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Rationalizing U.S. Immigration Policy: Reforms for Simplicity, Fairness, and Economic Growth

Giovanni Peri



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Rationalizing U.S. Immigration Policy: Reforms for Simplicity, Fairness, and Economic Growth

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NOTE: This discussion paper is a proposal from the author. As emphasized in The Hamilton Project's original strategy paper, the Project was designed in part to provide a forum for leading thinkers across the nation to put forward innovative and potentially important economic policy ideas that share the Project's broad goals of promoting economic growth, broad-based participation in growth, and economic security. The authors are invited to express their own ideas in discussion papers, whether or not the Project's staff or advisory council agrees with the specific proposals. This discussion paper is offered in that spirit.

BROOKINGS

Abstract

This paper proposes market-based reforms to our immigration system to tie employment-based inflows to labor market demand. A goal of the proposal is to create an immigration system that is easier to operate and simpler to navigate for employers, foreignborn workers, and their families, and that increases the economic benefits of employment-based immigration for the U.S. economy. The economic consensus is that, taken as a whole, immigrants raise living standards for American workers by boosting demand and increasing productivity, contributing to innovation, and lowering prices—while also improving their own wellbeing and that of their families. The proposed system uses market-based auctions to allocate employment-based permits to employers and visas to immigrants that have the greatest propensity to contribute to economic activity and thus to generate the largest benefits for the U.S. economy. These auctions would also generate revenue for the federal government; the government could use that revenue to compensate local communities that deliver social services to immigrants, or to invest in the skills of American workers.

The essential features of the proposal would be implemented in a series of incremental phases starting with a pilot program that uses an auction-based system to allocate temporary employment visas. After a successful pilot with the existing classes of temporary employment visas, the second phase would expand the auction to permanent labor-sponsored visas. A final phase would provide a reassessment of the balance between employment-based and family-based visas, as well as a broad simplification of complicated rules in the current system such as country quotas. As under the current system, the worker would have the option to bring her spouse and minor children to this country under her visa. The number of permits would be prescribed by Congress, and the permit fee would subsequently be determined in the auction. Small businesses and family businesses, including those run by immigrants, would also be eligible to purchase permits. Employers would have the ability to resell or trade permits, and foreign-born workers would have the flexibility to move between permit-holding employers. This added flexibility on both sides provides a strong element of protection for the workers via competition. The new system would thus eliminate the cumbersome ex ante labor verification procedures for employers who intend to hire immigrants. This proposal also recommends improvements in immigration enforcement through the use of technology-based enforcement in the workplace and measures to address the current population of undocumented workers.

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The increase in productivity that workers achieve when they migrate to work in the United States provides one measure of the global economic gains from immigration. In 2010, high-school-educated immigrant workers moving to the United States from less-developed countries increased their yearly salaries by an average of \$22,000. The average gain for college graduates was \$57,000 per year. Table 1 shows the estimated gains from migration (called the "migration surplus") for immigrants with high school diplomas and college degrees from representative countries and regions. These gains represent a formidable motivation for young, dynamic, and skilled workers to come to the United States.

Those immigrant workers, in turn, bring benefits to the U.S. economy. They bring a diverse set of skills, human capital, abilities, and ideas. Highly-educated immigrants generate economic opportunities for U.S. firms and workers by contributing to innovation, science, and productivity growth. In fact, the college-educated are overrepresented among immigrants relative to the U.S. population (see Table 2).

Less-educated immigrants also supply useful skills. They provide much-needed labor to perform manual non-tradable services, filling jobs in agriculture, construction, and personal services where local demand from employers is often not matched by a supply of American workers. As a result of their work, immigrants significantly increase the aggregate economic productivity of the country. Highly-educated immigrants contribute substantially to technological and scientific innovation, to entrepreneurship, and to economic productivity.1 Less-educated immigrants fill high-demand manual and personal service jobs that most U.S.-born citizens shun, and keep the prices of those services more affordable. In both cases, immigrants are more likely to complement the job prospects of U.S.-born citizens than they are to compete for the same jobs as U.S.-born citizens. Overall, economists do not find that immigrants cause any decrease in the wages and employment of U.S.-born citizens at the local level. Recent estimates of the effects of immigrants on national wages are also quite small. They reveal that the average U.S. worker as well as the average worker with low schooling levels

TABLE 1.

Economic Surplus per Worker, Generated by Immigration to the United States

Country of origin and education level	Yearly salary in the United States	Surplus per worker
Non-college-educated from Mexico	\$24,374	\$14,740
Non-college-educated from the Philippines	\$37,096	\$27,385
Non-college-educated from India	\$33,885	\$28,463
College-educated from India	\$84,444	\$70,932
Average non-college-educated foreign-born from Asia, Africa, or Latin America	\$27,676	\$22,259
Average college-educated foreign-born from Asia, Africa, or Latin America	\$70,444	\$56,658

Source: Clemens, Pritchett, and Montenegro (2009).

Note: The yearly salary in the United States is calculated as the average yearly salary earned by a worker from the specified country and with the specified education in year 2010. The surplus created is obtained by applying the percentage gains from immigration reported in Clemens and colleagues (2009) to the 2010 yearly salary.

TABLE 2. College Intensity of Immigration (Percent)

Year	Share of college educated, U.Sborn citizens	Share of college educated among net immigrant entries over the previous decade	Percentage growth of college educated due to immigration over the previous decade
1980	15	29	10
1990	19	28	14
2000	23	27	23
2010	27	37	23

Source: Author's calculations from U.S. Census data.

Note: The population of reference is the adult population (eighteen years and older) residing in the United States. Immigrants are defined as foreign born who are not citizens at birth.

experiences wage effects that are close to zero, and possibly positive, from immigration. Aggregate employment effects on U.S.-born citizens were even smaller.² Finally, immigrants increase population growth, slow the aging of the population, and have a positive net fiscal impact on entitlement programs like Social Security. An important goal of immigration policies is to make the best use of these extremely valuable human resources and to ensure that they are directed towards the economic success of the country and of the immigrants themselves.

Of course, economic considerations are only one part of the goals of U.S. immigration policies. Family unity, humanitarian relief, fairness, and ethical values are also pillars of U.S. immigration policy. In order to achieve all of these goals, the United States needs an effective and efficient system. However, it has become evident that America's outdated immigration system is not up to the task. The proposal suggested in this paper envisions a deep reform to be implemented in incremental phases.

Chapter 2: Failures of the Current System

CHALLENGES WITH THE CURRENT SYSTEM

Two broad and far-reaching problems plague the current immigration system. The first is complexity arising from a system that has been patched up incrementally over time, and that has grown increasingly cumbersome and costly. The second is the economic inefficiency and inflexibility of the current system, which has proven unable to adapt to changing global economic circumstances. These problems inhibit economic and productivity gains from high-skilled immigration while restricting opportunities for lower-skilled workers to fill areas of high demand.

The general principles behind today's immigration system have remained largely unchanged since the Immigration and Nationality Act of 1965, but the manner in which these principles are implemented has grown excessively complex as a result of accumulating legislative changes, special laws, and limited provisions. The main path to immigration within this system is governed by rigid, arbitrary, and overlapping quotas on permanent residence visas. In addition, more than twentyfive categories and subcategories of temporary visas have accumulated over time, each subject to restrictions, rules, and sometimes cumbersome conditions. The result is bottlenecks that force individuals who have valid claims to residence in the United States to wait in lines, sometimes for decades. For example, family members of U.S. residents from Mexico, China, India, and the Philippines have to wait for up to fifteen or twenty years to obtain a visa. Because of the complexity of the system, employers and immigrants may need costly legal and expert assistance at any step of the process. These delays are inefficient and often unfair to immigrants and employers who play by the rules.

The current immigration system also leads to undesirable economic outcomes. Many highly-educated temporary immigrants who contribute significant value to U.S. companies and generate local economic activity and tax revenues are forced to return to their countries of origin because they are unable to obtain permanent residence visas. At the same time, less-educated manual workers in agriculture, construction, and personal services have extremely limited options for legal entry—despite being in high demand from U.S. employers. These restrictions produce formidable economic incentives to employ undocumented immigrants, and have contributed to the larger problem of undocumented immigration with costs and risks for the immigrants as well as higher costs for employers who follow the rules.

THE CASE FOR IMMIGRATION REFORM

The economic case for immigration reform rests on the evidence that there are significant benefits from immigration unrealized by the current immigration system. There are also other distributional issues generated by immigration and not addressed by the current system.

The first major failure of the existing system is that it does a poor job of identifying, admitting, and rewarding workers whose skills bring the greatest value to the American economy. The basic reason for this failure is that the system for allocating visas is not related to the needs of the market. For instance, in spite of the formidable contributions of highly-educated immigrants to science, technology, and entrepreneurship, and their related positive effects on productivity and employment opportunities of U.S.-born citizens, the U.S. system restricts the admittance of highly-educated immigrants. Since 2004, the quota on temporary admissions of highly-skilled persons with H-1B visas has been only 65,000 annually.³ In several years that quota was exceeded almost instantly, with the result that visas were allocated via a random lottery to potential employers. Even in the post-recession year of 2011, applications for visas exceeded the quota before the end of the year. Another aspect of the H-1B visa rules that is hard to justify on economic grounds is the fact that only private companies (but not public and nonprofit companies) are subject to the quota.

These limitations reduce economic opportunities in the United States because some companies may move part of their research, development, and business services abroad when constrained by the number of highly-educated potential workers they can find domestically.⁴ Such responses deprive the United States of jobs and innovation, reduce local demand, and have other negative effects. Similarly, the exceptional quality of U.S. universities and educational institutions attracts numerous brilliant international students, and the institutions invest considerable resources in building the students' human capital. But the current immigration system does not provide international students who have finished

^{BOX 1.} Immigration of Highly-educated Workers: Effects on Productivity and Economic Growth

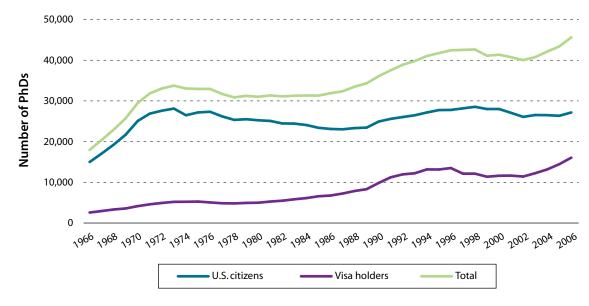
Scientific and technological innovation is the engine of productivity growth and the growth of living standards in the long run. Highly-skilled workers, especially those with college and advanced degrees, are particularly important for long-run growth because of their contributions to innovation. Therefore, one of the most important potential benefits of immigration is the attraction of highly-skilled workers. The fact that a large share of college-educated immigrants have doctorates, and that a very large share of them are employed in scientific and technological fields makes them key contributors to U.S. leadership in science and technology.

While accounting for only 13 percent of the population, foreign-born individuals account for about one-third of U.S. patented innovations (Kerr and Lincoln 2011). One-quarter of all U.S.-based Nobel laureates of the past fifty years were foreign born (Peri 2007). Immigrants have been founders of 25 percent of new high-tech companies, with more than \$1 million in sales in 2006, generating income and employment for the whole country (Hunt and Gauthier-Loiselle 2010). Over the period 1975–2005, as can be seen in Figure 1, all of the net growth in the number of U.S.-based Ph.D.s was due to foreign-born workers. Currently about half of the Ph.D.s working in science and technology are foreign born.

Innovation and technological progress are the engines of economic growth. Hence, human capital and very high levels of skills are central to continuing economic success in technologically advanced countries. Several economic analysts have emphasized that the inflow of highly-educated immigrants is a valuable competitive edge that the United States has over other advanced and competing countries such as Japan and Germany.⁵

Another interesting dynamic effect of highly-educated immigrants is that, because they tend to concentrate in urban areas, they stimulate local virtuous cycles by creating spillover effects on the productivity of local economies, which creates local jobs and promotes growth. Moretti (2010) finds that a high-skill job in a city created 2.5 additional jobs in the local non-tradable sector through linkages of production and local demand effects. Moretti (2004) finds that an increase in the share of college-educated immigrants by 1 percent increases productivity and wages for everybody in a city by 1 percent. These channels also imply that college-educated immigrants contribute to increase the value of land and housing in those cities (as found by Saiz 2007). This makes homeowners, who are in large part U.S. citizens, wealthier.

FIGURE 1.



Doctorates Awarded by U.S. Universities, by National Origin

Source: National Science Foundation (NSF). Multiple years. Survey of Earned Doctorates

their educations with a path to establishing a career in the United States, and so that potential is lost to this country.

Not only does the U.S. system fail to identify immigrants with skills needed in today's economy, it also fails to respond to changes in those needs with economic circumstances. The system's numerical limits and quotas are arbitrarily fixed and infrequently changed. Labor market conditions have no effect on the number of employment-based visas: when times are good, growth robust, and the needs of American businesses greatest, no visas are added, and when times are tough and growth slower, visas are not reduced (nor is their price adjusted).

When temporary immigrants do come to work, they often have little incentive to invest, assimilate, and sink roots in the United States because of a painful disconnect between temporary work visas and the possibility of a permanent work

visa. Workers entering on H-1B visas must be highly skilled, and hold job offers from American employers. They have undergone the verifications required for their visa, and will work productively and pay taxes for years in the United States. But these efforts count for little when they apply for permanent residence visas because they are constrained by the yearly quota imposed on labor-sponsored visas (140,000 per year) and to the country-specific quota that dictates that no individual country can account for more than 7 percent of total labor and family permanent residence visas. As a consequence, many engineers and scientists from China and India

expect to return to their country of origin, despite having a job, valuable skills, and an employer willing to sponsor them. In short, the current system has no ex post reward for people with excellent job performance, high motivation to stay in the United States, and skills needed by the U.S. economy.

The second major failure of the current immigration system is that it provides inadequate opportunities for legal entry of less-educated workers relative to the needs for manual labor from U.S. employers. The lack of any significant channel of admissions for them in the U.S. labor market has contributed to the problem of undocumented immigration.

Close to 11.5 million undocumented immigrants live in the United States and present a serious social and economic problem. Some of them risked their lives to come to the United States, in violation of U.S. law, in order to work and secure better futures for their children. These individuals have very limited rights in the labor market, and thus are subject to exploitation. The basic incentive for undocumented immigration is economic: it arises because less-educated immigrants are in large demand by U.S. employers and, at current wages, in short supply. Immigration and related enforcement policies have contributed to or exacerbated the problem. For instance, lax workplace enforcement and the mild sanctions employers face for hiring undocumented immigrants have increased the prevalence of undocumented employment. However, the problem also has its roots in the immigration laws. The very cumbersome, complicated, and restricted temporary visa programs (H-2A and H-2B) do not even begin to satisfy the demand for immigrant labor by U.S. employers in agriculture, construction, and hospitality services. This, combined with the low supply of U.S.-born citizens in these manually intensive jobs and with the pressure from competition to keep costs low, creates large economic incentives to employ undocumented workers.

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The third major failure arises from the complexity, inflexibility, and outdated rules that characterize the current immigration process. The system is organized in many temporary and permanent visa types, each with specific rules and requirements and overlapping quotas. This leads to bottlenecks and inefficiencies, and arbitrarily creates winners and losers.

For example, the system for assigning permanent residence visas (known as "green cards") based on family unification has an overall annual quota of 450,000. Those visas are divided into four subcategories, or preferences, and ranked in order of importance, depending on the familial relationship between the applicant and the sponsor. Each subcategory then has its own specific quota. Finally, all visas are then subject to a country-specific quota that limits applicants from any single country to no more than 7 percent of the total permanent residence visas. The result is that individuals from more-populous countries, from countries with a long

BOX 2. Immigration of Less-Educated Workers: Complementarity, Efficiency, and Lower Prices

A large percentage of non-college-educated immigrants performs relatively simple manual services in the agricultural, construction, hospitality, and personal service sectors. As shown in Figure 2, within occupations that do not require a college degree, immigrant employment is relatively concentrated in those occupations that require little communication but involve manual tasks. Because of this specialization, the inflow of immigrants into these types of jobs has little effect on the wages of Americans. Americans, due to the increase in average schooling, as well as the increase in their average age, have progressively moved to jobs with greater cognitive and communication requirements and have shunned physically intensive jobs. Immigrant specialization in these occupations has filled a void and, in fact, has encouraged U.S.-born citizens to take on more skill-intensive occupations.

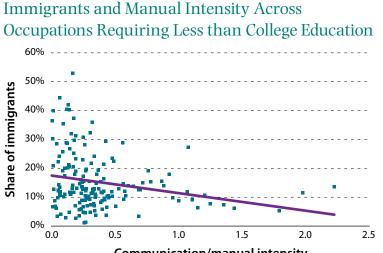
Indeed, Peri and Sparber (2009) find that in U.S. states with large inflows of less-educated immigrants, U.S.-born citizens have been faster in moving up to occupations using more cognitive-interactive skills. At the same time in those states, firms can count on immigrants to perform manual tasks and so are able to keep production local and costs low. Ottaviano, Peri, and Wright (2010) show that manufacturing sectors with large inflows of immigrants increased productivity faster. Peri (2012a) shows that when U.S. state economies expand because of immigration, states also increase investments and improve their productive efficiency through specialization. Rauch and Trinidade (2002) show that immigrant networks help firms to export more and to access new export markets.

Overall, economists do not find that immigrants cause any decrease in wages or employment of U.S.-born citizens at the local level (Card 2009). Recent estimates of the effects of immigrants on national wages (Ottaviano and Peri 2012) over the period 1990-2006 are also quite small. Overall, most of the recent estimates and simulations reveal that the average U.S. worker as well as the average worker with low schooling levels experiences wage effects close to zero, and possibly positive, from immigration. Aggregate employment effects on U.S.-born citizens were even smaller (Docquier, Ozden, and Peri 2010).

The evidence suggests that immigrants in the short to medium run are absorbed through an expansion of the economy. The receiving community increases in its size, maintaining wages and employment of U.S.-born citizens and increasing somewhat aggregate productive efficiency. While Americans in some specific occupations have suffered from competition with immigrants, many other Americans experienced benefits. The cross-occupational mobility of U.S.-born citizens, moreover, has ensured that, as a group, American workers have been positively affected by immigrants. Hence, in the medium run, less-educated immigrants increased overall GDP without hurting wages of less-educated American workers.

Moreover, cities with a large inflow of immigrants have experienced a decline in the prices for local services. Cortes (2008) shows that the cost of gardening, baby-sitting, elder care, and food preparation are lower in cities with larger share of immigrants.

FIGURE 2.



Communication/manual intensity

Source: U.S. Bureau of Labor Statistics, O*NET database

Note: Occupations, according to the U.S. Census definitions, are arrayed along an index that measures the relative content of communication (oral and written) relative to manual tasks performed on the job. The share of immigrants is measured in year 2008, including only adult workers.

Also, many of those services are in the category of "home-production": immigrants have mostly helped women's opportunities and encouraged their participation to the labor market. Cortes and Tessada (2011) show that, in cities with large inflows of immigrants, women take advantage of the lower cost of home-production services by working longer hours. Immigrants in this sector, therefore, create jobs for themselves (as very few U.S.-born workers do these jobs) and also create the opportunity for jobs (or at least to extend jobs) for women by providing a substitute for their home-production services. Finally Borjas (2001) shows that, because immigrants are highly mobile across cities and regions, they increase the efficiency of allocation of labor. By moving from regions in recession to regions in expansion, they reduce the wage and productivity fluctuations due to regional imbalances.

BOX 3. Fiscal and Demographic Effects of Immigration

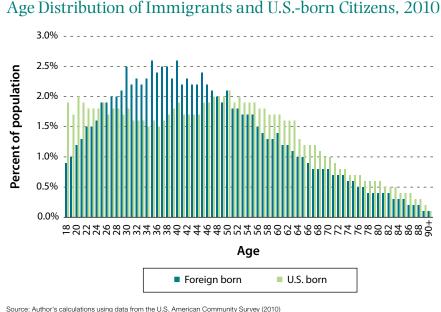
Recent estimates of the overall fiscal effects of immigrants are difficult to find. Smith and Edmonton (1997) find a very small and positive net fiscal effect of immigrants, in the aggregate. This average effect, however, resulted from combining very unbalanced contributions. Immigrants with a college education generated large and positive net lifetime contributions of \$105,000 each, whereas immigrants with a high school education or less produced negative lifetime contributions of \$89,000 each.

The fiscal effect of immigrants is unbalanced in another respect. While a large part of their contributions goes to the federal government in the form of income and Social Security taxes, a large part of their cost is sustained at the state and local levels in the form of costs imposed on school districts and local services. This local burden, vis-à-vis a national surplus, is an important aspect of the current situation. Clearly, local communities could be compensated for higher costs by using locally the higher fiscal resources that immigrants generate nationally, but currently this does not happen. Also, recent research has revealed that the burden on local communities could be a major factor behind negative public opinion about immigration. Using very detailed opinion surveys, Card, Dustmann, and Preston (2009) find that the most relevant aspect in determining the opinion of U.S.-born citizens about immigrants is the perception of their local impact, in schools and in the neighborhoods, rather than the perception of their overall economic impact. Being able to transfer some of the aggregate economic gains to communities with large numbers of immigrants seems a crucial mechanism in redistributing the gains and in gathering support for progrowth and labor-oriented immigration reforms.

Some studies show that immigrants are more likely than U.S.-born citizens to use welfare, mainly due to their lower income (Borjas and Hilton 1996). There is no evidence, however, of "welfare magnet" effects (Kaushal 2005). Immigrants, that is, do not seem to migrate to U.S. states in response to the generosity of their welfare systems. Instead, they respond much more to the labor market conditions of different states and cities by moving towards jobs. Immigrants are driven by work motivation. Hence appropriate immigration policies could also improve and balance their net fiscal impact, helping to direct the economic benefits that immigrants produce towards local communities.

Finally, over the longer term, immigrants affect population growth and the age distribution. The fact that immigrants are younger than U.S.-born citizens, and that their fertility is higher than the fertility of U.S.-born citizens, prevents the U.S. population from declining. Immigrants also help to maintain the balance of the distribution of U.S. population in its age structure. Figure 3 shows that the foreign-born adult population is significantly more concentrated between twenty-four and forty-eight years of age than is the U.S.-born population.

FIGURE 3.



Compared to countries with much smaller inflows of immigrants, such as Germany and Japan, the United States had a much higher growth rate of population during the past decade and a much smaller share of elderly people as of 2010.6 Both faster population growth and the rebalancing of the age structure reduce the dependency ratio.7 While immigrants will age, their current inflow allows for a more gradual transition towards a new equilibrium with lower pensions and a higher retirement age.

history of immigration to America, or from countries with cultural traditions that emphasize expanded family networks experience extensive wait times that stretch to decades, denying some people who have a legal claim to residence the possibility of moving to the United States. For instance, the wait for adult siblings from the Philippines is twenty-three years. An adult child from Mexico waits fifteen years. Even for spouses and children of immigrants from those countries, the principle of family reunification is currently, de facto, heavily penalized because of delays that can last for years.

Additionally, because of the many layers of complexity and the consequences of making errors, many companies and individuals choose to navigate the immigration process with the help of expensive legal advisors. The fees to a consulting company assisting in the process to obtain an H-2A visa (seasonal agricultural) range from \$2,000 to \$3,000 per visa. Companies assisting their employees in obtaining or renewing an H-1B visa and eventually getting a permanent residence visa may easily bear costs in legal and consulting fees of \$10,000 or more during the process. A final economic failure in the current system arises because of fiscal institutions and how they interact with immigrants. Immigrants, on average, have lower earnings than U.S.-born citizens. From a static point of view, then, they contribute proportionally less in income taxes, which are progressive. In addition, they and their larger families are more likely to incur costs related to education, the care of their children, and the use of certain public services. However, on average they are also younger than U.S.-born citizen, and, accounting for their age and their lifetime contributions, some studies find that they contribute more in taxes than they take (see Box 3).

A fiscal imbalance arises because a large part of immigrants' tax contributions goes to the federal government in the form of income and Social Security taxes, but a large part of their cost is sustained at the state and local level in the form of health care, education, and local services. The fact that benefits are mainly national but costs are mainly local generates imbalances in which some localities bear disproportionate burdens from immigration while others benefit. While, in principle, the winners could compensate the losers, in practice this does not occur.

Chapter 3: Basic Principles of the Proposal

The proposal described in this paper provides a blueprint for comprehensive immigration reform whose goal is to align the laws with some of the economic imperatives driving immigration, and to make the system fairer, more transparent, and easier to navigate.

The proposal uses a gradual implementation of a marketbased system that focuses, at first, on employment-based immigration. The goal of the employment-based system would continue to be to help U.S. businesses, American workers, and immigrants to jointly benefit from working together in the United States. The three-phase approach provides an opportunity to test the system, work out logistical challenges, and reveal economic benefits prior to expanding the system more broadly.

Moreover, small initial phases are more likely to be implemented. In light of the recent failures in passing a comprehensive reform, an incremental approach seems to be the only one with some hope of success. In time, the proposal builds on the initial reforms to employment-based immigration visas by expanding the scope of the marketbased system, simplifying rules and quotas elsewhere in the immigration system, and rebalancing the number of permits between extended family and employment-related visas.

The key components of the reform include the following points:

• Establish a Market-Based System for Employment-Based Visas. One principle of the reform is that a simpler, more flexible, and more market-driven system of labor-sponsored permits for immigrants would enhance the economic benefits of employment-based visas. Building on this principle, the proposal would use market mechanismsauctions-to allocate permits to employers who hire immigrants who would then apply for corresponding visas. The auctions would begin with temporary work-based visas. This proposed reform contrasts with the current system, in which work-related temporary permits and permanent labor-sponsored permits are allocated by order of application, or in certain cases by lottery, and always are based on fixed fees and quotas enacted decades ago. This system would maintain the central role of employers in selecting immigrant workers and would add flexibility to the decision by making the permit tradable. It also would grant immigrant workers the mobility across employers needed to avoid exploitation and unfair treatment.

- **Protect the Rights of U.S.-Born Workers and Immigrant Visa Holders.** This proposal replaces the (ex ante) cumbersome and time-consuming labor verification procedures with job mobility and audits as the key mechanisms to protect vulnerable immigrant workers. The cost of the permit to hire immigrants creates an incentive to hire U.S.-born workers when the workers are equally productive, protecting U.S.born workers, in part, from competition.
- *Simplify and Consolidate Visa Categories.* The principles of simplicity and transparency drive simple changes and consolidations to employment-based visas first, and to family-sponsored visa later. Examples are the consolidation of several employment-based visa categories into only three categories, and the elimination of the country-specific quota of 7 percent, while leaving the overall number of family-sponsored visas unchanged. Both measures would go a long way in reducing queues and making the system less arbitrary.
- Establish a Path to Permanent Immigration for Employment-Based Visas, but Reward and Encourage Return to Country of Origin. A further way to encourage productive relations and investment between workers and employers is to provide temporary immigrants with an option of permanent residence conditional on successful completion of an initial provisional period. New immigrants receive a provisional visa to work for an initial period during which they may earn their right to permanent residence by having a continuous and productive working career and by paying taxes. At the end of the period, they will have access to permanent residence. In addition, posting a bond that is funded by putting a part of the immigrant's wage in an escrow account and is forfeited if the immigrant becomes a resident could provide immigrants with an incentive to return to their country of origin after temporary employment.
- **Rebalance Labor-Sponsored Visas and Family-Based Visas.** The reorganization of labor-sponsored visas should eventually be accompanied by a rebalancing between

family-based and labor-based visas in favor of the latter type. This rebalancing will be instituted during the third phase of the proposal, following evidence of the success of the prior phases. Many of the people currently seeking access to the United States via family-based visas could be attracted by labor-based visas in the new system. This could facilitate phasing out visas that are set aside specifically for extended family reunification of siblings, adult married children, and parents of U.S. citizens (possibly with some exception for children with special needs or parents in need of assistance), and redirect those individuals to laborsponsored visas.

- Expand Opportunities for Immigrants with Desired Skills. High-skilled workers contribute significantly to the economy, and U.S. universities make a significant investment in their international students. Hence, in the third phase of the reform, I propose that immigrants who obtain a university degree from accredited universities in the United States be granted a provisional working permit and the corresponding visa if they are hired by a U.S. employer. Foreign-born workers who obtain a Ph.D. at an accredited U.S. institution, and distinguished scientists or academics, should also be able to apply immediately for permanent residence.
- Address Causes of Undocumented Immigration. Providing more significant and more viable opportunities for employment to less-educated immigrants, as described above, should reduce the pressure for undocumented immigration. A path to earned legalization for undocumented immigrants, with significant fines and requirements, should also be enacted with broad reform. With a clear path to earned legalization established, a reinvigorated

enforcement, effort on including more-stringent workplace verification, would further reduce incentives for undocumented employment. The Department of Homeland Security could use the state-of-the-art E-Verify system and biometric ID cards, following the positive experience at port of entries with the U.S.-VISIT system. Using the available technology to identify immigrant workers, together with sanctions for employers who hire undocumented immigrants, up to revoking the ability of repeat offenders to hire immigrants, and with reasonable options for employers to legally hire less-educated immigrants, is the best strategy for reducing the problem of undocumented immigration.

While comprehensive immigration reform is the ideal goal from an economic and efficiency standpoint, it is a challenging near-term policy goal. Therefore, I propose incremental phases toward a market-based system that allow time for policymakers, businesses, and immigrants to test the system in trial phases before expanding it more broadly. The sequential nature of this plan allows the benefits of a well-designed, simple, and market-oriented system to become evident when applied to a subset of labor-sponsored temporary permits in the first phase. This evidence will help to inform and guide further phases that deal with parts of the immigration system that are more controversial, such as expanding the number of immigrant visas and addressing the balance of laborsponsored and family-sponsored visas. The clear economic benefits and the simplification that will be produced in the temporary worker visa system by the early phase will pave the way. The early stages will also generate resources for the agencies involved and impart important price signals about the demand for different types of immigrants. These price signals will help provide guidance on numbers for the later phases, including signaling when they should be implemented.

his paper proposes a vision for comprehensive immigration reform that is broken up into a series of incremental phases.8 The proposal begins with the part of immigration law that is easier to reform according to market principles: that of temporary visas for working purposes (Phase 1). The proposal then introduces some simplifications in the temporary visa categories and tackles permanent immigration for labor purposes (Phase 2). Finally, Phase 3 revisits the total number of permanent immigrants and the balance between labor and family-sponsored permits. Each phase introduces further improvements and, by relying on a price system that is introduced early in the process, provides signals about the type and number of immigrants demanded by the market. Piloting elements of the system in the first phase also allows immigrants, employers, and the government to adjust to changes and refine each element before the system is expanded. These phases are described below, and further numbers and implementation details are provided in the appendix.

PHASE 1: USE MARKET-BASED MECHANISMS TO ALLOCATE TEMPORARY EMPLOYMENT-BASED VISAS FOR SPECIFIC EXISTING CATEGORIES

The first phase of the proposal is to pilot the use of a market-based mechanism for allocating work permits that allow employers to sponsor temporary employment-based immigration visas. Temporary working visas are expressly designed, even in the current system, to fulfill the labor demands of employers. But in the current system they are not allocated to employers efficiently, nor is their allocation affected by economic conditions. A first phase of reform is to introduce a price mechanism to allocate visas efficiently and according to their most productive use, rather than relying on a "first-come, first-served" rule or on a random assignment of visas (as done currently). In this phase I introduce this new way of allocating permits only for a limited number of temporary visa categories. Permits for the H-1B category (and possibly the L-1A, L-1B [intra-company transfers] and TN visas [professionals from NAFTA], which serve very similar highly-skilled professional workers and could be folded into the same category) will be sold in one auction. Permits for the H-2 categories (agricultural and nonagricultural seasonal workers) will be merged and sold in another auction. The total inflow of immigrants in these categories will not change during

this phase. To achieve this, the number of permits in each of the categories will be set equal to the number of temporary visas in those categories in line with annual averages over the past ten years.⁹ Permits purchased by employers will match, in terms of type and duration, visas issued to workers. The permits will be sold in a quarterly electronic auction organized and supervised by the Department of Commerce. Permits can be resold in a secondary electronic market between employers that operates continuously. For the duration of the temporary visa, workers are free to move across employers and to be hired by any other employer who has a valid permit for that type of immigrant worker (H-1B or H-2). The price of permits would be determined by the auction.

a. Use an auction to distribute permits

Employers purchase permits of the same type as the visas (H-1B and H-2) to hire immigrant workers in the corresponding job. This reaffirms the central role of employers and their demand for specific skills as the driver of the demand for immigrants. The straightforward workings of the auctions give small firms the same access that large firms have to the labor market for immigrants.

In this phase the duration of each visa type will remain the same (three years for the H-1B and twelve months for the H-2). Sales of permits will be held every quarter using an electronic auction supervised by the Department of Commerce. The Department of Commerce can outsource the implementation of the electronic auction to a competent agency that could set up the system and all the details.¹⁰ Some of those details are described in Box 4.

Trade of permits and immigrant mobility. The first time an immigrant is hired in the United States, she needs to be sponsored by a U.S. employer with a valid permit. An employer that hires an immigrant and then loses her can fill the vacancy by sponsoring a new entry, or by hiring an immigrant already in the United States. The employer can also sell the permit to another employer in the secondary market. An electronic database of permits, kept by the Department of Commerce, which will supervise the auctions, must record these transitions and keep track of immigrant workers and employers. The Department of Commerce must share this information with the Department of Homeland Security. Given that maintaining a temporary visa requires

вох 4. How Would the Auction Work?

EMPLOYERS AND BIDS

All employers file electronically their bids for the permits (number and price offered) up to the date the auction is held. The Department of Commerce adjudicates permits, beginning with the highest bid down to the point where all permits are sold. The price paid by each employer can be the price it bids or the clearing price (the price, that is, of the lowest winning bid).¹¹ In the first case, the Department of Commerce will receive higher fee revenues (potential uses of these fee revenues are described in the text). In the second case, employers will appropriate a larger part of the surplus from hiring the immigrant worker. Once an employer has a permit, she can fill the position with any immigrant worker. If the worker is abroad when she is hired, the employer can sponsor her request for a temporary visa of the same type and duration as the permit owned by the employer. The Department of Homeland Security would perform the background checks needed and would issue the visa to the worker when she enters the country.

DETAILS OF THE AUCTION: MINIMUM BIDS AND THE ROLE OF PRICES

The total number of yearly permits in each of the two auctions is initially fixed by Congress and should be equal to the average number of visas awarded yearly in each category (H-1B and H-2) during the past ten years. A minimum initial clearing price could be set. The current fees for most temporary visa are between \$1,000 and \$5,000, and the consulting services provided by companies and lawyers to navigate the complex system are easily \$5,000 per visa. The initial minimum price could easily be around \$7,000 for a three-year H-1B and \$1,000 for an H-2 permit.¹² This system of auctions would eliminate the costs of waiting, the legal fees, and the cost of labor verification, as the process to obtain the permit is drastically simplified. Hence, the initial minimum fee suggested above is comparable to the current cost of bringing in a temporary worker but has the benefits of eliminating waits, simplifying requirements, and providing a permit that can be resold on the secondary market. The market would determine the actual clearing price of permits, which I believe will be significantly higher than the minimum.

An important purpose of the auction is to provide a market signal of the demand for necessary skills. The prices of the permits will be important inputs for Congress and policymakers about the desirability of raising (or lowering) the number of permits in the later phases of the proposal, and in general after the system is set up. The Department of Commerce will monitor the auctions. If the clearing price for some type of permits increases significantly, the Department will signal this to Congress and may propose an increase in the number of permits. The price of the permits will be a clear quantification of the value attributed by the U.S. market to immigrant labor for that specific type of permit. Moreover, it will measure the revenue to the government from a new immigrant. A large increase of such permit prices will signal to Congress that there are too few permits relative to demand. A price signal that may guide Congress in the adjustments of the number of permits would have several benefits. First, the system would provide some flexibility in times of economic expansions and recessions via price feedback. Second, once data on bids and clearing prices are accumulated, they will become an easy indicator of the "evaluation" of immigrants by the labor market. Employers would have a much clearer idea of the cost of hiring immigrants rather than having to quantify the cost of immigrants by guessing the delays, staggered costs, and fees for legal advice throughout the existing process. Third, by requiring the Department of Commerce to regularly report to Congress about permit sales and prices, Congress is encouraged to discuss immigration issues and policies on a regular basis rather than only in response to emergencies. The system also provides a scope for learning from experience and data.

The permit auction is simple enough to be accessible to all employers, including small businesses. Two provisions to help small businesses could be added. First, each company may have a maximum number of bids in each auction. Second, there may be a number of permits explicitly set aside for companies smaller than a certain size.¹³

workers to be employed (except for very short potential unemployment spells), most of the permits will be matched to visas at all times, except for a very small number of unemployed workers and the same number of vacant permits, due to the frictions of the search process.

Ensure fair conditions for immigrant workers. In order to hire an immigrant and hence to finalize the use of the permit, each employer has to satisfy the normal conditions in terms of safety, working conditions, and other requirements appropriate to the job in which the immigrant is hired. In this respect, jobs performed by immigrants are no different from those performed by U.S.-born citizens. The Department of Labor would be in charge of verifying the appropriate behavior of the employers by performing random audits to verify that current U.S. laws regarding working conditions are being met. The Department of Homeland Security (Immigration and Customs Enforcement) will perform the needed audit to check that the firm owns the appropriate permits and that those permits are current.

The most effective guarantee of fair treatment, however, is the fact that the worker is not constrained to her first employer. The immigrant can leave at any time to work for any other employer who has a valid working permit for the same type of immigrant. This job mobility is the best guarantee against exploitation and should go a long way to ensure fair treatment of immigrants. A related feature that reinforces competition to the worker's advantage is the transferability of permits (through resale or trade) for employers. Employers sell and exchange their permits with other employers on a secondary market, as described above. This reduces the cost of mobility if a hired immigrant changes jobs and hence will increase the willingness of employers to purchase permits and enter the market for immigrant labor, enhancing competition. By decoupling the employer permit from the immigrant visa, moreover, an employer can use one H-1B permit for different workers who cover only shorter periods. For instance, for highly-skilled jobs a multinational company may keep some permits to cover one-year visits of foreign employers from a foreign affiliate (serving the purposes of current L-1 and L-2 visas).

An important simplification introduced in this phase is that new permits will not be subject to the labor verification requirements. Those requirements are very cumbersome, and are seen by many employers as the main reason for long delays in obtaining a temporary visa. Because immigrants are not tied to an employer and are subject to the same labor laws as American workers, there should be no need for such verification. Similarly, there will not be any formal requirement on wages because the market will determine the appropriate wage for each occupation. This will make the process to obtain a permit much easier and faster for the employer and stimulate entry of employers in the auctions and competition, which is a more effective way of guaranteeing fair treatment for immigrant workers. *Cost for employers.* The permit fee paid by the employer makes immigrant workers more costly than American workers (everything else being equal). However, the supply of immigrants is quite inelastic. The employer thus may pass on to the salary of a worker a part of these costs. The employer will not explicitly discriminate or exploit the immigrant, who benefits from the same protection as a resident and who is mobile across employers. Less-educated immigrants will probably continue to find work primarily in manualintensive occupations that pay lower wages relative to clerical and communication-intensive jobs where similar U.S.-born citizens are employed. This would not be different from what happens now. A large body of evidence shows that wages of new immigrants are 10 to 15 percent lower than those of U.S.-born citizens with similar observable characteristics, due to the types of jobs and tasks performed.14

In addition to providing a visible signal of demand for immigrant labor, the price of the permits will have three further useful effects. First, it will encourage employers to select workers with high productivity who are likely to contribute significantly over time to their businesses. Second, it will generate income for the government, which could help compensate local communities who accept immigrants. Third, as already mentioned, it will help protect American workers from undesirable competition and increase the incentives to employ immigrants in jobs in which they are genuinely complementary to U.S.-born citizens, and for which American applicants are hard to find at the prevailing wage.

b. Use permit revenues to offset costs arising from immigrant flows

The permit fees paid by employers would generate a new source of revenues for the federal government. The revenue from fees should first go to fund the new structures needed by the Department of Commerce to set up the auction, or to outsource this phase. The Department of Labor will have some resources freed from the elimination of the requirements for labor verification, and should use those resources to intensify workplace audits. The Department of Homeland Security may need new resources to set up a database integrated with E-Verify and the permit database. The Department of Homeland Security should also receive some of the extra resources from the permit sales.

The rest of the revenues could be transferred to states, local governments, and school districts to help offset the increased localized costs of schooling, local services, police departments, and firefighting departments that may arise from newly arrived immigrants. A common complaint is that children of immigrants crowd schools, reduce resources per child, and need more assistance with learning English; these complaints are especially common in schools with large immigrant communities. The revenues from the permit sales and fees would be a way to link the inflow of more immigrants with the inflow of money for local schools, enhancing the support for the new system. Using the database, the Department of Commerce would distribute revenues to states and then to school districts in proportion to the presence of H-2 visa holders (who are more likely to generate local costs). Another part of the revenues should be directly distributed to counties and municipalities to fund police departments, firefighting departments, and local public services. While mostly unsupported by the analysis of the data, which shows lower crime rates for immigrants and especially low rates for the newly arrived (e.g., Butcher and Piehl 1998, 2007), local communities often perceive the inflow of immigrants as requiring intensification of law-and-order measures. This new policy allows local communities to benefit from the economic surplus generated by immigrants. This policy also may contribute to changing local attitudes towards immigration.

An alternative is that the revenues from immigrant permits could be designated to some other specific uses with significant positive impact on U.S. citizens—for example, the retraining of the less educated, public debt reduction, the funding of Social Security, or the funding of Medicare.

PHASE 2: SIMPLIFY THE TEMPORARY VISA CATEGORIES, AND EXTEND THE AUCTION SYSTEM TO INCLUDE PROVISIONAL VISAS THAT CAN BE CONVERTED INTO PERMANENT RESIDENCE VISAS

In this phase, the auction system is extended to include all the most relevant employment-based temporary visa categories. These are merged and simplified into only three categories of visas, with five-year or twelve-month durations. The auction system will also be extended to provisional permits linked to provisional visas that replace the permanent employmentbased visas and provide a transparent path to permanent residency after a temporary period. All the new visas would also incorporate incentives to return to the country of origin.

a. Phase 2A: Simplify visa categories

In this phase the most relevant categories of the current temporary employment-based visas (H-1, H-2, I, L, Q, R and TN) are merged into only three types of visas. They are awarded to new arrivals and each is valid for a fixed number of years.

The visas will be given to workers selected and hired by U.S. employers who purchased permits in auctions that operate as I described in Phase 1.

The first category of visas would be designated for occupations typically requiring a college education (from a list that can be compiled and updated by the Department of Labor): C (college) visas. This category will essentially replace the H-1B visas and absorb the I, L, Q, R, and TN visas. This type of visa

will be valid for five years. The second type is for occupations not requiring a college education (also defined from a list compiled by the Department of Labor): NC (non-college) visas. This category will replace the current H-2 visas, allowing some of those agricultural and service workers to have a longer-term perspective. This type of visa will also be valid for five years. The third is for occupations with a seasonal employment pattern (such as some types of agricultural jobs or jobs in the hospitality and tourism industry): S (seasonal) visas.¹⁵ This type of visa will be valid for twelve months.

The total number of permits and visas for each category could be set based on the number of temporary employment visas in the current system, while also considering the price for the temporary permits auctioned in Phase 1. For instance, large and increasing prices for the H-2 permits would suggest that in this phase Congress could allocate a larger number of NC and S visas, relative to the total of H-2 visas available the previous period. There would be no other country-specific or occupation-specific limits besides the quota for each permit, and no restrictions based on the public, private, or nonprofit nature of the job.

In this phase, I also introduce two extensions that would further increase the flexibility of the system and the economic efficiency of immigrant worker allocation. First, immigrants can buy their permit from their employer once they are in the United States and have worked for an initial period (six months or longer). In fact, they should be eager to do this in order to increase their mobility; this purchase should be encouraged. Workers who do not have liquidity to purchase their permit but want to do so are encouraged to make arrangements with the employer to pay for the permit in installments from their wages. This way the employers will recoup the cost of purchasing the permit.

Second, to encourage mobility and entrepreneurship, a worker who becomes an employer by starting a company can purchase her own permit back from the employer. Similarly, a person who is willing to invest in the United States and to hire a minimum number of workers in a firm would obtain at no cost a five-year C or NC visa, and her company would own the corresponding permit. This mechanism would absorb the current E visa for investors.

The new system of temporary visas and permits will have three categories and one auction for each. The mobility of workers across firms within each category and the transferability of permits across employers are exactly as described in the previous phase. Immediate family members of temporary visa holders can be brought in the country after payment of a fee by the immigrant, proportional to the permit fee.

b. Phase 2B: Extend the auction to provisional visas with possibility of permanent residence

After the auction system has been extended to most temporary employment-based visas, the system should begin to auction provisional permits tied to visas that can be converted into permanent residence visas. In order not to initially increase the number of visas, the existing labor-sponsored permanent residence visas (140,000 per year under the four preference classes) would be transformed into five-year provisional visas (C and NC) and auctioned. This means that they are valid for five years, and that they have the possibility of renewal into permanent visas after that period.

Workers seeking to immigrate would apply for a provisional visa through the auction, and the C and NC visas would provide a certain path to permanent residence. These permits and visas will not be called "temporary" or "permanent," but "provisional." After the provisional period, immigrants could apply for permanent residence and be subject to no quotas. There would be, however, incentives to return to the country of origin after the provisional period.

Immigrants who have been hired in the temporary C, NC, or S categories can be hired successively in a provisional C or NC visa. Both the C and NC visas (after five years) can be converted into permanent residence permits. A worker who applies for permanent residence needs to have a reasonably continuous working history, full tax compliance, a clean criminal record, and the sponsorship of a current employer. For workers who would like to stay in the United States, this mechanism generates strong incentives to work and to invest in skills, including some skills that are specific to the employer. Immigrants who have been on a provisional visa and who apply for permanent residence are not subject to quotas. The only numerical restrictions are on the number of initial provisional visas issued every year. This system would therefore create a predictable path to earn a permanent residence visa and encourage investments in skills for workers who intend to stay. The working of the auctions for provisional visas will also be exactly as described in Phase 1, except that the minimum permit fee will be set at a different (higher) level than the fees for the corresponding temporary permits and the auction price of a provisional visa will likely be higher than the price for a corresponding temporary visa.

Because not all immigrants intend to stay and not all continue to find meaningful opportunities in America, it is also useful to provide an incentive for immigrants to return to their country of origin. For instance, NC workers, who typically come from less-developed countries, could return to their countries with very valuable human capital and substantial savings at the end of the five years of temporary work in the United States. During the five years of temporary residence a percentage of the worker's wages (a reasonable amount would be about \$2,000 per year) could be deposited by the employer in an interest-bearing account. This "return account" would be portable across employers and should be administered by the Department of Commerce, which would be kept current about the employment status and employer of the immigrant worker. The account cannot be liquidated to the worker unless she repatriates or moves to another country for work. If she stays and applies for residency, the amount saved in the fund (which could be \$10,000 or more) must be paid to the U.S. Citizenship and Immigration Services as a permanent residence fee. The amount would make it attractive for some workers, especially NC workers coming from less developed countries, to return, because it would constitute a significant capital to start a business in their country of origin.

A continuous working history, needed to obtain permanent residence, implies that a worker should be unemployed only in a few spells of reasonable length—for example, three to four months each for two to three spells over the five years. If the immigrant becomes unemployed for longer periods during the provisional phase, she would have strong incentives to return to her country of origin. First, immigrants would not receive unemployment benefits during their provisional period. Second, by leaving they will receive all the savings accrued up to that date in the return account. Third, they will keep the option of being hired again in the future by a U.S. company and start another five-year temporary period. If a worker does not qualify for permanent residence at the end of the period because of excessively long spells of unemployment or noncompliance with taxes or because she has a criminal record, she may decide to leave voluntarily; in that case, she would still receive the money from the return account. If she refuses to leave, she risks being repatriated by the Department of Homeland Security, which will appropriate the return account to cover the cost of repatriation. Moreover, she loses the possibility of being hired by U.S. employers in the future. If a worker chooses to return to her country of origin at any time during the provisional period, she is given the current value of her return account.

An important benefit of transitioning to these provisional visas is that they combine three desirable features, all of them contributing to select and incentivize the right type of immigrants. First, by giving a clear prospect for two alternative paths (invest in local skills and become a resident, or save and return), this system encourages people to self-select in the most appropriate path. Those who want to stay are motivated to invest in skills. Those who want to return are motivated to work and save as much as they can. Second, it allows ex post criteria such as merits on the job, commitment to working, paying taxes, and good behavior to be used as criteria to award permanent residency because the employer has to recommend the worker for a permanent residence visa. Third, it will eliminate the disconnect between temporary and permanent residence visas: in the new system, if an immigrant has a job and is productive and valuable to an employer and has a provisional visa, she can become a permanent resident without being subject to a further quota. This is fair and would keep workers motivated.

Two more important provisions are incorporated. First, provisional workers could bring their dependents (spouse and minor children) on a dependent visa during the provisional period, at the cost of a fee. Second, during the initial five-year period these workers would have the same access and rights to protection, fair wages, housing, schools, and local public goods as permanent residents and citizens. They will not be eligible, however, for means-tested welfare programs or for unemployment benefits. This would provide an initial period during which immigrant workers "earn" their way to the full rights of permanent residence.

Notice that Phase 2 combines a merge or simplification of temporary employment-based visas that increases their average duration to five years (from an average two to three years), and hence would increase the average presence of immigrants even for a given number of permits. At the same time, the current 140,000 permanent labor-sponsored visas would be transformed into provisional visas with the possibility of permanent renewal; some of those immigrants will return to their countries, which implies a decrease in the number of permanent immigrants.

PHASE 3: EXPAND MARKET-BASED REFORMS TO ENCOMPASS MORE OF THE IMMIGRATION SYSTEM

This phase would reassess the balance between work visas high-skilled, low-skilled, and seasonal workers—and familybased visas, and provide a broad simplification of far-reaching elements of the current system such as country quotas.

a. Simplify family-based visas and revise balance between employment based-visas and family-based visas

• Eliminate the country-specific quota for permanent residence visas. Family ties are of fundamental importance for individuals all over the world. Western societies emphasize the centrality of the nuclear family (spouses and minor children), whereas Asian-, African-, and Latin-American cultures put a high value on having the extended family (including married siblings and married children) in the local community. The current delays in the visa system deny permanent residents of the United States, especially from Mexico, China, and the Philippines, the possibility of maintaining the unity of the nuclear family. I propose to eliminate the country quota on permanent residence visas and leave only the numerical limits for family-sponsored permits. Currently there are 450,000 visas for siblings and adult children of U.S. citizens, and children and spouses of permanent residents. Spouses, minor children, and parents of U.S. citizens are exempt from the numerical limits. Removing the country quota would speed up significantly the process to obtain a visa for citizens of the affected countries.

Phase out the sibling and adult children family-sponsored programs and direct those individuals to the labor-sponsored program. In order to expand the scope for a growth- and labor market-driven immigration system, the law should reduce the number of family-based visas while expanding numbers of employment-based visas. The law could emphasize, at the same time, the nuclear family as the basis of society. In the familysponsored program, therefore, I propose keeping spouses and minor children of residents as the main groups eligible for family-sponsored visas. I propose phasing out the programs for siblings (currently fourth preference) and for adult married children (currently third preference) of U.S. citizens. No new applications would be accepted for these. Those already in the queue will be processed, in due time, free of the country quota. Moreover, siblings and adult children in line to obtain a visa would be encouraged to pursue a permit by finding a job in the United States within the new labor-sponsored system described above and enlarged in this phase. After all, the reason why most adult siblings and adult children of U.S. citizens come to the United States is to take advantage of a job opportunity signaled by their U.S. relatives. If there were an efficient way for employers to sponsor immigration permits, then there would be much less demand for family reunification visas. I also suggest eliminating the diversity lottery visa program because it does not serve its purpose of increasing diversity (given its limited scope) and admitting immigrants at random does not make economic sense. I would also consider phasing out the program for parents of U.S. citizens, with some exceptions (e.g., parents in need of assistance). Using annual averages for 2000-2010, the phasing out of the siblings, adult children, and diversity lottery programs would free about 150,000 visas, plus 100,000 for the parent program. Those numbers would go, in the new steady state, to the new labor-sponsored program in the form of new auctioned provisional permits and to the immediate families of immigrants who have earned the new provisional visas.

b. Increase the opportunities for workers with desired skills to immigrate, and follow the auction price signals

• Let the price signal for C and NC permits guide the decisions of Congress about the number of permits. Up to this point, the total number of immigrants has been kept constant, at its initial quantity. The auction system has simply allocated them efficiently, signaled the market values for them, simplified the procedures, and generated revenues. Beginning in Phase 3, the number of new C and NC visas can be modified in response to the price signals from the

auctions. While economists would look favorably on the setup of some automatic adjustment of the number of auctioned visas in response to prices, Congress is likely to remain in charge of these aggregate numbers. In this phase, however, the possibility of scaling down the siblings and adult children lottery-sponsored program in favor of the employmentsponsored provisional program provides an important role for prices in allocating these new permits. Beginning with this phase, the prices of temporary and provisional permits would provide an important aggregate signal of the demand for immigrant labor in different skill groups.

• Provide provisional visas and permits to immigrants hired by U.S. employers who have graduated with four-year degrees from accredited U.S. colleges and universities. An alternative way to increase the supply of highly valuable college-educated immigrants and to give preference to those with a U.S. education is to make an exception to the quota for those educated in the United States. One part of the immigration system that has worked very well in the United States and that builds on and propagates U.S. international excellence in science, technology, and tertiary education is the part regulating student visas. Student visas are currently allowed without an overall limit. Foreign-born students are often among the highestperforming students in U.S. colleges and universities. They contribute tuition and fees to public universities, and hence cross-subsidize U.S.-born students. They are more likely to specialize in science, engineering, and math, and to go on to graduate school and obtain a doctorate. U.S. leadership in international tertiary education, driven by a large number of top universities, means that there is an abundance of very talented students who are eager to matriculate at American universities.¹⁶ Entry of foreign-born nationals for study has increased steadily from 200,000 per year in 1990 to almost 400,000 in 2010 (see Appendix Table 1). Moreover, immigrants studying in U.S. colleges tend to do very well in terms of integrating themselves into the U.S. labor market.

While leaving the current student-visa system unchanged, because most colleges tend to do a very good job of selecting their candidates, I propose a provision that if a foreign student graduates from a four-year accredited U.S. university and finds a job, then she can have a provisional, non-transferable college permit (and the corresponding visa) available outside of the auction and for a set price.¹⁷ I also suggest that immigrants graduating with a Ph.D. from a list of accredited U.S. universities would be eligible for a permanent residence visa, after they are hired, after a background check, and with the sponsoring of the current employer. The same access to a permanent residence visa (not counting against the quota) should be given to individuals of "exceptional achievements" currently admitted in the O and P programs.

CONCURRENT PHASES

• Address the issue of currently undocumented immigrants by envisioning for them a demanding but clear path to earning legal residence. This would not be an amnesty: fines and demanding, but reasonable, requirements will be set.

An estimated 90 to 95 percent of the 11.5 million undocumented immigrants have lived in the United States for at least three to four years. A full 60 percent of them are estimated to have lived in the United States for ten years or more. Figure 4 shows that there has been virtually no net inflow of undocumented immigrants during the past four years due to the economic recession and to the tougher policing of the United States– Mexican border. This provides a window for dealing with the issue of undocumented workers without the pressure of large current and recent inflows.

I am in favor of setting a demanding path for undocumented workers requiring the payment of a substantial fine (at least as large as the cost of an NC permit), the payment of back taxes, and successful completion of an English knowledge test in order to earn legal provisional residence. Moreover, only immigrants who can document their stay in the United States and their work history for a minimum of three years should have access to such a path. Under these and possibly additional conditions these workers should be allowed temporary visas of the NC type, and then a path to a permanent residency, possibly with a longer provisional period requirement before they become eligible for it. Those undocumented workers who do not qualify (because they have been in the United States for less than three years or because they have a criminal record) will have to leave the United States. There have been several good proposals describing how the undocumented could earn a path to residency, and I leave some of the details to others (see, e.g., Council of Foreign Relations 2009; Orrenius and Zavodny 2010).

An easier path to residence should be allowed for people who arrived in this country as minors with their families. For those people, extending the provisions of the DREAM Act would be reasonable, giving them the opportunity to apply for permanent residency when they complete high school, as long as they have been in this country for five years or more.¹⁸

This program of an earned path to citizenship would certainly be demanding and costly on the organizational side. It would require the government to set up a system to register the undocumented workers and to process their requests. The Department of Homeland Security in cooperation with the Department of Commerce, who would issue the working permits, would be responsible for these steps. This process would also generate immediate revenues (from the fees), which could be substantial. It seems to me the only reasonable, affordable, and humane solution for the problem of undocumented workers. If 90 percent of the immigrants,

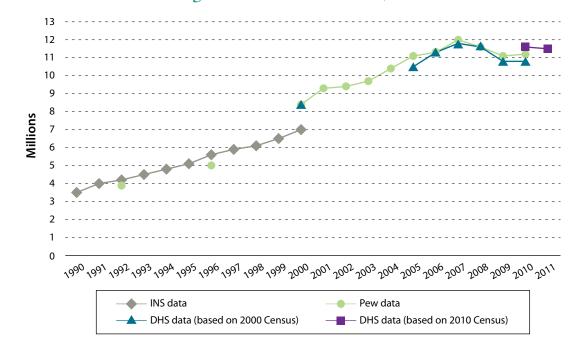


FIGURE 4. Estimates of Undocumented Immigrants in the United States, 1990–2011

Source: Department of Homeland Security (2012a); Passel (2006); Passel and Cohn (2011); U.S. Immigration and Naturalization Service (n.d.).

as current estimates suggest, would be eligible for such a path to earning legal provisional permits, then 10.4 million immigrants would pay a potential fee of roughly \$5,000 (using a low prediction for the cost of a provisional NC permit), generating over \$50 billion in total revenue. This revenue should go to cover set-up costs of the system, and the rest should be distributed proportionally to states and communities where these immigrants work and reside.

• Once a clear path to earned legal provisional residence is defined, the U.S. government should reinvigorate the enforcement effort, focusing on the workplace and using up-to-date technology. Employers hiring undocumented workers should receive severe fines, and repeat offenders should lose the ability to hire immigrants, and could be subject to civil lawsuits.

The establishment of the electronic markets, with identifiers for employers and for immigrants, would create an easy way to keep track of immigrants and employers and to verify electronically that all immigrants are authorized and all employers in compliance. Audits in the workplace, frequent but nonintrusive, should be performed by the Department of Homeland Security to guarantee that firms own the appropriate permits.

The intensive use of technology in workplace enforcement should be encouraged. The use of E-Verify, a web-based system that allows employers to verify the authenticity of the visa of an immigrant, and biometric ID cards, should become mandatory. The available technology would allow easy identification of immigrant workers. Then, high fines and severe sanctions for employers, combined with the options for those employers to hire less-educated immigrants by purchasing a permit, could finally succeed in drastically reducing the problem of undocumented workers. All efforts at tougher enforcement are likely to fail if employers are not given options to hire less-educated immigrants legally, in numbers and at conditions that reflect the labor market reality of the country. This is where the Immigration Reform and Control Act (IRCA) of 1986 failed. Introducing a legal and reasonable way to hire less-educated immigrants with an NC permit (temporary and then renewable into permanent residence) would decrease the pressure to hire undocumented workers because it would give employers an option. Moreover, if the price for S or NC worker permits gets too high, this may increase pressure on employers to hire illegally or risk losing money. This may be a further reason that Congress may consider adjusting the number of permits in times of high demand.

The Department of Commerce, which would be in charge of the permit sales and transfers, and the Department of Homeland Security should share the database of the temporary visas and permits purchased and the locations of immigrants and employers. This would also generate a very valuable database with information on geographical and occupational distribution of immigrants of each category. This information will be needed when redistributing part of the income generated via the sale of permit fees (as described above).

Chapter 5: Some Further Questions and Concerns

HOW QUICKLY SHOULD THE PLAN BE PHASED IN?

Each phase has a duration that should be appropriate to the goal that it accomplishes. The first phase should last long enough for all the agents (workers, employers, and the government) to become well acquainted with the details of the auction for permits and its functioning. A period of one to two years seems appropriate to accomplish this phase.

The second phase should promptly extend the auction system to most temporary visas and merge those into the three new categories. Within the first year of this phase, the auction should be extended to the permanent visas. When the immigrants begin to exercise their option for permanent

residence visas, namely after five years, the new system begins to affect the total number of permanent residence visas and their composition between laborbased and family-based visas. Hence, this would be the right time to enact the third phase of the reform, which would tackle the issues of increasing the total number of labor-based, high-skilled visas and refocusing family-based visas towards immediate family only. At that point the evidence from the price mechanism will indicate what skills are in higher demand, and if there is a large demand for foreign

workers. Also, policymakers will be able to gauge how many immigrants will want to become permanent residents and how many will want to instead return to their countries of origin. Moreover, the government will have a clear projection of the revenues generated by immigrants, and data on how the system works and on the employer and immigrant satisfaction with it. This could inform and ease significantly the transition to Phase 3, which should be rapid. Altogether, the transition to fully implemented new system will take six to seven years.

HOW DOES THE MARKET-BASED SYSTEM COMPARE WITH THE POINTS SYSTEMS USED ELSEWHERE?

Several economists advocate the adoption of a "points system" in regulating immigration, considering it a superior alternative to the current U.S. system. Countries such as Canada and Australia have had such a system in place for decades. The Canadian system, for instance, allocates points to potential immigrants based on their education, age, professional skills, and language skills. The Canadian system, however, also requires that potential immigrants either have job offers in Canada, have worked in Canada, or work in one of twentynine high-demand occupations. Immigrants who score above a certain threshold (currently sixty-seven out of one hundred points) are admitted into the country. Such a system is intended to achieve some of the same objectives as the current proposal. First, it would increase the number of collegeeducated immigrants relative to less-educated immigrants. Second, it would make admission and entry more predictable, reducing queues and bottlenecks.

...my proposal allows labor demand to attract immigrants, even those without high levels of education...This satisfies national economic needs and reduces the pressure for undocumented immigration...

> However, I see three important areas in which the proposal in this paper better satisfies U.S. economic needs. First, because my proposal is market-based there is no need for the government to decide which skills are valuable on the labor market. Employers will certainly respond to market incentives and to the needs of the U.S. economy much faster and better than the government would. Second, my proposal allows labor demand to attract immigrants, even those without high levels of education if local labor supply is low but local demand is high for these workers.¹⁹ This satisfies national economic needs and reduces the pressure for undocumented immigration, which in the United States is a much larger problem than in Canada. The U.S. experience after IRCA has shown that an immigration system with no prospects for less-educated workers to immigrate legally generates very strong economic pressure for undocumented immigration. Third, the proposed system, with adaptable permit prices (and possibly numbers),

has a degree of flexibility and adaptability that current point systems do not have. Moreover, the proposed system envisions an important role for fees, and hence for a price mechanism to regulate working permits. This implies that employers would pay the market cost for a permit, as they do for other production inputs. At the same time, this would generate revenues for the government to reward and help the local community to offer new immigrants better services, and hence to develop a better ability to integrate them.

WOULD THE POTENTIAL INCREASED INFLOW OF IMMIGRATION FOR EMPLOYMENT REASONS DURING PHASE 3 HURT U.S. WORKERS?

There are three characteristics of the proposed policy that are likely to help the labor market perspective of U.S.born citizens. First, the inflow of immigrants has a large college-educated component (certainly larger than in the U.S. population). This implies that investments and new jobs, stimulated by the innovation and productivity growth that are driven by highly skilled workers, are likely to offset the competition effect of new workers. Second, the system introduces higher predictability of the immigrant flows and of the cost of immigration. It eliminates the uncertainties of quotas, time delays, and cumbersome verification. This will help firms plan their investments and encourage an expansion of productive capacity, which is also conducive to generating jobs for U.S.-born citizens. Third, the extra cost of hiring an immigrant ensures that firms will place immigrants in jobs where they have a comparative productive advantage and hence maximum productivity. They will tend to complement rather than displace American workers more than they already do. Currently, immigrants are found to have very small negative wage effects on U.S.-born citizens, and possibly have positive effects. This reform will further increase the positive employment and wage effect of immigrants on U.S.born citizens.

WHICH GROUPS ARE PENALIZED BY THESE POLICIES, RELATIVE TO THE STATUS QUO?

The group potentially penalized by my proposed policies is, during the third phase, that of extended U.S.-citizen family members (siblings and adult children) who are residing in their countries of origin. I argue, however, as discussed above, that they will have many new options for entering the United States on work-sponsored visas and can take advantage of their family network in the United States to stay informed about new jobs or to find jobs in businesses owned by their family members.

IS THE ROLE OF GOVERNMENT DIMINISHED?

The government will maintain the key role in controlling the initial quota, supervising the auctions, verifying requirements, and enforcing the rules. It will be less involved in micromanaging the allocation of visas to specific occupations and in determining what ideal skills immigrants should have. Employers will do this. This is the same way in which the government regulates the labor market for U.S.-born citizens as well as other important activities such as trade.

WHY NOT FOCUS ON SPECIAL BILATERAL RELATIONS SUCH AS UNITED STATES-MEXICO OR UNITED STATES-CHINA?

The current proposal aims at introducing policies that could characterize immigration policies for several decades to come. The specific bilateral relations on migration between the United States and other countries have been changing over time, while some overall characteristics and trends have transcended these changing bilateral relations. After World War II, the introduction of family-based immigration was intended to favor immigrants from European countries, who constituted the majority of foreign residents at the time. Instead, they ushered in new immigration from Asia and Latin America. This is because the economics and demographics of Europe were changing and the migratory pressure out of those countries ceased. While engaging Mexico in discussion about immigration is relevant, the United States should set up a system that best serves its economy and its immigrants in general.

Conclusion

broadly agreed-upon goal should be an immigration system designed to reward the hard work of immigrants, to value their nuclear families, and to guarantee economic benefits to U.S. citizens and immigrants. Such a system should be achieved with simple and transparent rules that are easy to navigate by immigrants and their employers. These rules should be regarded as fair, and they should be enforced firmly. Finally, the system should have a degree of flexibility that allows it to adapt to the changing features of immigrants and to the changing demand for foreign labor.

Such a system based on values deeply engrained in American society (family, hard work, and simple and fair rules that are applied to all) contrasts sharply with our current, broken system. This is why many key stakeholders have emphasized, time and again during past years, the need for comprehensive immigration reforms. However, while the status quo is disliked by most, and some key principles may be agreed upon by many, there is no agreement on how to change the immigration system. In this proposal, I have followed a twopart approach. First, by focusing on the worst failures of the current system, especially those features that impose costs and hurdles that limit the economic benefits of immigration, I hope to address the parts of the system that are in greatest need of change. Second, I have described in detail incremental phases, beginning with temporary labor market visas, that seek to create a coherent and comprehensive system that realizes the potential economic gains from immigration for the U.S. economy and immigrants. I decided to begin with small and hopefully implementable phases that may set in motion changes in the allocation of visas, in the selection of immigrants and in the perception of their economic benefits and value by key American stakeholders such as policymakers, businesses, and workers. Those small initial phases, hopefully, will not be opposed and will generate market information and build support for the further changes.

Taken in its entirety, this proposal is the blueprint for a comprehensive reform. Its incremental nature, however, allows the initial phase, which introduces the auction for permits, to show its effects in terms of efficiency, employer satisfaction, reduced incentives to hire undocumented workers, and increased government revenues, before enacting the other parts. The success of the early phases should be the best argument for enacting the other phases and would allow the United States to begin the reform and to let it gain momentum on economic grounds before tackling more controversial issues. This strategy, which I consider more realistic, does not exclude the fact that a "comprehensive" reform might realize all phases at once, but it offers a concrete approach to getting such a reform in motion that mitigates the danger of immediate derailment by the more controversial elements of the proposal.

Appendix

SOME NUMBERS AND IMPLEMENTATION DETAILS

Appendix Table 1 shows the current basic organization of temporary and permanent residence immigration permits for study and work purposes in the United States. It also includes the average number of annual admissions for each of them (over the period 2000–2010) and their quotas. Appendix Table 2, on the other hand, shows the possible representation of how the visa types of the old system could converge into the simplified categories of the new proposed system, as described in Section 3 (Phases to Comprehensive Reform). I also show in Appendix Table 2 how the old temporary and permanent residence work visas would be replaced in Phases 2 and 3 of the proposal, by temporary and provisional visas in the new

system. With reference to those schemes I discuss here some of the potential numbers of visas involved and some details of the set-up and transitional phase.

In Phase 1, my policy proposal envisions an auction system adopted for the allocation of H-1B visas, with the possibility of merging the L and the TN visas into this category. This would imply an average number of 130,000 to 200,000 visas (using the yearly average of H-1B visas between 2000 and 2010 and depending on whether or not one includes the L and TN categories). Also the H-2 seasonal visas will be auctioned, and this would imply a number close to 110,000 permits if kept at the yearly average of H-2A and H-2B visas issued in the period 2000-2010.

APPENDIX TABLE 1.

The Current System of Temporary and Permanent Study and Work Visas

Study visas		Temporary work visas			Permanent work visas			
Visa type	Annual average 2000–2010	Link to labor visas	Visa type	Annual average, 2000–2010	Link to permanent residence visas	Visa type	Annual average 2000–2010	Quota
F (students)	290,000	No possibility of working in United States. Can apply for H-1B visas while on a F-visa.	H (temporary skilled and unskilled), I (journalist), L (intracompany transfers), Q (intercultural worker), R (religious worker), TN (NAFTA professional workers)	445,000	No link. They can adjust status but are subject to all the quotas of the permanent residence permits.	Preferences: First (priority), Second (skilled), Third (professional), Fourth and Fifth (special)	156,000	140,000. Moreover, no single country can account for more than 25,620 permits that are family- or labor- sponsored.
J (exchange)	290,000	No possibility of working in U.S.	Families (of H, I, L, R, TD)	145,000				
			E (investors)	36,000	Renewable without limit.			
			O (extraordinary ability), P (athletes)	40,000	Renewable without limit.			

Source: DHS 2012b; State Department n.d.

APPENDIX TABLE 2. Transition of Current Visas into Permits and Visas in the New System

	New System						
Current System	Phase 2a	Phase 2b	Phase 3				
Labor-sponsored permanent residence visas:							
First (priority), Second (skilled), Third (professional), Fourth and Fifth (special)		Provisional College (C) and Non-college (NC) visas; eligible for permanent residence after five years	Expansion of the provisional visa program; absorbs visa allocations from some family-sponsored visas and some temporary visas				
	Tempora	ary visas:					
H-1 (temporary skilled), I (journalist), L (intra-company), Q (intercultural worker), R (religious worker), TN (from NAFTA)	Combined into two categories: College (C) and Non-college (NC) temporary visas; duration of five years, nonrenewable		A portion of the temporary visa allotment shifted to the provisional visa allotment				
E (investors)		Investors in the United States bid for their own permit to work, and acquire the corresponding visa; investor permits/visas have the same features as college permits					
Immediate Families (H, I, L, R, TN)	Spouses and children obtain a secondary visa, paying a fee that is a percentage of the primary visa fee						
H-2A, H-2B (seasonal)	Seasonal (S) visas; duration of twelve months; nonrenewable	A portion of the temporary visa allotment shifted to the NC temporary visa allotment, and a portion shifted to the S visa allotment					
F-1, F-2 study visa, no access to temporary or permanent residence permits			Provisional C visa and corresponding permit given to workers graduating from U.S. colleges				
O (extraordinary ability), P (athletes)			Permanent residence visa given to workers earning U.S. Ph.D.s, and workers with exceptional abilities				

In Phase 2, the auction system will be extended to most temporary work permits and visas. The current H-1, H-2, I, L,Q, R, O, P and TN visas will be included. These categories included an average of 445,000 visas per year in the period 2000-2010. What needs to be determined is a reasonable initial allocation of these visas between the C, NC, and S categories. This could be done considering the old allocation and following the price signals generated in Phase 1. Illustrative numbers would be 220,000 C permits, 125,000 NC permits, and 100,000 S permits. Such an initial number of C visas would imply an increase in the entry opportunities for highly educated (currently, the H-1B visa has a cap of 65,000 visas per year). The initial number of NC and S visas should also provide a significant opportunity for legal entry to less-educated manual and seasonal workers who now have only very cumbersome visas available to them (H-2A and H-2B). This would reduce the pressure for undocumented immigration.

Still in Phase 2, the introduction of provisional visas with an option to apply for permanent residence visas would replace the current 140,000 labor-sponsored permanent visas. The allocation of these provisional visas between the C and NC categories will be determined by Congress, with the guidance of price signals from the auction. During this phase, employers will also help workers to set up their return accounts with the Department of Commerce, and workers will become acquainted with provisional visas with an option of return or permanent residence.

In Phase 3, college graduates of accredited U.S. universities who find a job could apply for a C permit immediately after graduation, and Ph.D.s could apply for a permanent residence visa. This would increase the options for entry for the highly educated and substantially increase the number of highlyeducated immigrants.

Also in Phase 3, my proposal would immediately remove the country-specific quota. At the same time, applications for permanent residence under the siblings and adult married children programs would no longer be accepted. The diversity lottery also would be eliminated. The proposal would set a time horizon to process all pending applications for the discontinued family permits. After this transitional period, the new regime will be the only one in place, and permanent residence permits in the labor-sponsored programs will be awarded to applicants after their provisional period.

Phasing out the lottery program and the programs for adult children and siblings would eventually free up around 150,000 permits, based on entry in those categories during the 2000s. For some years from the beginning of Phase 3, siblings and married children of U.S. citizens could be given priority by employers hiring with the new permits. Also, unmarried adult children and parents of U.S. citizens (in line for family reunification visas) would be encouraged to find a U.S. employer with a permit to enter as workers. Their relatives in the United States, if they run a company or own a small business (which is common among immigrants) may hire them on a provisional working permit. This would help divert entry from the family category into the work category. Many of the same individual, siblings, adult children, and parents would still enter the United States, but with a labor (rather than a family) sponsor. In the long run, family reunification could involve mostly immediate family, while other relatives would enter this country using their family network to inform them of job availability and of jobs created by relatives.

All in all, the number of immigrants is likely to increase as a consequence of the reform in Phase 3. However, the number of undocumented workers will decrease. The largest net increase will be in the inflow of college-educated workers, with positive and dynamic effects on the economy. By boosting the share of college educated in the labor force, these provisions are likely to increase overall productivity, job creation, and economic growth (e.g., Moretti 2004). Moreover, by increasing incentives for employment among immigrants, these policies are also likely to generate a positive fiscal balance from new waves of immigration.

Finally the division of tasks between different agencies should also be very clear, and will be perfected during the first phase. The Department of Commerce is in charge only of the sales of permits. The Department of Labor is in charge of verifying and auditing employers, and enforcing the rules for fair working conditions for immigrants as well as U.S.-born workers. The Department of Homeland Security would be responsible for enforcement of border and workplace immigration laws. Including these three agencies with specific and separate tasks avoids conflicts of interest and generates some checks and balances across departments.

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Endnotes

- 1. This proposal builds on the plan put forward in *Beside the Gold Door: U.S. Immigration Reform in a New Era of Globalization*, by Orrenius and Zavodny (2010). See Box 1 for an overview of the research by economists on the economic effects of highly skilled immigration.
- 2. See Box 2 for more details and references to the literature.
- It is actually 85,000 if the exception for higher degrees introduced in 2006 is considered.
- For instance, Microsoft has recently built new research facilities in Vancouver, Canada, mentioning easier access to highly educated immigrants as one of the reasons for the move.
- See, for instance, *The Financial Times*, http://ftalphaville.ft.com/blog/2011/ 06/06/585096/demographics-and-destiny-us-immigration-edition/.
- Peri (2012b) shows that the share of people over the age of sixty-five in the United States was below 13 percent in year 2010. In Germany and Italy, it was above 20 percent.
- 7. This is the ratio of people in retirement age relative to the working population.
- Several parts of my proposal are inspired by the reading of Council of Foreign Relations (2009), Hanson (2010), and Orrenius and Zavodny (2010).
- This would include an average of high and low immigration years in a medium-run perspective. The number of years over which the average is calculated can be different from ten, however.
- The Chicago Board of Trade, for instance, for thirteen years administered the auction of emission allowances for the EPA before the EPA took direct control of the auction in 2006.
- The first is called standard sealed-offer auction and the second is called a sealed-offer single-price auction.
- 12. The minimum fee represents in each case around 5 percent of the present discounted value of immigrants surplus over the period of the duration of the visa. The surplus is her expected wage in the United States minus the expected wage in the country of origin.

- 13. These possible measures to favor small companies have to be weighed against the fact that probably they reduce the efficiency of allocation of visas, especially in the light of the fact that large companies tend to be more productive and efficient.
- 14. For a review of the literature, see Kerr and Kerr (2009).
- 15 The list of seasonal occupations should be a subset of NC occupations that have a seasonal component, such as farming and tourism.
- 16. In most international rankings, the United States has fifteen to eighteen of the top twenty universities, and more than fifty of the top one hundred universities in the world.
- 17. A possible group of such universities is that of research and doctoral-granting universities in the Carnegie Classification of Institution of higher education. A recent paper by Kato and Sparber (2010) finds that when there were more working visas available for college-educated immigrants due to an increase in the H-1B cap, the quality of immigrant college students also increased. The prospect of working in the United States, therefore, could further encourage highly talented students to enroll in U.S. universities.
- 18. The DREAM Act is a legislative proposal first introduced in the Senate in 2001 and most recently discussed there in 2010. It envisions a path to legal residence for qualifying undocumented aliens who graduated from U.S. high schools, arrived in the United States as minors, and who lived in the country continuously for at least five years prior to the bill's enactment. During the first six years, qualifying undocumented immigrants would be granted "conditional" status and would be required to graduate from a twoyear community college or complete at least two years towards a four-year degree or serve two years in the U.S. military. After this six-year period, those who meet at least one of these three conditions would be eligible to apply permanent resident status.
- Incidentally, to obviate this issue the Canadian system allows 150,000 temporary visas per year to specific less-skilled occupations such as live-in caretakers.

References

- Borjas, George. 2001. "Does Immigration Grease the Wheels of the Labor Market?" *Brookings Papers on Economic Activity*, 31 (1): 69–134.
- Borjas, George J., and Lynette Hilton. 1996. "Immigration and the Welfare State: Immigrant Participation in Means-Tested Entitlement Programs." *Quarterly Journal of Economics* (MIT Press) 111 (2, May): 575–604.
- Butcher, Kristin F., and Anne Morrison Piehl. 1998. "Cross-City Evidence on the Relationship Between Immigration and Crime." *Journal of Policy Analysis and Management* (John Wiley & Sons) 17 (3): 457–493.
- Butcher, Kristin F., and Anne Morrison Piehl, 2007. "Why are Immigrants' Incarceration Rates so Low? Evidence on Selective Immigration, Deterrence, and Deportation,"NBER Working Papers 13229, National Bureau of Economic Research, Cambridge, MA.
- Card, David. 2009. "Immigration and Inequality." *American Economic Review* (American Economic Association) 99 (2, May): 1–21.
- Card, David, Christian Dustmann, and Ian Preston. 2009. "Immigration, Wages, and Compositional Amenities." NBER Working Paper No. 15521. National Bureau of Economic Research, Cambridge, MA.
- Clemens, Michael, Lant Pritchett, and Claudio Montenegro. 2009. "The Place Premium: Wage Differences for Identical Workers across the U.S. Border." HKS Faculty Research Working Paper Series RWP09-004, John F. Kennedy School of Government, Harvard University, Cambridge, MA.
- Council of Foreign Relations. 2009. "U.S. Immigration Policy." Independent Task Force Report N. 63. Washington, DC.
- Cortes, Patricia. 2008. "The Effect of Low-Skilled Immigration on U.S. Prices: Evidence from CPI Data." *Journal of Political Economy* 116 (3): 381–422.
- Cortes, Patricia, and Jose Tessada. 2011. Low-Skilled Immigration and the Labor Supply of Highly Skilled Women. *American Economic Journal: Applied Economics* 3 (3): 88-123.
- Department of Homeland Security (DHS). 2012a. "Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2011." Accessed at http://www.dhs. gov/files/statistics/publications/estimates-unauthorizedimmigrant-population.shtm.
- Department of Homeland Security (DHS). 2012b. 2011 Yearbook of Immigration Statistics. U.S. Department of Homeland Security, Office of Immigration Statistics. Washington, DC. Accessed at http://www.dhs.gov/files/statistics/publications/ yearbook.shtm.

- Docquier, Frederic, Caglar Ozden, and Giovanni Peri. 2010. "The Wage Effects of Immigration and Emigration." NBER Working Paper No. 16646. National Bureau of Economic Research, Cambridge, MA.
- Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. 2010. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics* (American Economic Association) 2 (2, April): 31–56.
- Hanson, Gordon. 2010. "Regulating Unskilled Immigration in the United States." American Enterprise Institute for Policy Research, Washington, DC.
- Kato, Takao, and Chad Sparber. 2010. "Quotas and Quality: The Effect of H-1B Visa Restrictions on the Pool of Prospective Undergraduate Students from Abroad." IZA Discussion Papers 4951. Institute for the Study of Labor (IZA).
- Kaushal, Neeraj. 2005. "New Immigrants' Location Choices: Magnets without Welfare." *Journal of Labor Economics* (University of Chicago Press) 23 (1, January): 59–80.
- Kerr William, and William F. Lincoln. 2010. "The Supply Side of Innovation: H-1B Visa Reforms and U.S. Ethnic Invention." *Journal of Labor Economics* (University of Chicago Press) 28 (3): 473–508.
- Kerr, Sari Pekkala, and William Kerr. 2009. "Economic Impact of Immigration: A Survey." HBS Working Paper 09-13. Harvard Business School, Cambridge, MA.
- Moretti, Enrico. 2004. "Estimating the Social Return to Higher Education: Evidence from Longitudinal and Repeated Cross-Sectional Data." *Journal of Econometrics* (Elsevier) 121 (1–2): 175–212.
- Moretti, Enrico. 2010. "Local Multipliers." *American Economic Review* (American Economic Association) 100 (2, May): 373–377.
- National Science Foundation (NSF). Multiyears. Survey of Earned Doctorates.
- Orrenius, Pia, and Madeline Zavodny. 2010. "Beside the Golden Door, U.S. Immigration Reform in a New Era of Globalization." American Enterprise Institute, Washington, DC.
- Ottaviano, Gianmarco I. P., and Giovani Peri. 2012. "Rethinking the Effect of Immigration on Wages." *Journal of the European Economic Association* 10(1, February): 152-197.
- Ottaviano, Gianmarco I. P., Giovanni Peri, and Greg C. Wright. 2010. "Immigration, Offshoring and American Jobs." NBER Working Paper No. 16439. National Bureau of Economic Research, Cambridge, MA.

- Passel, Jeffrey. 2006. "Unauthorized Migrants: Numbers and Characteristics, 2005: Estimates Based on the March 2005 Current Population Survey." Available at http:// pewhispanic.org/files/reports/61.pdf.
- Passel, Jeffrey, and D'Vera Cohn. 2011. "Unauthorized Immigrant Population: National and State Trends, 2010." Available at http://pewresearch.org/pubs/1876/unauthorizedimmigrant-population-united-states-national-statetrends-2010.
- Peri, Giovanni. 2007. "Higher Education, Innovation and Growth." In G. Brunello, P. Garibaldi and E. Wasmer (eds.) *Education and Training in Europe*. Oxford, UK: Oxford University Press.
- Peri, Giovanni. 2012a. "The Effect of Immigration on Productivity: Evidence from U.S. States." Review of Economics and Statistics 94(1, February): 348–358.
- Peri, Giovanni. 2012b. "Immigration and Europe's Demographic Problems: Analysis and Policy Considerations." CESifo DICE Report. *Journal for Institutional Comparisons* 9 (4, Winter).

- Peri Giovanni, and Chad Sparber. 2009. "Task Specialization, Immigration and Wages." *American Economic Journal* (Empirical Economics) June.
- Rauch, James E., and Vitor Trindade. 2002. "Ethnic Chinese Networks in International Trade." *The Review of Economics and Statistics* (MIT Press) 84 (1, February): 116–130.
- Saiz, Albert. 2007. "Immigration and Housing Rents in American Cities." *Journal of Urban Economics* (Elsevier) 61 (2, March): 345–371.
- Smith James, and Barry Edmonton. 1997. *The New Americans: Economic Demographic and Fiscal Effects of Immigration.* Washington, DC: National Academies Press.
- State Department. n.d. "Nonimmigrant Visa Statistics." Accessed at http://www.travel.state.gov/visa/statistics/nivstats/ nivstats_4582.html
- U.S. American Community Survey data, 2010.
- U.S. Bureau of Labor Statistics, O*NET database.
- U.S. Immigration and Naturalization Service (INS). n.d. Estimates of the Unauthorized Immigrant Population Residing in the United States: 1990 to 2000. Available at http://www.dhs.gov/ xlibrary/assets/statistics/publications/Ill_Report_1211.pdf.



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Highlights

Giovanni Peri of the University of California, Davis, proposes a series of reforms that would create a market-based immigration system in the United States. With a primary focus on the current allotment of employment-based visas, Peri's proposal would align the distribution of these visas with the current needs of the labor market and the economy in order to best benefit American citizens, immigrants and their U.S. family members, and states and localities with budgets disproportionately affected by immigration's costs.

The Proposal

Phase 1. Use market-based mechanisms to allocate temporary employment visas for specific existing categories. Employers would bid for permits to employ foreign workers. Each permit would be tied to a temporary visa, which would allow visas to be allocated based on the current demands of the labor market.

Phase 2. Simplify the temporary visa categories, and extend the auction system to include provisional visas that can be converted into permanent residence visas. The number of temporary visa categories would be reduced, simplifying the entire system. Permanent employment-based visas would be folded into a similar auction system for "provisional visas." All recipients of provisional visas entering the United States would be automatically eligible to apply for permanent residence after a five-year provisional period, during which time the immigrant must demonstrate a reasonably continuous employment history, tax compliance, and a clean criminal record.

Phase 3. Expand market-based reforms to encompass more of the immigration system. The number of employment-based provisional visas available would be expanded by rebalancing between family-based and employment-based visas. Many extended family members would more quickly and easily be able to enter the U.S. through the expanded employment-based system. The number of employment-based visas could be adjusted by Congress according to the current demand for labor as signaled by the prices of the permits.

Benefits

A simplified immigration system designed to meet the needs of the economy would allow the United States to maximize the many benefits of immigration and would create a fairer process for potential immigrants. The auction-based approach to visa allocation would mean that visas would be given to the immigrants who will contribute most to the U.S. economy and to companies most in need of foreign labor. The market mechanism would also provide useful signals about the constantly-changing economic demand for immigration. By redistributing the auction revenues to the states and localities that receive the largest immigrant inflows, the benefits and costs of immigration would be more evenly distributed across the states.



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