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IMPROVING US AND EU IMMIGRATION SYSTEMS

The Role of Immigration in Fostering Competitiveness in the United States

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Executive Summary

Immigration is an indispensable piece of any strategy to boost economic growth and prosperity. Alongside investments in education and workforce-training systems, research and development, public infrastructure, and thoughtful regulatory policies that reduce barriers to employment, immigration policy can contribute directly to innovation, technological progress, and rising human-capital levels. It can offer employers access to the workers they require to build their firms' competitiveness and can increase the availability of vital services from health care to information technology.

The United States has a natural advantage in attracting the world's most talented workers, many of whom have flocked to the country's leading firms and universities. Some aspects of the US immigration system facilitate newcomers' contributions to economic growth and to the competitiveness of US firms, but others undermine them. On the one hand, employer-driven selection has proved an effective mechanism for identifying the most appropriate workers across the skill spectrum, both from abroad and from the large pool of international students at US universities. The most talented also receive clear priority for permanent immigration, despite a sometimes slow and burdensome application process.

US policy has proved inflexible in the face of changing circumstances (including the growth of other skill-focused immigration programs across the developed world).

But employment-based immigration makes up too small a proportion of overall permanent immigration in the United States, even though it admits the country's most highly skilled foreign workers and serves as the most direct channel through which policymakers can shape the economic impact of immigration. US policy has proved inflexible in the face of changing circumstances (including the growth of other skill-focused immigration programs across the developed world), and has undergone only minor, ad hoc adjustments over time. Poorly thought-out numerical limits do not shift with economic demand, creating backlogs and delays. And while temporary-to-permanent work-visa programs are the entry route for the overwhelming majority of employment-based immigrants, temporary visa policies do little to rank applications on the basis of skill (and hence the potential for making the greatest contribution over the long term) below the ranks of the exceptionally talented. Finally, to switch from temporary to permanent residence, immigrant workers and their employers face a complicated administrative process, one that involves uncertainty and time-consuming paperwork while tying workers to the same employer for long periods.

The recent economic crisis lessened some of the problems arising from the constrained and undifferentiated supply of work visas — at least in the short term — by reducing employers' demand for workers from abroad. In the long term, however, fixing the system's flaws will require substantial reforms and much greater flexibility. Effective strategies would include:

- A faster, streamlined process for workers on temporary visas to gain permanent residence without requiring employers to sponsor the same worker twice.
- Greater differentiation between applications at the skilled and highly skilled levels to ensure that the highest-value applications are always satisfied. This could include permitting employers to "pierce" numerical limits when hiring the most talented/higher-earning job candidates or upon payment of an additional fee. It could also include more selective eligibility criteria for prospective workers (including, perhaps, a limited points system that maintains the principle of employer sponsorship).



- More flexible numerical limits (temporary and, particularly, permanent) to avoid stampedes for visas and the rapid exhaustion of visa limits in years of high demand.

These reforms may be difficult, but they are crucial to ensure that immigration policies facilitate — rather than disregard or even impede — economic growth, innovation, and competitiveness in the United States.

I. Introduction

Economic competitiveness is a recurring theme in the US immigration debate. It has become almost commonplace for commentators and analysts to list the ways in which immigrants — especially the highly skilled — make the country more economically dynamic. These immigrants can fuel knowledge creation at the nation’s universities; offer advanced technical skills and international cultural knowledge to US businesses’ research and development teams; found companies (from high-tech giants to dry cleaners); enable employers to fill vacancies at all levels of the skills and experience continuum; and bring additional perspectives and expertise to the executive echelons of top US firms.

The idea that immigrants have the capacity to make the country more innovative and more prosperous is especially appealing at a time of deep insecurity about America’s economic future and its place in a changing global economy. In a world where economic might is shifting east, or even south, and where analysts attribute increasingly extraordinary powers to emerging economies, concerns have emerged that the United States is too slow in producing the skills and infrastructure needed to maintain its comparative advantages in fields such as high-tech manufacturing and scientific research. A deep economic crisis and slow labor market recovery, coupled with gnawing concerns about stagnating educational attainment and the persistently poor outcomes of the US K-12 school system, have exacerbated these fears, provoking questions about how the United States should renew itself economically in the 21st century, or how it can “out-compete” other nations.¹

The idea that immigrants have the capacity to make the country more innovative and more prosperous is especially appealing at a time of deep insecurity about America’s economic future and its place in a changing global economy.

Of course, immigration cannot singlehandedly solve the economic problems the country faces. But alongside education, social policies, research and development, infrastructure, trade, and regulatory policy, immigration has a strong contribution to make in any strategy to boost productivity and raise standards of living.² Immigration *policy* shapes this contribution in a fundamental way. It determines which immigrants come to the United States and how they are selected, how long they stay and under

- 1 Strictly speaking, “competitiveness” is a concept that applies most naturally to firms, and only by metaphorical extension to countries or whole economies. As some economists have pointed out, a country’s long-run economic growth and prosperity depend primarily on productivity increases at home; these advances are only indirectly related to the country’s standing *relative* to its trading partners. However, the concept is useful as a short-hand for economic dynamism, rising productivity, the ability to remain at the forefront of technological progress, and the effective use of innovations and technologies to raise productivity and living standards.
- 2 Demetrios G. Papademetriou and Annette Heuser, “Council Statement: Responding Competitively to the New Mobility of the 21st Century,” in *Talent, Competitiveness and Migration*, eds. Bertelsmann Stiftung and Migration Policy Institute (Guetersloh, Germany: Bertelsmann Stiftung and Migration Policy Institute, 2009).



what conditions, and what they can do while they are here. In other words, policies can facilitate *or* detract from immigration's contribution to economic growth and prosperity, depending on how effectively and how strategically they are designed.

On the eve of the recent economic crisis, the United States had experienced a three-decade immigration wave that took the foreign-born share of the population from 6.2 percent in 1980 to 12.6 percent in 2007.³ (Between 2007 and 2010 this share changed very little.) US firms and universities were increasingly able to recruit from a rapidly growing global talent pool. For migrants, the opportunity to move to the country as workers, students, or businesspeople became more real, more salient, and more affordable. Alongside traditional permanent immigration, temporary flows of workers and students boomed. These growing and changing flows brought economic opportunities, but they also put some parts of the immigration system under strain, highlighting the system's lack of flexibility and undermining its ability to serve national economic interests, broadly defined.

This report examines the ways in which US policies shape immigration's economic impact. It does so with two goals in mind. The first is to provide US policymakers a critical overview and to point to areas where immigration policies could do more to boost economic growth and productivity. The second is to explore the lessons that US immigration policy can offer countries in Europe and across the world, outlining what other immigration policymakers might emulate and what they might avoid as they review and reformulate their systems.

II. Immigration and Economic Prosperity

A. In What Ways Does Immigration Affect the Economy?

The most direct effect of immigration is to increase the size of the population and of the labor force. This has a relatively unambiguous, positive impact on gross domestic product (GDP) since it makes the economy larger. A larger labor force may increase tax revenues, making it easier to finance certain government outlays such as pension liabilities, debt payments, and other public goods.⁴ But labor force growth alone does not necessarily increase more relevant indicators of prosperity, such as GDP per capita overall or the GDP per capita among the "original" population (those already in the country before the new immigrants arrived). Ultimately, the more important effects of immigration are technological advances, long-term growth in productivity, consumption (and/or standards of living), and income.⁵

One way in which immigration is thought to affect economic productivity is to widen the pool from which employers can recruit. Employment-based immigration is particularly important from this perspective

3 This number is just below the previous peak of 14.7 percent in 1910; 2007 American Community Survey (ACS) data (and all ACS and Current Population Survey [CPS] data cited throughout this paper) are made available by Integrated Public Use Microdata Samples USA (IPUMS USA). See Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek, *Integrated Public Use Microdata Series: Version 5.0* (Minneapolis: University of Minnesota, 2010). The 1910 and 1980 data are taken from Campbell Gibson and Kay Jung, "Historical Census Statistics on the Foreign-Born Population of the United States: 1850-2000" (working paper no. 81, Population Division, US Census Bureau, February 2006), www.census.gov/population/www/documentation/twps0081/twps0081.html.

4 This is true if immigrants make a positive net contribution to public finances. In practice, the contribution depends on the human capital of the immigrant. Higher earners and those who do not draw on public services like education or welfare are more likely to provide a net contribution to state coffers. The most recent rigorous evaluation of immigrants' fiscal impact was conducted in 1997. It found that, on average, immigration has a small but positive impact, and that positive net contributions among some groups of immigrants offset negative net contributions among others. See James P. Smith and Barry Edmonston, eds., *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration* (Washington, DC: National Academy Press, 1997).

5 Orn B. Bodvarsson and Hendrik Van den Berg, *The Economics of Immigration: Theory and Policy* (Berlin and Heidelberg: Springer, 2009).



because it enables employers to selectively bring in individuals with highly sought-after skills from around the world. Of course, immigration cannot replace homegrown talent. Improving the quality of education among the native workforce is ultimately the most effective (if a more difficult and expensive) means to enhance skills and thus boost productivity and economic dynamism. That said, even under the most favorable circumstances, domestic education and training systems simply cannot produce all of the skills that employers demand, especially in fast-changing or growing industries, in very specialized occupations or occupations with global labor markets, and where international experience in or relevant knowledge of the markets into which a firm is trying to expand are in themselves assets to the firm's work.

The most skilled immigrants have an impact not just as employees, but also as knowledge creators, innovators, founders of companies, and business leaders. This class of exceptionally skilled workers can be defined in various ways, but generally includes scientists and researchers, top business managers and executives, entrepreneurs, and creative artists.⁶ Despite incomplete and often anecdotal information on these individuals' impact, the evidence is sufficiently compelling that immigration policymakers around the world increasingly emphasize the need to draw in the “best and brightest” — the most talented workers who can make long-term contributions to technological development, innovation, and growth.

Box 1. Skill Category Definitions

- *Exceptionally skilled workers*: Global elites whose skills are in high demand around the world. These are the immigrants for whom the idea of a global competition for talent is most relevant — they possess the most sought-after skills, and are most likely to have a choice of destination.
- *Highly skilled workers*: A wide range of professionals and advanced degree holders who enhance the human capital pool and help to address mismatches between the supply of and demand for skills.
- *Skilled workers*: College graduates and other workers who fill primarily entry-level, white-collar jobs.
- *Middle-skilled workers*: Typically, workers with some postsecondary education and/or equivalent on-the-job training, but without a full college degree.
- *Less-skilled workers*: Typically those with a high school diploma or less.
- *Low-skilled workers*: Those with less than a high school diploma.

Highly skilled and exceptionally skilled immigration is relatively uncontroversial, its benefits widely recognized. The impact of less-skilled workers⁷ is much more uncertain and contentious.⁸ On the one hand, a smaller share of the US workforce is available for less-skilled work than ever before, a result of rising education levels in the second half of the 20th century and the ongoing retirement of millions of workers without a high school diploma.⁹ The US economy has responded by importing a greater proportion of tradable goods or services that were once produced at home and by mechanizing certain

6 That is, most of the classes of exceptional immigrants covered under the United States first-preference employment-based visa (EB-1).

7 This paper uses the term *low skilled* to refer to those without a high school diploma and *less skilled* for those with a high school diploma or less. In other words, the *less skilled* comprise the *low skilled*, in addition to those with a high school diploma. *Low-skilled* or *less-skilled occupations* refer to the jobs typically requiring approximately these levels of education.

8 For a much more detailed analysis of the economics of less-skilled immigration, see Harry J. Holzer, *Immigration Policy and Less-Skilled Workers in the United States: Reflections on Future Directions for Reform* (Washington, DC: Migration Policy Institute, 2011), www.migrationpolicy.org/pubs/Holzer-January2011.pdf.

9 Claudia Goldin and Lawrence Katz, *The Race between Education and Technology* (Cambridge, MA: Harvard University Press, 2008); Gordon H. Hanson, *The Economics and Policy of Illegal Immigration in the United States* (Washington, DC: Migration Policy Institute, 2009), www.migrationpolicy.org/pubs/Hanson-Dec09.pdf.



types of work. But some nontradable (or “in-person”) services such as gardening, the cleaning and maintenance of buildings, hairdressing or manicuring, child care, and home health care cannot be outsourced or mechanized, fueling an increase in the numbers of both legal and unauthorized immigrants with little education.¹⁰ Immigrants’ overrepresentation in these jobs has clear benefits for consumers, who would otherwise pay higher prices or forego these services entirely. Less-skilled immigrants working in child care, for example, have enabled highly skilled women who would otherwise have stayed at home to return to work, bringing underutilized human capital back into the workforce.¹¹

Of course, immigration cannot replace homegrown talent.

Some US workers, however, still compete for these jobs.¹² Competition with immigrants may exacerbate the barriers that the lowest-skilled individuals already face in the labor market (including child-care obligations and the structure of welfare systems).¹³ The fiscal cost of less-skilled immigration has also provoked concern (although this cost is thought to be small), as have many less-skilled workers’ difficulties in achieving upward job mobility over time.¹⁴ It is perhaps not surprising, therefore, that economic-stream immigration is heavily skewed toward the highly skilled, while the vast majority of less-skilled immigrants resident in the country arrive either illegally or through family unification policies (see Section III).

B. Implications for Immigration Policy

Policymakers influence the economic impact of immigration in various ways. They can adjust the requirements that prospective foreign workers or their employers must meet, the administrative process they must go through, the ways in which workers are selected, the length of time they can stay in the country and the conditions for permanent residence, the share of workers coming through economic versus other channels, and the resources available for any integration measures such as training or language programs.

“Maximizing” immigration’s economic contribution is not always straightforward, however. Efforts to do so are fraught with uncertainties and insufficient evidence about the consequences of seemingly minor policy changes. In general terms, the primary tasks of immigration as an economic policy mechanism are to:

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- 10 David Autor, *The Polarization of Job Opportunities in the US Labor Market: Implications for Employment and Earnings* (Washington, DC: Center for American Progress and Brookings Institution, 2010), www.brookings.edu/~media/Files/rc/papers/2010/04_jobs_autor/04_jobs_autor.pdf; Alan Blinder, “Offshoring: The Next Industrial Revolution?” *Foreign Affairs* 85, no. 2 (March/April 2006): 113–28.
 - 11 Patricia Cortes and Jose Tessada, “Cheap Maids and Nannies: How Low-Skilled Immigration is Changing the Labor Supply of High-Skilled American Women” (working paper, Georgetown University, June 2008), www9.georgetown.edu/faculty/aml6/microworkshoppapers/cortes.pdf.
 - 12 By contrast, highly skilled workers are not thought to put significant downward pressure on similar native workers’ wages or employment prospects. And since the college premium (the wage boost that an individual gets from having a college degree rather than just a high school diploma) has been rising steadily in the United States since 1980, immigration’s impact on wages for this group does not seem to pose a significant threat. See Autor, *The Polarization of Job Opportunities in the US Labor Market*.
 - 13 In practice, previous, low-skilled immigrants tend to bear the brunt of this competition, since they often have similar skills and are likely to be concentrated in jobs that do not require high levels of English proficiency. See Holzer, *Immigration Policy and Less-Skilled Workers in the United States*; and Patricia Cortes, “The Effect of Low-Skilled Immigration on US Prices: Evidence from CPI data,” *Journal of Political Economy* 116, no. 3 (2008): 381–422.
 - 14 Holzer, *Immigration Policy and Less-Skilled Workers*.



- Implement effective screening or selection mechanisms to ensure that immigrants have skills that host-country employers value (employers' participation in selection is a crucial component of this process).
- Ensure that the door is open to the most talented and that application procedures and the path to permanent residence are straightforward and streamlined at high skill levels (so that outcomes are completely predictable).
- Respond deliberately but quickly to changing economic conditions and needs, and to empirical evidence of how the immigration system is performing and how well the immigrants it admits are integrating.
- Discourage abuses of the visa system while maintaining a fair and predictable regime for those employers and immigrant workers who play by the rules.
- Ensure a reasonable balance of skill levels. Highly skilled immigration may have the greatest and least-disputed benefits, but countries completely closed to less-skilled admissions may impose concentrated costs on sectors or occupations that simply cannot recruit locally (agriculture is the most common example) and thus risk creating pressure for illegal immigration.

In practice, the policies reviewed in this report concern employment-based, or economic-stream, migration. Governments have most discretion over employment-based immigration, its selection mechanisms, and the economic role of the workers it admits. This makes it the more straightforward component of any strategy to boost economic dynamism. However, family immigration policies also affect economic growth and productivity. And the two streams are interrelated: economic-stream immigrants might bring family members with them or acquire the right to sponsor family members' residence, for example, while substantial numbers of immigrants who initially enter as workers or students actually gain permanent residence through the faster and less-expensive family route.

III. Immigration to the United States: Policies and Flows

Education and human capital do not figure in the eligibility criteria for most immigrants in the United States. Since 1965 US immigration policy has been built around family unification, and two-thirds of permanent immigrants to the United States are now admitted on the basis of family ties (two-fifths as the spouses of US citizens, and the rest as the children, siblings, or parents of US citizens or as the spouses of permanent residents).

Only about 15 percent of visas for legal permanent residence (“green cards”) are issued to economic-stream immigrants in the United States.¹⁵ About half of them go to the family members of employer-sponsored immigrant workers (the “principal” applicants). Larger numbers of immigrant workers can receive temporary visas for up to about six years. Some of these visas are subject to numerical limits, others are not. By any measure, the share of employment-based immigrants in the United States is low compared to other immigrant-receiving nations in the English-speaking world (even if the United States

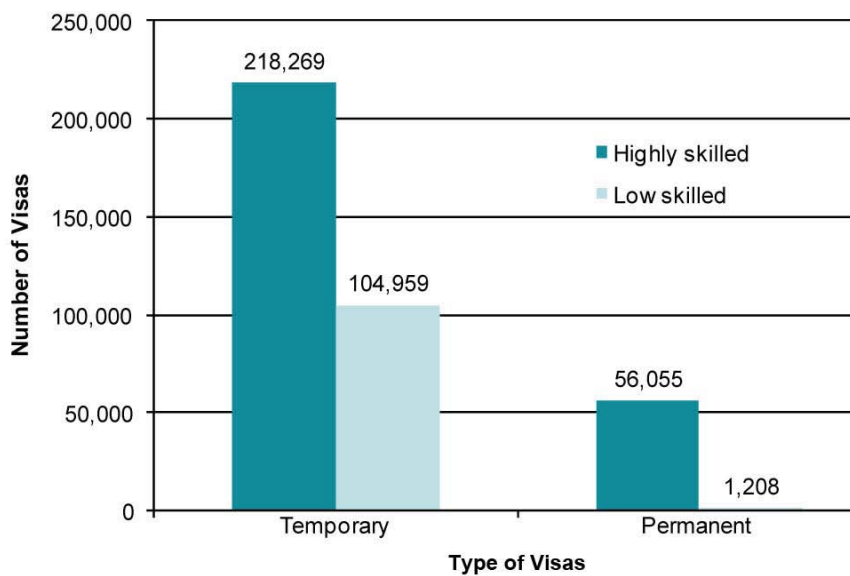
15 Strictly comparable estimates of the proportion of work-based immigration are difficult to make, since the figure depends on whether net or gross immigration is measured, whether the flow is temporary or permanent, and what data source is used. The UK data are based on the 2009 cohort of individuals granted permanent residence and include those who either entered or spent time on a temporary work visa before receiving settlement rights. See Lorrain Achato, Mike Eaton, and Chris Jones, *The Migrant Journey* (UK Home Office Research, Development and Statistics Directorate research report 43, 2010), <http://rds.homeoffice.gov.uk/rds/pdfs10/horr43c.pdf>. Australian data are taken from the Department of Immigration and Citizenship, “Fact Sheet 20: Migration Program Planning Levels” 2010, www.immi.gov.au/media/fact-sheets/20planning.htm.



remains the *largest* recipient of skilled migrants). In Australia, for example, economic-stream immigration accounts for about two-thirds of the total, and in the United Kingdom it accounts for just over two-fifths, excluding the substantial flows of primarily labor-motivated immigration from within the European Union.¹⁶

The US employment-based visa regime is divided into two separate systems: temporary (known as *nonimmigrant* in the US parlance) and permanent. Most long-term employment-based immigrants must apply through both systems, one to enter the country and again to gain permanent residence. In the vast majority of cases, both applications require an employer sponsor.¹⁷ Receiving a green card takes considerable time, in part because of the strict, permanent numerical limits on visas, discussed later. Virtually all (about 90 percent) of employment-based green-card recipients, therefore, arrive on temporary visas and later adjust to permanent residence from within the country.¹⁸

Figure 1. Temporary and Permanent Employment-Based Visas Issued in 2009



Note: Official visa statistics do not include information about workers' skill levels, and each visa admits a range of different worker types. This chart, however, characterizes them as follows: highly skilled temporary visas are O, H-1B, E, and L; highly skilled permanent visas are EB-1, EB-2, and EB-3 (excluding EB-3, "other"); low-skilled temporary are H-2A and H-2B; low-skilled permanent is EB-3, "other." Note also that temporary visas for less-skilled workers have shorter durations; as a result, the number of low-skilled employment-based immigrants in the country at any one moment is much smaller than the number of their skilled counterparts, even though roughly half of temporary visa *issuances* are to low-skilled workers.

Sources: Department of Homeland Security (DHS), *Yearbook of Immigration Statistics 2009* (Washington, DC: DHS, 2010), www.dhs.gov/files/statistics/publications/yearbook.shtm (permanent visas); State Department, *Report of the Visa Office 2009* (Washington, DC: State Department, 2010), www.travel.state.gov/visa/statistics/statistics_4594.html (temporary visas).

16 Demetrios G. Papademetriou, Doris Meissner, Marc Rosenblum, and Madeleine Sumption, *Aligning Temporary Immigration Visas With US Labor Market Needs: The Case For A New System of Provisional Visas* (Washington, DC: Migration Policy Institute, 2009), www.migrationpolicy.org/pubs/Provisional_visas.pdf.

17 Ibid.

18 Ibid.



A. Exceptionally Skilled Immigrants — the “Most Talented”

The United States has an inherent advantage in attracting the most talented immigrants. It relies on top-flight, well-endowed universities, cutting-edge research facilities, a globally respected business environment, and a reputation for very attractive compensation packages to draw in exceptional individuals. Immigrants are also attracted by the country’s critical mass of other talented people.¹⁹ A recent study of expatriate French academics at top-tier universities, for example, suggests that the universities’ intellectual environment (and not, primarily, compensation) was the major factor keeping them in the United States.²⁰ Meanwhile, in the business world, global corporations often bring high-flying staff from their offices in other countries to the United States, and some of these individuals eventually adjust to permanent residence. Indeed, the L-1 intracompany transfer visa for managers and executives is the most common temporary visa from which workers adjust their status to the most elite permanent visa for the highest skill levels: the EB-1 or “first-preference” visa, which includes special provisions for managers and executives.²¹

The impact of exceptionally skilled immigration is difficult to quantify. Attempts to do so sometimes rely on head counts of Nobel laureates and company founders, anecdotal evidence, or portraits of individual high-achieving immigrants. More systematic analysis typically focuses on measurable, innovative activities such as patenting, publishing academic papers, and founding companies, although these things probably provide a highly incomplete picture of these individuals’ true impact.

Commonly cited statistics include the fact that noncitizens make up an estimated one-quarter of all international patent applications from the United States,²² for example, and college-educated immigrants have been found to be twice as likely to register patents as their US-born counterparts (largely because they are more strongly concentrated in the sciences).²³ Indian and Chinese immigrants and their descendants are also thought to be overrepresented among inventors, accounting for 14 percent of US patents.²⁴ More broadly, the foreign born make up 27 percent of the US workforce with a doctoral degree, and are strongly concentrated in occupations associated with high skill levels — medical scientists (43 percent), physicists (25 percent), or economists (29 percent), to name just a few examples.²⁵

Exceptionally skilled immigrants, together with their “merely” highly skilled colleagues, have helped to build up and maintain the US comparative advantage in a number of high-tech fields.²⁶ High-tech manufacturing and services tend to cluster around the knowledge centers from which they originate, suggesting that homegrown innovations have a particular role in creating high-quality jobs. Firms also tend to cluster near universities and other firms producing similar goods and services so that they can draw on a common pool of specialized workers.²⁷ The most commonly cited example is Silicon Valley, where the immigrant contribution to innovation and new businesses has been well documented.²⁸

19 Demetrios G. Papademetriou, Will Somerville, and Hiroyuki Tanaka, *Talent in the 21st Century Economy* (Washington, DC: Migration Policy Institute, 2008), www.migrationpolicy.org/transatlantic/Talent.pdf.

20 Ioanna Kohler, *Gone for Good? Partis pour de bon? Les expatriés de l’enseignement supérieur français aux Etats Unis* (Paris: Institut Montaigne, 2010), www.institutmontaigne.org/les-expatries-de-l-enseignement-superieur-francais-3251.html.

21 Based on data from the New Immigrant Survey’s 2003 cohort. See Vivek Wadhwa, Guillermina Jasso, Ben Rissing, Gary Gereffi, and Richard B. Freeman, “Intellectual Property, the Immigration Backlog, and a Reverse Brain-Drain: America’s New Immigrant Entrepreneurs, Part III” (working paper, Social Science Research Network, August 22, 2007), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1008366.

22 Jennifer Hunt and Marjolaine Gauthier-Loiselle, “How Much Does Immigration Boost Innovation?” *American Economic Journal: Macroeconomics* 2, no. 2 (April 2010): 31–56.

23 Hunt and Gauthier-Loiselle, “How Much Does Immigration Boost Innovation?”

24 William R. Kerr and William F. Lincoln, “The Supply Side of Innovation: H-1B Visa Reforms and US Ethnic Invention” (working paper no. 09-005, Harvard Business School, December 2008), www.hbs.edu/research/pdf/09-005.pdf.

25 MPI calculations from 2009 ACS.

26 Papademetriou, Somerville, and Tanaka, *Talent in the 21st Century Economy*.

27 See Edward Glaeser and Joshua Gottlieb, “The Wealth of Cities: Agglomeration Economies and Spatial Equilibrium in the United States,” *Journal of Economic Literature* 47, no. 4 (2009): 983–1028.

28 See, for example, AnnaLee Saxenian, *Silicon Valley’s New Immigrant Entrepreneurs* (San Francisco: Public Policy Institute of



US employment-based immigration policy is most open at the level of the most talented. These individuals can obtain permanent residence rights by applying for a “first-preference” employment-based visa for one of three categories: “aliens of extraordinary ability,” “outstanding researchers,” or “managerial or executive transferees” working for international companies. The numerical limit for these individuals is sufficiently large that it has not thus far been met.²⁹ Those applying under the “extraordinary ability” category do not require an employer sponsor (although outstanding researchers and executive transferees must have an employer to petition on their behalf). Unlike at other skill levels, employers are not required to advertise the immigrants’ jobs or to seek US workers with whom to replace them, a process that can take several months or in some cases even years. This means that applications can be satisfied relatively quickly — often in less than one year. The main burden the applicant faces is to demonstrate that he or she has exceptional skills and has risen to the very top of his or her profession. Applications must document the individual’s impact on the field or substantive contribution to the United States, and are adjudicated through an administrative process.

The overwhelming majority of those who receive these “first-preference” permanent visas (96 percent in 2009)³⁰ initially arrive in the country on a temporary visa for intracompany transferees, researchers, or temporary highly skilled workers. Many can receive visas that are not numerically limited.³¹ The clearest flaw of visa policy at this level, however, is the duplication of effort it requires. A more streamlined system might either allocate permanent visas more readily and quickly (so that they could be used for initial entry into the country), or would provide a more automatic transition from temporary to permanent status for those who have already documented their exceptional talent as a result of their initial temporary visa application. Allowing faster and less-burdensome recruitment for high-end workers and eliminating the requirement for repeated employer sponsorship would enable employers to bring talented workers to the United States more quickly, while liberating resources currently spent on processing applications.

B. Policies toward the Skilled and Highly Skilled

The overwhelming majority of immigrants are not exceptionally skilled. The bulk of economic-stream immigration to the United States comprises skilled and highly skilled workers, primarily white-collar professionals moving to the country for a specific job. Unlike the exceptionally skilled, the number of skilled and highly skilled workers who would like to work in the United States vastly exceeds the number of visas available to them. The challenge, therefore, is to *select* effectively from the pool of applications, finding a reliable mechanism to determine which employers and which workers receive visas.

Perhaps the greatest asset of the US immigration system at this skill level is employer-driven selection. Because employers must gather detailed information on potential job candidates and individually assess the relevance of their skills before offering them a job, employer selection guarantees employability. Labor market data demonstrate this effect quite clearly: 78 percent of working-age, employer-sponsored green-card recipients in 2003 — the only cohort on which detailed labor market history by immigration

29 The limit is set at 28.6 percent of total employment-based green cards, plus any visas not used under the fourth and fifth preferences. For a more detailed description, see Doris Meissner, Deborah W. Meyers, Demetrios G. Papademetriou, and Michael Fix, *Immigration and America’s Future: A New Chapter* Appendix 2 (Washington, DC: Migration Policy Institute, 2006), www.migrationpolicy.org/ITFIAF/finalreport.pdf.

30 DHS, *Yearbook of Immigration Statistics 2009*.

31 Intracompany transferees, the largest group of EB-1 visa recipients, face no numerical limits (L-1 visas). The second-largest group arrives on H-1B visas, which are capped, but not when the employer-sponsor is a university or a nonprofit or government research organization — thus exempting many exceptionally skilled researchers and professors. Others enter on another uncapped visa for those with “extraordinary ability” (O-1); this visa has similar criteria to its permanent counterpart. In 2009 the US Department of State issued approximately 65,000 L-1 visas, 15,000 O-1 visas, and 110,000 H-1B visas. EB-1 visa routes are taken from Guillermina Jasso, “Immigration and STEM Talent in the United States: Estimating the Size of the Pre-LPR Population” (working paper, Population Association of America Annual Meeting, Princeton University, 2009), <http://paa2009.princeton.edu/download.aspx?submissionId=91814>; temporary visa data are from US Department of State, “Nonimmigrant Visa Statistics,” http://travel.state.gov/visa/statistics/nivstats/nivstats_4582.html.



route is currently available — were employed a few months after receiving permanent residence rights, compared to 55 percent of their family-based counterparts.³² Meanwhile, those with bachelor's degrees were three times more likely to be in a highly skilled job if they were employer sponsored.³³ These advantages persist over time. Even later in their careers, university-educated immigrants who initially entered on a work visa or as a graduate student earned significantly more than those who entered as dependents, according to the National Survey of College Graduates.³⁴

Similar trends are seen in Canada, where average earnings for immigrants with an employer sponsor were about 80 percent higher than for other economic-stream migrants without prearranged employment, even three years after landing.³⁵ In Australia, employer-nominated immigrants' median earnings were about one-third higher than those of their counterparts in the points-based economic stream.³⁶ In other words, employer-driven selection increases incoming workers' employability and brings in a higher caliber of worker (at least as measured by earnings) than one might expect under alternative selection mechanisms.

The US highly skilled immigration system also has some obvious shortcomings: inflexibility, an inability to prioritize flows effectively, and a complex, bureaucratic process for adjusting from temporary to permanent status. First, the numerical limit for the most commonly used temporary work visa, the H-1B, changes infrequently and not necessarily in step with economic demand. In years of strong labor demand, the cap has been so heavily subscribed that for much or even most of the year, visas are simply not available (see Figure 2), even to high-caliber candidates. The shortage of visas essentially forces employers to guess their worker needs 6 to 18 months in advance. They must apply for a specified number of visas 6 months prior to the *beginning* of the federal fiscal year for any workers that they may need that year. This makes strategic staffing decisions difficult and encourages a stampede each time applications are reopened — as was evident in fiscal years 2007 and 2008 (see Figure 2).

Oversubscription undermines selectivity, since visas are allocated on a first-come, first-served basis (and by lottery in years of extremely high demand) rather than to the most attractive applications. If oversubscription and inflexibility become severe, the risk that employers will simply reduce their investments in job creation in the United States intensifies. The size and impact of this threat are uncertain, but high-profile examples such as Microsoft's 2007 expansion in Canada, which the company explicitly described as a strategy to "recruit and retain highly skilled people affected by immigration issues in the US," have given these fears some basis.³⁷

How can the United States address these problems? On the one hand, preventing the sudden exhaustion of visas would almost certainly mean raising numerical limits, at least in years of high demand. Elsewhere, we have suggested that an independent government agency — a Standing Commission on Labor Markets and Immigration — should be established to monitor economic demand for foreign workers and create

32 Author's calculations from the New Immigrant Survey microdata. This is the primary source of data on green-card recipients that distinguishes between entry channels, but is currently only available for 2003. Guillermina Jasso, Douglas S. Massey, Mark R. Rosenzweig, and James P. Smith, "The New Immigrant Survey 2003 Round 1 (NIS-2003-1) Public Release Data," March 2006, <http://nis.princeton.edu/data.html>.

33 Highly skilled jobs are defined as those requiring a bachelor's degree (e.g., scientists and engineers, doctors, financial managers, postsecondary teachers). See Jeanne Batalova and Michael Fix with Peter A. Creticos, *Uneven Progress: The Employment Pathways of Skilled Immigrants in the United States* (Washington, DC: Migration Policy Institute, 2008), www.migrationpolicy.org/pubs/BrainWasteOct08.pdf.

34 Jennifer Hunt, "Which Immigrants Are Most Innovative and Entrepreneurial? Distinctions by Entry Visa" (working paper 14920, National Bureau of Economic Research, April 2009), www.nber.org/papers/w14920.

35 Citizenship and Immigration Canada, "Evaluation of the Federal Skilled Worker Program," August 2010, www.cic.gc.ca/english/pdf/research-stats/FSW2010.pdf.

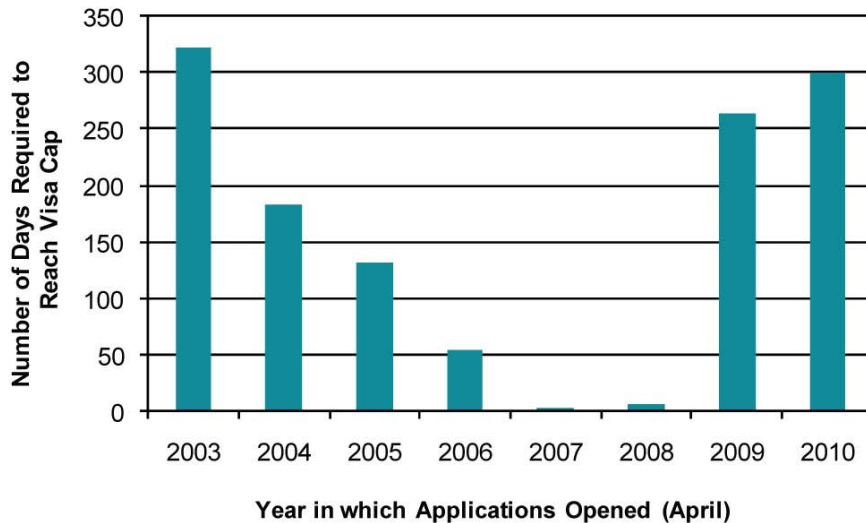
36 Australian Department of Immigration and Citizenship, "Additional Results from the Continuous Survey of Australia's Migrants," 2009, www.immi.gov.au/media/publications/research/_pdf/csam-additional-results.pdf.

37 Microsoft Corp., "Microsoft Expanding Canadian Operations in Greater Vancouver Area" (news release, July 5, 2007), www.microsoft.com/presspass/press/2007/jul07/07-05msexpandvancouverpr.mspx. For a broader discussion, see Papademetriou, Somerville, and Tanaka, *Talent in the 21st Century*.



flexibility in the number of visas issued.³⁸ At the same time, mechanisms to rebalance demand and prioritize the most urgent applications would also help to restore the system's selective advantage. For example, one could allow cap exemptions for high-earning or particularly highly qualified workers, enable employers to “pierce” the cap by paying a higher fee (thus demonstrating the value of their sponsored worker), or raise the bar for entry by specifying sets of criteria that would qualify a worker for entry (much like countries with points systems requiring workers to have certain attributes). These criteria would be based on empirical evidence about the integration potential and economic contribution of various types of workers.

Figure 2. Time Taken to Fill H-1B Cap, 2003-10



Note: Employers can apply for H-1B visas in April for employment start dates during the next fiscal year, beginning October. This chart tracks the congressionally mandated H-1B cap of 65,000, and does not include the 20,000 additional visas set aside for holders of master's degrees from US universities.

Source: USCIS Press Releases, February 17, 2004; October 1, 2004; August 12, 2005; June 1, 2006; April 3, 2007; April 8, 2008; December 22, 2009; and January 27, 2011.

The second major drawback of the US skilled immigration system is the complexity of adjusting to permanent residence. The current system provides moderate numbers of temporary visas but very few permanent work visas. To some degree, this is a natural feature of any immigration system: many foreign workers come on a temporary basis for a specific job or project, with no intention of becoming permanent residents; and neither are all who come on a temporary basis likely to represent “desirable” permanent immigrants.

Nonetheless, the number of green cards is lower than the number of immigrants who wish to stay and who have found an employer sponsor to petition for them — a fact that is clear from the substantial backlog of eligible candidates waiting for green cards. On average, it is thought to take an average of 4.4 years to receive a green card (again, based on data on the 2003 cohort), and one estimate suggests that in 2006 up to about 1 million skilled immigrant workers and their family members had filed an application for an employment-based visa but were waiting for it to be processed or for sufficient visas to become available.³⁹ For workers who do not meet the strict “first-preference” criteria for those with

³⁸ Demetrios G. Papademetriou, Doris Meissner, Marc Rosenblum, and Madeleine Sumption, *Harnessing the Advantages of Immigration for a 21st Century Economy: A Standing Commission on Labor Markets, Economic Competitiveness and Immigration* (Washington, DC: Migration Policy Institute, 2009), www.migrationpolicy.org/pubs/StandingCommission_May09.pdf.

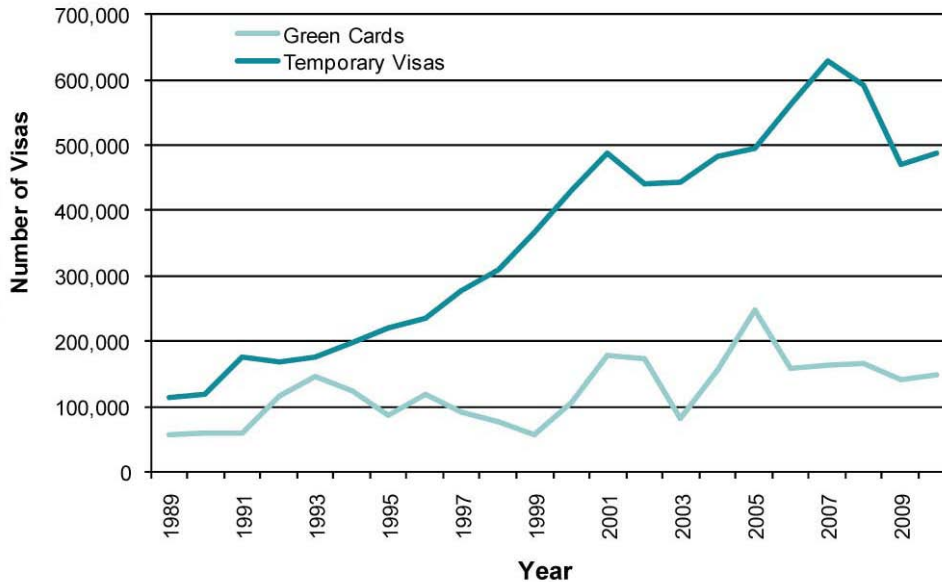
³⁹ Jasso, “Immigration and STEM Talent in the United States.”



extraordinary ability or credentials as an outstanding researcher or executive, obtaining a permanent residence can be arduous. During much of this process, workers must often stay with the same employer, and their application could become ineligible if they lose their job.

The discrepancy between the number of temporary and permanent visas grew persistently during the 1990s and most of the 2000s (see Figure 3). This gap narrowed somewhat during the recent economic crisis, as the number of temporary arrivals fell and many H-1B workers lost their jobs and had to return to their home countries. But it remains sufficiently large that backlogs are likely to continue to grow until dedicated reforms are undertaken to address them.⁴⁰

Figure 3. Temporary and Permanent Employment-Based Visas, 1989-2010



Note: Green card recipients include family members; temporary visas do not, except in the case of E-1 and E-2 visas. Temporary categories with work privileges include E-1, E-2, E-3, E-3R, H-1B1, H-1B, H-1C, H-2A, H-2R, H-2B, roughly one-third of J-1 visas, L-1, O-1, O-2, P1, P2, P3, Q-1, Q-2, and R-1. See Appendix 1 for temporary visa definitions. *Source:* DHS, *Yearbook of Immigration Statistics* (Washington, DC: DHS, various years), www.dhs.gov/files/statistics/publications/yearbook.shtm; State Department, *Nonimmigrant Visa Statistics*, http://travel.state.gov/visa/statistics/nivstats/nivstats_4582.html.

What has the impact of this policy been? Usable data on emigration are not collected and reliable information about how long workers stay, the characteristics of those who leave, and the reasons for their departure is extremely limited. However, it seems highly likely that some workers return home because they cannot or are not willing to wait for a permanent visa — especially if their skills are attractive and sought after in other countries.

C. International Students and Skilled Immigration

International students play a special role in skilled immigration. Foreign students make attractive

⁴⁰ Lower demand for both temporary visas and green cards during the economic crisis has helped to reduce the backlog of applicants somewhat. See DHS, *Citizenship and Immigration Services Ombudsman Annual Report 2010* (Washington, DC: DHS, 2010), www.dhs.gov/xlibrary/assets/cisomb_2010_annual_report_to_congress.pdf.



prospective immigrants because they already have host-country qualifications and so do not face credential-recognition problems when applying for jobs with local employers. They also have high levels of human capital, cultural knowledge, and — typically — language proficiency.⁴¹ Employers also find it easier to recruit from good US universities than to bring in candidates from abroad, since foreign students can participate in on-site recruiting events as they approach the end of their studies.

Indeed, the return to having a US degree rather than a foreign credential is high: degree-educated legal permanent residents were three times more likely to work in skilled jobs if they received their college education in the United States rather than abroad, according to Migration Policy Institute research.⁴² Prospective immigrants who enter as international students (especially to pursue an advanced degree or as postdoctoral fellows) have also been found to contribute disproportionately to activities associated with innovation (such as patenting, publishing academic papers, and starting companies).⁴³

The United States remains the largest destination for international students despite the high cost of tuition, receiving 22 percent of the world market share in 2006.⁴⁴ International students make up only 3.4 percent of enrollments in tertiary education in the United States — a much smaller proportion than in other English-speaking countries such as New Zealand (12.9 percent), Australia (20.6 percent), or the United Kingdom (14.7 percent);⁴⁵ that said, both the UK and Australian systems have been criticized for policies that until recently admitted substantial numbers of international students for study in subdegree courses, often at relatively low-quality colleges (or even “diploma mills”).

International students in the United States, by contrast, are concentrated primarily in degree-granting institutions (80 percent of all postsecondary enrollments in 2009-10),⁴⁶ and the proportion of tertiary-level international students studying in advanced research programs — 21 percent in 2008 — is the highest of any Organization of Economic Cooperation and Development (OECD) country for which comparable data are available.⁴⁷ High international demand for US advanced education has grown dramatically with the growth of the middle classes and the expansion of college education in emerging economies, and international students are most strongly represented in doctoral study.⁴⁸ Between 1973 and 2003, the proportion of foreign PhD graduates in science and engineering in the United States increased from 27 to 51 percent, for example, reaching as high as 67 and 68 percent in engineering and economics, respectively.⁴⁹

In other words, the United States has a large population of highly selected international students in fields that are generally considered central to economic growth and competitiveness.⁵⁰ Various policies enable the best among them to remain in the country, making this an area of relative openness by the standards of US immigration policy (though policies are somewhat more restrictive than their very generous

41 Leslyanne Hawthorne, *The Growing Global Demand for Students as Skilled Migrants* (Washington, DC: Migration Policy Institute, 2008), www.migrationpolicy.org/transatlantic/intlstudents.pdf.

42 Batalova and Fix, *Uneven Progress*.

43 Hunt, “Which Immigrants Are Most Innovative and Entrepreneurial?”

44 About 691,000 international students were enrolled in US institutions in 2009-10. They were concentrated in business and management, engineering, physical and life sciences, and mathematics and computer science, which together accounted for almost 60 percent of international students enrolled. Institute of International Education, “International Student Enrollments Rose Modestly in 2009/10, Led by Strong Increase in Students from China” (news release, November 15, 2010), www.iie.org/en/Who-We-Are/News-and-Events/Press-Center/Press-Releases/2010/2010-11-15-Open-Doors-International-Students-In-The-US.

45 According to data from 2008; Organization for Economic Cooperation and Development (OECD), *Education at a Glance 2010* (Paris: OECD, 2010), www.oecd.org/dataoecd/45/39/45926093.pdf.

46 Institute of International Education, *International Student Enrollments by Institutional Type, 2004/05-2009/10*, Open Doors Report on International Educational Exchange, 2010, www.iie.org/opendoors; www.iie.org/en/Research-and-Publications/Open-Doors/Data/International-Students/Enrollments-by-Institutional-Type/2004-10.

47 OECD, *Education at a Glance 2010*.

48 John Bound, Sarah Turner, and Patrick Walsh, “Internationalization of US Doctorate Education” (working paper 14792, National Bureau of Economic Research, March 2009), www.nber.org/papers/w14792.

49 Ibid.

50 Foreign students are both self-selected and selected by universities, many of which have extremely high standards.



counterparts in, for example, Canada).

Graduates on student visas can remain in the country and gain labor-market experience for one year after graduation, or 29 months for certain science, technology, engineering, and mathematics (STEM) graduates.⁵¹ This allows them to make contacts with employers, who can then petition for a temporary work visa or a permanent green card on their behalf. The cap for the commonly used H-1B visa also includes an additional 20,000 visas for foreign students with master's degrees from US institutions, further helping to smooth the path from student to worker status. Crucially, however, graduating students must find a job to stay in the country; they lose their work and residence rights if they are unemployed for more than 90 days over the 12-month period (or 120 days over 29 months for STEM graduates). In years of high visa demand, however, US-educated students for whom no visas are available will be required to return home.

Former international students make up a relatively modest proportion of all permanent immigrants to the United States (about one in 12 of the 2003 cohort),⁵² but are more strongly represented in employment-based immigration, where they make up approximately one in five green-card recipients.⁵³ Former international students made up 30 percent of the 2003 cohort with postgraduate education, and over one-third of those working in STEM fields. Perhaps not surprisingly given the strongly family-based immigration system in the United States, family unification is in fact the most common route to permanent residence for former international students, many of whom are eligible through marriage to a US citizen.⁵⁴

D. Less-Skilled or Low-Wage Immigration

Most major immigration countries face two persistent questions about immigration into less-skilled occupations: given concerns about competition with native workers, how much should be permitted, under which circumstances, into which occupations? And should these flows be temporary, permanent, or circular?

The United States operates two strictly temporary, employment-based migration schemes for mostly perishable-crop agricultural and seasonal or temporary jobs. Agricultural visas are uncapped but subject to a complex web of requirements that leave neither employers nor workers and their advocates satisfied;⁵⁵ in recent years approximately 60,000 have been issued per year.⁵⁶ The number of nonagricultural visas is capped at 33,000 per six-month period, although low labor demand during the economic crisis meant that

51 The extension to 29 months is permitted if the employer participates in E-Verify, a program for verifying the work authorization of new hires.

52 Note that many more immigrants have some form of US education but are not counted in these figures — either because they are not permanent immigrants, or because they did not require a visa to study in the United States. Among the entire population of US immigrants, more than 40 percent of those with bachelor's, master's, and doctorate degrees appear to have received their final qualification in the United States (estimated on the basis of the fact that they immigrated before the age at which they would most likely have received their degree). Calculations are from the ACS and use “cut-off” ages of 22 for a bachelor's degree, 24 for a master's, and 27 for a doctorate.

53 Includes all green-card recipients surveyed who had previously been in the United States as international students.

54 MPI calculations from the New Immigrant Survey. STEM fields are designated as life and physical sciences, mathematics and computing, engineering, and architecture.

55 Demetrios G. Papademetriou and Monica L. Heppel, *Balancing Acts: Toward a Fair Bargain on Seasonal Agricultural Workers* (Washington, DC: Brookings Institution Press, 1999).

56 *Ibid.* During the economic crisis, the number of low-skilled temporary workers fell in both categories, but more dramatically for H-2B nonagricultural visas. The number of workers entering the country illegally plummeted. Illegal inflows fell from an estimated 850,000 per year in the first half of the 2000s to 300,000 per year during the two years between March 2007 and March 2009. After two decades of steady growth, the unauthorized population actually fell by 8 percent during the two-year recessionary period. Jeffrey S. Passel and D'Vera Cohn, *U.S. Unauthorized Immigration Flows Are Down Sharply Since Mid-Decade* (Washington, DC: Pew Hispanic Center, 2010), <http://pewhispanic.org/files/reports/126.pdf>. See also Demetrios G. Papademetriou and Aaron Terrazas, “Immigrants in the US Economic Crisis: From Recession to Recovery,” in *Migration and Immigrants Two Years after the Financial Collapse: Where do we Stand?* eds. Demetrios Papademetriou, Madeleine Sumption, and Aaron Terrazas (Migration Policy Institute and BBC World Service, 2010), www.migrationpolicy.org/pubs/MPI-BBCreport-2010.pdf.



fewer were issued (45,000 in 2009 and 47,000 in 2010).⁵⁷ During the economic boom of the mid-2000s, the cap was typically exhausted after an average of 100-150 days, less quickly than the H-1B cap.⁵⁸ Note that while these visas are not used exclusively for low-wage workers (H-2B recipients include small numbers of more highly skilled workers, including architects, engineers, managers, and creative artists, for example) and not all low-wage workers have low levels of formal education, the majority of immigration through this category is into low-paying, less-skilled occupations.

Like the highly skilled, less-skilled employment-based immigrants receive visas through their employers, although the use of recruitment companies is widespread at this level. Recruitment often depends heavily on “soft” skills and informal personal attributes rather than hard credentials (of which the worker, by definition, tends to have few).⁵⁹ This makes personal contacts and previous work experience with the same employer particularly important to selection.

Low-skilled visa programs in the United States, as in many other immigrant-receiving countries, are for strictly temporary stays of less than one year in most cases. That said, circular migration is a *de facto* reality under both agricultural and nonagricultural programs; while no official data are released showing whether the same workers return to the program or to the same employers year after year, employer surveys suggest that they do.⁶⁰ A brief experiment with a more formally circular migration scheme resulted from legislation in 2005, which exempted “returning” H-2B workers from the annual 66,000 visa cap as a means of accommodating worker demand levels that the program’s strict visa caps could not support.⁶¹ The program was extremely popular; indeed, more visaholders entered as returning workers than as regular H-2B immigrants in fiscal year 2007. It was allowed to expire in 2007, however, when supporters of a complete overhaul of the US immigration policy (known as the “comprehensive immigration reform” [CIR] coalition) refused to allow *any* changes to immigration law or practice as part of an all-or-nothing bargaining strategy that has prevented reforms. This likely suggests a strong underlying interest in a genuinely circular immigration program at the low skill level, but the opposition of vested interests makes a thoughtful policy conversation on this matter difficult.

The rationale behind strictly temporary or circular visa programs at the low skill level is that they allow employers to meet peak demand for products and services that cannot be satisfied by recruiting local workers alone, most of whom prefer year-round and single-location (rather than itinerant) work. Some employers, however, seek foreign workers for ongoing, not temporary, low-wage or low-skilled jobs. This is undoubtedly one of several reasons for the substantial illegal immigration to the country. Indeed, one cannot discuss the impact of low-skilled, employment-based visa policy without noting that these workers represent only a tiny share of the immigrant population employed in low-skilled jobs. The vast majority enters illegally or through family unification.⁶² As a result, the share of all US immigrants who have not completed high school (upper-secondary) education is high by international standards, a fact that both reflects and perhaps reinforces the abundance of low-wage, low-value-added jobs in the United States.⁶³

This policy conundrum has no easy solutions. On the one hand, strictly temporary migration programs

57 US Department of State, “Table XVI(B) Nonimmigrant Visas Issued by Classification (Including Crewlist Visas and Border Crossing Cards) Fiscal Years 2006-2010,” www.travel.state.gov/pdf/FY10AnnualReport-TableXVI_B.pdf.

58 Calculated from USCIS press releases.

59 See Elizabeth Collett and Fabien Zuleeg, *Soft, Scarce, and Super Skills: Sourcing the Next Generation of Migrant Workers in Europe* (Washington, DC: Migration Policy Institute, 2008), www.migrationpolicy.org/transatlantic/scarceskills.pdf.

60 See, for example, Madeline Zavodny and Tamar Jacoby, *The Economic Impact of H-2B Workers* (Washington, DC: US Chamber of Commerce and Immigration Works USA, 2010), www.immigrationworksusa.org/uploaded/IW-Chamber_H-2B_report.pdf.

61 *Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Tsunami Relief, 2005*, HR 1268, 109th Congress, First Session (January 4, 2005).

62 An estimated 11 million immigrants live in the United States without authorization, and nearly half lack a high school diploma. See Jeffrey S. Passel and D’Vera Cohn, *A Portrait of Unauthorized Immigrants in the United States* (Washington, DC: Pew Hispanic Center, 2009), <http://pewhispanic.org/files/reports/107.pdf>.

63 The other major English-speaking countries of immigration — Australia, Canada, New Zealand, and the United Kingdom — have substantially higher immigrant skill levels than the United States, although the share is even higher in some continental European countries such as France, Belgium, and the Netherlands, according to OECD estimates from 2006. See OECD, *International Migration Outlook 2007* (Paris: OECD, 2007).



prevent employers from retaining workers they have trained, regardless of their productivity or of the difficulty in hiring local workers to replace them. On the other hand, gnawing concerns about the wisdom of permanently admitting substantial numbers of immigrants with low education levels, many of whom find upward socioeconomic mobility difficult without (or even with) costly government education and training programs, cannot be easily dismissed.⁶⁴

IV. Two Examples of Immigrants' Economic Role: Health Care and Information Technology

A. Health Care

Health care is the single largest sector of the US economy. It accounts for a staggering 18 percent of GDP,⁶⁵ provided 14.3 million jobs in 2008, and was home to ten of the 20 occupations projected to grow fastest between 2008 and 2018.⁶⁶ The health care sector has special significance in discussions about the impact of immigration on prosperity and standards of living, not least because access to affordable care is a crucial part of efforts to fight poverty and inequality while keeping public expenditures from skyrocketing, and because the challenge of providing health care to the rapidly growing population of those over 65 years will only grow in policy and political importance in coming years.

Immigrants are in fact slightly underrepresented in health care-sector employment,⁶⁷ although they are strongly concentrated in certain occupations, and their presence is felt right across the skill spectrum.⁶⁸ They make up 27 percent of physicians and surgeons, 21 percent of dentists and 15 percent of dental assistants, 14 percent of physical therapists, 19 percent of pharmacists, and 20 percent of home health aides.⁶⁹ The projected growth in health care expenditures and an expected trend toward greater emphasis on home health care is likely to increase the sector's reliance on foreign-born workers further in coming years.⁷⁰ Indeed, increasing public and private expenditures has been unable to allay concerns about insufficient levels of care in the future. As a result, immigrants' arrival into the sector has the potential to expand access to more affordable health care.

The US immigration system allows certain special provisions for health care workers entering through employment-based routes, although in practice their impact is limited since employment-based immigration is not the main way for foreign workers to enter the sector. Medical professionals with a bachelor's degree or higher working in jobs that require this level of education are eligible for H-1B visas. In recent years an average of 6.5 percent of H-1B beneficiaries worked in medical occupations (approximately 7,000 per year), of which the largest occupational group was physicians and surgeons.⁷¹

64 Holzer, *Immigration Policy and Less-Skilled Workers in the United States*.

65 US Department of Health and Human Services, "National Health Expenditure Fact Sheet," 2011, www.cms.gov/NationalHealthExpendData/25_NHE_Fact_Sheet.asp.

66 US Department of Labor, Bureau of Labor Statistics, "Career Guide to Industries, 2010-11 Edition," www.bls.gov/oco/cg/cgs035.htm.

67 MPI calculations from March 2010 CPS.

68 Randy Capps, Michael Fix, and Serena Yi-Ying Lin, *Still an Hourglass? Immigrant Workers in Middle-Skill Jobs* (Washington, DC: Migration Policy Institute, 2010), www.migrationpolicy.org/pubs/sectoralstudy-Sept2010.pdf.

69 MPI calculations from the 2009 ACS.

70 US Department of Labor, Bureau of Labor Statistics, "Occupational Outlook Handbook, 2010-11 Edition," www.bls.gov/oco/ocos326.htm#outlook.

71 2004-09; calculated from data in US Citizenship and Immigration Service (USCIS), *Characteristics of Specialty Occupation Workers (H-1B)* (Washington, DC: USCIS, various years), www.uscis.gov/portal/site/uscis/menuitem.eb1d4c2a3e5b9ac8-9243c6a7543f6d1a/?vgnextoid=9a1d9ddf801b3210VgnVCM100000b92ca60aRCRD&vgnnextchannel=9a1d9ddf801b3210VgnVCM100000b92ca60aRCRD.



Key health care occupations that require less than a bachelor's degree, however, are less likely to be eligible for temporary visas. These include registered nurses, most of whom have some postsecondary education, but not a four-year college degree.⁷²

Employers who wish to sponsor a foreign worker with less than a bachelor's degree (for example, a registered nurse) must therefore typically apply for a permanent visa.⁷³ The waiting time for permanent residence can be very long, however, since workers without advanced degrees are typically not able to enter on first- or second-preference employment-based green cards. As a result, many wait several years to enter under the "third-preference" employment-based category, where the number of visas available is more constrained. Some employers hiring below-degree-level workers are willing and able to plan several years in advance, sponsoring foreign workers for permanent residence.⁷⁴ However, many health care employers appear to rely more heavily on immigrants who are already in the country and arrived through other routes: family unification, humanitarian grounds, or unauthorized immigration (the latter especially in occupations that require little training or credentials, such as home health aides and attendants).

One indication of this trend is that immigrant health care workers in the United States tend to have been in the country for some time (three-quarters of immigrants in the sector in 2006 had been in the country for at least 10 years).⁷⁵ This suggests that short-term, employment-based visas, whose use has expanded significantly over the past two decades, are not a significant mode of entry. By comparison, the information technology (IT) sector, which relies heavily on temporary employment-based visas, has a much larger share of recent arrivals, as discussed next.⁷⁶

B. Information Technology

The IT sector plays a specific role in economic growth because it makes other sectors of the economy more productive. Computer and IT-related advances, for example, are widely credited for fueling the resurgence in productivity of the 1990s.⁷⁷ The sector also relies heavily on immigrant workers, one in five of whom is born abroad, and most of whom are in highly skilled occupations such as software engineers, IT managers, and database administrators.⁷⁸ These occupations have driven a rising immigrant share of IT employment over the past two decades, and their growth is projected to continue in the coming decade.⁷⁹

In contrast to the health care sector, the IT industry is distinctive for its heavy use of employment-based immigration, notably workers on temporary H-1B visas.⁸⁰ About half of all H-1Bs have been issued to workers in computer-related occupations in recent years; between 50,000 and 60,000 beneficiaries are sponsored for initial employment, on average, each year.⁸¹ The link between IT and H-1B visas has

72 O*NET OnLine, "Summary Report for: 29-1111.00: Registered Nurses," 2010, www.onetonline.org/link/summary/29-1111.00. Registered nurses from Canada and Mexico are eligible for TN visas created under the North American Free Trade Agreement. Small numbers also enter under the H-2B program.

73 Employers hiring physical therapists and registered nurses are not subject to the labor certification requirement — in other words, they do not have to show that they advertised for and were unable to recruit workers locally.

74 Susan Martin, B. Lindsay Lowell, Elzbieta M. Gozdzia, Micah Bump, and Mary E. Breeding, *The Role of Migrant Care Workers in Aging Societies: Report on Research Findings in the United States* (Washington, DC: Institute for the Study of International Migration, Georgetown University, 2009), www12.georgetown.edu/sfs/docs/20101201_Elder_Care_Report.pdf.

75 MPI calculations from the 2009 ACS.

76 Capps, Fix, and Yi-Ying Lin, *Still an Hourglass?*

77 See, for example, Kevin J. Stiroh, "Information Technology and the U.S. Productivity Revival: What Do the Industry Data Say?" *American Economic Review* 92, no. 5 (December 2002): 1559–76.

78 Capps, Fix, and Yi-Ying Lin, *Still an Hourglass?*

79 Ibid.

80 Data on the users of H-1B and L visas (the latter for intracompany transfers between offices of multinational corporations) are not made available systematically, but in the past US Senator Charles Grassley has posted this information online. See, for example, <http://grassley.senate.gov/releases/2007/062620073.pdf> and <http://grassley.senate.gov/issues/upload/031020082.pdf>.

81 Note that the share of computer-related occupations fell to 35 percent in 2009, perhaps as a result of the economic crisis. See



been politically controversial, primarily because of concerns that foreign workers might displace or undercut US IT professionals, and that they might facilitate outsourcing. (Some of the largest users of the temporary skilled work visa system are IT consultancy firms, such as Wipro and Infosys, that rely heavily on staff from India and that allow US firms to outsource IT functions such as operating systems maintenance, software implementation and design, and supplemental staffing for IT-related projects.)⁸²

The argument that holders of temporary H-1B visas undercut the wages and work opportunities of their US-born colleagues is difficult to confirm or refute with any certainty. Statistical evidence based on the limited available data suggests that H-1B IT workers do not undermine US-born workers' wages or job prospects,⁸³ although there is a sense among some analysts that they are underpaid relative to the value they bring to their employers. Median earnings among H-1B workers in computer-related occupations are relatively high — \$60,000 for initial entrants and \$74,000 for those renewing their visas for continuing employment in fiscal year 2009 — despite the fact that the workers are younger than average.⁸⁴ However, employers may still realize cost savings by hiring H-1Bs if these workers are significantly more productive than their US counterparts; but evidence on this question is largely anecdotal.⁸⁵ Some concerns have also arisen from the fact that employers in computer-related occupations are more likely to hire several H-1B workers rather than the usual one or two.⁸⁶

Proposals to reduce the risk of underpayment or more serious exploitation typically involve greater oversight and enforcement, or reforms to the system for determining the required earnings for H-1B immigrants. Ultimately, however, the most systematic and probably the most effective way to discourage employers from paying temporary workers less than they are worth is to improve these workers' ability to move between firms within the United States, without losing their visa.⁸⁷

The question of outsourcing is also complex. If temporary immigration into the IT sector makes outsourcing easier, it is not clear whether this is good or bad for the US economy. Firms in wealthy, high-wage countries like the United States have increasingly tapped the labor supply of other countries by outsourcing certain "impersonally delivered" services — those that can be performed remotely or off-site without a significant loss in quality.⁸⁸ These typically include routine or repetitive tasks, at all skill levels, that do not require in-person interaction, although economist Alan Blinder has argued that with improvements in the cost and quality of IT, an increasing number of occupations in sectors such as health care, financial services, or research are likely to become "offshorable."

Tasks that can be outsourced may well be outsourced *more quickly* if the temporary employees of Indian IT services companies can come to the country to help the process along. In the long run, however, the loss of many of these jobs could be inevitable, even without H-1B visas, since there are few inherent

USCIS, *Characteristics of Specialty Occupation Workers (H-1B)*.

82 National Research Council, *Building a Workforce for the Information Economy* (Washington, DC: National Academies Press, 2001).

83 Madeline Zavodny, "The H-1B Program and its Effects on Information Technology Workers," *Federal Reserve Bank of Atlanta Economic Review* (Third Quarter 2003), www.frbatlanta.org/filelegacydocs/acf6cbd.pdf.

84 DHS, *Characteristics of H-1B Specialty Occupation Workers Fiscal Year 2009 Annual Report* (Washington, DC: DHS, 2010), www.uscis.gov/USCIS/Resources/Reports%20and%20Studies/H-1B/h1b-fy-09-characteristics.pdf.

85 A 2001 report by the National Research Council notes that during research interviews, some H-1B employers suggested that foreign IT workers received lower salaries and less senior job titles than would be typical for the work they actually did; the report also notes that this finding is not necessarily representative of all IT employers. See National Research Council, *Building a Workforce for the Information Economy*, 175.

86 Analysis of labor condition application data submitted to the Department of Labor in the first stage of the certification process, available at www.flcdatcenter.com. Most H-1B employers hire just one H-1B worker (69 percent), and the vast majority (91 percent) hire fewer than five, according to 2009 data from USCIS. See USCIS, "Number of H-1B Petitions Approved by USCIS in FY 2009 for Initial Beneficiaries," www.uscis.gov/USCIS/Resources/Reports%20and%20Studies/H-1B/h-1b-fy09%20counts-employers.csv.

87 Papademetriou et al., *Aligning Temporary Immigration Visas With US Labor Market Needs*.

88 Alan Blinder, "How Many US Jobs Might Be Offshorable?" (working paper, Centre for European Policy Studies, 2007), www.princeton.edu/~blinder/papers/07ceps142.pdf.



reasons they must be performed on US soil.⁸⁹ And while outsourcing that reduces the number of routine IT tasks to be performed by workers in the United States may hurt domestic IT workers who are only qualified for these tasks, it should *positively* affect other IT and non-IT occupations (including those in project management), enabling US firms and their employees to become more productive and hence better compensated. In the long run, therefore, efforts to ensure that education and training systems foster adaptability to change and the ability to learn, rather than simply imparting specific skills, are likely to be a more effective response to fears about outsourcing than restrictions on highly skilled immigration.

The debate on the proper role of employment-based immigration in IT is far from closed, nor is it confined to the questions of wage depression, displacement, and outsourcing. Other issues that have come under scrutiny include the question whether such a large share of the limited H-1B cap should flow to a single sector of the economy, and whether individual employers should be allowed to hire substantial proportions of their staff on temporary visas.

V. Conclusion

The United States provides some of the best and some of the worst examples of immigration policymaking. The country is in a privileged position to attract the world's most talented immigrants, and it has been able to do so effectively despite an inflexible and in many ways antiquated policy regime. For several decades, highly skilled immigrants have flocked to the world's largest economy, known for its leading universities and firms, economic dynamism, ample opportunities to get the best returns on personal investment in education, and critical mass of talented people.

One of the greatest assets of the US immigration system is the employer-driven selection system, which identifies the most employable workers across the skill spectrum and ensures that immigrants have jobs once they arrive in the country. The system has also been quite effective at facilitating entry at the highest skill levels, although the procedures could still be made simpler and less bureaucratic to better facilitate a rapid and effortless transition to permanent residence for the most successful.

Many aspects of the US immigration system are deeply troubled, however. The small share of employment-based immigration, together with tight numerical limits that do not adjust to economic demand, substantial backlogs and delays, and a failure to prioritize effectively between prospective highly skilled immigrants below the ranks of the most elite, all undermine the job-creating power of US employers and hinder the system's ability to select effectively from the large pool of workers who would like to gain admission. The economic crisis may have brought temporary respite from *some* of the problems described in this paper by reducing employers' demand for immigrant workers in the short term. But in the longer term, substantial reforms will be needed if the US immigration system is to facilitate, not impede, economic growth and competitiveness.

⁸⁹ Ibid.



Appendix

Temporary Visa Categories and Types

| Visa Category | | 2009 Visa Issuances |
|---------------|---|---------------------|
| A: | Ambassadors (A-1), other government officials (A-2), and employees (A-3) | 102,825 |
| B: | Business visitors (B-1) or tourists (B-2) | 3,409,729 |
| C: | Transit visa (pass-through at an airport or seaport) (C1-4) | 244,280 |
| D: | Crew member (air or sea) (D1-2) | 23,634 |
| E: | Treaty-Traders (E-1) or Treaty-Investors (E-2) from countries where the United States has a treaty of commerce and investment | 30,465 |
| F: | Students (F-1) and spouses (F-2) | 353,025 |
| G: | Employees of international organizations (IMF, IPIC, OAS, IRC, etc.) (G1-5) | 43,876 |
| H: | Temporary workers | |
| | H-1A: Registered nurses | 0 |
| | H-1B: Specialty occupations | 110,367 |
| | H-1B1: Chile/Singapore Free Trade Agreement | 621 |
| | H-1C: Registered nurses participating in Nurse Relief for Disadvantaged Areas | 128 |
| | H-2A: Agricultural workers | 60,112 |
| | H-2B: Nonagricultural workers | 44,847 |
| | H-3: Industrial trainees | 2,084 |
| | H-4: Spouses and children of H-1, H-2, and H-3 workers | 60,009 |
| I: | Representatives of international media and families (I-1) | 15,219 |
| J: | Exchange visitors (J-1) (educational exchange students, au pairs, graduate medical trainees, practical training students, professors and researchers, short-term scholars, camp counselors) and spouses (J-2) | 345,541 |
| K: | Fiancés and fiancées (K-1); spouses of US citizens (K-3); and children (K-2 and K-4) | 40,645 |
| L: | Intracompany transferees (L-1A and L-1B) (executives, managers, persons with proprietary knowledge) and families (L-2) | 124,275 |
| M: | Language and vocational students (M-1) and families (M-2) | 9,507 |
| NATO: | NATO officials and employees (NATO1-6) and families (NATO-7) | 7,312 |
| N: | Parents or children of special immigrants (N8-9) | 12 |
| O: | Extraordinary ability aliens in science, arts, business, and athletics (O-1), families (O2-3) | 16,466 |
| P: | Athletes, entertainment groups, support personnel (P1-3), and spouses (P-4) | 34,010 |
| Q: | Cultural exchange visitors (Q1-2) and spouses (Q-3) | 1,626 |
| R: | Religious workers (R-1) and families (R-2) | 3,931 |
| S: | Criminal informants (S5-6) | 0 |
| T: | Victims of international trafficking in persons (T-1) and families (T2-4) | 92 |
| U: | Victims of spousal or child abuse (U-1) and families (U2-4) | 13 |
| V: | Spouses and minor children of permanent residents with pending green cards (V1-3) | 0 |
| TN: | Professional workers NAFTA and families (TD) | 3,203 |
| TC: | Professional workers US-Canada Free Trade Agreement and families (TB) | N/A |
| Total | | 5,087,854 |

Source: US Department of State, "Nonimmigrant Visa Statistics," http://travel.state.gov/visa/statistics/nivstats/nivstats_4582.html.



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The Migration Policy Institute is a nonprofit, nonpartisan think tank dedicated to the study of the movement of people worldwide. MPI provides analysis, development, and evaluation of migration and refugee policies at the local, national, and international levels. It aims to meet the rising demand for pragmatic and thoughtful responses to the challenges and opportunities that large-scale migration, whether voluntary or forced, presents to communities and institutions in an increasingly integrated world.

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