

POLICY BRIEF

BROOKINGS

JANUARY 2011 | NO. 178

Creating a “Brain Gain” for U.S. Employers: The Role of Immigration

BY DARRELL M. WEST



REUTERS

One of the strongest narratives in U.S. history has been the contribution made by talented, hard-working and entrepreneurial immigrants whose skills and knowledge created a prosperous new country. Yet today, the nation's immigration priorities and outmoded visa system discourage skilled immigrants and hobble the technology-intensive employers who would hire them. These policies work against urgent national economic priorities, such as boosting economic vitality, achieving greater competitiveness in the global marketplace and renewing our innovation leadership.

In the long term, the nation needs comprehensive immigration reform. In the short term, policymakers should focus on reforms that are directly related to increasing the “brain gain” for the nation—creating new jobs and producing economic benefits—to produce tangible and achievable improvements in our immigration system.

To receive a weekly e-mail about Brookings news, events, and publications, sign up for the Brookings Alert at www.brookings.edu

Recommendations

- Rebalance U.S. immigration policies to produce a “brain gain,” with changes to visas that will allow employers to access workers with the scientific and technological skills they need to improve economic competitiveness, employment and innovation
- Tie immigration levels to national economic cycles to meet changing levels of need
- Use digital technologies to modernize the current visa system

Background

Immigrants are now one-tenth of the overall U.S. population—a situation that defies facile stereotyping. Immigrants have made significant contributions to American science and economic enterprise, most notably in the areas of high-tech and biotech.

- Immigrants’ productivity raises the U.S. Gross Domestic Product (GDP) by an estimated \$37 billion per year
- More than a quarter of U.S. technology and engineering businesses launched between 1995 and 2005 had a foreign-born founder
- In Silicon Valley, more than half of new tech start-up companies were founded by foreign-born owners
- In 2005, companies founded by immigrants produced \$52 billion in sales and employed 450,000 workers
- Nearly a quarter of the international patents filed from the United States in 2006 were based on the work of foreign-born individuals (more than half of whom received their highest degree from an American university)
- Economists calculate that, as a result of immi-

gration, 90 percent of native-born Americans with at least a high-school diploma have seen wage gains

- Historically, immigrants have made outsize contributions to American science and technology, with Albert Einstein perhaps the leading example. One-third of all U.S. winners of Nobel prizes in medicine and physiology were born in other countries

Far from “crowding out” native-born workers and depressing their wages, well-educated, entrepreneurial immigrants do much to *create and support* employment for Americans.

In order to fully reap the benefits of the worldwide talent market, U.S. immigration policy must be reoriented. Current policy is significantly—and negatively—affected by the unintended consequences of the 1965 Immigration and Nationality Act that made family unification its overarching goal. Although the law may have contributed to the high-tech boom by removing long-standing, country-specific quotas and expanding immigration from places with strong science and engineering education programs, its main effect was to enable immigrants to bring in family members, without regard for the new immigrants’ education, skill status or potential contributions to the economy.

Thus, in 2008, almost two-thirds of new legal permanent residents were family-sponsored and, over the past few years, the educational attainment of new immigrants has declined.

U.S. employers have a large, unmet demand for knowledge workers. They are eager to fill jobs with well-trained foreign workers and foreign graduates of U.S. universities—particularly those with degrees in the sciences, technology, engineering and mathematics—the “STEM” fields that continue to attract too few U.S.-born students. In 2008, the “Tapping America’s Potential” business coalition reported that the number of U.S. graduates in STEM had been stagnant for five years, and that number would have to nearly double by 2015 to meet demands.

Meanwhile, the United States is falling behind in the pace of innovation and international competitiveness. Evidence for the decline in innovation is the decreasing U.S. share of international patents. In 2009, for the first time in recent years, non-U.S. innovators earned more patents (around 96,000) than did Americans (93,000). Only a decade earlier, U.S. innovators were awarded almost 57 percent of all patents.

To date, Congress—for a variety of reasons, including partisanship—has stalled in addressing the problems of immigration and immigration policy. Unfortunately, this inaction extends to problems hampering the nation’s economy that, if remedied, could help the United States grow employment, pull out of the current recession more quickly and improve its position in the global economy.

Game-Changing Policy Reforms Rebalance Fundamental Goals

The goals of U.S. immigration policy should be rebalanced to give priority to immigrants who have the education and talent to enhance America’s

economic vitality, by stimulating innovation, job creation and global competitiveness. At the same time, it should decrease emphasis on family reunification (other than parents and children of U.S. citizens). Changing the composition of the immigration stream, even without increasing its size, would result in a “brain gain” for the United States.

Other countries, such as Canada, the United Kingdom and Australia, strategically craft immigration policy to attract skilled and unskilled workers, making the benefits easy to see and strengthening public support for immigration in the process. Canada, for example, explicitly targets foreign workers to fill positions for which there are not enough skilled Canadians. Applicants for admission to the country accumulate points based on their field of study, educational attainment and employment experience. Upon reaching the requisite number of points, the applicant is granted a visa. Some 36 percent of all Canadian immigrant visas are in the “skilled-worker” category, as opposed to only 6.5 percent in the United States.

An interesting by-product of this strategy—which is both clearly articulated and of obvious benefit to the national economy—is that Canadians see the benefits of the policy and, as a result, immigration is far less controversial than in the United States. In 2005 polling by The Gallup Organization, only 27 percent of Canadians wanted to decrease immigration, whereas 52 percent of U.S. citizens did. And, three times as many Canadians (20 percent) as Americans (seven percent) actually wanted to increase it.

An obvious place to begin the rebalancing process would be with the many foreign students who come to the United States for education in scientific and technology fields. They are familiar with our culture and speak English. Many would like to stay and build careers here. But, under current visa rules, most are sent home as soon as they graduate. A complete policy reversal is needed,

U.S. employers have a large, unmet demand for knowledge workers. They are eager to fill jobs with well-trained foreign workers and foreign graduates of U.S. universities—particularly those with degrees in the sciences, technology, engineering and mathematics—the “STEM” fields that continue to attract too few U.S.-born students.



Darrell M. West is vice president and director of Governance Studies and founding director of the Center for Technology Innovation at Brookings. His studies include campaigns and elections, political advertising, technology policy, electronic government, immigration and mass media.

with *automatic* green cards for foreign graduates of U.S. science and technology programs.

In fact, the United States should make it *as easy as possible* for these highly trained students to stay, since the expansion of job opportunities in India, China and other growth-oriented countries now offers them attractive options. Our current counterproductive policy, quite simply, puts the United States in the position of training our global competitors.

New York City mayor Michael Bloomberg, in a December 2009 *Meet the Press* interview, said about immigration: “We’re committing what I call national suicide. Somehow or other, after 9/11 we went from reaching out and trying to get the best and the brightest to come here, to trying to keep them out. In fact, we do the stupidest thing, we give them educations and then don’t give them green cards.”

Universities collectively invest huge sums in the development of these students. In addition, research suggests that increasing the number of foreign graduate students would increase U.S. patent applications by an estimated 4.7 percent and grants of university patents by 5.3 percent.

Another strategic policy change would be for the federal government to take U.S. workforce and economic conditions into account when setting immigration levels and annual H-1B visa numbers for scientists and engineers. Such a flexible approach would reflect labor market needs, protect American workers’ jobs and wages, and dampen public concerns about employment losses during lean economic times.

Revamp the Antiquated Visa System

Increase the Number of Visas for Highly-skilled Workers

Today’s visa programs for high-skilled workers are not large enough to fill the numerical demand for such employees and are too short in duration.

For example, H-1B visas for workers in “specialty occupations” are valid for a maximum of six years. Between fiscal years 2001 and 2004, the federal government increased the annual allocation of H-1B visas for scientists and engineers to 195,000. The rationale was that scientific innovators were so important for the country’s long-term economic development that the number set aside for those specialty professions needed to be high. Since 2004, that number has returned to its former level, 65,000—only a third of the peak, despite rapid technologic change in almost every field, such as information, medicine, energy and logistics.

Most of these visas are allocated within a few months of becoming available. Even in recession-plagued 2009, applications exceeded the supply of visas within three months. Almost half of the visa requests came from U.S. employers, most of them in high-tech industries. Clearly the demand for visas is greater than the supply, and a minimal step would be to raise the set-aside for high-skilled workers to the previous, 195,000 level.

Only a small percentage of aliens with student visas and aliens with H-1B visas are able to change directly to legal permanent resident status—about seven percent of each category, according to a study published in 2005—although about half of H-1B visa-holders eventually become legal permanent residents. Such an uncertain path is not conducive to career (or employment) planning in a competitive environment.

Several additional small programs support talented scientists and entrepreneurs. These, too, could be aligned with economic goals, expanded or more effectively promoted:

- The O-1 “genius” visa program allows the government to authorize visas for people with “extraordinary abilities in the arts, science, education, business, and sports.” In 2008, around 45,000 genius visas were granted. The clear intent is



A group of immigrants takes the oath of citizenship at a U.S. naturalization ceremony at the Angel Island Immigration Station.

to encourage talented people to migrate to America. However, the current program is too diffuse to have much impact on the level of scientific and technological innovation talent in the United States.

- The EB-5 visa program offers temporary visas to foreigners who invest at least \$500,000 in the nation's rural or "targeted employment areas" or at least \$1,000,000 in other areas. If the investment creates at least ten jobs, the visa automatically becomes a permanent green card. The program is authorized by Congress to offer approximately 10,000 visas per year, but it is significantly underutilized—about 500 EB-5 visas a year were granted between 1992 and 2004. In 2009, 3,688 people did become legal permanent residents under the "employment creation (investors)" category, a number that includes spouses and children.

According to a March 2009 report from the Department of Homeland Security, the causes of the persistent underutilization of this program include "program instability, the changing economic environment, and more inviting immigrant investor programs offered by other countries." The report makes a number of recommendations designed to streamline program administration and encourages greater efforts to promote the program overseas.

Update the Visa System Infrastructure

Aside from questions about the number of visas allowed, the infrastructure for considering and granting visas needs a major upgrade. Currently, the U.S. visa process requires people seeking entry to provide paper copies of sometimes hard-to-obtain documents. Often these are lost in the system and must be submitted repeatedly. Obtaining a visa can take

Another strategic policy change would be for the federal government to take U.S. workforce and economic conditions into account when setting immigration levels and annual H-1B visa numbers for scientists and engineers. Such a flexible approach would reflect labor market needs, protect American workers' jobs and wages, and dampen public concerns about employment losses during lean economic times.

[Learn More](#)

“The New Geography of United States Immigration”
Audrey Singer
(July 2009)

“Democracy in the Age of New Media: A Report on the Media and the Immigration Debate”
Banu Akdenizli, E.J. Dionne, Jr. and Roberto Suro
(September 2008)

“Ten Economic Facts About Immigration”
Michael Greenstone and Adam Looney
(September 2010)



REUTERS

A semiconductor chip designer works on a computer component.

months and, in some cases, years. Implementation of the USA PATRIOT Act has slowed the process even further.

The visa system should adopt digital technology to reduce both errors and delays. Further, if the nation’s immigration policy moves toward a more credential-based approach, any new electronic processes should be designed to minimize the potential that false documents regarding an individual’s education and experience will be accepted.

Tie Immigration Levels to National Economic Indicators

To ease U.S.-born workers’ understandable worries about job competition from immigrants, Congress should tie overall annual levels of immigration to the unemployment rate and growth in the Gross Domestic Product. Immigration levels can be adjusted up or down depending on the level of economic conditions. These fluctuations should occur automatically, triggered by authoritative statistical reports.

Political Hurdles to Immigration Reform

U.S. news reporting on immigration focuses heavily on illegality and largely ignores the benefits of immigration. Sadly, important news organizations follow the tradition set in the 19th century, when many journalists railed against groups of newcomers, such as immigrants from Ireland and China. Immigration opponents’ unfavorable media narratives, often widely publicized, have a discernible impact on public opinion and affect policymaking. The economic, social, and cultural benefits of immigration are rarely reported.

The State of Public Opinion

Immigration does not rank high on Americans’ lists of the country’s most important problems. In 2008, only four percent of Americans (mostly people from Southwestern border states concerned about illegal entry) thought immigration was the country’s most important problem. Even during 2007’s acrimonious national debate about comprehensive reform, 60 percent of Americans believed new

arrivals benefit the country. But public opinion can shift quickly, which makes politicians wary. Fifty-seven percent of voters in the November 2010 mid-term election considered immigration a “very important” issue, ranking it 7th and on a par with taxes and national security/war on terror, according to the Rasmussen report.

The Need for Reform Follow-Through

Administration and enforcement of immigration laws and visa programs are complex, in part because federal, state and local officials are involved in various aspects and are overseen by multiple federal agencies. Aligning the goals of these different entities to put an emphasis on the brain gain can help build support for policy improvements.

As the report of a 2009 Brookings Forum on Growth Through Innovation pointed out with regard to promoting innovation more broadly, “while the actions we need to take are clear and reasonably simple to outline, our political culture erects insurmountable barriers to long-term planning, funding and implementation.”

Achieving an Improved Immigration Policy

It will be difficult to achieve comprehensive, coherent policy reform in the face of many competing goals and interest groups and in the current polarized political environment. The task is made more difficult by the divided authority over immigration matters within Congress, involving several committees and subcommittees with competing interests and different political dynamics. Individual members of Congress tend to focus on local concerns, forestalling consideration of broad, long-term national interests.

In the past, elected officials have overreacted to specific episodes of problems related to immigrants or anti-immigrant sentiments in developing policy, rather than taking into account

long-term national economic priorities. Just as deleterious, stalemate and inaction have prevented needed reforms, despite a frustrating status quo for employers who need talented scientists and engineers, and who could hire many more Americans if they could fill key slots with skilled workers they cannot find in their local workforce.

A spectrum of experts has suggested creation of a broadly representative, independent federal immigration commission that could develop specific policies under parameters set by Congress. Proposals for such a body have the common themes of depoliticization, insulating members from parochial political pressures and relying on technical experts. Given past missteps and the current policy stalemate, it makes sense to consider such proposals seriously, in the hope that all aspects of immigration—especially those that affect U.S. economic vitality—receive the thoughtful attention they need.

Conclusion

The immigration policy reforms in this paper focus on those that would have swift and direct positive impact on the nation’s economy. Clearly, these are not the only reforms the system needs. A fairer, more comprehensive immigration policy also would:

- Develop more effective and cost-effective border control strategies
- Strengthen the electronic employment-eligibility (“e-verify”) system and add an appeals process
- Improve the immigration courts system and the administration of immigration law
- Work harder to integrate immigrants into American life and teach them English and

The visa system should adopt digital technology to reduce both errors and delays. Further, if the nation’s immigration policy moves toward a more credential-based approach, any new electronic processes should be designed to minimize the potential that false documents regarding an individual’s education and experience will be accepted.

Recent Policy Briefs

“Economic Growth and Institutional Innovation: Outlines of a Reform Agenda”
William A. Galston
No. 172 (June 2010)

“Hubs of Transformation: Leveraging the Great Lakes Research Complex for Energy Innovation”
James Duderstadt, Mark Muro, and Sarah Rahman
No. 173 (June 2010)

“Spurring Innovation Through Education: Four Ideas”
Grover J. Whitehurst
No. 174 (June 2010)

“The Future of Small Business Entrepreneurship: Jobs Generator for the U.S. Economy”
Martin Neil Bailly, Karen Dynan, and Douglas J. Elliott
No. 175 (June 2010)

- Create a path to citizenship for illegal immigrants with requirements that applicants learn English, pay back taxes, and pay fines.
- Creation of an automatic green card for foreign graduates of U.S. science, technology, engineering, and mathematics educational programs and other steps to make staying in the United States a desirable option

Meanwhile, a number of the needed corrections to the system as it affects national economic goals, employment, innovation, and global competitiveness can be addressed, including:

- Expansion of visa programs (especially H-1B for highly skilled workers) and making more effective the O-1 and EB-5 visa programs and
- Tying visa and immigration levels to U.S. economic indicators, in order to assuage American workers' concerns about threats to employment and wage levels
- Creating a modern, electronic visa system. ■

BROOKINGS

QUALITY. INDEPENDENCE. IMPACT.

The Brookings Institution is a nonprofit public policy organization based in Washington, DC. Our mission is to conduct high-quality, independent research and, based on that research, to provide innovative, practical recommendations that advance three broad goals:

- Strengthen American democracy;
- Foster the economic and social welfare, security and opportunity of all Americans and
- Secure a more open, safe, prosperous and cooperative international system.

Learn more at brookings.edu

Visit our website to find innovative, practical recommendations that matter—for America and the world.

1775 Massachusetts Avenue, NW, | Washington, DC 20036 | 202.797.6000 | fax 202.797.6004 | brookings.edu

Vice President for Communications
Melissa T. Skolfield

The Brookings Office of Communications
202.797.6105
communications@brookings.edu

The views expressed in this Policy Brief are those of the author(s) and are not necessarily those of the trustees, officers, or other staff members of the Brookings Institution.

Copyright © 2011
The Brookings Institution

BROOKINGS

1775 Massachusetts Avenue, NW
Washington, DC 20036