

**Immigration Micro-Macro Debates**

**High Skilled Workers Articles**

**Debatable Issue: The United States should substantially reduce immigration.**

Cite: John Miano, “The Impact of High Skilled Immigration on U.S. Workers,” Center for Immigration Studies, February, 2016

**The Scope of Skilled Foreign Labor**

The current system, created by the Immigration Act of 1990, originally had only one visa category for admitting foreign labor: H. The number of programs for guestworkers in skilled occupations has exploded since then.

**New Executive Action**

Starting in 2012, the executive branch started to claim that it has *unlimited authority* to grant work authorizations to aliens. This began in the context of illegal aliens under the Deferred Action for Childhood Arrivals (DACA) program, followed up with the Deferred Action for Parents of Americans (DAPA) program. However recently, the administration has claimed authority for H-1B spouse employment, student employment, and employment by green card applicants.

The unlikely source of this newfound authority is this provision:

**The H-1B Program**

H-1B visas have become synonymous with skilled[3](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#3) guestworkers, in spite of the proliferation of similar programs. Because the other guestworker programs have minimal, if any, protections for Americans, I focus on H-1B. The problems I describe here are applicable to other guestworker programs as well.

**I. The H-1B program is too complicated.**  
The entire H category prior to the immigration act of 1990 was under 100 words. Now, H-1B alone is now nearly 7,000 words and takes about 20 pages to print out. At best, the H-1B program is worthy of two printed pages. There is no reason a guest worker visa petition should require the assistance of a lawyer. Nonetheless, H-1B is so convo-luted it, quite literally, takes a lawyer to figure out what the visa fee is in any given circumstance.

The major source of complexity is that the H-1B program has separate rules for different categories of employers and workers, including:

* Exempt H-1B nonimmigrants;
* H-1B Dependent employers;
* Institutions of higher education, nonprofit research organizations, and govern-mental research organizations; and
* Willful violators.

The result is needless complexity opportunity for abuse.

The same rules should apply to all employers and all workers. There is no bright line between "good H-1B employers" and "bad H-1B employers". Many like to make the In-dian companies scapegoats for H-1B abuse. Indeed, American companies, such as IBM and Disney, engage in the same type of abuse attributed to Indian companies. Congress has set up special, more lenient rules for academic institutions, but they have been among the worst abusers of the H-1B program. Wright State University was using its H-1B quota exemption to funnel contract labor to industry.[4](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#4) Both the City University of New York[5](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#5) and the University of Massachusetts[6](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#6) have cooked up H-1B employment scams taking advantage of their exemption. In addition, DHS has proposed regulations that expand the university quota exemption beyond any anything Congress intended.[7](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#7) Creating exceptions in the rules simply opens the door for abuse. Worse yet, limiting protections for American workers to specific types of employers and specific types of alien workers produced the result that there are no real protections for American workers at all.

**II. H-1B allows employers to replace Americans.**  
8 U.S.C. § 1182(n)(1)(E)–(F) contains the provisions addressing the displacement of Americans by H-1B workers. Under those provisions, an employer may replace an American with an H-1B worker *at will* unless:

1. The H-1B worker does not have a graduate degree; and
2. The H-1B worker is paid less than $60,000; and
3. The employer is a willful violator or has more than 15 percent of its employees who are on H-1B visas, paid less than $60,000, and do not have graduate degrees.

Beginning with AIG and Sea-Land in 1994 and leading up Disney, Southern California Edison, Cargill, Northeast Utilities, Fossil, Hertz, and Toys R Us, employers have been replacing Americans with H-1B works routinely. This practice is completely legal, as the Department of Justice found in its just-concluded investigation at Southern California Edison found.

The fact that so many employers replace the American technology workers they al-ready have with H-1B guestworkers make a mockery of claims that there is a shortage of such workers. Not only that, but replacing Americans with foreign workers SHOULD NOT BE TOLERATED.

**III. H-1B allows employers to pay aliens ridiculously low wages.**  
The Consolidated Appropriations Act, 2005, Pub. L. No. 108-447, § 421, 118 Stat. 2809, 3353 (2004), directed the Department of Labor to provide at least four skill-based prevailing wages, "commensurate with experience, education, and the level of supervision" or to take an existing wage survey and segment it. Because the DoL's wage survey "captures no information about actual skills or responsibilities of the workers" it had to use the latter option where the wage levels correspond to the 17th, 34th, 50th, and 67th percentiles.[8](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#8)

The following table shows the distribution of H-1B worker skill level as classified by employers measured at two points in time. This shows that employers consistently classify nearly all H-1B workers at the lowest two skill levels where the H-1B prevailing wage" is below the normal prevailing wage (the median).

|  |  |  |  |
| --- | --- | --- | --- |
| **Skill Level** | **% of H-1B Workers**[9](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#9) | **% of H-1B Workers**[10](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#10) | **H-1B "Prevailing Wage"**[11](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#11) |
| 1 (Lowest) | 52% | 56% | 17th Percentile |
| 2 | 30% | 32% | 34th Percentile |
| 3 | 12% | 8% | Median |
| 4 (Highest) | 6% | 5% | 67th Percentile |

This data demonstrates that employers view the H-1B program as a mechanism for importing low-skilled, low-wage workers. Notice that, if the H-1B program was limited to aliens whose skill level commands merely the median wage (average skill level), the H 1B quotas would not come close to being reached. If H-1B was limited to high-skilled individuals, the quotas would not be a factor.

The tiered H-1B "prevailing wage" system allows employers to pay foreign workers significantly less than what they would have to Americans on the open labor market.

In addition, 8 U.S.C. § 1182(p)(1) allows academic employers to pay even lower wages by requiring that the H-1B "prevailing wage" for such employers "shall only take into account employees at such institutions and organizations in the area of employment." This system, mandated by Congress, allows employers to legally pay H-1B workers ridiculously low wages.

If it seems puzzling why employers have such a high demand for *low-skilled* H-1B workers, remember that most H-1B workers are employed in the contract labor market where they bill by the hour. In that market, low-skilled workers (who take more billable hours to accomplish a task) are more profitable than high-skilled workers.

**IV. The H-1B program does not require recruitment of Americans or showing that Americans are not available.**  
The full extent of the recruitment requirement in the H-1B program is that certain employers hiring aliens earning less than $60,000 and not holding graduate degrees must check a box on the labor condition application saying they recruited in good faith.

**V. H-1B includes restrictions on enforcement that allow the system to be abused with impunity.**  
The H-1B enforcement provisions are simply antediluvian. Those provisions go on at length spelling out when (and when not) the law can be enforced. Pages of statutory text could be replaced with one sentence:

The Secretary of Labor is authorized to enforce the provisions of this section.

The most notorious provision in the entire H-1B program governs the approval process for H-1B Labor Condition Applications at 8 U.S.C. § 1182(n)(1)(G)(ii):

The Secretary of Labor shall review such an application only for completeness and obvious inaccuracies.

This reduces the entire labor condition application process to a meaningless paper shuffling exercise. The Department of Labor Inspector General's semiannual reports have called for removing this restriction. The latest states about this restriction:

Among our concerns is that DOL is statutorily required to certify H-1B applications unless it determines them to be "incomplete or obviously inaccurate." Given this fact, it is not surprising that OIG investigations have shown the H-1B pro-gram to be susceptible to significant fraud and abuse.[13](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#13)

A number of bills have addressed this provision by rewording it to no effect.[14](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#14) The Inspector General recommends:

If DOL is to have a meaningful role in the H-1B specialty-occupations foreign labor certification process, it must have the statutory authority to ensure the integrity of that process, including the ability to verify the accuracy of information provided on labor condition applications. Currently, the Department is statutorily required to certify such applications, unless it determines them to be "incomplete or obviously inaccurate." Our concern with the Department's limited ability to ensure the integrity of the certification process is heightened by the results of OIG analyses and investigations showing that the program is susceptible to significant fraud and abuse, particularly by employers and attorneys.[15](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#15)

**VI. The H-1B program should be strictly non-immigrant.**  
The original H visa program was non-immigrant. The H-1B program was created in 1998, explicitly allowing dual intent. Allowing over 80,000 aliens (plus their dependents) a year from India on H-1B visas to apply for fewer than 10,000 green cards has had an entirely predictable effect: green card backlogs for Indian nationals.

In 2004, Congress addressed backlog for Indian nationals by allowing aliens on H-1B visas with pending green cards to remain in the United State indefinitely.[16](http://cis.org/Testimony/miano-Impact-of-High-Skilled-Immigration-on-US-Workers#16) That change had another equally predictable consequence: even bigger green card backlogs for Indian nationals.

Congress should not address permanent residency issues from the unique H-1B/India/China problem. For nearly all other countries, the employment-based green card system is working as it should. According to the March 2016 Visa Bulletin, there is no employment-based green card backlog for any countries other than India (10 years), China (one year), and the Philippines (five years). Trying to fix a system based upon outliers, is an invitation for disaster, as the growing Indian green card backlog from previous "fixes" demonstrates.

Proposed legislation, such as the I-Squared Act, takes the radical step of abolishing per country quotas for employment-based green cards entirely to address this problem that is unique to India. Such an action would replace our diversity-based immigration policy with an India/China immigration policy.

The solution to this problem is simple: Treat the disease, not the symptoms, by making H-1B strictly non-immigrant.

**VII. The only protection for American workers under the H-1B program is the annual quotas.**  
As described above the prevailing wage and non-displacement requirements in the H 1B program do nothing to protect Americans. The H-1B quotas are the only thing that stands between H-1B and total chaos. They serve the important purpose of limit-ing the extent of the damage H-1B causes.

The H-1B quotas are under constant assault from legislation and, more immediately, executive action.

**What Should Be Done?**

* Congress must control the proliferation of guestworker programs. This includes rejecting trade deals that mandate guestworker programs and addressing the new claims of executive authority for creating guestworker programs through regulation.
* Guestworker enforcement provisions must be simplified and consolidated. All provisions should apply equally to all employer and all guestworkers. The same enforcement provisions should apply to all guestworker programs. If it takes a lawyer to make a guestworker visa petition, the system is too complicated.
* There should be a complete, unequivocal ban on replacing Americans with foreign workers.
* There is no shortage of Americans (or any other nationality) with average or below average skill. Either the prevailing wage system must require skilled workers to be paid a wage that is significantly higher than the median (e.g., 67th percentile) or such workers must be paid that median wage and employers must demonstrate that no Americans are available for the position.
* Guestworker visas should be strictly nonimmigrant.
* DHS should be required to collect and make available all data on guestworker applications so that these programs can be monitored.
* Employers should not be allowed to penalize H-1B workers for quitting.

Cite: Tom Whitehead, “Just One in Four Highly Skilled Migrants in Skilled Job,” *The Telegraph*, October 28, 2010

Many “highly skilled migrants” are in more lowly posts, including supermarket cashiers and shop assistants, a study found.

It is not even known what jobs almost half of the highly skilled migrants are doing.

The findings suggest that thousands of foreigners are exploiting the route, under which it is easier to get a visa, to take jobs that should be filled by British workers, the immigration minister said.

He signalled that the visa route, aimed at attracting the brightest and the best from outside the European Union, could be overhauled radically as they prepare to impose an annual immigration cap next year.

Earlier this week, David Cameron sought to reassure business leaders at the annual CBI conference that the planned cap would not be a bar to companies recruiting the “best talent” from overseas.

But the Home Office report shows that one of the key routes for doing that is being misused.

The so-called Tier 1 of the points-based system is aimed at allowing highly skilled migrants, such as doctors and engineers, to come to Britain.

Unlike those taking other routes through the system, they do not need to have a job offer and are deemed eligible based on their qualifications and previous earnings.

They are expected to end up in jobs paying at least £25,000 a year. But a study of 1,184 cases found just 25 per cent were definitely in skilled jobs.

Some 29 per cent were in unskilled posts, including working as shop assistants, security guards, supermarket cashiers and care assistants and half of those had been in Britain for more than a year. It was not known what jobs, if any, the remaining 46 per cent were doing.

Among the worst culprits were foreign students who switched to the high-skilled status after graduating.

The study found that three in five of those were in unskilled jobs.

Almost 19,000 people were allowed into Britain under Tier 1 last year and while the report stressed that the findings could not be definitive it said they were “indicative”.

A similar review last year found one in five were in unskilled jobs.

Damian Green, the immigration minister, said the findings suggested jobs that ought to be filled by British staff were being taken by migrant workers. He signalled an overhaul as the future immigration cap is set.

He said: “While it is important that low-skilled jobs are filled, there are hundreds of thousands of British people who could be doing them instead of a migrant.

“Those coming into the UK under the highly-skilled migrant route should only be able to do highly-skilled jobs – it should not be used as a means to enter the low-skilled jobs market.

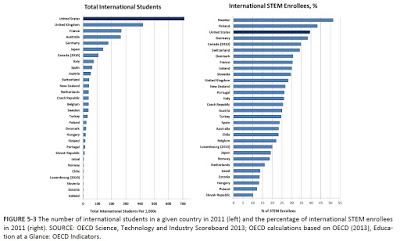
“Investors and entrepreneurs aside, this report questions the value of this route into the UK, and the findings will play a key part in discussions on how the annual limit will be shaped.”

Sir Andrew Green, chairman of the Migrationwatch pressure group, said: “This has to be the final nail in the coffin of immigration routes for people who do not have a skilled job to come to.

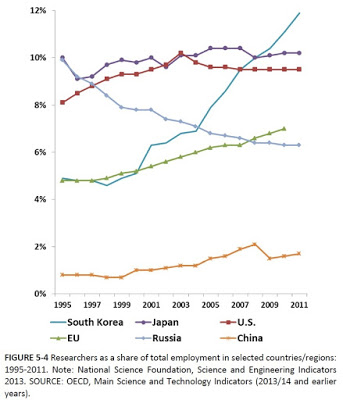
“Closing this route will allow headroom for those whom companies really need.”

Cite: Timothy Taylor, “High Skilled Immigration,” Conversable Economist, July 26, 2016

On one side, there seems to be near-universal agreement that the US economy would benefit from workers who had higher skill levels. But if the rising skill levels are generated by the  immigration of high-skilled workers, this consensus can become wobbly.  The National Academy of Sciences offers a useful overview of these issues in [*Immigration Policy and the Search for Skilled Workers: Summary of a Workshop*](http://www.nap.edu/download/20145)*,* published late in 2015. As the title implies, this report is a description of a conference, and most of the report is in the form of having the rapporteurs, Gail Cohen, Aqila Coulthurst, and Joe Alper, paraphrases presentations made at the conference.   
  
High-skilled immigration is tied both to education and to the labor market: if a country like the United States welcomes foreign students to American colleges and universities, as undergraduates, graduate students, and faculty, there will inevitably be more situations where US-based companies want to hire this foreign-born but geographically available talent. Here are a couple of illustrative figures from an presentation by Lindsay Lowell. The left-hand panel shows that the US attracts by far the largest number of international students in total terms. The right-hand panel shows that when focusing just on science, technology, engineering, and mathematics students, the US is still near the top in the percentage of those students who are international.

[](https://4.bp.blogspot.com/-k8gZ5WqFWoM/V5dqVuzv-zI/AAAAAAAAHWI/55qzPY03QFosuOcWBy5dt1TCWUOdUzqiQCLcB/s1600/stem%2B1.jpg)

One result of this influx of foreign talent is that the enormous US economy, shown by the red dotted line below, is among the world leaders in the share of its workforce who fall into the broad job category of "researchers"-- which is presumably a good thing in the coming knowledge economy.

[](https://4.bp.blogspot.com/-dYjDbM04zoQ/V5dqdWEr3JI/AAAAAAAAHWM/oS-TrmQ7XeIVMDB4fyJCQcFFayFPo4eCACLcB/s1600/stem%2B2.jpg)

Richard Freeman described this education-to-employment connection for technology-based skills in his presentation, paraphrased like this:

U.S. National Science Foundation estimates that 63 percent of all post-doctoral STEM students working in U.S. universities are international students, and that 49 percent of international post-doctoral fellows received their PhDs in the United States. There has been a corresponding increase in the number of scientific papers coming from U.S. laboratories that have Chinese co-authors or coauthors from other emerging economies. These international students are not merely getting an education in the United States—they are also becoming U.S. STEM workers after graduation. In 2005, over a third of all STEM workers with PhDs were foreign born, with 64 percent receiving their PhD from U.S. universities. Over a quarter of U.S. STEM workers with Master’s degrees were born in another country and 15 percent of foreign-born STEM workers with Master’s degrees received that degree in the United States. According to a different dataset, the percentage of foreign-born workers in U.S. STEM jobs increased from 11 percent to 19 percent between 1990 and 2011 for those with Bachelor’s degrees, from 19 percent to 34.3 percent for those with Master’s degrees, and from 24 percent to 43 percent for PhDs.

Lowell noted that after STEM fields, business was the next most-popular field for high-skill immigrants. Here's a paraphrase: "After STEM fields, business was the most popular subject of study for international students in the United States during that period. The impact of a large number of business students may be substantial on growth, because it is often the business majors who take advantage of ideas and bring them to market ..."  
  
The economics of immigration involves evaluating a set of tradeoffs. Do immigrants help the economy to grow, for example by allowing native workers in the economy to specialize in ways that potentially raise productivity and wages for everyone? Or do immigrants only compete for existing jobs in a way that reduces job prospects and standard of living for native workers? As William Kerr points out in his presentation, there are different historical examples of each of these. A study of the chemists who fled Nazi Germany for the United States suggest that they helped the US chemical industry to grow substantially. A study of the wave of Russian mathematicians who came to the US in the 1990s suggests wages and job opportunities for native-born US mathematicians were reduced as a result.  
  
When looking only at high-skill immigration, it seems clearly beneficial to an economy to have immigrants who are also gifted entrepreneurs, building companies that provide jobs and secure high-wage employment. Moreover, there seem to be what economists call "agglomeration effects" in technology, where a group of people with interrelated technical skills all come together in one place, there can be an ongoing growth of innovation and production that exceeds what this group would have accomplished if they were dispersed. To put this in concrete terms, it's a good thing for the US economy that the Silicon Valley agglomeration, which relies heavily on an influx of technical and business talent from all around the world, is located in this country.   
  
The less clear-cut case involves what might be called undistinguished high-skill immigrants--that is, someone who is at best an average computer programmer or laboratory researcher. By definition, the undistinguished are less likely to create companies or be a key ingredient in an agglomeration. However, they may well compete with average native high-skill workers for jobs and wage. But here as well, the question is whether high-skilled immigrants may in some ways be complementary with high-skilled native labor.  
  
A lot of the NAS report considers public policies from different countries about high-skilled immigration. The US stands out as a country that has not been especially encouraging to high-skilled immigration, but seems to get a disproportionate share of those immigrants nonetheless. As the report points out, in the United States, about 70% of immigration is family related, another 15% is humanitarian, and the remaining 15% is employment-based (which includes temporary high-skilled immigrants). In Canada and Australia, by contrast, about 30-40% of immigration is family-based or humanitarian, and the remaining 60-70% is employment-based. But as Lowell noted (according to this paraphrase), the US still does very well in the global contest for talent:

"Another indication of how well the United States is competing for international STEM workers comes from data on the number of high-skilled foreign-born workers in the 20 leading destination nations. From 1980 to 2010, the percentage of high-skilled migrants living in the United States relative to the other top destinations rose from 46 percent to 49 percent, even as the total number rose by more than four-fold. Similarly, data from the World Intellectual Property Organization showed that from 2001 to 2010, the flow of inventors around the world was dominated by flow into the United States, while OECD data shows that the United States remains the main destination for international  
authors of scientific papers."

Pia Orrenius made the point that while the US immigration system for attracting high-skill immigrants is not especialy welcoming, the US makes up for it by being more welcoming to high-skill immigrants in other ways. Here's a paraphrase:

Immigration policy is just one tool of many that can result in a better, more qualified, nimble and innovative workforce. Luckily for the United States, the nation does well in other areas—the quality of our institutions of higher education, the salaries that U.S. employers pay, the flexible labor markets with many job opportunities, and the relative ease with which foreign workers integrate in the U.S. workforce, among others—that enable the country to be competitive in the international market for high-skilled workers.

In the past, policy arguments over high-skilled immigration have often been jumbled together with overall arguments about comprehensive immigration reform, but the issues raised are not the same. Higher education is expanding dramatically around the world, emerging-market economies are growing more rapidly than the world average, and global talent pool is expanding quickly, too. Competition for where these workers choose to locate will be real and ongoing. But in the 21st-century global economy, only some of these high-skill workers will not be planning to immigrate permanently. Many other will be seeking to make connections and build experience, and then moving elsewhere. In this sense, the policy issues of  high-skilled immigration are often not about permanent migration, but instead are about flexibility of work arrangements and geographic locations in an interconnected world.  
  
At the NAS conference, Madeleine Sumption offered the intriguing thought that the US system of enticing high-skill immigrants through a mixture of educational and business opportunities, along with temporary work visas, may be the broadly the right approach for talent in the global economy. But in her view, the existing US approaches to high-skill migrants needs an overhaul with a big dose of additional flexibility. Sumption said: "The U.S. has the right model, it is just falling apart. ... We need to fix that model rather than think of something totally new.”

Cite: New American Economy, “Highly Skilled Immigration,” 2013

**Highly skilled** immigrants help drive the *innovation economy*, but the US’s lack of visa often shuts the door.

In an increasingly globalized economy, an order from Seattle can be filled at a factory in Shenzhen by a company based in Sao Palo. Companies, revenue, and jobs are increasingly mobile, and success in the global economy increasingly depends upon maintaining a competitive advantage.

In America, our advantage is our talent.  It’s our ability to innovate and invent the products, life-saving treatments, and scientific breakthroughs. Over the last ten years, job growth in the U.S. was three times faster in innovation-rich fields like science, technology, engineering, and mathematics (“STEM”) than in the rest of the U.S. economy.

But the supply of workers in these fields lags far behind the explosion in demand.  Despite high unemployment in this country, America faces a large shortage of qualified STEM graduates. More than a quarter of science and engineering employers currently report difficulty in filling open positions. Even more worrisome, this shortage is projected to increase, yet the number of native-born American students concentrating in STEM fields is growing at just 0.8% per year, far lower than other fields.

Immigration is necessary to fill our large and growing need for STEM workers and to ensure that tomorrow’s Google or Facebook (both co-founded by immigrants) is started in the U.S.

Important facts to know about the role of high-skilled immigrants in powering America’s innovation economy:

* There Is A Large and Growing Need for High-Skilled Workers in the U.S. that Native-Born Workers Alone Cannot Fill
  + Over the last 10 years, job growth in STEM was three times faster than in the rest of the U.S. economy.
  + More than ¼ of science and engineering firms already report difficulty hiring.
  + The number of native-born American students concentrating in STEM fields is growing at just 0.8% per year, far lower than other fields.
* High-Skilled Immigrants Can Help Our Companies Grow and Create American Jobs
  + Every foreign students who graduates from a U.S. university with an advanced degree who stays and works here in the innovative-rich fields of science, technology, engineering, or math (“STEM” fields) creates on average 2.62 American jobs.
  + Immigrant Inventors are behind 72% of the patents at Qualcomm, 65% of the patents a at Merck, and 64% of the patents at General Electric.
  + 25.3 percent of technology and engineering businesses launched in America between 1995 and 2005 had an immigrant founder.  In Silicon Valley, 52.4 percent of the new tech startups had an immigrant founder.
  + In recent years, immigrants were 33 percent of the doctorates – and 57 percent of the postdoctorates  – in U.S. science and engineering programs.
* Our Immigration System Turns Away the High-Skilled Workers Our Economy Needs
  + Backlogs for green cards are so long that current recipients from China and India have waited up to nine years.  And the backlogs are growing at such a large rate that current green card applicants from India face expected wait times of up to 70 years.
  + A decreasing percentage of immigrant-graduates are planning to stay in America because of a combination of America’s difficult immigration system and growing opportunities back home.

Cite: Andrew Soergel, “America Needs More Skilled Immigrants, Study Says,” *U.S. News and World Report*, March 29, 2016

Rigid policies restricting skilled immigration are hurting U.S. job growth while costing domestic companies thousands of dollars per worker, a new report from a Dartmouth College professor shows.

Matthew Slaughter, dean of Dartmouth's Tuck School of Business and a former member of the Council of Economic Advisers under President George W. Bush, on Wednesday will unveil the findings of his new report at the National Press Club in Washington. The white paper, provided to U.S. News ahead of the event, suggests existing H-1B visa regulations are limiting productivity growth in the U.S. and costing American firms a fortune.

"People have concerns about jobs and wages for themselves and their children, and that's not unfounded. It's sobering how poor income growth in particular has been for so many families and workers in the U.S. for so many years at this point," Slaughter says. "The paradox I come back to is that there's a preponderance of evidence that high-skill immigration is a dynamic force that can help the U.S. create not just jobs, but good jobs."

The Department of Homeland Security caps the number of skilled immigrants allowed into the U.S. each year through the [H-1B visa program](https://www.uscis.gov/working-united-states/temporary-workers/h-1b-specialty-occupations-and-fashion-models/h-1b-fiscal-year-fy-2017-cap-season) at 65,000 annually, though there are some exceptions related to education. But the demand among prospective immigrants to work in the U.S. – and the demand among domestic firms to fill vacancies requiring a high level of skill – far exceeds that cap. Tens of thousands of foreign workers who would like to emigrate to the U.S. are blocked from doing so each year, with [U.S. Citizenship and Immigration Services](https://www.uscis.gov/news/alerts/uscis-completes-h-1b-cap-random-selection-process-fy-2016) estimating it received nearly 233,000 H-1B visa applications for fiscal 2016 alone.

Critics of the H-1B system contend it allows domestic firms to [import foreign workers](http://www.epi.org/blog/new-data-infosys-tata-abuse-h-1b-program/) who can be paid cheaper wages, so it makes sense that government officials would limit how many skilled foreign workers enter the U.S. labor market each year.

Slaughter's paper, however, notes that recent evidence suggests H-1B visa holders typically make as much as – or more than – their American-born counterparts. He cites a [Brookings Institution](http://www.brookings.edu/research/papers/2013/05/10-h1b-visas-stem-rothwell-ruiz) study that said H-1B holders earned an average of $76,356 in 2010, compared with the $67,301 average paid to native-born Americans with a bachelor's degree.

Meanwhile, prospective immigrants can't even obtain an H-1B visa unless they find a company willing to sponsor them – a process that costs U.S. firms thousands of dollars.

An [American Competitiveness Alliance poll](http://acalliance.org/national-survey-american-businesses-struggling-to-hire-stem-talent-due-to-increasing-scarcity-higher-costs-and-government-fees/) tied to Slaughter's report found that 82 percent of U.S. companies that responded to the survey said their costs associated with hiring a foreign worker are equal to or greater than the costs of hiring a domestic worker. About three-quarters of respondents described the costs of H-1B compliance as "too high."

"We're not making it easier. If anything, I think it's accurate to say we're making it more difficult for companies in America to hire talented foreign nationals," Slaughter says, noting that the prohibitive costs disproportionately hurt small businesses. "Smaller, younger firms may not have the history or the resources in terms of legal counsel and human resources to bear these costs."

The natural follow-up questions, of course, are: Why not just hire U.S. workers? As an employer, why go through the H-1B process in the first place?

Simply put, it's because most unemployed Americans don't have the high level of skill many employers are seeking.

"America has long needed skilled workers – be they skilled immigrants or native-born Americans – to drive the innovation at the foundation of growth in output, jobs, incomes and opportunity," Slaughter's report says. "In recent years many companies, scholars and policymakers have voiced growing concern that America increasingly faces an insufficient supply of talented workers necessary to create and drive the new possibilities of information technology and other frontiers."

H-1B visa holders are typically required to work in positions that would require at least a bachelor's degree or its equivalent at minimum. That means many are college-educated, either through U.S. or international universities.

And considering less than 32 percent of America's civilian noninstitutional population – meaning those not currently imprisoned, institutionalized or serving active military duty – held at least a bachelor's degree in 2014, according to the [Census Bureau](http://www.census.gov/hhes/socdemo/education/data/cps/2014/tables.html), it's not terribly surprising that employers would have a hard time finding the skills and qualifications they need among domestic workers.

"Pretty much across all industries – but particularly in IT and tech industries that rely on [STEM workers](http://www.usnews.com/news/stem-index) – talent is a big challenge for companies," Slaughter says. "And for these particular parts of the labor market, where it's at least bachelor's degrees or advanced degrees that are required under the H-1B visa program, the demand is pretty acute."

Immigration policy in general has historically been a deeply partisan issue, and H-1Bs are no different. In the current U.S. presidential race, Democratic front-runner Hillary Clinton has voiced support for a higher H-1B cap that would allow more workers into the U.S.

On the other hand, Republican presidential candidate Sen. Ted Cruz has vowed to [temporarily suspend](https://www.tedcruz.org/cruz-immigration-plan/) the H-1B system and completely revamp it "to ensure that it protects American workers." And while GOP front-runner Donald Trump has [flip-flopped](https://www.washingtonpost.com/news/fact-checker/wp/2016/03/21/donald-trump-flip-flops-then-flips-and-flops-more-on-h-1b-visas/) on the issue, his [website](https://www.donaldjtrump.com/positions/immigration-reform) says he wants to introduce a requirement that would force domestic firms to "hire American workers first."

But Slaughter says the problem with the Cruz-Trump line of thinking is that many companies, particularly in tech-intensive industries, simply aren't going to find qualified workers among America's current pool of the unemployed. And the longer these positions remain unfilled, the greater the hit the country's productivity will take.

"One of the big problems we have in our economy is that there's a very clear skills gap in America," says former New Mexico Gov. Bill Richardson, a Democrat who has previously advocated for an increased H-1B visa cap. "Our economy desperately needs skilled professionals, and that fact is far outpacing the supply of professionals with experience and capability needed to advance and grow."

The ACAlliance study found that 77 percent of companies said their operations were hurt if skilled positions were left unfilled for more than 30 days. And 71 percent said they'd consider relocating to another country if it became too difficult or expensive to hire workers in the U.S.

"It's not just that we want the talent. It's that these individuals create new businesses that we're losing. Those are jobs," Richardson says.

Another recent study published by the [National Foundation for American Policy](http://nfap.com/wp-content/uploads/2016/03/Immigrants-and-Billion-Dollar-Startups.NFAP-Policy-Brief.March-2016.pdf) found that more than half of [America's billion-dollar startups](http://www.usnews.com/news/articles/2016-03-18/skilled-immigrants-bring-jobs-capital-unicorns-to-us-economy) have been founded by immigrants, many of whom first came to the U.S. on an H-1B visa. The 44 immigrant-founded companies profiled in the report held a collective market value of $168 billion and employed an average of 760 people per company.

"The key thing to understand about high-skill immigration is that they make the economic pie bigger because of the talents that they bring. It's not a matter of adding people to a fixed supply of jobs," Slaughter says. "Whether they're U.S.-born or foreign-born, innovative workers drive productivity growth and grow the economy."

It's worth noting that H-1B holders themselves can't start new companies in the U.S., though some go on to create new startups or work in high-profile U.S. companies, employing thousands of domestic workers and other H-1B holders once they become naturalized. Google CEO Sundar Pichai and Microsoft CEO Satya Nadella are both former visa holders, for example.

On the other hand, Kunal Bahl, who ended up founding Snapdeal – India's Amazon.com e-commerce equivalent, which now stands as one of the country's most valuable companies – graduated with a master's degree in business administration from the University of Pennsylvania's Wharton School in 2007 and wanted to obtain a visa to stay in the U.S. He couldn't and was forced to go back to India, where he later founded a company that is now flourishing.

Slaughter's paper ultimately suggests a more open H-1B system – or at least a higher visa cap – would help the U.S. economy generate new opportunities for domestic workers while avoiding the loss of billion-dollar companies like Snapdeal. Future legislation should aim to "reduce, not increase, the cost to companies in America of hiring skilled immigrant workers," he says.

"Whether you're a Republican, independent, Democrat – what people across all parts of the political spectrum are worried about is whether we're creating enough good jobs and good wages in the U.S.," Slaughter says. "And skilled foreign nationals have long made outsized contributions to the growth of new ideas and new companies and new industries in the U.S."

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liberalized immigration system for highly skilled workers can boost long term growth in productivity, technological innovation, and entrepreneurship. Such a system would literally add factors of production to the U.S. economy that could create large positive spillover effects. Immigrants are more likely to hold advanced degrees in science, technology, engineering, mathematics, and computer science than similarly educated Americans. In 2010, immigrants were 15.8 percent of the U.S. adult population with at least a bachelor’s degree but they held 21 percent of the college degrees in science and engineering fields. Of all immigrants with at least a bachelor’s degree, 46 percent were educated in the science and engineering fields. The comparable figure for natives is 33 percent.

American immigration laws heavily restrict highly skilled immigration. The employment-based green card, largely designed for highly skilled workers, has an annual cap of 140,000 green cards but it imposes enormous fees and country-of-origin regulations that make the system costly to use for both immigrants and their prospective American employers. Worse, the government’s interpretation of unclear statutory language guarantees that fewer than half of these green cards issued actually apply to workers while the rest are allocated to their family members.

Fortunately, the employment-based green card is not the only way for highly skilled immigrants to work in the United States. The H-1B visa provides another avenue. The H-1B is a temporary visa that allows American firms to hire skilled foreign workers in specialty occupations. Some 99 percent of H-1B visa workers have a bachelor’s, masters, PhD, or professional degree. The number of H-1Bs issued annually for American firms is capped at 85,000 – 65,000 from abroad and 20,000 for foreign graduates of American universities. When the economy is growing, these few H-1B slots frequently fill up within days of becoming available. In 2012, 61 percent of H-1B visas went to workers in computer-related occupations.1 Importantly, H-1Bs are uncapped for research occupations at non-profit research institutes affiliated with colleges and universities.

The duration of the H-1B visa is three years but it can be renewed for an additional three year term. Unlike with other guest worker visas, H-1B holders can apply for a green card while they are working in the United States if they find an employer willing to sponsor them. If the green card approval process takes longer than the maximum six year duration of the H-1B visa then the worker is allowed to work until the green card is approved or denied.

Liberalizing the employment-based green card and H-1B visa would likely reap large economic benefits for the United States. The current contributions of highly skilled immigrants reveal the economic potential of liberalization. Skilled immigrants currently prove to be very innovative if patents are used as a proxy measurement for innovation.

In 2006, the World Intellectual Property Organization recorded that 24.2 percent of international patent applications from the United States had at least one non-citizen inventor compared to just 7.3 percent in 1998.2 That high rate of patenting undercounts the patent contributions of immigrants by excluding those who became U.S. citizens. Between 1998 and 2006, immigrants from China, Taiwan, India, Canada, Germany, and the United Kingdom accounted for almost a fifth of all patents that were filed or co-filed by immigrants.

Jennifer Hunt and Marjolaine Gauthier-Loiselle found that a 1 percentage point increase in college graduate immigrants as a share of the population increases patents per capita by 9 to 18 percent.3 Patents filed by immigrants are not lower in quality compared to patents filed by U.S.-born inventors, according to data provided by Harvard Business School. Looking deeper into the immigration system, Kerr and Lincoln found that a 10 percent increase in workers on the H-1B visa in a particular American city corresponded with a 0.3 to 0.7 percent increase in total patents approved from that city. The authors estimate that a large increase in H-1B visas could have a long-run effect on innovation that can have a significant positive impact on economic growth.4

A 2005 World Bank working paper focused on the patents filed by foreign-born student researchers – a research sector largely without H-1B visa caps. It estimated that a 10 percent increase in the number of foreign graduate students would raise patent applications by 4.7 percent, university patent grants by 5.3 percent, and non-university patent grants by 6.7 percent.5 In 2011, 76 percent of all patents issued to the top ten patent producing universities had at least one foreign-born inventor. Foreign-born inventors were involved with 87 percent of patents in semiconductor device manufacturing, 84 percent of patents in information technology, and 79 percent of drugs or drug compounds.6

Highly skilled immigrants can boost innovation in specific sectors of the U.S. economy. A working paper by Moser, Voena, and Waldinger looked at how some specialized immigrants who fled Nazi Germany affected chemistry patents in the United States. The sudden emigration of German Jewish chemists to the United States during the 1930s resulted in a 70 percent increase in patents in the chemistry sub-fields populated by the emigrants. The initial increase in patents by the Germans led to an increase of patents by U.S.-born chemists as co-inventors beginning in the 1940s. These patent effects as well as the direction of U.S. chemistry research were affected by the Germans through the 1970s.

Not all patents are productive, but a higher rate of patenting tends to increase the number of productive patents that contribute to increases in total factor productivity (TFP). In a recent paper, Peri, Shih, and Sparber attempted to measure the TFP impact of immigrants who worked in the science, technology, engineering, and mathematics (STEM) professions across 219 American cities from 1990-2010. They found that an increased number of H-1B workers were responsible for between 10 and 25 percent of *aggregate* TFP growth during that time period.7

In another paper, Peri found that immigrants of all skill levels tend to specialize in tasks that require fewer communication skills in English, allowing U.S.-born workers to specialize in more communication-intensive occupations while decreasing employment competition between the two groups of workers. The resulting immigrant-induced task specialization is strongly associated with TFP growth from 1960 to 2006 across American states.8 The TFP effects of task specialization are distinct from those caused by immigrant patenting.

A third major benefit from highly skilled immigrants is their high rate of entrepreneurship. The founding of new firms is an important contributor to innovation and job growth in the United States. In 2013, immigrants were nearly twice as likely to start a business as U.S.-born Americans. Between 1995 and 2005, 25.3 percent of all technology and engineering firms established in the United States had at least one immigrant founder. Immigrants from India, China, the United Kingdom, and Taiwan tended to be the most entrepreneurial. In Silicon Valley, 43.9 percent of technology and engineering startups had at least one immigrant co-founder between 2005 and 2012.9

Several conclusions can be drawn from this research. The impact of immigrant workers on TFP are notoriously difficult to measure and papers attempting to do so are open to methodological challenges. However, much research finds that immigrant workers increase TFP and there is no major study or academic research that has found that immigrants reduce it. Increased patents and innovation are likely the main way by which immigrants affect TFP while task specialization is an additional factor. Studies on immigrant innovation through patents are generally convincing as an increase in the supply of scientists and engineers has historically increased the supply of research and development in the United States.10 One influential paper by Jones estimated that as much as 50 percent of U.S. productivity growth between 1950 and 1993 could be attributed to growth in the share of scientists and engineers – two sectors likely to expand if skilled immigration was liberalized.11

Furthermore, highly-skilled immigrants are very entrepreneurial, contributing to innovation and productivity growth through the creation of new firms in the high-tech sector. New firms are a major source of job growth and innovation as they often take risks that larger, established firms are unwilling to bear.

The contributions of highly skilled immigrants to innovation, productivity growth, and entrepreneurship are likely great in proportion to their numbers. However, the restrictiveness of America’s immigration policy has severely limited the potential of our economy to benefit even further. There are several policy reforms that could increase high-skilled immigration and thus the overall economic gains.

First, the current H-1B visa and green card caps for skilled foreign workers should be either eliminated or, at a minimum, increased as much as possible. The family members of employment-based green card applicants should be exempted from the cap, instead of counted against it.

Second, American firms should face a lower regulatory threshold to hiring foreign-born workers. However, political pressure will demand a labor market test to decrease the possibility that immigrants will push U.S.-born American workers out of the workforce. The primary regulatory method of controlling for that, a process called labor certification, is too onerous and expensive. Replacing labor certification with a simple fee or tariff, so long as it is not exorbitant, would incentivize American firms to seek out American employees first without imposing an uncertainty-producing web of expensive and wasteful government regulations.

Third, the immigration process should be simplified so that firms and immigrants can apply for a visa or green card without having to hire a lawyer and incur costly legal expenses. Such fees can cost tens of thousands of dollars and are a tremendous source of legal uncertainty in the high-tech employment market.

Fourth, immigrants on the H-1B work visa should be allowed to change jobs more easily rather than be tied to a single employer. Under the current system, an H-1B worker can only change jobs after complying with a confusing set of requirements that could result in the migrant losing his or her H-1B visa. The benefits of highly skilled migration would be greater if the workers can move to any U.S. firm willing to hire them. Related to this, family members of the H-1B worker who are currently on the H-4 visa should be allowed to work in the United States. Highly skilled foreign workers are likely to be married to highly skilled people so allowing them to work would increase the number of skilled workers. But even if H-4 visa holders are not highly skilled, allowing them to work legally would increase the potential income of families headed by a highly skilled worker, increasing their likelihood of coming to the United States. The government is currently writing regulations to allow some H-4 visa holders to work, but work authorization should extend to all of them.

Fifth, the government should create a startup or entrepreneur visa. Many skilled immigrants who want to start American firms instead of working on an H-1B visa are thwarted because an immigrant entrepreneur cannot sponsor himself. Even if a skilled foreign worker partners with an American who wants to sponsor the worker on an H-1B visa in a startup, government regulations mostly prohibit that because the law requires that any sponsoring firm be successful enough to guarantee the worker employment for the duration of the visa – a requirement few startups can meet.

The innovative and productivity benefits of allowing more highly-skilled immigrants are most readily apparent in patenting and entrepreneurship. And while their direct effect on TFP as workers is more difficult to measure, it is likely positive with no evidence that it is negative. In sum, liberalizing highly skilled immigration has many upsides and no downsides for American productivity, innovation, and entrepreneurship.