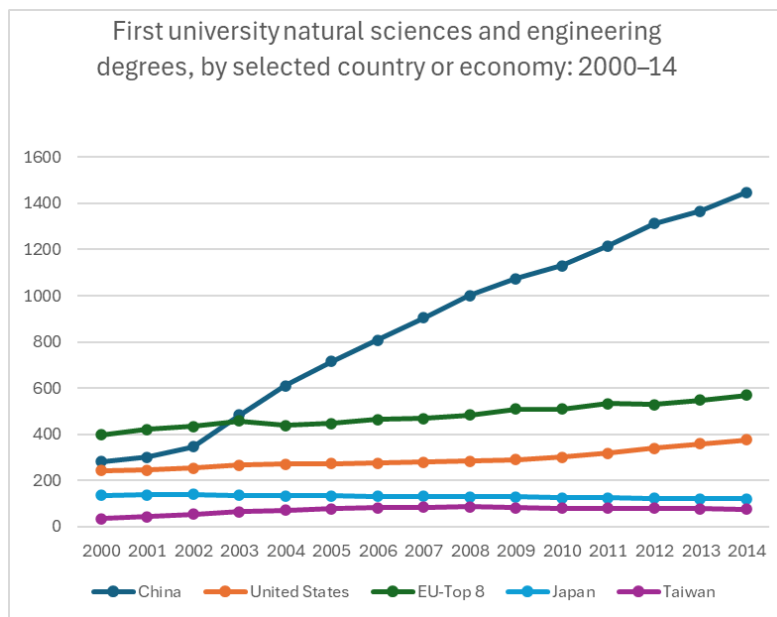
<sup>2</sup> The data and tables below, produced by the National Science Board, demonstrate how the current skills list operates in a way disconnected from the statutory standard requiring the State Department to determine whether skills listed are “clearly required” for the J-1 visa holder’s home country economic development. The NSB is required by Congress to report on Science and Engineering Indicators every two years. This provides a lookback on data that is fully assembled but is two years old. So the 2022 Science and Engineering Indicators Report analyzes 2020 data. To show that the trends we are flagging are not new, we are relaying data from the [NSB 2018 report](#).

### How much does the country invest in research and development?

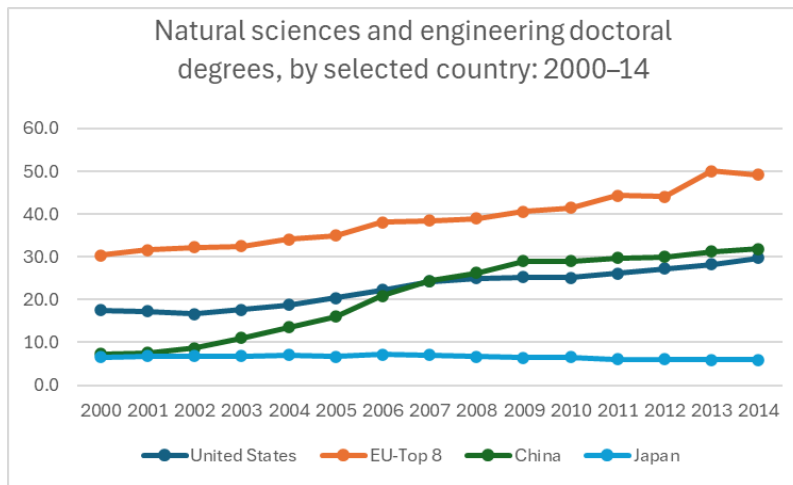
The similar innovation rates above align with the fact that the United States and China spend similar shares of their gross domestic product (GDP) in research and development. This [table](#) shows that the United States spends 2.74 percent of its GDP on research and development, while China spends 2.07 percent. Despite a slightly lower investment as a share of GDP, China has a higher share of firms innovating than the United States.

### How expansively do its universities educate students in science and engineering?

The NSB [report](#) shows that, in many countries globally, the share of bachelor's degrees in science and engineering fields exceeded that of the United States. In nations such as Japan, Iran, and Israel, as well as in China, science and engineering degrees accounted for nearly half or more of all first university degrees. In the United States, the figure hovered near 40 percent. The number of bachelor's degrees in the natural sciences and engineering for China from 2000 to 2014 vastly exceeded the number of such degrees for the United States.

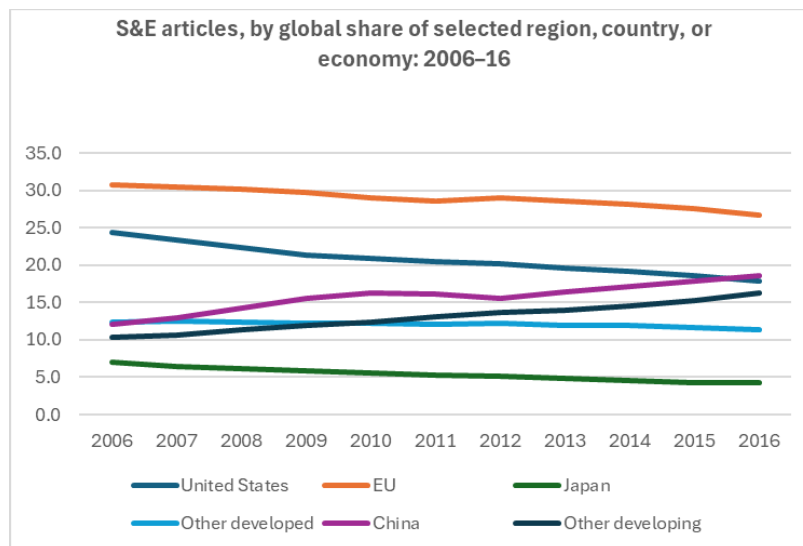


In 2007, China overtook the United States to become the leading issuer of doctoral degrees in natural sciences and engineering. The figures in both nations remained comparable in the seven years that followed, as shown in the figure below. This surge in graduate education within China stems from significant government funding in higher education for the past two decades, aimed at creating top-tier universities in the country. Today, China produces twice as many STEM doctorates as the United States.



How productively do its researchers publish?

U.S. researchers were responsible for under 20 percent of the worldwide volume of peer-reviewed science and engineering articles, with academic researchers making up about three-quarters of this U.S. contribution. In 2016, China and the United States stood as the top two producers of peer-reviewed science and education articles globally, with China ahead. Specifically, China and the United States generated 18.6 percent and 17.8 percent, respectively, of the global total of 2.3 million science and engineering publications in 2016. Over the decade from 2006 to 2016, the share of such publications from the United States decreased significantly, from 24.4 percent to 17.8 percent. In contrast, China's share increased significantly, from 12.1 percent to 18.6 percent. These movements are shown in the figure below.



What do unemployment rates indicate?

Despite a strong labor force, unemployment among the younger population of China is strikingly high. Persons aged 16 to 24 and those aged 25 to 29 currently have an [unemployment rate](#) of 14.9 percent and 6.1 percent respectively. These relatively high levels of unemployment are in tension with the conclusion that China has a skills shortage.

### How is population relevant?

While China's population substantially surpasses that of the United States, by a factor of approximately four, the creation of knowledge, particularly in the realm of science and technology, operates on a principle of non-rivalry. Thus, unlike tangible assets – whose comparison might be skewed by population size – the generation and value of knowledge does not diminish in proportion to population. When evaluating the contributions to global knowledge in science, technology, engineering, and mathematics fields, the non-rivalry principle is therefore critical to analyzing whether skills are “clearly required” in a particular country.

While no single metric perfectly captures the state of science and engineering capabilities, the collective data challenges the notion that countries like China “clearly require” the science and engineering skills listed in today’s exchange visitor skills list for their economic development. Nor does the inclusion of such skill sets take proper account of the skills that are critical to the United States, given the increasingly important and complex issues posed by emerging AI opportunities and threats. A country like China is outperforming or matching developed countries, the United States among them, in key science and engineering indicators, including innovation rates, research and development investment, and the production of STEM graduates. This evidence suggests a mismatch between the State Department’s skills list designations and the actual clear need for such skills in economically developed countries.

### **Conclusion**

For the good of the global scientific enterprise in 2024 and beyond, experts in science, technology, engineering, and mathematics – especially for those in AI fields – should be able to follow wherever the greatest opportunity for innovation in those fields may lead them. For experts whose skills are critical to the United States, the exchange visitor skills list should inhibit this process as little as possible. Only a targeted and up to date determination that such skills are indeed “clearly required” for the economic development of a particular home country should inhibit that person from advancing and contributing their talent in the United States.

Skills list requirements hinder recruitment and retention of the best talent. We recognize that the State Department cannot, and should not, eliminate the home residency requirement. At the same time, the State Department must ensure that the exchange visitors skills list is tailored to its purposes with maximum care, and updated regularly, so that it is targeted to congressional goals and calibrated to educational and economic development in other countries, and to critical skills needs in the United States.

We hope the viewpoints and information in this letter offer a useful perspective as you continue the important work directed by the AI Executive Order. We would welcome the opportunity to meet with your office and other government representatives under the provisions of Executive Order 12866. We will also submit this request through the designated online process.

Respectfully,

Fragomen Center for Strategy and Applied Insights



Bo Cooper

Cc: Julie Stufft, Deputy Assistant Secretary for Visa Services, U.S. Department of State  
Patrick Collard, Nonresident Fellow at the nonprofit Institute for Progress and PhD student in economics at the University of California, Berkeley.