

24-8 Modernizing the US Exchange Visitor Skills List

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INTRODUCTION

The United States depends on highly skilled workers from abroad to help drive economic innovation and dynamism, but it also extensively restricts which of these workers can enter and stay in the country. This Policy Brief proposes comprehensive reform of one lesser-known restriction, the Exchange Visitor Skills List. The US government uses the List to determine which types of high-skill workers, from which countries, have to leave the United States and go back to their home countries for two years after their visitor program ends.

The original, admirable purpose of the Skills List was to avoid draining developing countries of scientists, physicians, educators, and other workers with specialized knowledge and expertise. But the current List, crafted to conform with foreign government requests over the past 52 years, is outdated and arbitrary.

The Biden administration now seeks to update the Skills List to help the United States attract and retain talented workers in fields including artificial intelligence “and other critical and emerging technologies,” according to an [October 2023 Executive Order](#). In it, the president directs the State Department to consider establishing “new criteria to designate countries and skills.”

This Policy Brief proposes a new system to modernize the Skills List by applying criteria based on various factors, including foreign countries’ income level, population size, diaspora size, and departure rate—the number of a country’s skilled workers in the United States as a share of those at home. Doing this would reduce the number of high-skill visitors forced to leave the United States by roughly three quarters—affecting particularly those from the most advanced economies. It would make the US government fully responsible for determining

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the Skills List under a transparent, predictable, and systematic process that could be frequently updated at low cost. It would better serve the US national interest while supporting sustainable development in migrants' home countries.

BACKGROUND ON THE SKILLS LIST

Immigration of highly skilled workers nourishes the roots of American prosperity. A commission of top US immigration economists agreed that the influx of such talent “has boosted the nation’s capacity for innovation and technological change... essential to long-run sustained economic growth.”¹ When three leading economists recently reviewed all available policy options to increase innovation in the US economy, they chose high-skill immigration as the one with the largest proven benefits.² The flip side is that US restrictions on high-skill immigration today constrain innovation and economic dynamism.³ Such rules must be examined to ensure that they are transparent, up-to-date, and carefully designed for maximum benefit.

One restriction deserving scrutiny applies to recipients of the Exchange Visitor, or J-1, visa, which allows skilled professionals, students, and specialized workers to come temporarily to the United States to gain practical experience and training in their field of expertise.

The J-1 visa is often used by researchers, educators, health professionals, and other specialized workers to stay for roughly one to five years. Some then transition to a different visa and stay on. But when the J-1 visa expires, a 1970 law forces some exchange visitors to leave the United States and spend at least two years in their home country before they can apply for US permanent residency. These visitors include those with government funding, who work in certain fields and come from certain countries that the State Department has “designated as clearly requiring the services of persons engaged in the field of specialized knowledge or skill in which the alien was engaged.”⁴

The State Department determines who is subject to this restriction based on its US Exchange Visitor Skills List, compiled principally by adopting the requests of government officials from migrants' home countries. The first Skills List was published in 1972. There have been only three major revisions since then (1984, 1997, and 2009).⁵

The admirable goal of creating the Skills List was to avoid harm to economic development in poorer countries by preventing loss of their human capital—the skills, talents, and experience of a country’s workers.⁶

The List that resulted from this process, however, is arbitrary and haphazard. The restrictions it places on skilled migrants have little relation to systematic differences in development across countries and little basis in the development importance of various fields. The List enshrines the idea, dominant in the 1970s but now outdated, that the departure of most skilled workers inherently diminishes the development prospects of the home country. Modern economic research has reached a different conclusion. It documents that skilled migrant workers from developing countries also create opportunities for trade, investment, technology transfer, and human capital growth back home.⁷

The Biden administration now seeks to remake the Skills List, taking control of its content rather than primarily leaving it up to foreign governments. The president’s October 2023 Executive Order would fundamentally change this

system.⁸ The order instructed the Secretary of State to consider establishing “new criteria to designate countries and skills on the Department of State’s Exchange Visitor Skills List” and to “consider publishing updates” to the current Skills List.

The order, however, did not specify how to create the new Skills List. A new method would allow the US government, for the first time, to systematically select fields and countries for the Skills List by US criteria. That method must not require a worker to return to live at home unless there is compelling evidence for such a requirement, as mandated by law.⁹ This Policy Brief proposes a straightforward method to construct a new Skills List. It would place control of the List in US hands and broadly protect the benefits of skilled migration for overseas development while safeguarding against its most tangible potential harms. The new List would better serve the US national interest and the interests of migrants and their countries of origin, while mitigating the clearest potential risks.

ELEMENTS OF A NEW METHOD TO BUILD THE SKILLS LIST

A revised Exchange Visitor Skills List must designate which if any fields of specialization are “clearly required” for the development of each home country, necessitating enforcement of the two-year return by visitors. A new method for this designation can improve on the old one if it is:

- *Simple and transparent.* Administrative and political feasibility rules out academic complexity.
- *Conservative.* Restriction requires compelling likelihood of harm, not vague possibility of harm.
- *Balanced.* Designation on the List requires trading off development benefits and costs.
- *Humble.* No one can exactly, certainly quantify the ripple effects of migration by narrow fields.

These principles preclude any method that claims certainty about the precise net contribution to development by migration within narrow subfields at exact points in a fine-grained, multidimensional characterization of development. Instead, the straightforward method proposed here follows the four steps in figure 1.

The four steps are as follows:

- 1 *Initial allocation.* The method starts by assigning a category to each field of specialization and each country. It assigns fields into three categories: a *Broad* list (covering the most fields), a *Narrow* list, and a *Minimal* list (covering only the most sensitive fields). It divides countries into four categories, using the income classification created by the World Bank: *low income*, *lower-middle income*, *upper-middle income*, and *high income*.¹⁰

Figure 1
A new method to build the Skills List

	Development level (income group)			
	Low	Lower-Middle	Upper-Middle	High
1. Initial allocation	Broad	Narrow	Minimal	None
2. Condition A: <i>If small country but not underrepresented in US</i>	Broad	Broad	Narrow	None
3. Condition B: <i>If departure high but not home skill stock high</i>	Broad	Broad	Narrow	None
4. Conditions A and B	Broad	Broad	Broad	None

Source: Authors' proposal.

- 2 *Small countries.* If a country is relatively small *but* its diaspora size is not so low that its skilled migrants are underrepresented in the United States (Condition A), it is subject to the fields category that is one step more stringent than in step 1. For example, a lower-middle-income country initially assigned the Narrow fields category would be shifted to the Broad category.
- 3 *High departure rate.* If a country has a high fraction of its skilled workers already in the United States *but* it lacks a large stock of skilled workers at home (Condition B), it is subject to the fields category that is one step more stringent than in step 1.
- 4 *Small countries with a high departure rate.* If a country meets both Conditions A and B, it is subject to the fields category that is two steps more stringent than in step 1. High-income countries are unrestricted regardless.

These steps reflect several choices that follow the principles above:

- *Income categories.* Whether certain workers are considered “required” must change by level of development. Simplicity requires a univariate and well-established measure of development, such as GDP per capita at purchasing power parity or PPP. (Alternatives are considered below.) But the rule cannot be a function of a fine-grained, *continuous* measure of development. Inclusion on the List is a zero-one decision, so using any continuous measure would require analysts to establish their own, ultimately arbitrary quantitative thresholds (e.g., “metallurgical engineers are clearly needed for development at \$5,729 per capita, but not at \$5,730 per capita”). For a List that is transparent, politically defensible, and administratively feasible, the criterion should be discrete and independently, objectively set. The World Bank has classified every country in this way in each year since 1989. The classification is well established, independent, and informative on experts’ assessment of overall development conditions and prospects.
- *Small countries.* Small/island nations might experience disproportionate impact from the loss of a few specialists since the limited size of their home market ensures higher proximate impact from each departure. At the same

time, countries with low diaspora size—a low absolute number of skilled migrants in the United States—should not be shut off from planting the seed for overseas networks. Prior migrants are crucial to facilitating interchange via future migrants and nonmigrants, through networks of trade, investment, technology transfer, and training. This creates an inherent trade-off, because small countries typically have small diasporas. The proposal addresses this trade-off by shifting the field category for migrant-origin countries in step 2 if the country is relatively small *but* the country’s US diaspora is above a minimum threshold.

- *High departure rate.* Even in countries where skilled migration has long-term, indirect benefits, countries with very high rates of emigration by skilled workers can experience short-term stresses of training costs and staffing shortages. At the same time, many countries with large-scale skilled emigration also exhibit strong systems of public and private tertiary education, and thus relatively high skill stocks at home. Those countries not only are better positioned to train new workers in response to emigration, but they are also more likely to exhibit unemployment/underemployment for workers with tertiary education. Furthermore, upcoming workers in countries with strong tertiary training institutions are more likely to invest in skills in response to skilled emigration. For all these reasons, the marginal net benefit to the home country of increased skilled migration can be higher if skill stocks at home are high, and lower if they are low. The proposal addresses this trade-off by shifting the field category for migrant-origin countries in step 3 if the country already has a relatively high fraction of its skilled workers in the United States *but* does not have relatively high stocks of skilled workers at home.

IMPLEMENTING THE NEW METHOD: DEFINITIONS

Implementing the above qualitative framework requires setting quantitative criteria for *small* countries, *low* diaspora size, *high* departure rates, and *high* skill stocks at home.¹¹ And it requires necessary and sufficient criteria for fields to be assigned to the Broad, Narrow, and Minimal lists.

Defining small and underrepresented countries. Countries are classified as *small* when their population lies below 1.5 million. This definition, set officially by the World Bank, covers 21.5 percent of all countries that are candidates for the Skills List.¹² Countries are classified as having *underrepresented* skilled-worker diasporas in the United States when the US Census Bureau’s American Community Survey, pooled over the last five years, reports fewer than 7,500 people with postsecondary education and born in that country.¹³ This is just above the minimum threshold for such migrants, from each country, to be counted at all—a reasonable minimum standard for “representation.” The method does not differentiate between diaspora members who get their tertiary education in the United States versus abroad; both of these are known to contribute to diaspora networks. For the same reason, the proposed method does not differentiate by naturalization status.

Defining high departure rates and skill stocks. Departure rates are classified as *high* when more than 15 percent of that country’s tertiary-educated workers, including only those living in the home country or the United States, live in the United States. This threshold is chosen because it matches suggestive evidence from the research literature that departure rates over 15 percent have the greatest potential for direct harm to offset indirect benefit.¹⁴ Home-country skill stocks are classified as high when more than 15 percent of the home-country population over age 25 have postsecondary education. This is roughly the level of Tunisia; such a threshold reasonably ensures that countries like the Philippines and Egypt are considered to have robust systems of public and private tertiary education whereas countries like Tanzania and Cambodia are not.

Creating the field categories. Fields of specialization are classified into Broad, Narrow, and Minimal categories by the following criteria. Fields are identified using the Classification of Instructional Programs (CIP) by the National Center for Education Statistics of the US Department of Education, 2020 revision, reflecting the use of earlier versions of the CIP in earlier iterations of the Skills List. The full CIP classifies fields of specialization into over 2,800 minor subfields at the six-digit level. The 2009 Skills List considered fields at the still-narrow four-digit level. We, in contrast, use somewhat broader categories at the two-digit level. For example, whereas the full CIP contains the six-digit code 14.0903 for computer software engineering, the 2009 Skills List specified fields on the List within the broader four-digit code 14.09 for computer engineering. In this proposal, such a visitor is identified with the two-digit code 14 for engineering.

This proposal favors two-digit codes because the past practice of using detailed four-digit codes can have little basis in research and faces important challenges of administrative feasibility. First, it is unclear how any feasible research evidence could establish that, in Nepal, specialists in Data Processing (four-digit code 11.03) are “clearly required” for development, but specialists in Information Science (11.04) are not. And even if such a determination could have somehow been made in the late 2000s, when the 2009 Skills List was being compiled, there is little reason to believe that it would remain valid for even a few years, much less across 15 years. Moreover, fixing the List at the four-digit level ignores the possible emergence of new, narrow subfields as technology evolves. The principles of this exercise, that the new rule be conservative and humble, preclude such extremely fine and necessarily haphazard distinctions.

Second, distinguishing between granular subfields makes the Skills List easy to “game” by migrants or the programs sponsoring them, undermining the intent of the law and the administration of the rule. On the 2009 List, Mauritius chose to include Biomedical Engineering (14.05) but not Bioengineering (14.03). If a US program in Biomedical Engineering that did not want migrants to be returned to Mauritius represented the program as training in Bioengineering instead, would the State Department have the resources and expertise to investigate and make its own independent determination? Also on the 2009 Skills List, El Salvador included Biomathematics (26.11), but not Mathematical Biology (under 27.03). If it were claimed that a visitor’s field is Mathematical Biology instead of Biomathematics, it is unclear by what process or expertise any US agency would make an independent determination.

Defining the field categories. Having chosen to classify fields at the two-digit level, these are sorted into the three field categories. This sorting centers on a fundamental trade-off between the roles of knowledge workers in global networks and in domestic service provision. Skilled emigrants even from fields with *prima facie* development importance have been crucial to building overseas networks that advance development. [Mo Ibrahim](#) had a bachelor's degree in electrical engineering when he left Sudan, a near-term and tangible cost for a country that needs talented engineers, but in the long term he brought billions in investment and technology transfer to Sudan and the rest of Africa from his positions as an entrepreneur overseas. More systematically, economists now have clear evidence that skilled migrants and knowledge workers both provide important services at home *and* play an essential role in integrating poor countries with the opportunities of the global economy.¹⁵ Nevertheless, these long-term benefits must be weighed against the reality that many knowledge workers in developing countries provide direct, in-person, nontradable services to low-income households, and the effects of skilled emigrants' absence in these fields can be tangible and acutely felt in the short term.

This proposal makes these trade-offs in the following way, summarized in table 1. Fields should appear on the List when the short-term costs of a worker's absence, at a given stage of development (or unique country circumstances), have obvious potential to be exceptionally tangible and severe in the short term, regardless of possible long-term benefits. For low-income countries (Afghanistan, Mali), that suggests a Broad list of skilled workers who provide nontradable, in-person services directly to the poor, in sectors most important at that stage of development: agriculture, basic infrastructure, health, and education.¹⁶ For lower-middle-income countries (Egypt, India, Nigeria), the Narrow list reduces to

Table 1
Categories for fields of specialization

Broad	Narrow	Minimal
61 Physician Residency	61 Physician Residency	61 Physician Residency
60 Non-Physician Residency	60 Non-Physician Residency	
13 Education	13 Education	
51 Health Professions	51 Health Professions	
01 Agricultural Science		
14 Engineering		
15 Engineering Technicians		
46 Construction		
49 Transportation & Shipping		

Source: Authors' proposal.

teachers and to physicians, nurses, and other health workers because countries in this class shift their economies sharply away from dominant reliance on agriculture and have increasing access to finance and expertise for infrastructure provision. For upper-middle-income countries (Brazil, China, Turkey), the Minimal list reduces to physicians only, a field considered so sensitive that it already receives special treatment under J-1 visa regulations.¹⁷

See the appendices later in the Policy Brief for a full set of possible two-digit field codes and data sources used in this analysis.

RESULTS: A NEW SKILLS LIST

The method in the previous section designates as *listed* or *not listed* each of 9,168 country-field pairs (191 countries by 48 two-digit fields). Before listing these designations, because the goal of this exercise is to sharply improve on the prior Skills List, it is worth noting the striking differences between the current Skills List built in 2009 (figure 2a) and the new Skills List proposed here (figure 2b).

Both graphs show each country's real average income per person on the horizontal axis. Both show the fraction of all possible four-digit fields that appear on the List, for each country, on the vertical axis; the colored line shows a weighted moving average by income.

Several undesirable features of the old 2009 Skills List appear in figure 2a. First, in the old list, the average fraction of fields listed is not systematically greater for poorer countries. In fact, the restrictiveness of the List *rises* until countries reach the relatively advanced level of PPP\$10,000 per capita (roughly India or Morocco). Second, the large majority of countries did not use the List to make fine distinctions between subfields: 146 out of 191 countries either chose essentially *all fields* or *no fields*.¹⁸ This does not suggest that the highly granular nature of the four-digit fields was supporting evidence-based policy. Third, the restrictiveness of the List is highly erratic even at similar levels of development. Chad never placed a field on the List, but Niger did; Côte d'Ivoire placed no fields on the List, but Ghana did; Uganda placed no fields on the List, but Kenya did; alongside countless other examples. Across a vast range of the development process, from \$1,500 through \$60,000 per capita, the 2009 Skills List designates some countries as “clearly requiring” essentially *all* possible skills and other similarly situated countries as “clearly requiring” none of them. Fourth, even among the countries that did choose to make fine distinctions among four-digit fields when requesting them to appear on the 2009 Skills List (the spread-out red dots in the middle of figure 2a), there is no clear relationship between the typical restrictiveness of the List and the level of development (Peru was more restrictive than Tanzania; Mauritius more restrictive than Haiti).

In contrast, figure 2b shows the result of building a new Skills List by the method proposed here. This method is inherently imperfect but makes major improvements on all four of the above shortcomings of the prior List. The restrictiveness of the new List systematically declines with development. The new List makes carefully considered distinctions between fields rather than arbitrary all-or-nothing designations. Migrants from countries at similar levels of development are treated similarly—after adjusting for the special circumstances as detailed above—regardless of the overall restrictiveness faced by their country.

Table 2 lists all countries, showing how the proposed method maps them to field categories. Each column is a field category from table 1. The first row

Figure 2a
The 2009 Skills List, fraction of all fields listed by country's level of development

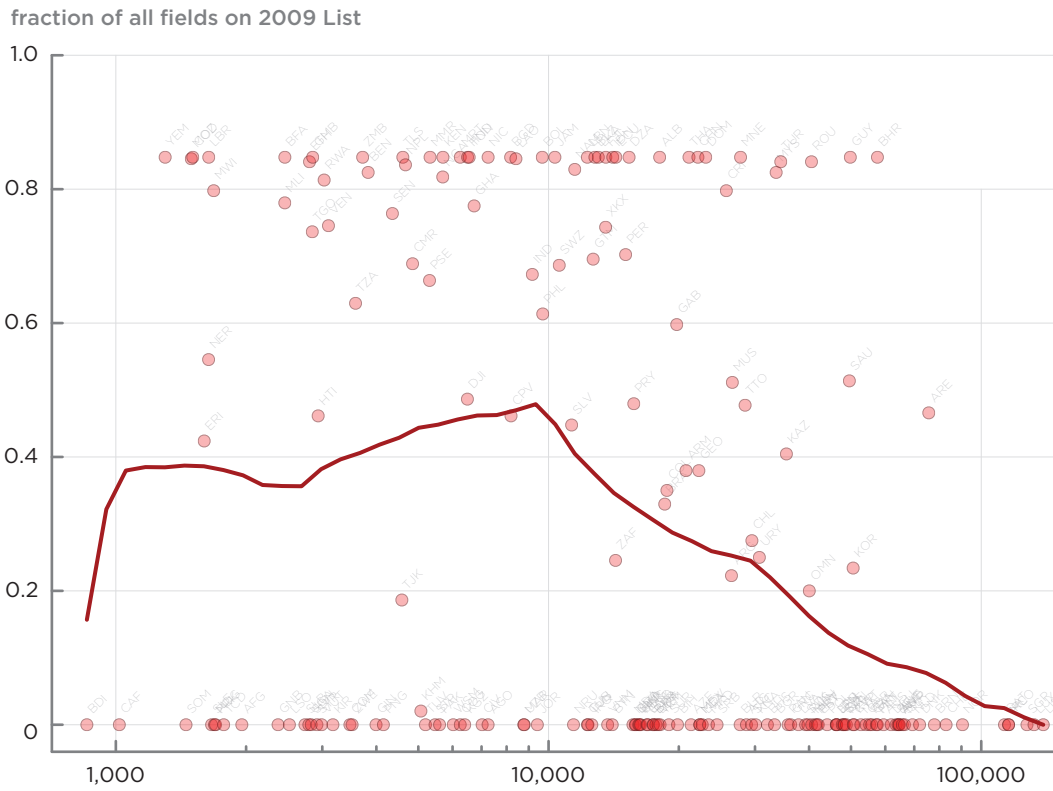
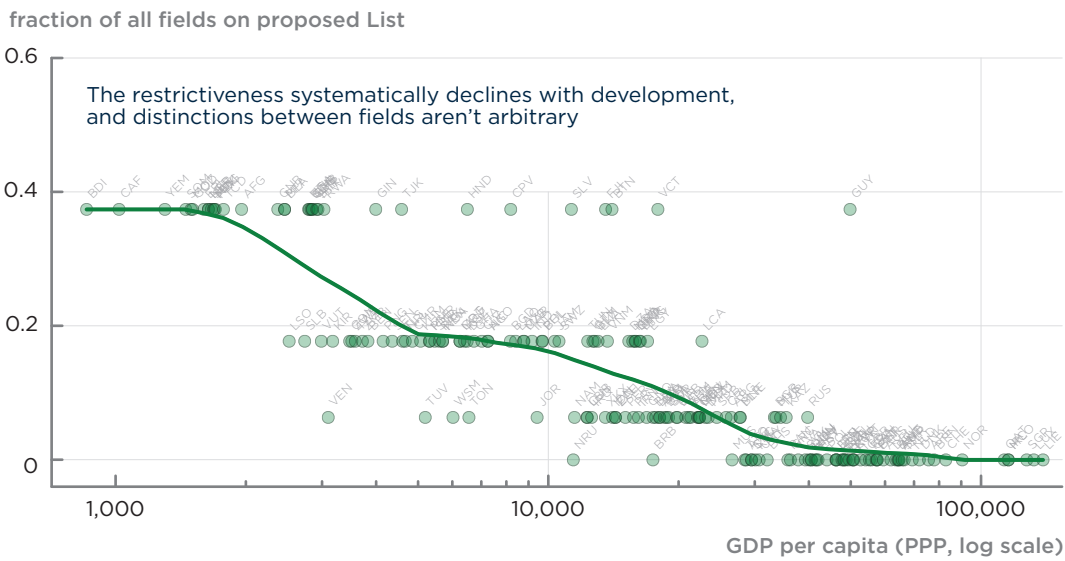


Figure 2b
Proposed new Skills List, fraction of all fields listed by country's level of development



Note: Line in each graph denotes moving average by income.
 Source: Authors' analysis and 2022-23 GDP per capita data from World Bank.

Table 2
Mapping countries to field categories in the proposed new Skills List

<i>Country traits</i>	Field category		
	<i>Broad</i>	<i>Narrow</i>	<i>Minimal</i>
Neither small nor high departure rate, or already Broad	Afghanistan Burkina Faso Burundi Central African Republic Chad Congo, Dem. Rep. Eritrea Ethiopia Gambia Guinea Guinea-Bissau Korea, DPR Madagascar Malawi Mali Mozambique Niger Rwanda Sierra Leone Somalia South Sudan Sudan Syria Tajikistan Togo Uganda Yemen	Algeria Angola Bangladesh Benin Bolivia Cambodia Cameroon Congo, Rep. Côte d'Ivoire Egypt Ghana India Kenya Kyrgyzstan Laos Lesotho Mauritania Moldova Mongolia Morocco Myanmar Nepal Nicaragua Nigeria Pakistan Papua New Guinea Philippines Senegal Sri Lanka Palestinian Territories Tanzania Tunisia Ukraine Uzbekistan Vietnam Zambia Zimbabwe	Albania Argentina Armenia Azerbaijan Belarus Bosnia & Herzegovina Botswana Brazil Bulgaria China Colombia Costa Rica Cuba Ecuador Equatorial Guinea Gabon Georgia Indonesia Iran Iraq Jordan Kazakhstan Kosovo Lebanon Libya Malaysia Mexico Namibia North Macedonia Paraguay Peru Russia Serbia South Africa Thailand Turkmenistan Turkey Venezuela

<i>Country traits</i>	Field category		
	<i>Broad</i>	<i>Narrow</i>	<i>Minimal</i>
a. Small country <i>and</i> underrepresented		Comoros Djibouti Eswatini Kiribati São Tomé & Príncipe Solomon Islands Timor-Leste Vanuatu	Maldives Montenegro Samoa Suriname Tuvalu
b. High departure rate <i>and</i> home stock not low			Dominican Republic
Both a and b			Tonga
c. Small country <i>but</i> not underrepresented	Bhutan	Belize Dominica Grenada Saint Lucia	
d. High departure rate <i>but</i> home stock low	El Salvador Haiti Honduras Liberia	Guatemala Jamaica	
Both c and d	Cabo Verde Fiji Guyana St. Vincent & Grenadines		

Source: Authors' analysis.

shows countries whose initial income category designation was not considered for modification to adjust for special circumstances using the process in figure 1. This can happen for three reasons: either (1) the country is not small; (2) the country does not exhibit a high departure rate for skilled migrants; or (3) it is already assigned to the broad category in the initial classification, thus its size or departure rate cannot alter its assignment to a field category. The second row shows countries that are defined as small *but* their skilled migrants are also defined as underrepresented in the United States, so their field assignment is not changed by being small (e.g., Eswatini). The third row shows countries that exhibit a high departure rate that would otherwise alter their designation *but* also have high skill stocks at home (Dominican Republic). The fourth row is for countries that are both small but underrepresented *and* exhibit high departure rates but relatively high skill stocks at home (Tonga); thus, their initial classification is not altered.

The remaining rows of table 2 show countries whose initial assignment was altered due to their special circumstances: countries that are small but *not* underrepresented in the United States; countries with high departure rates but *not* high skill stocks at home; and countries meeting both of these conditions.

For example, Guatemala is an upper-middle-income country but is nevertheless assigned to the Narrow field category instead of the Minimal one because it has a high departure rate (21 percent of those born in Guatemala who have postsecondary education, who live either in Guatemala or the United States, live in the United States) but does not have high skill stocks at home (only 4.5 percent of the population over age 25 has postsecondary education). Bhutan is a small country (population 787,424) but its skilled migrants are not underrepresented in the United States (11,076 Bhutan-born US immigrants have postsecondary education) due in part to large refugee inflows. Thus, although Bhutan is a lower-middle-income country rather than low-income country, it receives the Broad field category. Guyana receives the Broad category despite being upper-middle-income because it is small but not underrepresented *and* exhibits a high departure rate without high skill stocks at home.

The method proposed here would substantially impact the total number of high-skill visitors covered by the Skills List. This impact is estimated in a separate analysis.¹⁹ It defines “high-skill” visitors in order to *omit* J-1 visa recipients who are camp counselors, au pairs, high school students, or students on summer work/travel. The remaining high-skill workers include only those who (1) have an advanced degree from a US or foreign university; (2) are studying for an undergraduate or advanced degree at a US university; (3) are in the United States fulfilling academic requirements for a degree from a foreign university; or (4) are regarded as “eminent” or specialized “experts” in a field of knowledge.²⁰

Data from the US Department of Homeland Security then allow estimation of the number of high-skill visitors each year who are covered by the Skills List in figure 3. The red band shows the coverage of the current (2009) Skills List, with a range of uncertainty imposed by the raw data. The green line shows the number that would be covered under the new Skills List proposed here, by the designations in tables 1 and 2.

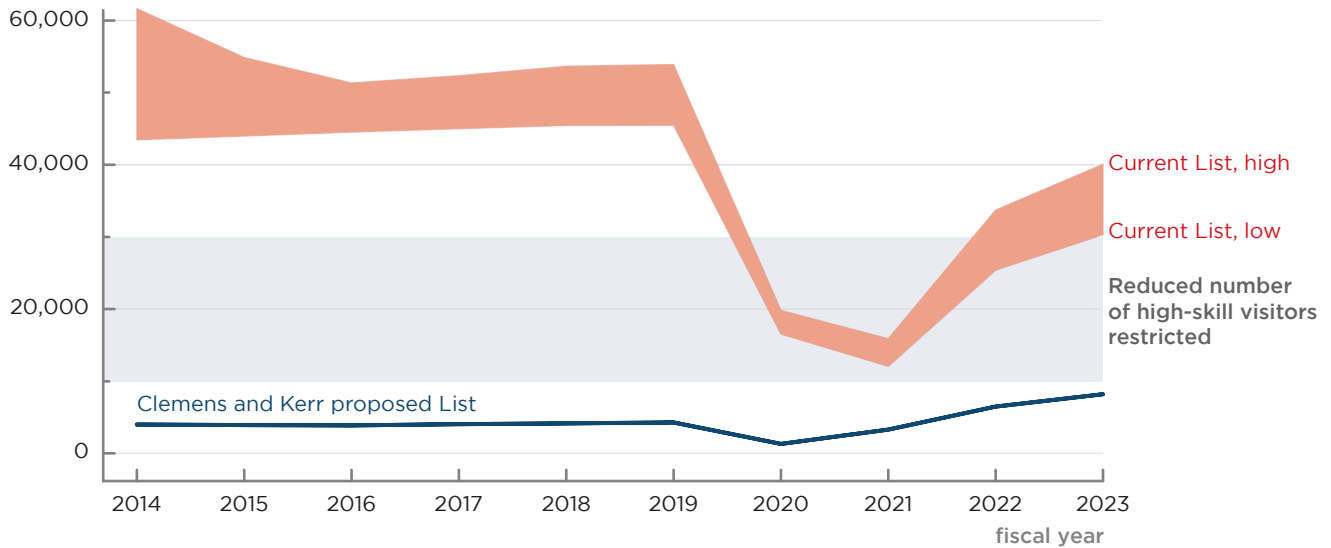
In the broadest sense, the proposed new Skills List is less stringent as it is more selective in designating country-field pairs for the List. In FY2023, the proposed new List would have covered a little less than one-fourth the number of high-skill visitors that faced the requirement under the current List. For five key countries that together compose about half of the high-skill visitors restricted by the current List—China, India, Korea, Brazil, and Colombia—in FY2023 the Skills List covered between 17,805 and 22,021 high-skill category workers collectively. Under the proposed new List, this would have been 762, many of them visitors from India as nonphysician health workers, such as nurse practitioners.

The above cannot be interpreted as quantitative estimates of changes in the number of exchange visitors subject to the home residency requirement. This is because the home residency requirement applies even to visitors exempt from the Skills List but who receive government funding specifically for the purpose of exchange (from a foreign government or from the US government, including but not limited to a Fulbright fellowship). The US government does not publish data on the fraction of exchange visitors who receive US or foreign government funding. A revised Skills List would not affect the US visa options of those

Figure 3

The number of high-skill visitors covered by the Skills List in its current form (red) and a proposed revision of the Skills List (blue), omitting physicians

new high-skill exchange visitors covered by Skills List



Source: Michael Clemens, Jeremy Neufeld, and Amy Nice, *Expelling Excellence: Exchange Visitor Restrictions on High-Skill Migrants in the United States*, Policy Paper (Washington: Institute for Progress, 2024). “New high-skill exchange visitors” means the flow of newly arriving exchange visitors, not the stock.

visitors. That said, experts consulted for this exercise, with direct knowledge of the Exchange Visitor Program, estimate that less than 10 percent of visitors are US government funded, and visitors funded by foreign governments only predominate in a handful of relatively small J-1 categories. In other words, it is reasonable to presume that the Skills List per se represents a binding constraint on the majority of high-skill visitors, though that share cannot be estimated with precision. As part of a years-long reform effort, the Federation of American Scientists has stated that reform in the Skills List by itself would impact thousands of visitors per year and that “the urgency of modernizing the Exchange Visitor Skills List cannot be overstated.” This position—by US researchers who work directly with high-skill visitors—would be difficult to explain if the Skills List per se were not a major determinant of visitors’ options.²¹

A second piece of relevant but unavailable information is the fraction of visitors who would not have returned home but for the home residency requirement—that is, the number of people whose migration decisions are constrained by the Skills List. But there are clear reasons to believe that this effect is substantial. Surveys of recent foreign recipients of PhD degrees at US universities indicate that very high fractions of them do hope to remain in the United States, including 87 percent for mainland China and 91 percent for India.²² And there is direct evidence from a different stream of J-1 visa workers, overseas clinical physicians, that marginal changes in the home residency requirement have large effects on visitors’ migration behavior.²³

DISCUSSION OF KEY METHODOLOGICAL CHOICES

The method proposed here inherently involves difficult choices. To make these choices as explicit as possible, this section presents the reasoning behind some of the most fundamental.

Given the importance of human capital to development, why not list all skilled fields?

On the old 2009 Skills List, 34 percent of all countries asked the United States to enforce the two-year home residency requirement for specialists in “library science” (CIP code 25). An argument can be made that libraries are important institutions that complement human capital formation and thus the broader development process across the world.²⁴ But similar arguments could be made for *every* other field of study: Mathematicians matter to education, accountants matter to business performance, and so on. Reasoning of this kind, which requires compelling reasons to *rule out* a field as mattering to development, leads inexorably to the restriction of most or all fields.

That approach is not adopted here, for two reasons. The first is US law. The law creating the Skills List is written to define the default condition as nonrestriction, so that the burden of proof rests on restriction. The legislative history of the underlying law clarifies that lawmakers explicitly intended nonrestriction as the default condition.²⁵ The statute creating the Skills List directs the US government to designate fields “as *clearly requiring* the services of persons engaged in the field of specialized knowledge or skill in which the alien was engaged” (emphasis added). For physicians, perhaps the least controversial discipline where individual skills can be needed at home, the statute enforces return within two years only when “the country to which the alien will return . . . has an *exceptional need* for an individual trained in such specialty” (emphasis added).²⁶ This plain language indicates that establishing “need” for an area of specialization requires “clear” or “exceptional” evidence that a *specific* skill is required.²⁷ A Skills List that defaults to restriction, demanding instead clear proof of the absence of harm before it relaxes restrictions, would not properly implement the underlying statute.

Moreover, defaulting to bar skilled migrants would ignore modern economic evidence that skilled migrants foster trade ties, investment ties, technology transfer, entrepreneurship, and brain-gain investment in human capital.²⁸ Partly for this reason, in the 52 years of existence of the Skills List, we are not aware of any evidence put forward to suggest that enforced return *in general* caused net-positive development outcomes, in any dimension, in any country. Nor has there been evidence of net *harm* to development in the roughly half of developing countries that chose never to enforce returns for any field under the Skills List. In this proposal, the default condition is nonrestriction, and the fields in table 1 are carefully chosen due to compelling evidence of the potential for tangible short-term harm.

Given that all skills are scarce in the poorest countries, should the default condition be restriction, at least in low-income countries?

This proposal places the burden of proof on restriction even in the very poorest countries, for two reasons. First, the poorest countries both have the lowest supplies of skilled workers *and* the lowest expressed demand—real jobs—for skilled workers. Migration restrictions act only on supply. The poorest countries have the highest unemployment rates for tertiary-educated workers and the highest rates of skill mismatch (tertiary-educated workers in jobs that do not require tertiary education).²⁹ While skills in every field are needed in low-income countries in an abstract sense, the realized demand—actual employment prospects—is also systematically low for skilled workers of many fields in the poorest countries.³⁰ This tension exists for all classes of skilled workers, including health workers.³¹

The second reason is that this rule governing the Skills List is not intended to determine whether skilled workers *can* or *should* return to their home countries but whether they *must* return—against their will. The home residency requirement is irrelevant for migrants who already desire to reside in their home countries. The rule is exclusively relevant for people who (1) are highly informed about current demand for their skills at home and (2) have determined that the demand at home is too low at current levels of development. This is the question addressed here: In what circumstances should skilled migrants' extensive private information about actual, realized demand for their services at home be overridden by the US government's claim to superior information about realized demand for those services at home? Extensive skill mismatch in the poorest countries suggest adherence to the principles of this exercise: The rule should be conservative and humble.

Why should the Skills List now be set in Washington, altering the tradition of relying on foreign governments to designate fields for the List?

For the last 52 years, the Skills List has been constituted by asking foreign countries' ministries of foreign affairs which disciplines, if any, should go on the List. It could be reasonably argued that home countries have greater knowledge about specific fields that are in shortage, at specific moments in time, than is possible for analysts in Washington.

But this possibility is not compatible with the pattern of de facto answers that foreign governments have given when consulted over the past half century. Among the countries that placed any fields on the Skills List, 49 percent placed nearly *all* fields on the List—without discriminating between nurses and librarians, or between engineers and creative writers. This propensity, as shown in figure 2a, is similar across a very wide range of development levels—the proportion of fields restricted changes little between the poorest countries and relatively rich emerging markets. Likewise, about half of all countries did not use the Skills List at all, not asking for any field of study to be restricted—a proportion that is also similar between the poorest countries and relatively rich developing countries. This may represent wide variations in the attitudes of individual officials, or wide variations in the capacity of home-country governments to devote resources to detailed engagement with this process. Either possibility supports a process driven transparently and uniformly by the US government.

The patterns in figure 2a are not consistent with a model in which the choices of foreign governments regarding the Skills List respond to objective evidence about the development impact of migrants in specific fields, at specific levels of development. They are more consistent with those choices being shaped in large measure by politics, ideology, arbitrary bureaucratic deliverables, and the idiosyncrasy of individual functionaries than by evidence-based analysis of development conditions as they vary across countries. And they cannot be shaped by superior knowledge about changing labor market conditions over time: The Skills List has only been updated four times in 52 years. Even if governments had superior information at one moment, the policy could be badly out of step with conditions just a few years later.

Why use GDP per capita as the overarching measure of “development”?

There are clear limitations of GDP per capita as an omnibus indicator of opportunity or skill needs in developing countries. For example, in states with high petroleum revenue, such as Angola or Guyana, rising GDP may have a tenuous link to rising material well-being of the median or modal citizen.

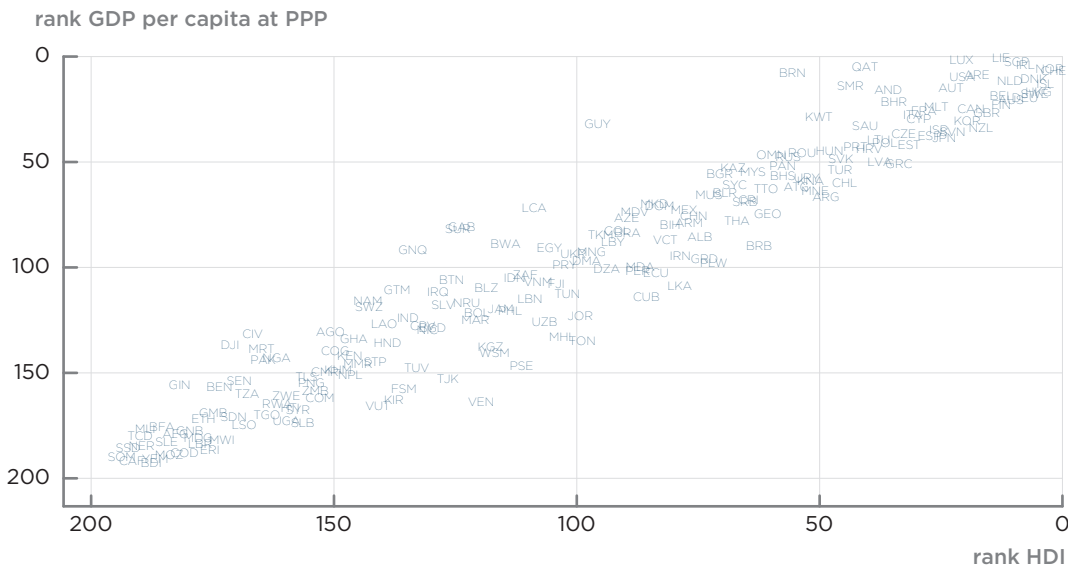
These legitimate concerns are the *raison d'être* of the Human Development Index (HDI) calculated annually by the United Nations Development Program. The HDI is a composite of indicators of health (life expectancy, heavily shaped by child health), education (average years of schooling completed), and average incomes (real gross national income per capita). In practice, however, the income per capita is heavily shaped by health and education—and also causes advances in health and education—to such a great extent that the correlation of countries' ranking by the HDI and their ranking by GDP per capita is 0.96. Figure 4 shows this striking relationship across all countries.

In other words, the HDI contains very little information about countries' relative development levels that is not captured by income per capita alone. Similar exercises have shown that GDP per capita alone is highly informative about a wide range of nonmonetary development indicators, from governance to environmental quality.³²

Concerns about how to measure development cannot be lightly dismissed. But the complexity and opacity introduced by the many possible alternative measures of development have little payoff for the present purpose. Note also that perhaps the most exceptional country in figure 3—Guyana, with its uncommonly large divergence between income per capita and human development due to recent oil revenue—is already subject to the Broad field classification by the proposed method due to its other special circumstances.

That said, it would be easy and still relatively transparent to alter the method proposed here by replacing the four World Bank income categories with the analogous HDI categories assigned by the United Nations each year: *Low*, *Middle*, *High*, and *Very High* human development. After setting the initial country classification by those categories, as in figure 1, the method could proceed identically.

Figure 4
Tight correlation between Human Development Index (HDI) rank and GDP per capita rank



Source: World Bank (for 2022-23) and United Nations Development Program (for 2022).

CONCLUSION

The Exchange Visitor Skills List, despite its 52-year history of being built principally by the choices of foreign governments, can be rebuilt as an instrument of US policy written by the United States. This Policy Brief has proposed a detailed method to construct that List, resting on the principles that designation for the List must be simple, conservative, balanced, and humble. The new, proposed List that emerges from the method proposed here is superior to the prior List in its capacity to implement the spirit and letter of the underlying statute.

This proposal is highly flexible to policy design considerations. The quantitative criteria for underrepresentation and high skill stocks, for example, can be easily fine-tuned. The measure of development, as discussed above, can be easily adjusted. The precise field categories on the Broad, Narrow, and Minimal list can be debated and adjusted. The Skills List could be set for many years to come, as has been State Department practice over the last several decades, or it could be very easily updated with publicly available data sources every few years or even every year.

APPENDIX A

For reference, below is the full set of possible two-digit field codes in CIP 2020, as given in the original source.*

CIP code	Title
01	Agricultural/animal/plant/veterinary Science and Related Fields
03	Natural Resources and Conservation
04	Architecture and Related Services
05	Area, Ethnic, Cultural, Gender, and Group Studies
09	Communication, Journalism, and Related Programs
10	Communications Technologies/technicians and Support Services
11	Computer and Information Sciences and Support Services
12	Culinary, Entertainment, and Personal Services
13	Education
14	Engineering
15	Engineering/engineering-related Technologies/technicians
16	Foreign Languages, Literatures, and Linguistics
19	Family and Consumer Sciences/human Sciences
22	Legal Professions and Studies
23	English Language and Literature/letters
24	Liberal Arts and Sciences, General Studies, and Humanities
25	Library Science
26	Biological and Biomedical Sciences
27	Mathematics and Statistics
28	Military Science, Leadership, and Operational Art
29	Military Technologies and Applied Sciences
30	Multi/interdisciplinary Studies

* Note that the 2009 Skills List is defined by the earlier 2010 revision of CIP, which is similar but not identical. Any new rule should be defined by the 2020 revision.

CIP code	Title
31	Parks, Recreation, Leisure, Fitness, and Kinesiology
32	Basic Skills and Developmental/remedial Education
33	Citizenship Activities
34	Health-related Knowledge and Skills
35	Interpersonal and Social Skills
36	Leisure and Recreational Activities
37	Personal Awareness and Self-improvement
38	Philosophy and Religious Studies
39	Theology and Religious Vocations
40	Physical Sciences
41	Science Technologies/technicians
42	Psychology
43	Homeland Security, Law Enforcement, Firefighting
44	Public Administration and Social Service Professions
45	Social Sciences
46	Construction Trades
47	Mechanic and Repair Technologies/technicians
48	Precision Production
49	Transportation and Materials Moving
50	Visual and Performing Arts
51	Health Professions and Related Programs
52	Business, Management, Marketing
53	High School/secondary Diplomas and Certificates
54	History
60	Non-Physician Residency/fellowship Programs (Nurse Practitioner, Pharmacy, Veterinary)
61	Physician Residency/fellowship Programs

APPENDIX B DATA SOURCES

Field codes: The Classification of Instructional Programs codes for 2010 and 2020 are from the [National Center for Education Statistics](#).

Population: Country population is for the year 2023, from the [World Bank Open Data portal](#).

Income per capita: The World Bank income classification and almost all data for Gross Domestic Product per capita at Purchasing Power Parity are from the [World Bank Open Data portal](#) and represent the most recent figure available as of July 2024, which is either from 2022 or 2023. The World Bank does not publish any (or any recent) estimates of GDP per capita for Cuba, North Korea, Eritrea, Liechtenstein, Monaco, South Sudan, Turkmenistan, Venezuela, and Yemen; estimates of GDP per capita at PPP from these countries are taken from the most recent estimate available in the [CIA World Factbook](#) as of July 2024.

Education: Data on post-secondary graduates as a fraction of the population aged 25+ are the most recent estimate available from the [World Bank Open Data portal](#) as of July 2024. For countries where no such estimate is published by the World Bank, data for the year 2020 are taken from the Wittgenstein Centre for Demography and Global Human Capital, [Wittgenstein Centre Data Explorer](#) Version 3.0.

Diaspora: Data on the number of postsecondary graduates born in each country resident in the United States is from the American Community Survey 2018–2022 5-Year sample at IPUMS USA (Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [dataset]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>).

ENDNOTES

- 1 National Academies of Sciences, Engineering, and Medicine, *The Economic and Fiscal Consequences of Immigration* (Washington: The National Academies Press, 2017), 317.
- 2 Nicholas Bloom, John Van Reenen, and Heidi Williams, *A Toolkit of Policies to Promote Innovation*. *Journal of Economic Perspectives* 33, no. 3 (2019): 163–84, table 2, 180.
- 3 One of the first studies to show this by directly observing the effects of changes in policy restrictions is William R. Kerr and William F. Lincoln, *The supply side of innovation: H-1B visa reforms and US ethnic invention*. *Journal of Labor Economics* 28, no. 3 (2010): 473–508.
- 4 **8 USC 1182(e)**. Some types of visitors generally face the two-year home residency requirement regardless of their country of origin. These include visitors who are sponsored by the US government or by their home government, or clinical physicians (medical doctors whose visit involves patient care, rather than being exclusively devoted to nonclinical teaching, research, or observation). The J-1 Exchange Visitor visa is a nonimmigrant visa category in the United States, designed for individuals approved to participate in preapproved work- and study-based exchange visitor programs that promote international cooperation and mutual understanding. A 1977 law added foreign doctors completing residencies in the United States to the group of J-1 visa holders subject to the two-year home residency requirement.
- 5 The current list, created in 2009, is available at <https://www.federalregister.gov/d/E9-9657>.
- 6 World Bank, *The Human Capital Project* (Washington, 2018).
- 7 This Brief uses the term “developing country” to refer to any country not classified as “high income” by the World Bank. Nontechnical summaries of the evolution of research in this area include Michael Clemens, *Skill Flow: A Fundamental Reconsideration of Skilled-Worker Mobility and Development* (Washington: Center for Global Development, 2009), a background paper for the United Nations Development Program *Human Development Report 2009*; and Michael Clemens, *Losing our minds? New research directions on skilled emigration and development*, *International Journal of Manpower* 37, no. 7 (2016): 1227–48. See also John Gibson and David McKenzie, *Eight Questions about Brain Drain*, *Journal of Economic Perspectives* 25, no. 3 (2011): 107–128.
- 8 White House, *Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence*, October 30, 2023, at Section 5.1(b).
- 9 Originally, the home residency requirement was the default condition under law. A 1961 statute made *all* migrants with a J-1 visa subject to the requirement for two years of home country physical presence (Pub. L. No. 87-256 [September 21, 1961] at Section 109(c), creating new sections 1101(a)(15)(J) and 1182(e) of 8 U.S.C.). This was pointedly reversed by a 1970 legal reform that removed the two-year home residency requirement for all J-1 visa recipients *unless* they met the exceptional conditions of government sponsorship or were developing skills “clearly required” by the home country (Pub. L. No. 91-225 [April 7, 1970] at Section 2, revising Section 1182(e) of 8 U.S.C.). This evolution clarifies that the 1970 law does, and was intended to, make the default condition that of eligibility to apply for a visa to remain in the United States. There is no burden to prove that migrants’ skills are *not* required.
- 10 “For the current 2025 fiscal year, low-income economies are defined as those with a GNI [gross national income] per capita, calculated using the World Bank Atlas method [not PPP], of \$1,145 or less in 2023; lower middle-income economies are those with a GNI per capita between \$1,146 and \$4,515; upper middle-income economies are those with a GNI per capita between \$4,516 and \$14,005; high-income economies are those with more than a GNI per capita of \$14,005” (*Source*).
- 11 To fit the administrative requirements of the Skills List, *countries* are defined as nationalities—a migrant from Curaçao is assigned the “country” of the Netherlands. The United States does not currently accept documents issued by Taiwan as establishing a separate nationality for visa purposes; it does recognize documents issued by the Palestinian Authority. This proposal reflects that policy in its assignment of these migrants, respectively, to the “country” China and the “country” Palestinian Territories. Alternative designations would complicate the administrative feasibility of the List.
- 12 The World Bank also allows selected countries that do not fit this definition but face related challenges, such as Guinea-Bissau, to join its [Small States Forum](#).
- 13 This includes countries for which the tertiary-educated diaspora is too small for any people of that education level and country of birth to appear in the American Community Survey samples. The sample used here is the pooled sample for 2018–22, the most recent available at the time of writing through IPUMS USA.
- 14 An expert review of macro research offers suggestive evidence that net benefits diminish

when skilled departure rates are well over 10 percent (Frédéric Docquier, [The Brain Drain from Developing Countries](#), *IZA World of Labor* 31, [2014]). One particularly influential study presents suggestive evidence that net skills accumulation occurs when the skilled departure rate remains below 20-30 percent (Michel Beine, Frédéric Docquier, and Cecily Oden-Defoort, [A Panel Data Analysis of the Brain Gain](#), *World Development* 39, no. 4 [2011], 523-32). This method considers the departure rate to the United States only, exclusive of other destination countries, because the purpose of this exercise is to establish a policy rule for the United States only. If most skilled emigrants from a given origin country go to non-US destination countries, by definition US policy cannot be a first-order determinant of the overall departure rate and its development effects.

- 15 Evidence on the effect of skilled migration on technology diffusion to home countries includes the following: William R. Kerr, [Ethnic Scientific Communities and International Technology Diffusion](#), *Review of Economics and Statistics* 90, no. 3 (2008): 518-537; Dany Bahar and Hillel Rapoport, [Migration, Knowledge Diffusion and the Comparative Advantage of Nations](#), *Economic Journal* 128, no. 612 (2018): F273-F305; Marta Prato, [The Global Race for Talent: Brain Drain, Knowledge Transfer, and Economic Growth](#), *Quarterly Journal of Economics* (2024); Jérôme Valette, [Do Migrants Transfer Productive Knowledge Back to Their Origin Countries?](#), *Journal of Development Studies* 54, no. 9 (2018): 1637-56; Valentina Di Iasio and Ernest Miguelez, [The Ties That Bind and Transform: Knowledge Remittances, Relatedness and the Direction of Technical Change](#), *Journal of Economic Geography* 22, no. 2 (2022): 423-48; Thomas A. Fackler, Yvonne Giesing, and Nadzeya Laurentsyeva, [Knowledge Remittances: Does Emigration Foster Innovation?](#), *Research Policy* 49, no. 9 (2020): 103863; AnnaLee Saxanian, [The New Argonauts: Regional Advantage in a Global Economy](#) (Cambridge, MA: Harvard University Press, 2007); Hillel Rapoport, [Diaspora Externalities](#), *IZA Journal of Development and Migration* 10, no. 2 (2019); Tony Fang and Alex Wells, [Diaspora Economics](#), in *Handbook of Labor, Human Resources and Population Economics*, ed. Klaus F. Zimmermann (Cham, Switzerland: Springer International, 2023), 1-23; Maria Elo, [Diaspora Networks in International Business: A Review on an Emerging Stream of Research](#), in *Handbook on International Alliance and Network Research*, ed. Jorma Larimo, Niina Nummela, and Tuija Mainela (Cheltenham, UK: Edward Elgar, 2015), 13-41. Evidence on the effect of skilled migration on human capital formation includes the following: Catia Batista, Aitor Lacuesta, and Pedro C. Vicente, [Testing the 'Brain Gain' Hypothesis: Micro Evidence from Cape Verde](#), *Journal of Development Economics* 97, no. 1 (2012): 32-45; Satish Chand and Michael Clemens, [Human Capital Investment under Exit Options: Evidence from a Natural Quasi-Experiment](#), *Journal of Development Economics* 163 (2023): 103-12; Paolo Abarcar and Caroline Theoharides, [Medical Worker Migration and Origin-Country Human Capital: Evidence from U.S. Visa Policy](#), *Review of Economics and Statistics* 106, no. 1 (2024): 20-35. Evidence on the role of skilled migration in fostering foreign direct investment includes the following: Beata S. Javorcik, Çağlar Özden, Mariana Spatareanu, and Cristina Neagu, [Migrant Networks and Foreign Direct Investment](#), *Journal of Development Economics* 94, no. 2 (2011): 231-41; G. Giovannetti, F. Santi, and M. Velucchi, ['Migrants Know Better': Migrants' Networks and FDI](#), *Economia Politica* 41 (2024): 85-121; Exequiel Hernandez, [Finding a Home away from Home: Effects of Immigrants on Firms' Foreign Location Choice and Performance](#), *Administrative Science Quarterly* 59, no. 1 (2014): 73-108. Evidence of the effect of skilled migration on trade includes the following: Mariya Aleksynska and Giovanni Peri, [Isolating the Network Effect of Immigrants on Trade](#), *World Economy* 37, no. 3 (2014): 434-55.
- 16 Vivien Foster, Nisan Gorgulu, Stéphane Straub, and Maria Vagliasindi, [The Impact of Infrastructure on Development Outcomes](#), Policy Research Working Paper 10343 (Washington: World Bank, 2023); Food and Agriculture Organization of the United Nations, [Transforming Food and Agriculture to Achieve the SDGs: 20 Interconnected Actions to Guide Decision-Makers](#) (Rome: Food and Agriculture Organization of the United Nations, 2018); United Nations Educational, Scientific and Cultural Organization, [Education for Sustainable Development Goals: Learning Objectives](#) (Paris: United Nations Educational, Scientific and Cultural Organization, 2017); and World Health Organization, [Global Strategy on Human Resources for Health: Workforce 2030](#) (Geneva: World Health Organization, 2020).
- 17 Most clinical physicians are subject to the home-residency requirement separately from the Exchange Visitor Skills List, under a different provision of law. The Skills List only affects requirements for nonclinical physicians, those whose visit to the United States comprises exclusively nonclinical activities of teaching, research, or consulting.
- 18 No country rises to fraction 1.0 on the vertical axis because even among countries that listed a large number of fields, certain fields were chosen by no countries at all, such as all the four-digit subfields under the two-digit classification of "military technologies" (29).
- 19 Michael Clemens, Jeremy Neufeld, and Amy Nice, [Expelling Excellence: Exchange Visitor Restrictions on High-Skill Migrants in the United States](#), Policy Paper (Washington: Institute for Progress, 2024).

- 20 Clemens, Neufeld, and Nice (2024) limit high-skill visitors to “the following J-1 program categories. *Professors, Research Scholars*, and *Short-Term Scholars* typically hold advanced degrees and are carrying out research or university-level teaching in the United States, and can include medical doctors in non-clinical roles of observation, teaching, or research. *Specialists* are defined by the State Department as ‘experts in a field of specialized knowledge or skill.’ *Teachers* hold a university degree in their field. *Trainees* have either a university degree or several years of experience in a specialized field of knowledge. College and university *students* are studying in the US for an undergraduate or advanced degree, or are in the US fulfilling academic requirements, sometimes as *student interns*, for an overseas university degree. *Interns* are engaged in or have recently completed a foreign university degree.” In other words, their definition of *high-skill visitors* omits visitors in the au pair, camp counselor, and summer work-study programs.
- 21 Divyansh Kaushik, [Unlocking American Competitiveness: Understanding the Reshaped Visa Policies under the Ai Executive Order](#), Federation of American Scientists, October 30, 2023; Divyansh Kaushik and Mark Sykes, [State Department Must Urgently Update the Exchange Visitor Skills List to Safeguard American Interests](#), Federation of American Scientists, November 5, 2023.
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- 24 Araba Sey, Chris Coward, Chris Rothschild, Melody Clark, and Lucas Koepke, [Public Libraries Connecting People for Development: Findings from the Global Impact Study](#) (Seattle: Technology and Social Change Group, Information School, University of Washington, 2013).
- 25 See the current 2009 List, available at the *Federal Register* website, <https://www.federalregister.gov/d/E9-9657>.
- 26 8 USC 1182.
- 27 The Universal Declaration of Human Rights (Article 13.2) guarantees a right to leave one’s country, unconditional on level of skill, field of study, or duration of sojourn. This principle is not considered binding international law, but it has been accepted by the United States since 1948 and likewise suggests a default that allows mobility in the absence of exceptional circumstances.
- 28 That literature is reviewed briefly in endnote 15.
- 29 Paul Comyn and Olga Strietska-Illina, eds., [Skills and Jobs Mismatches in Low-and Middle-Income Countries](#) (Geneva: International Labor Organization, 2019).
- 30 Salvatore Lo Bello, Maria Laura Sanchez Puerta, and Hernan Winkler, [From Ghana to America: The Skill Content of Jobs and Economic Development](#), Discussion Paper 12259 (Bonn, Germany: IZA Institute of Labor Economics, 2019), figures 4 and 5. See also Oriana Bandiera, Ahmed Elsayed, Anton Heil, and Andrea Smurra, [Presidential Address 2022: Economic Development and the Economic Development and the Organisation of Labour: Evidence from the Jobs of the World Project](#), *Journal of the European Economic Association* 20, no. 6 (2022): 2226-70.
- 31 Barbara McPake, Akiko Maeda, Edson Correia Araújo, Christophe Lemiere, Atef El Maghraby, and Giorgio Cometto, [Why Do Health Labour Market Forces Matter?](#) *Bulletin of the World Health Organization* 91 (2013): 841-46.
- 32 Lant Pritchett and Addison Lewis, [Economic Growth Is Enough and Only Economic Growth Is Enough](#), Working Paper (Oxford, UK: Blavatnik School of Government, Oxford University, 2022).



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