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Economic Growth & Immigration

Bridging the Demographic Divide

Immigration Policy Center
A division of the American Immigration Law Foundation

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EXECUTIVE SUMMARY

If the U.S. economy is to maintain at least 3 percent annual growth in its Gross Domestic Product (GDP) over the coming decade and beyond, the U.S. labor force must continue to expand. In many industries that rely heavily on workers who fill less-skilled jobs, increases in the labor force will be the primary means by which growth is achieved. Significant increases in productivity, which could substitute for labor force growth, are unlikely to occur. Moreover, this rising demand for labor likely will not be met solely by a native-born population that is growing steadily older and better educated, and which has already achieved high levels of participation in the labor force.

Since few additional workers can be culled from the native-born population, particularly in occupations that require little formal education or training, immigration has become a critical source of labor force growth. Immigrants fill more and more of the jobs that utilize younger workers with less education. At the same time, as immigrant workers spend their wages on housing and consumer goods, new jobs are created and labor demand increases. Yet current U.S. immigration policies remain largely unresponsive to the labor needs of the U.S. economy by imposing arbitrary and static limits on employment-based immigration that have merely diverted labor migration to undocumented channels or further clogged the family-based immigration system.

Among the findings of this report:

U.S. Labor Force Growth is Critical to U.S. Economic Growth—Due to the flattening or decline of productivity growth, labor force participation rates, and average hours worked, the level of U.S. economic growth in Bureau of Labor Statistics (BLS) projections for 2002–2012 is predicated on a growing supply of workers that likely will not be found in the native-born population alone.

- BLS assumes that the U.S. GDP will grow by 3 percent a year between 2002 and 2012 and projects that this economic growth will increase the number of U.S. jobs by 14.6 percent, from 144 million to 165 million.

- BLS projects that the number of workers in the United States will increase 11.7 percent between 2002 and 2012, from 145 million to 162 million, as a result of both natural population increase and immigration.

- BLS assumes that significant increases in productivity, which could sustain economic growth with fewer workers, are unlikely over the coming decade. Productivity growth has in fact declined in recent years, from 4.0 percent in 2002 to 3.8 percent in 2003, 3.4 percent in 2004, and 2.5 percent in the first two quarters of 2005.

- It is unlikely that many additional workers can be squeezed from the existing U.S. population given that the labor force participation rate among the native-born has actually declined from 66.4 percent in 1994 to 65.5 percent in 2004.

- U.S. workers are unlikely to work additional hours. Workers in the United States currently average 35 hours of work per week, which is high compared to most other developed countries, but represents a steady decline from the U.S. average in the 1950s.

Immigration is Key to U.S. Labor Force Growth—Given that labor force participation rates in the United States are trending downward, population growth will be the primary source of labor force growth in the years to come. Because natural population increase is unlikely to provide sufficient workers, immigration will play a critical role in sustaining the labor force growth needed to maintain overall economic growth.

➢ BLS devotes special attention to immigration in projecting future labor force growth by noting that growth in particular age groups of the labor force must come from immigration, since the U.S. workers in some age groups, such as those age 25 to 34 in 2012, are already born.

➢ BLS projects that net immigration will add 4.25 million workers to the U.S. labor force between 2002 and 2012, representing a quarter of total labor force growth.

➢ Absent a change in current immigration law, undocumented immigrants will likely account for 1 in 8 new workers between 2002 and 2012.

The U.S. Economy Continues to Demand Workers for Less-Skilled Jobs—The shifting demographics of the native-born workforce would present less of an economic challenge if the number of less-skilled jobs were not expanding. However, BLS projects that a significant share of new jobs and job openings during 2002–2012 will occur in industries that employ large numbers of workers with lower levels of formal education or training.

➢ Many of the 58 mostly service industries projected to have faster than average employment growth between 2002 and 2012 employ workers in less-skilled jobs, and these fast-employment growth industries collectively account for 84 percent of the total projected employment growth.

➢ Because of turnover, BLS projects 56 million job openings between 2002 and 2012, or an average of 2.6 job openings for each net additional job. In many of the fastest growing sectors of the economy that require workers for less-skilled jobs, there are projected to be 3 or 4 job openings for each net new job.

➢ In 2004, the foreign-born share of workers was highest in less-skilled occupations such as farming, janitorial services, construction, and food preparation, where between 20 and 38 percent of workers were immigrants.

Immigrant Workers Complement the Native-Born Labor Force—As the number of less-skilled jobs continues to grow, it will become increasingly difficult for employers to find native-born workers, especially younger ones, with the educational levels that best correspond to those jobs. In this sense, immigrant workers are a vital complement to a native-born labor force that is growing older and better educated.

➢ Roughly three-fifths of the native-born labor force in 2004 had either a high-school diploma or some college education short of a four-year degree, whereas three-fifths of the foreign-born labor force either did not have a high-school diploma or had at least a four-year college degree.

➢ In 2004, 67 percent of the foreign-born labor force age 25 and older with a high-school diploma or less education was under 45, as opposed to 52 percent of the native-born labor force with no more than a high-school diploma. Immigrants made up more than a quarter of all 25–34 year-old workers with a high-school diploma or less.

Current Immigration Limits Are Inadequate to Meet Labor Demand—Despite the critical role played by foreign-born workers in many less-skilled job categories, the current immigration system offers very few visas that are designed or available for these workers.

➢ Only one of the five preference categories of visas for permanent immigration is set aside for workers in less-skilled jobs, and only 1,525 of these visas were granted to workers in 2004.

➢ Only 2 of the 16 types of temporary immigrant visas available for employment and training in the United States are available to workers in industries that require little or no formal training. One (H2A) is restricted to agricultural workers and the other (H2B) is capped at 66,000 per year.

INTRODUCTION

The U.S. economy faces a demographic challenge. Among the native-born population, workers are growing older and better-educated, fertility rates are falling, and labor force participation rates have likely have peaked. However, the economy continues to produce a large number of less-skilled jobs that favor younger and less educated workers. These divergent trends present an obstacle to continued labor force growth, which is an essential component of economic growth in general. Barring unforeseen increases in productivity, which are particularly unlikely in many of the labor-intensive industries that generate the greatest number of less-skilled jobs, expansion of the workforce is crucial to continued growth in many sectors of the economy.

Immigration fills this gap between native labor supply and domestic labor demand, especially in less-skilled occupations for which relatively few native-born workers are available. Immigrants are more likely than native-born workers to be younger, to have a high-school education or less, and to participate in the labor force. As a result, they comprise a disproportionate share of workers in less-skilled jobs and, according to federal employment and workforce projections, will continue to do so over the coming decade. In other words, immigration has become an engine of labor force growth and, therefore, plays a vital role in economic growth in many industries and the U.S. economy as a whole. Moreover, the economic benefits of immigration extend beyond simply increasing the supply of available labor. As immigrant workers spend and invest their earnings, new jobs are created, demand for labor increases, and wage levels rise—offsetting any decline in wages that might have resulted from the introduction of more workers into the labor force.

Despite the critical role of immigration in labor force growth, current legal limits on immigration fail to accommodate the demand for immigrant labor. Arbitrary numerical caps and bureaucratic hurdles severely limit the options for employment-based immigration, thereby consigning a large portion of labor migration to the United States to an underground market. Absent a major change in immigration law, a significant share of immigrant workers will continue to come to the United States outside of legal channels. These realities suggest an inherent conflict between the restrictions of the U.S. immigration system and the labor needs of the U.S. economy. As the growth of the undocumented immigrant population reveals, economics is winning.

U.S. LABOR FORCE GROWTH IS ESSENTIAL TO U.S. ECONOMIC GROWTH

The primary sources for estimating the future demand for and supply of workers are the projections of employment and labor force growth made by the Bureau of Labor Statistics (BLS). The methodology for making employment projections begins with forecasts of U.S. economic growth. BLS assumes that the real or inflation-adjusted Gross Domestic Product (GDP) will grow by 3 percent a year between 2002 and 2012. BLS expects that this economic growth will increase the number of U.S. jobs by 14.6 percent, from 144 million to 165 million. However, it is possible that GDP will rise at a faster rate. Average annual growth in GDP has in fact increased sharply since the 2001 recession, from 1.6 percent in 2002 to 4.2 percent in 2004. If GDP growth exceeds BLS projections, the number of jobs demanded for sustained economic growth likely will be higher.

At the same time the number of jobs is projected to increase, BLS expects the labor force (employed and unemployed workers) to grow as well. Based on projections of births, deaths, and international migration, BLS forecasts that the number of workers will increase 11.7 percent between 2002 and 2012, from 145 million to 162 million. BLS does not explicitly state that this many additional workers are needed to fill the projected increase in the number of jobs, or that increasing the number of workers requires an increase in the U.S. population. However, an analysis of BLS assumptions and projections supports both of these conclusions. BLS assumes that significant increases in productivity, which could sustain economic growth with fewer workers, are unlikely over the coming decade. It is also unlikely, given current trends, that many additional workers can be squeezed from the native-born population through higher rates of labor force participation, or that workers in the United States will dramatically increase the number of hours they work.[1] As a result, the level of economic growth projected by BLS is predicated on a growing supply of workers that is not likely to be found in the native-born population alone.

[1] There are several key assumptions that affect BLS' estimate of the size of the economy in 2012: the interest rate on 10-year treasury notes will be 6.25 percent in 2012; the federal deficit will be $164 billion; and the U.S. population will be 315 million.

Productivity Growth is Slowing

BLS assumes that productivity (output per hour worked) will grow by 2.1 percent per year during 2002–2012. At first glance, this might seem to be an overly conservative estimate given that the U.S. economy has been experiencing a productivity boom. While annual productivity growth has averaged 2.3 percent since 1947, this average has increased to 2.5 percent per year since 1994 and 3.7 percent since 2001 (which helps explain the slow rebound of employment after the 2001 recession). Remarkably, this rapid increase in productivity has occurred during a period of high immigration, particularly of workers who fill less-skilled jobs, which is not usually associated with high productivity growth. Since the mid-1990s, the U.S. economy has demonstrated that high levels of both immigration and productivity growth can co-exist.

Despite the recent boom, the consensus among economists is that sustainable productivity growth is no greater than 2.6 percent a year. Federal Reserve chairman Alan Greenspan has said that the "remarkable acceleration of productivity [is] unlikely to be maintained in an economy that has reached the cutting edge of technology."[2] Some economists believe that the acceleration of productivity growth to 4 percent after 2001 was a transitory occurrence that resulted from employers learning how to better use the computers they bought in the late 1990s, as well as continued incremental improvements in technology, such as one-driver garbage trucks with robotic arms replacing crews of two or three. There is evidence that productivity growth rates are already slowing and returning to the historical average. In 2002, annual productivity growth was 4.0 percent, but declined to 3.8 percent in 2003 and 3.4 percent in 2004. For the first two quarters of 2005, productivity growth averaged 2.5 percent.

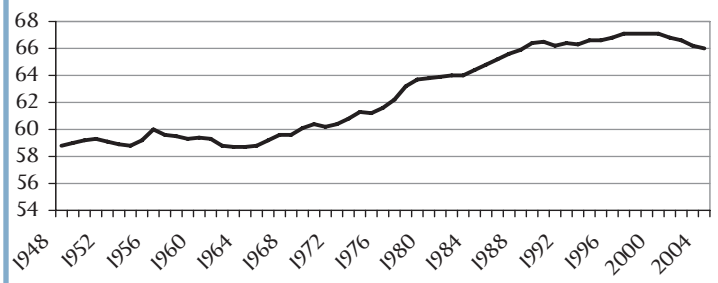
Labor Force Participation Rates Are Near Historic Highs

Labor force participation rates measure the proportion of the population age 16 and older who are either employed or looking for employment. If the labor force participation rate of the population rises, then the labor force will expand even if the population itself is not growing. However, this is not the trend in the United States. In 2004, the labor force participation rate of the population as a whole was 66.0 percent, down from 66.6 percent in 1994 (Figure 1). The labor force participation rate of the native-born population fell by a slightly greater margin, from 66.4 percent in 1994 to 65.5 percent in 2004. This stands in marked contrast to the general trend between 1950 and 2000, when rising labor force participation among married women fueled significant increases in the labor force participation rate in general. However, 60 percent of women age 16 and older are now in the labor force and their labor force participation rate is unlikely to go much higher. BLS projects the labor force participation rate of women to rise only slightly, to 62 percent in 2012.[3]

Of course, it is possible that a greater number of older Americans—healthier and better educated than earlier gen-

Figure 1

LABOR FORCE PARTICIPATION RATE OF U.S. POPULATION AGE 16 AND OLDER, 1948-2004



Source: Immigration Policy Center compilation of Bureau of Labor Statistics data.

Figure 2

LABOR FORCE PARTICIPATION RATE OF POPULATION AGE 16 AND OLDER IN DEVELOPED NATIONS, 2004 *(except as noted)*

Canada	67.3%
United States	66.0%
Australia	64.7%
Sweden	63.7%
United Kingdom	63.0%
Japan	60.0%
France (2003)	57.4%
Germany (2003)	56.4%
Italy	49.1%

Source: BLS Foreign Labor Statistics, ftp://ftp.bls.gov/pub/special.requests/ForeignLabor/flslforc.txt.

[2] Quoted in Edmund L. Andrews, "Productivity Is the Issue of the Hour for the Fed," *New York Times*, August 8, 2005.

[3] Mitra Toossi, "Labor force projections to 2012: the graying of the U.S. workforce," *Monthly Labor Review* 127(2), February 2004, p. 45.

Figure 3

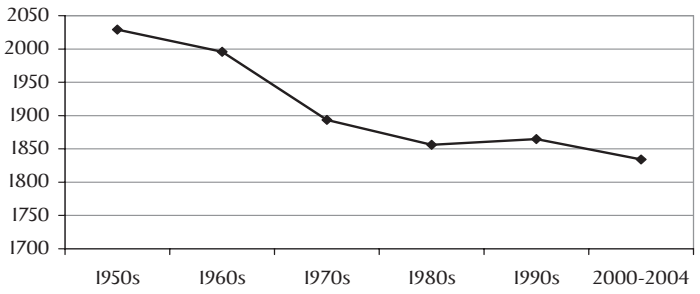
ANNUAL ACTUAL HOURS WORKED PER PERSON IN DEVELOPED NATIONS, 2004

United States	1824.5
Australia	1815.5
Spain	1799.1
Japan	1789.2
Canada	1751.2
United Kingdom	1669.0
Italy	1585.0
Sweden	1584.8
Germany	1442.5
France	1441.4

Source: Immigration Policy Center compilation of Organization for Economic Co-operation and Development data.

Figure 4

ANNUAL ACTUAL HOURS WORKED PER PERSON IN THE UNITED STATES, BY DECADE



Source: Immigration Policy Center compilation of Organization for Economic Co-operation and Development data.

erations—may want to work past the traditional retirement age to stay active and earn money to fund their longer life spans. Or they may work into retirement age because of the decline in the share of workers with generous pension plans. But BLS does not expect this to occur. Although BLS expects labor force participation rates to increase slightly through 2012, there is no expectation that these rates will increase further. In fact, the Congressional Budget Office takes the view that "over the next decade and beyond, the shifting composition of the population will dampen the overall labor force participation rate."[4] Since 2000, labor force participation rates have been trending downward (Figure 1).

Despite this downward trend, labor force participation rates in the United States remain high by international standards. Compared to other developed nations, the overall labor force participation rate in the United States is well above the median. Canada had a higher rate of labor force participation than the United States in 2004, while significantly lower rates were found in Australia, Sweden, the United Kingdom, Japan, France, Germany, and Italy (Figure 2).

Average Work Hours Have Declined

Workers in the United States currently average 1,825 hours of work per year, or 35 hours per week. While this is higher than in most other developed countries (Figure 3), it represents a steady decline from the historical highs of the 1950s (Figure 4). So far this decade, U.S. workers are averaging fewer actual work hours per year than in any previous decade since World War II. Given this long-term downward trend, it is unlikely that U.S. workers will significantly increase their labor hours in the near future.

IMMIGRATION IS KEY TO U.S. LABOR FORCE GROWTH

Labor force growth is the product of two factors: labor force participation and population increase. Given that labor force participation rates in the United States are unlikely to increase, population growth will be the primary source of labor force growth in the years to come. However, natural population increase is unlikely to provide sufficient workers to sustain the labor force growth needed to maintain overall economic growth. The average fertility rate in the United States currently averages between 2.0 and 2.1 births per woman, with 2.1 considered the minimum required to replace the existing population.[5] The United Nations projects that the U.S. fertility rate will fall to 1.91 births per woman in 2015–2020.[6] As a result, growth of the population and thus the labor force will increasingly depend on immigration.

[4] Congressional Budget Office, *CBO's Projections of the Labor Force*, September 2004, p. 5.

[5] Barbara Downs, *Fertility of American Women: June 2002*, Current Population Reports, P20-548. Washington, DC: U.S. Census Bureau, October 2003, p. 1.

[6] Population Division, Department of Economic and Social Affairs, United Nations, *World Population Prospects: The 2004 Revision, Highlights*, February 24, 2005, p. 71.

BLS devotes special attention to immigration in projecting future labor force growth, noting that growth in particular age groups of the labor force must come from immigration, since the U.S. workers in some age groups, such as those age 25 to 34 in 2012, are already born. In calculating the labor force growth resulting from immigration, BLS relies on estimates from the U.S. Census Bureau, which projects immigration year to year based on assumptions about entries and exits of both legal and undocumented migrants.[7] The Census Bureau's "middle series" projections assume that immigration will average 1.1 million a year between 2002 and 2012.[8] However, after accounting for out-migration, the Census Bureau estimates that net immigration will average 850,000 a year during this period (Figure 5).

Using these Census Bureau estimates, BLS assumes 12 million immigrants will come to the United States between 2002 and 2012. However, some U.S. residents (including immigrants) are expected to leave the country during this period, so net immigration is projected to total 8.5 million. If the labor force to population ratio of these immigrants is consistent with historical trends, then half of them—or 4.25 million—will join the workforce and will account for a fourth of total projected labor force growth.[9] It is likely, however, that BLS projections underestimate the importance of immigration in labor force growth. Immigrants accounted for 47 percent of growth in the workforce during the 1990s and at least 60 percent from 2000 to 2004.[10]

It is especially noteworthy that absent a major change in the current laws governing legal immigration, a significant portion of the labor provided by immigrants can be expected to come from undocumented immigration. According to estimates from the Pew Hispanic Center, the number of immigrants arriving in the United States from 2000 to 2004 averaged approximately 1.3 million, which is very close to the estimates used by BLS. However, more than half of these arrivals—53 percent—were undocumented.[11] If this disconnect between the labor force needs of the U.S. economy and

Figure 5

U.S. CENSUS MIGRATION PROJECTIONS, MIDDLE SERIES, 1991–2020

	Net Migration	In-Migration	Out-migration
1991	664	916	252
1992	824	1,078	254
1993	805	1,063	258
1994	747	1,008	261
1995	853	1,116	263
1996	857	1,124	267
1997	954	1,227	273
1998	956	1,234	278
1999	954	1,236	282
2000	964	1,251	287
2001	974	1,267	293
2002	974	1,272	298
2003	939	1,243	304
2004	905	1,213	308
2005	872	1,184	312
2010	713	1,036	323
2015	734	1,063	329
2020	751	1,090	339

Source: Frederick W. Hollmann, Tammany J. Mulder, & Jeffrey E. Kallan, *Methodology and Assumptions for the Population Projections of the United States: 1999 to 2100*, Population Division Working Paper, No. 38. Washington, DC: U.S. Census Bureau, January 2000,Table E.

Note: In-migration is the net in-movement from all sources, including net unauthorized migration. Out-migration is emigration of legal residents.

[7] The Census Bureau uses the cohort-component method to project the population. That is, the components of population change (fertility, mortality, and net migration) are projected separately for each birth cohort (persons born in a given year). The base population is advanced each year by using projected survival rates and net international migration by age, sex, race, and Hispanic origin. (http://www.census.gov/population/www/projections/aboutproj.html).

[8] U.S. Census Bureau, http://www.census.gov/popest/states/NST-comp-chg.html.

[9] Since labor force participation rates differ more by age and sex than by race and ethnicity, BLS makes no distinctions between native and foreign-born residents in labor force projections. Labor force participation rates among Hispanics, who are the majority of immigrants, are higher than average for men and lower than average for women, with the result that immigrants have the same 50 percent labor force-population ratio as all U.S. residents.

[10] Andrew Sum, et al., *Foreign Immigration and the Labor Force of the U.S.: The Contributions of New Foreign Immigration to the Growth of the Nation's Labor Force and Its Employed Population, 2000 to 2004*. Boston, MA: Center for Labor Market Studies, Northeastern University, July 2004.

[11] Jeffrey S. Passel, *Unauthorized Migrants: Numbers and Characteristics*. Washington, DC: Pew Hispanic Center, June 14, 2005.

legal limits on immigration continues, then roughly 1 in 8 new workers joining the U.S. labor force over the coming decade will be undocumented immigrants.

THE IMPACT OF IMMIGRATION ON THE U.S. ECONOMY

Despite the critical role that immigration plays in preventing labor shortages that might impede economic growth, many critics of immigration argue that foreign-born workers reduce the wages of native-born workers with whom they compete for jobs. However, this argument relies on an overly simplistic understanding of labor supply and demand which fails to capture the true value that immigrants bring to the economy. If the economic impact of immigration is to be accurately gauged, the role that immigrants play in creating jobs is just as important as the role they play in filling jobs.

There are two models that can be used to analyze the impact of immigration on the U.S. economy as a whole: "static" and "dynamic" (see Appendix A). The static model is the simplest and most frequently used by critics of immigration, yet is also the least realistic in that it fails to account for the multi-dimensional role that immigrants play as workers, consumers, and entrepreneurs. The dynamic model, on the other hand, offers a more nuanced portrait of immigrants as economic actors. The net economic benefits of immigration are apparent in both models, but are most pronounced in the dynamic model.

Under the static model, it is assumed that immigrant workers serve only to increase the labor supply, which results in slightly lower wages and thus higher profits for the owners of capital. In other words, if there are more workers competing for a job, an employer might pay a lower wage for that job and pocket the difference. For instance, under the static model, the 125 million native-born workers in the United States in 1997 would have earned an average of $13 per hour if not for the presence of immigrants. However, the 15 million immigrant workers who were actually in the country increased the labor force to 140 million and, under the static scenario, thereby lowered average wages by 3 percent to $12.60 per hour. Yet the net benefit to the U.S. economy of this decline in wages would have amounted to about $8 billion in *added* national income in 1997.

Despite the seeming simplicity of this logic (more workers competing for jobs results in lower wages for workers and higher profits for businesses), the assumptions underlying the static model bear little resemblance to economic reality. Recent evidence supports the contention that the impact of immigration on wages is not as simple, or negative, as the static model would suggest. A 2004 study found that, despite the large influx of immigrants without a high-school diploma from 1980 to 2000, the wages of U.S.-born workers without a diploma relative to the wages of U.S.-born workers with a diploma "remained nearly constant."[12]

The inability of the static model to explain this finding rests in part on the fact that the model incorrectly assumes immigrant and U.S.-born workers are perfectly interchangeable; that is, that they substitute for each other rather than complement each other in the labor force. Common sense alone suggests that this is not always the case. For example, less-skilled foreign-born construction laborers enhance the productivity of U.S.-born carpenters, plumbers, and electricians, but do not necessarily substitute for them. More broadly, the different educational and age profiles of foreign-born and native-born workers indicate that they often fill different niches in the labor market.

More importantly, the static model fails to account for the fact that immigrants spend money or invest capital, both of which create jobs and thus exert upward pressure on wages by increasing the demand for labor. This amounts to more than a minor omission given the scale of immigrant purchasing power and entrepreneurship. For instance, in 2004, consumer purchasing power totaled $686 billion among Latinos and $363 billion among Asians.[13] Given that roughly 44 percent of Latinos and 69 percent of Asians were

[12] David Card, *Is the New Immigration Really So Bad?* (CDP No 02/04). Centre for Research and Analysis of Migration, Department of Economics, University College, London, April 2004, p. 23.

[13] Jeffrey M. Humphreys, "The multicultural economy 2004: America's minority buying power," *Georgia Business and Economic Conditions* 64(3), Third Quarter 2004 (Selig Center for Economic Growth, University of Georgia).

foreign-born in that year,[14] the buying power of immigrants reached into the hundreds of billions of dollars.

The dynamic model accounts for many of these additional economic contributions by immigrants. In the dynamic scenario, immigrant workers spend some of their wages on housing and consumer goods, which in turn increases the demand for labor by creating new jobs. Rising labor demand then increases wages relative to what would have existed if immigrant workers had not been present in the labor market. The end result is a larger economy with higher employment.

THE NATIVE-BORN WORKFORCE IS INCREASINGLY UNLIKELY TO FILL LESS-SKILLED JOBS

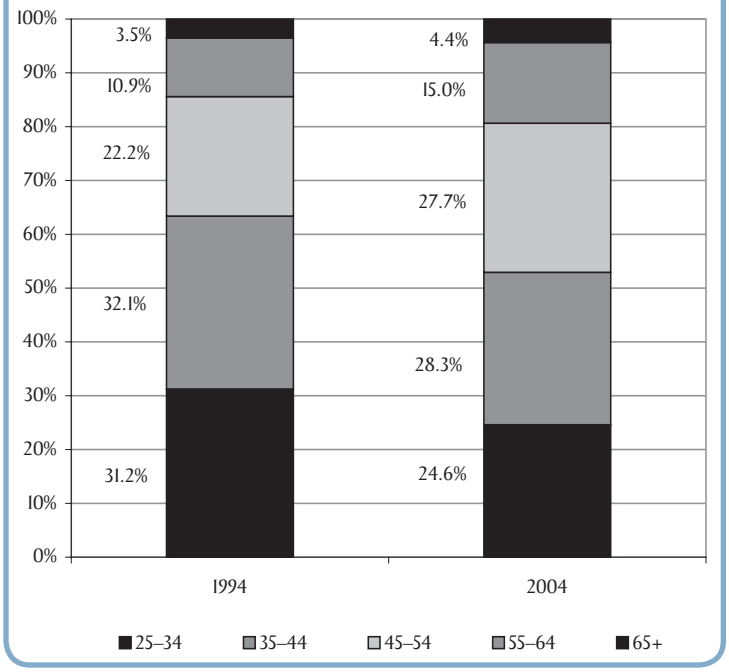
Underlying the critical importance of immigration to labor force growth is the fact that the native-born workforce is increasingly unlikely to fill many of the less-skilled jobs being created by the U.S. economy. Less-skilled jobs usually involve a high degree of physical exertion or repetitiveness. As a result, these jobs tend to utilize workers who are younger and generally appeal to those workers with lower levels of formal education. However, the native-born labor force offers a diminishing pool of workers who might fill such jobs. The native-born population as a whole is growing older and successive generations of native-born workers are better educated. While the trend towards a more highly educated native-born workforce is obviously a positive development, it presents a serious challenge to those sectors of the economy that employ workers with less education.

The Native-Born Population is Growing Older

The native-born population of the United States is steadily aging as the "baby boom" generation (individuals born between 1946 and 1964) approaches retirement. According to data from the Current Population Survey,[15] the median age of the native-born population rose from 32 years old in 1994 to 35 years old in 2004. As the "baby boomers" grow older, the median age of the native-born population as a whole will rise further. This has important implications for the size of the labor supply and the growth of the labor force, particularly in occupations that are physically demanding.

Figure 6

NATIVE-BORN LABOR FORCE AGE 25 AND OLDER BY AGE GROUP, 1994 AND 2004



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

While the number of older workers is increasing among the native-born, the number of younger workers is falling as birth rates decline and population growth slows. Between 1994 and 2004, the proportion of the native-born labor force consisting of workers age 25–44 fell from 63.3 percent to 52.9 percent. At the same time, the proportion comprised of workers age 45–64 increased from 33.1 percent to 42.7 percent (Figure 6). In 2004, there were 29.3 million native-born workers age 45–54 in the labor force and 30.0 million age 35–44, compared to only 26.0 million age 25–34. As workers in older age brackets retire, the smaller generations behind them will be insufficient to fill the positions they vacate. This pattern will present a significant challenge to labor force growth in

[14] U.S. Census Bureau, American Community Survey data, 2004.

[15] "The Current Population Survey (CPS) is a monthly survey of about 50,000 households conducted by the Bureau of the Census for the Bureau of Labor Statistics…The CPS is the primary source of information on the labor force characteristics of the U.S. population." (http://www.bls.census.gov/cps/overmain.htm).

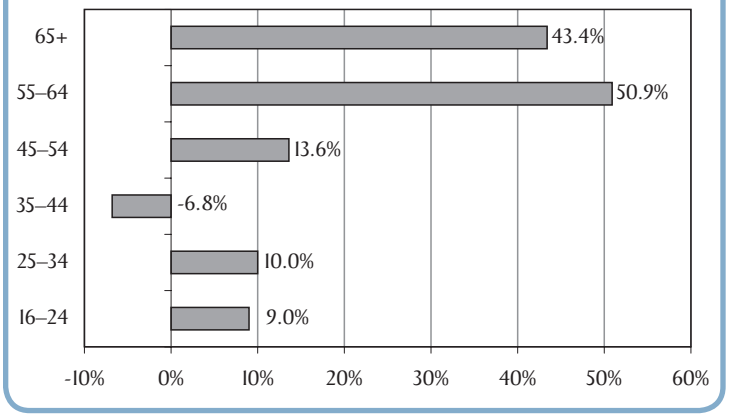
the near future. As of 2004, 15.0 percent of the native-born labor force was within 10 years of the traditional retirement age, while an additional 4.4 percent was already over the age of 65. BLS projects that between 2002 and 2012, the number of workers age 55–64 will increase 50.9 percent, while the number age 35–44 will decline 6.8 percent (Figure 7).

The Native-Born Labor Force is Increasingly Well-Educated

At the same time that the number of older native-born workers is rising, the diminishing number of younger native-born workers is becoming better educated. The proportion of the native-born labor force age 25 and older with a high-school diploma or less fell from 44.3 percent in 1994 to 37.8 percent in 2004. Conversely, the proportion with a four-year college degree or more education rose from 27.2 percent to 32.6 percent (Figure 8). Not surprisingly, this trend was most pronounced among younger workers. Between 1994 and 2004, the proportion of native-born workers age 25–34 with a high-school diploma or less fell from 43.7 percent to 35.3 percent, while the share with at least a four-year college degree rose from 25.9 percent to 33.7 percent.

Figure 7

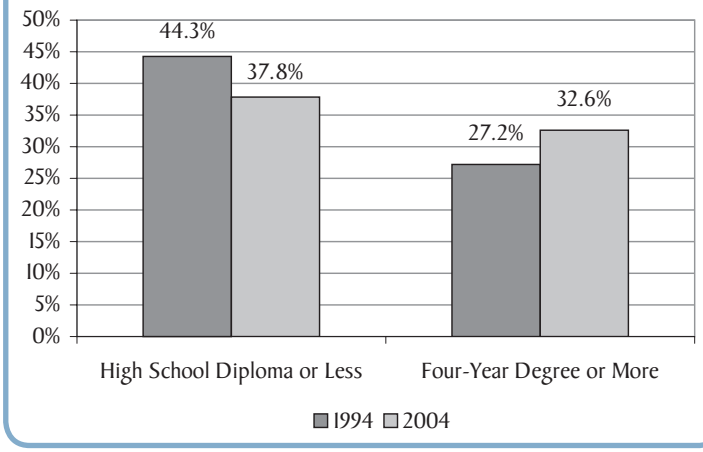
PROJECTED CHANGE IN SIZE OF U.S LABOR FORCE BY AGE GROUP, 2002–2012



Source: Immigration Policy Center tabulations of data from Mitra Toossi, "Labor force projections to 2012: the graying of the U.S. workforce," *Monthly Labor Review* 127(2), February 2004, p. 45.

Figure 8

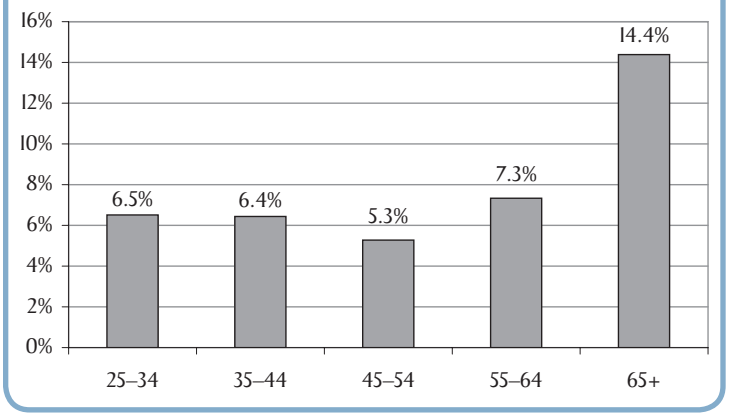
EDUCATIONAL ATTAINMENT OF NATIVE-BORN LABOR FORCE AGE 25 AND OLDER, 1994–2004



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

Figure 9

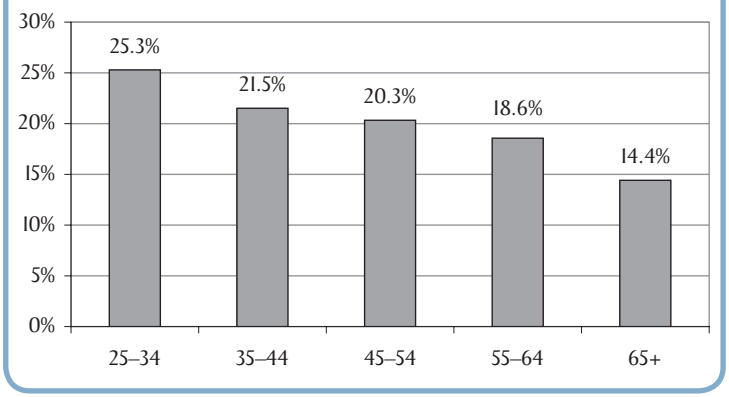
PROPORTION OF NATIVE-BORN LABOR FORCE AGE 25 AND OLDER WITHOUT A HIGH SCHOOL DIPLOMA BY AGE GROUP, 2004



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

Figure 10

PROPORTION OF NATIVE-BORN LABOR FORCE AGE 25 AND OLDER WITH A FOUR-YEAR COLLEGE DEGREE BY AGE GROUP, 2004



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

The rising educational attainment of the native-born labor force implies that a growing share of native-born workers with relatively little education is in older age groups. For instance, in 2004, only 6.5 percent of native-born workers age 25–34 had less than a high-school diploma, compared to 14.4 percent of those age 65 and older (Figure 9). At the same time, successive age groups contain smaller proportions of workers with a four-year college degree. Compared to the 25.3 percent of native-born workers age 25–34 with a four-year college degree, only 14.4 percent of native-born workers age 65 and older had comparable levels of education (Figure 10).

THE U.S. ECONOMY CONTINUES TO DEMAND WORKERS IN LESS-SKILLED JOBS

The shifting demographics of the native-born workforce would present less of an economic challenge, at least in the short term, if the number of less-skilled jobs were not expanding. However, BLS projects that a significant share of new jobs and job openings during 2002–2012 will occur in industries that employ large numbers of workers with lower levels of formal education or training.

Figure 11

EMPLOYMENT BY INDUSTRY, 2002–2012

Employment by Industry	2002 (Mil.)	2012 (Mil.)	Change (Mil.)	Change
Total	**144.0**	**165.3**	**21.3**	**14.8%**
Nonfarm Wage/Salary	*131.1*	*152.7*	*21.6*	*16.5%*
Construction	6.7	7.7	1.0	15.0%
Manufacturing	15.3	15.1	-0.2	-1.0%
Services	108.5	129.3	20.8	19.2%
Ed/Health Services	16.2	21.3	5.1	31.8%
Pro/Bus Services	16.0	20.9	4.9	30.4%
State/Local Govt.	18.7	21.2	2.5	13.4%
Leisure/Hospitality	12.0	14.1	2.1	17.8%
Retail Trade	15.0	17.1	2.1	13.8%

Source: Jay Berman, "Industry Output and Employment Projections to 2012," *Monthly Labor Review* 127(2), February, 2004, p. 59.

Future Job Growth Concentrated in Service Industries

BLS estimates that 98 percent of projected employment growth between 2002 and 2012 will be in service industries.[16] Fully 80 percent of these new jobs will be concentrated in just five service sectors: education and health services; professional and business services; state and local governments; leisure and hospitality services; and retail trade (Figure 11). Within these broad sectors are numerous sub-sectors that produce many less-skilled jobs. For example, growth in education and health services employment accounts for a quarter of the total projected 2002–2012 employment growth. Within education and health services, 40 percent of employment growth is expected to be in ambulatory health care services, or persons who provide health and other care to the elderly in their homes.

Many of the 58 mostly service industries projected to have faster than average employment growth employ workers in less-skilled jobs, and these fast-employment growth industries collectively account for 84 percent of the total projected employment growth.[17] Employment services, doctors' offices,

Figure 12

EDUCATIONAL ATTAINMENT OF WORKERS IN SELECTED INDUSTRIES, 2004

Industry	HS Diploma or Less	Four-Year Degree or More
All Industries	**42.6%**	**28.9%**
Accommodation	57.4%	16.7%
Administrative & Support Services	55.7%	16.8%
Agriculture	67.3%	13.3%
Construction	65.5%	10.4%
Food Manufacturing	69.5%	12.2%
Food Services and Drinking Places	64.0%	9.1%
Forestry, Logging, Fishing, and Hunting	61.2%	13.6%
Furniture and Fixtures Manufacturing	66.8%	10.3%
Repair and Maintenance	65.4%	7.4%
Textile, Leather, and Apparel Manufacturing	70.7%	13.4%
Waste Management	69.8%	7.3%

Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

[16] The projected number of jobs in particular industries was derived from the GDP estimated for 2012 "coupled with expert assessment of likely trends to produce employment projections for 725 detailed occupations" for 2012 (Michael W. Horrigan, "Employment projections to 2012: concepts and context," *Monthly Labor Review* 127(2), February 2004, p. 4). In other words, BLS projects net output for a sector such as hospitals and uses this projection to make industry and occupational employment projections. For example, half of U.S. registered nurses (RNs) are employed in hospitals, so BLS projected the 2012 output of hospitals and other industries that employ RNs to estimate that the number of RN jobs would rise from 2.3 million in 2002 to 2.9 million in 2012, an increase of 623,000.

[17] Michael W. Horrigan, "Employment projections to 2012: concepts and context," *Monthly Labor Review* 127(2), February 2004, p. 9.

Figure 13

EMPLOYMENT GROWTH IN SELECTED OCCUPATIONS, 2002–2012

	2002	2012	New Jobs	Total Openings	Openings/ New Job
	(Mil.)	(Mil.)	(Thou.)	(Thou.)	
All Occupations	**144.0**	**165.3**	**21,305**	**56,305**	**2.6**
Farming Occupations	1.1	1.1	35	335	9.6
Retail Sales Workers	8.2	9.4	1,167	4,578	3.9
Food Prep and Serving	10.2	11.8	1,607	5,659	3.5
Food Processing Workers	0.8	0.8	79	254	3.2

Source: Daniel Hecker, "Occupational Employment Projections to 2012," *Monthly Labor Review* 127(2), February 2004, p. 82-97.

Figure 14

EDUCATIONAL ATTAINMENT OF WORKERS IN SELECTED OCCUPATIONS, 2004

Occupation	HS Diploma or Less	Four-Year Degree or More
All Occupations	**38.7%**	**27.1**
Bldg. and Ground Maintenance, Housekeepers, Pest Control	71.0%	3.9%
Carpenters	67.5%	6.1%
Carpet, Floor, and Tile Installers, Cement Masons, Drywall Installers	73.1%	3.5%
Cashiers, Retail & Part Salespersons, and Other Sales Workers	37.5%	23.6%
Farming, Forestry, Fishing	66.3%	4.2%
Food Preparation, Bartenders, Servers, Dishwashers	52.3%	6.3%
Office & Admin. Support	39.9%	14.6%
Painters, Roofers, Plumbers, Insulation Workers, Elevator Installers	67.1%	5.5%

Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

food services, and construction are projected to account for 5.3 million additional jobs, or a quarter of the total expected to be added by 2012. For example, food services and drinking places are projected to have output growth slightly above average, 2.4 percent a year versus the 2 percent average, as well as employment growth of 16 percent, which boosts the number of jobs in this sector from 8.4 million in 2002 to 9.7 million in 2012.

The large share of less-skilled jobs in these industries is indicated by the educational profile of the workers employed in them. Thus in professional and business services, almost 60 percent of projected employment growth is expected to be in administrative and support services, and an additional 35 percent in employment services. In 2004, 52.6 percent of workers in administrative and support services had a high-school diploma or less education, while only 19.2 percent had a four-year college degree or more education. Similarly, nearly 40 percent of workers in employment services had a high-school diploma or less, compared to 28.3 percent who had at least a four-year college degree (Figure 12).

Another sector that relies heavily on workers with lower levels of education and is projected to experience high job growth is construction. The number of construction jobs is predicted to rise by over one million to 7.7 million by 2012. In 2004, 65.5 percent of construction workers had only a high-school diploma or less education (Figure 12).

High Job Growth and Replacement in Occupations with Low Educational Levels

Employment growth alone does not gauge accurately the demand for workers. In addition to filling new jobs, workers are needed to replace other workers who change occupations or retire. BLS expects employment in all occupations to rise by 21 million between 2002 and 2012. However, because of turnover, BLS projects 56 million job openings during the decade, or an average of 2.6 job openings for each net additional job. In many of the fastest growing sectors of the economy that require workers for less-skilled jobs, there are projected to be 3 or 4 job openings for each net new job (Figure 13). Even in sectors such as manufacturing which are not expected to experience job growth, there nevertheless will be job openings due to worker turnover.

Occupations with high levels of turnover often utilize workers with lower levels of educational attainment. For instance, BLS projects that farming occupations will add 35,000 net new jobs between 2002 and 2012, but will have 335,000 job openings during the same period. Currently, 66.3 percent of workers in farming occupations have a high-school diploma or less education (Figure 14).

While the job turnover rate in farming is exceptionally high, other occupations requiring relatively little education will likely experience job openings far in excess of new jobs created. BLS projects an additional 1.6 million jobs in food preparation and serving occupations during 2002–2012, but a total of 5.7 million job openings. In 2004, 67.4 percent of the workers in food preparation and serving had a high-school diploma or less

education. Positions in retail sales are expected to increase by nearly 1.2 million between 2002 and 2012, with 4.6 million job openings. In 2004, roughly 38 percent of workers in retail sales had a high-school diploma or less education (Figure 14).

IMMIGRANT WORKERS COMPLEMENT THE NATIVE-BORN LABOR FORCE

As the number of less-skilled jobs continues to grow, increasingly it will become difficult for employers to find native-born workers, especially younger ones, with the education levels that best correspond to those jobs. In this sense, immigrant workers are a vital complement to a native-born labor force that is growing older and better educated. On average, foreign-born workers tend to be younger than their native-born counterparts and a larger proportion have less formal education. In addition, immigrants participate in the labor force at a higher rate. As a result, immigrants provide a needed source of labor for the large and growing number of jobs that do not require much formal education.

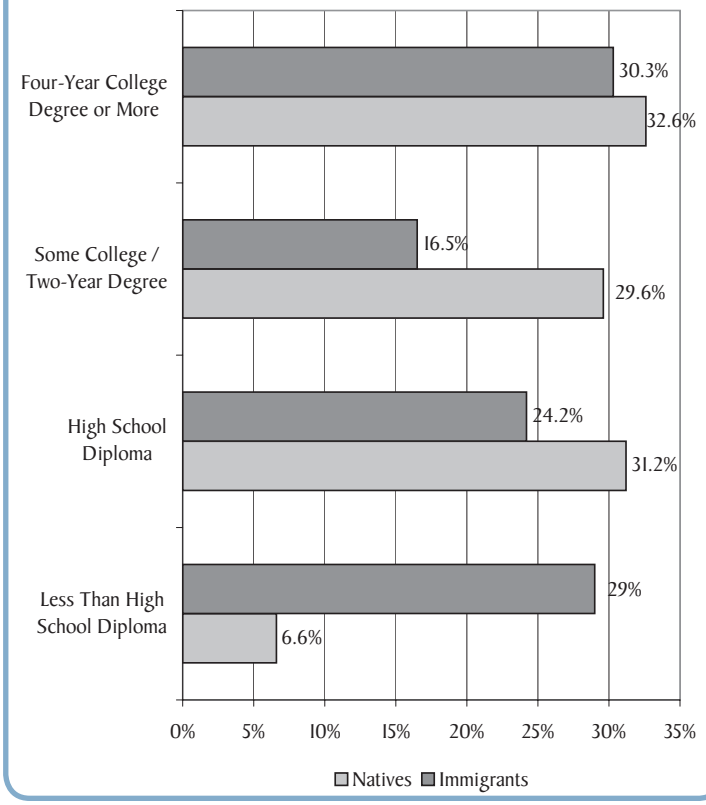
Immigrant Workers are More Likely to Have Less Formal Education

Immigrants comprise a disproportionate share of those workers who are willing to take less-skilled jobs with few or no educational requirements. In 2004, 53.3 percent of the foreign-born labor force age 25 and older had a high-school diploma or less education, compared to 37.8 percent of the native-born labor force. Immigrant workers were more than four times as likely as native workers to lack a high-school diploma. In contrast, immigrant workers were nearly as likely to have a four-year college degree or more education, amounting to more than 30 percent of both the native-born and foreign-born labor force (Figure 15).

In general, foreign-born workers are more likely to be found at either end of the educational spectrum, while most native-born workers fall somewhere in the middle. Roughly three-fifths of the native-born labor force in 2004 had either a high-school diploma or some college education short of a four-year degree, whereas three-fifths of the foreign-born labor force either did not have a high-school diploma or had at least a four-year college degree. Given their different educational backgrounds, most native-born workers are therefore not competing directly with foreign-born workers for the same types of jobs, especially in those least-skilled occupations that do not even require a high-school education.

Figure 15

NATIVE-BORN & FOREIGN-BORN LABOR FORCE AGE 25 & OLDER BY EDUCATIONAL ATTAINMENT, 2004



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

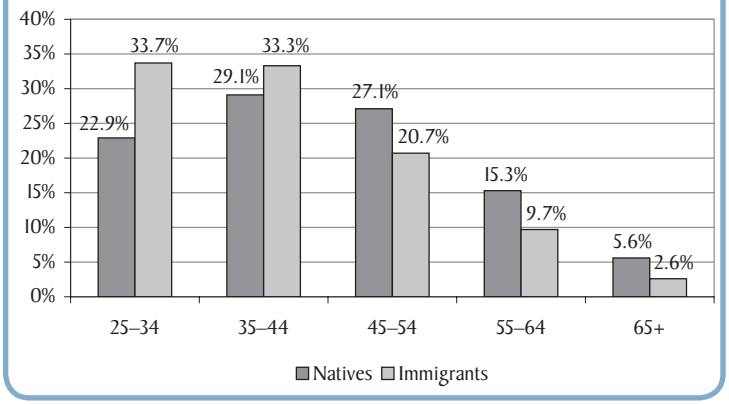
Immigrant Workers Tend to be Younger

Immigrants also include a large number of younger workers, particularly in the less-skilled workforce. In 2004, 67 percent of the foreign-born labor force age 25 and older with a high-school diploma or less education was under 45 years old, as opposed to 52 percent of the native-born labor force with no more than a high-school diploma (Figure 16). Similarly, 68.3 percent of foreign-born workers age 25 and older without a high-school diploma were under 45, compared to 51.8 percent of native workers without a diploma (Figure 17). While relative youth is not a requirement for many jobs, it is an asset in those less-skilled jobs that are physically demanding or dangerous.

Given the different age and educational profiles of foreign-born and native-born workers, it is not surprising that immigrants comprise a disproportionately large share of younger workers with little education. In 2004, immigrants made up more than a quarter of all workers 25–34 years old with a high-school diploma or less (Figure 18), and more

Figure 16

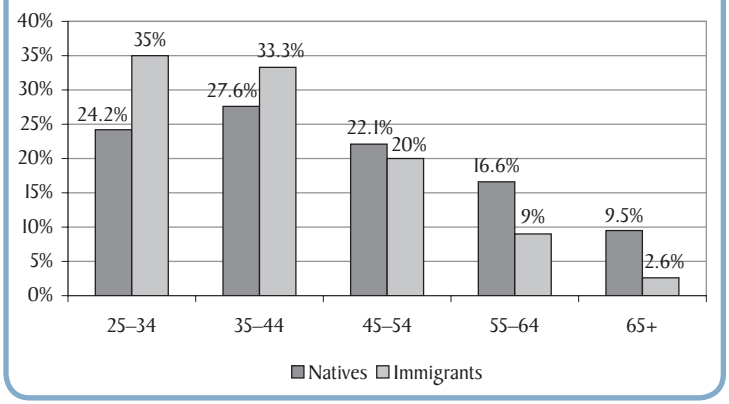
AGE DISTRIBUTION OF NATIVE-BORN & FOREIGN-BORN LABOR FORCE AGE 25 & OLDER WITH A HIGH SCHOOL DIPLOMA OR LESS, 2004



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

Figure 17

AGE DISTRIBUTION OF NATIVE-BORN & FOREIGN-BORN LABOR FORCE AGE 25 & OLDER WITHOUT A HIGH SCHOOL DIPLOMA, 2004



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

than half of workers 25–34 years old without a high-school diploma (Figure 19). Employers searching for younger workers in less-skilled positions therefore often find that a large portion of prospective hires are foreign-born.

Immigrants are More Likely to be in the Labor Force

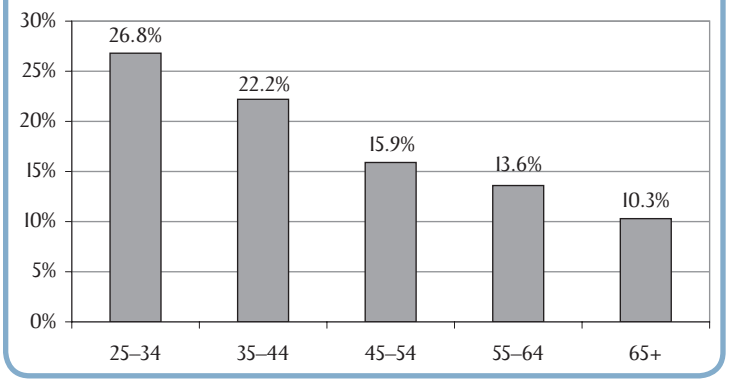
The importance of immigrants as workers in less-skilled jobs is further highlighted by their relatively high rate of participation in the labor force. In 2004, 62.8 percent of immigrants age 25 and older with a high-school diploma or less were in the labor force, compared to 55.5 percent of natives with a diploma or less (Figure 20). The difference in participation rates was even more pronounced among those without a high-school diploma. In this population, 59.5 percent of immigrants were in the labor force, versus 36.8 percent of natives (Figure 21).

Immigrants Are a Vital Part of the Less-Skilled Labor Force

In supplementing the native-born labor force, immigrants have come to comprise a disproportionately large share of workers in many of the less-skilled occupations that BLS predicts will experience high job growth or many job openings in the coming decade. In 2004, 15 percent of all U.S. workers age 16 and older

Figure 18

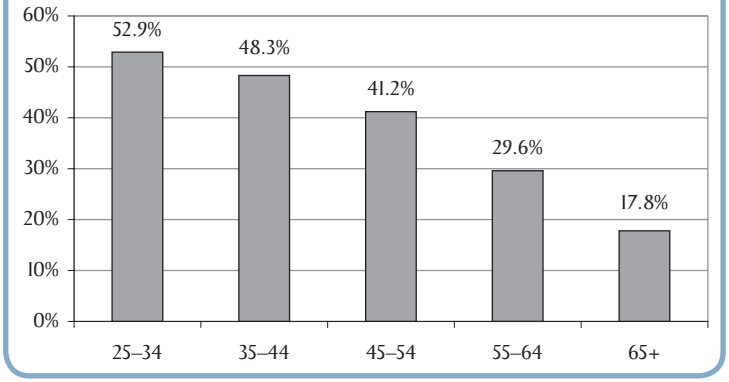
FOREIGN-BORN SHARE OF LABOR FORCE AGE 25 & OLDER WITH A HIGH SCHOOL DIPLOMA OR LESS BY AGE GROUP, 2004



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

Figure 19

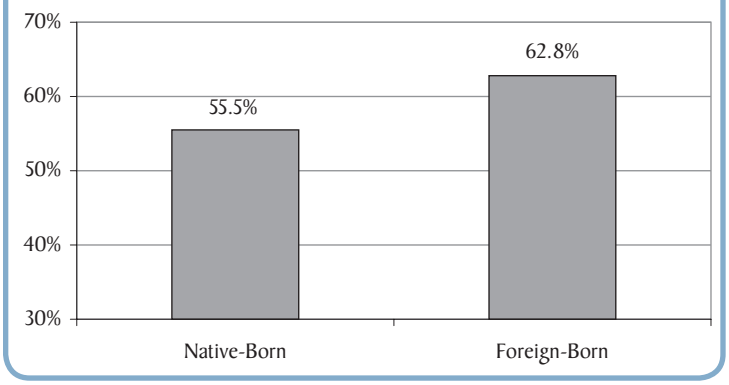
FOREIGN-BORN SHARE OF LABOR FORCE AGE 25 & OLDER WITHOUT A HIGH SCHOOL DIPLOMA BY AGE GROUP, 2004



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

Figure 20

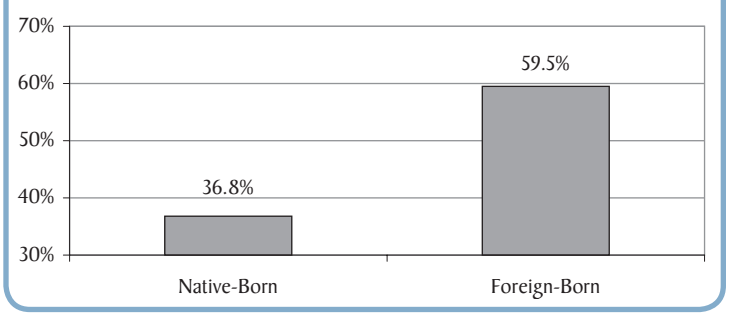
PERCENT OF NATIVE-BORN & FOREIGN-BORN POPULATION AGE 25 & OLDER WITH A HIGH SCHOOL DIPLOMA OR LESS IN THE LABOR FORCE



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

Figure 21

PERCENT OF NATIVE-BORN & FOREIGN-BORN POPULATION AGE 25 & OLDER WITHOUT A HIGH SCHOOL DIPLOMA IN THE LABOR FORCE



Source: Immigration Policy Center analysis of March 2004 Current Population Survey data.

were born abroad (16 percent of male workers and 12 percent of female workers). However, the foreign-born share of workers was highest in less-skilled occupations such as farming, janitorial services, construction, and food preparation, where between 20 and 38 percent of workers were immigrants (see Appendix H). The foreign-born share of workers was lowest in occupations that tend to require U.S. education and training, such as legal occupations, police and protective services, and social services.

THE CURRENT IMMIGRATION SYSTEM PROVIDES FEW LEGAL CHANNELS FOR LESS-SKILLED WORKERS

Despite the critical role played by foreign-born workers in many less-skilled job categories, the current immigration system offers very few visas that are designed or available for these workers. Nearly all of the visa "preference" categories that do exist for workers in less-skilled jobs are subject to numerical caps that fall far short of meeting the labor demands of the U.S. economy. The result is that a large number of prospective employment-based immigrants are crowded into a small number of highly limited visa categories, or are forced to pursue immigration opportunities through an already overburdened family-based system.

There are five preference categories of visas for permanent immigration status and only one is set aside for workers in less-skilled jobs.[18] Four of the five categories favor immigrants with higher levels of education or financial capital and are therefore not relevant to less-skilled workers. The remaining category, the employment-based "third preference," allots only 5,000 visas each year to workers in occupations that require less than two years of education, training, or experience.[19] This visa category, which is designated for "other workers," is nearly the only employment-based avenue for permanent immigration available to workers in less-skilled jobs. In 2004, only 1,525 visas were granted to workers in the "other worker" category.[20]

A similar bottleneck exists for workers in less-skilled jobs who seek employment-based visas for temporary immigrant

[18] Under the Immigration and Nationality Act (INA), employment preferences consist of five categories of workers (and their spouses and children): (1) priority workers; (2) professionals with advanced degrees or aliens of exceptional ability; (3) skilled workers, professionals (without advanced degrees), and needed unskilled workers; (4) special immigrants (e.g., ministers, religious workers, and employees of the U.S. government abroad); and (5) employment creation immigrants or "investors" (INA Section 203(b) (2005)). The total number of visas available for all employment preference categories is equal to 140,000 plus any unused family preferences from the previous year.

[19] The cap is set at 10,000, but 5,000 visas are reserved each year for beneficiaries of the Nicaraguan Adjustment and Central American Relief Act (NACARA).

[20] An additional 1,778 visas were issued to the spouses and children of these workers. U.S. Citizenship and Immigration Services, *Yearbook of Immigration Statistics: 2004*, Table 5.

status. There are 16 different types of temporary immigrant visas available for employment and training in the United States. Of these 16 visa categories, only two—H2A and H2B—are available to workers in industries that require little or no formal training. H2As are restricted to agricultural workers. H2Bs are limited to "seasonal" or otherwise "temporary" work, but the statutory definitions of these terms are very restrictive and thus inapplicable to workers in many industries. Moreover, the total number of H2B visas that can be awarded in a year is capped at 66,000. In Fiscal Year (FY) 2004 this cap was reached in March, halfway through the fiscal year. In FY 2005 the cap was reached in January, only three months into the fiscal year.

In light of the fact that the majority of immigrants apply through a qualifying relative, it might seem as if the family-based immigration system is capable of compensating for deficiencies in the employment-based system. In reality, however, the effectiveness and efficiency of the family-based immigration system are undermined by excessively long delays which stem from arbitrary numerical caps and highly complex rules and regulations. U.S. citizens may obtain "visa numbers" immediately when petitioning for their spouses and minor children (under age 21) to immigrate to the United States. However, the allotment of visa numbers for all other relatives of U.S. citizens, and for all the relatives of lawful permanent residents (LPRs), is governed by a complex "family preference" system characterized by lengthy waiting times. For instance, in the case of Mexican nationals, wait times are currently 7–10 years for the spouse of an LPR and 10–12 years for the unmarried adult child of a U.S. citizen. In general, wait times for the relatives of LPRs are many years longer than the wait times for relatives of U.S. citizens.[21] Wait times of this magnitude not only undermine the family-reunification goal of the family-based immigration system, but also render that system an ineffective means of responding to U.S. labor demand. The rise of undocumented migration is a predictable result.

CONCLUSION

If the U.S. economy is to maintain at least 3 percent annual growth over the coming decade and beyond, the U.S. labor force must continue to expand. In many industries that rely heavily on workers who fill less-skilled jobs, increases in the labor force will be the primary means by which growth is achieved. This rising demand for labor is unlikely to be met solely by a native-born population that is growing steadily older and has already achieved high levels of participation in the labor force. In less-skilled occupations in particular, the diminishing number of younger native-born workers with relatively little formal education offers an increasingly inadequate supply of well-matched labor. While it is always possible that dramatic advances in technology will spur rising productivity in the absence of additional workers, most economists believe it is highly unlikely that long-term productivity growth rates will vary significantly from current trends. This is especially true in the low-tech sectors of the economy that employ most workers in less-skilled jobs.

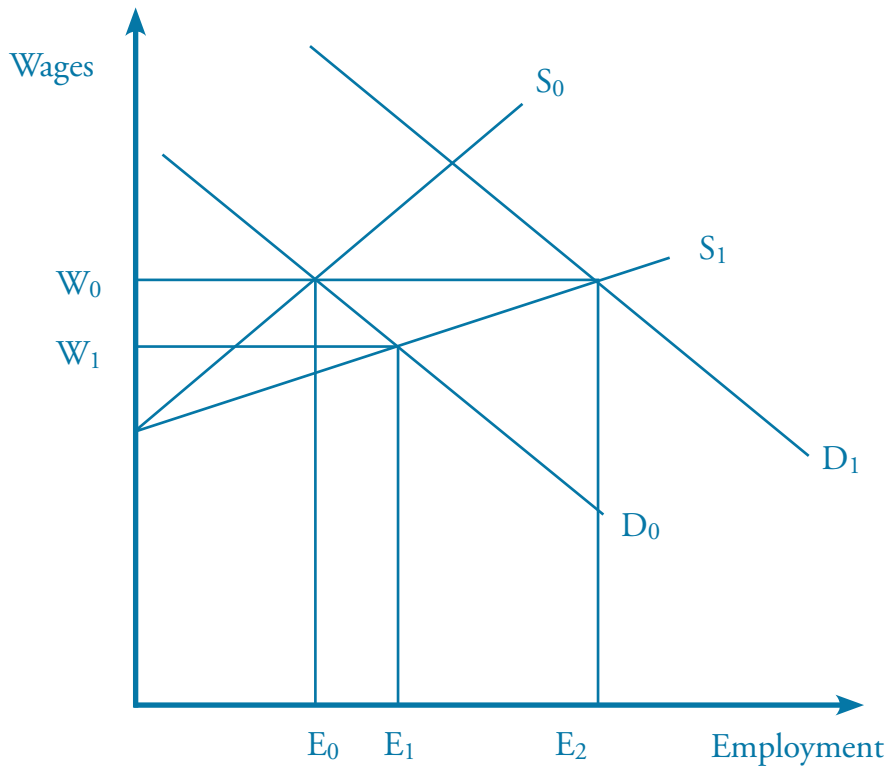
Since few additional workers can be culled from the native-born population, immigration has become a critical source of labor force growth. As a rising share of older native-born workers enter retirement, and a growing share of younger native-born workers become better educated and take higher-skilled jobs, immigrants fill more and more of the jobs that utilize younger workers with less education. In other words, immigrant workers serve as a valuable complement to the growing proportion of the native-born workforce that is not well matched by age or education with many of the less-skilled jobs that the U.S. economy generates. Moreover, the immigrant workers who fill these jobs further increase the demand for labor through their consumer purchases, investments, and tax payments, all of which create additional new jobs.

Although the available evidence indicates that immigration will play a critical role in economic growth by augmenting the labor force (as well as the consumer base and the tax base), current U.S. immigration policies remain largely unresponsive to labor demand. Rather than creating a rational and orderly process by which needed workers enter the United States from abroad, arbitrary and static limits on employment-based immigration merely have diverted labor migration to undocumented channels or further clogged the family-based immigration system. While policymakers continue to debate the relative merits of various immigration reform proposals, immigration beyond current legal limits has already become an integral component of U.S. economic growth and will remain so for the foreseeable future. A sensible immigration policy would acknowledge this reality by maintaining and regulating the flow of immigrant workers, rather than attempting to impose outdated immigration limits that actually would undermine U.S. economic growth if they were enforced successfully.

[21] U.S. Department of State, *Visa Bulletin*, no. 86, vol. VIII, October 2005.

APPENDIX A

THE STATIC AND DYNAMIC MODELS OF IMMIGRATION



Source: Dr. Philip Martin, University of California, Davis, for the Immigration Policy Center, 2005.

In the static model of immigration, the presence of immigrants in the labor force shifts the supply curve of labor from S_0 to S_1 (the number of individuals willing to work at an aggregate level of wages). This is because immigrants provide an expanded source of labor willing to work at lower wage levels, which shifts the supply curve. This increases the size of the economy from the trapezoid under the D_0 curve and to the left of E_0 to the trapezoid under the D_0 curve to the left of E_1. This shifts total income paid to employees from the rectangle bounded by W_0-E_0 to the rectangle bounded by W_1-E_1, while increasing returns to owners of capital and land, shown as the triangle below the D_0 curve and above the wage line (W_0 and W_1). The result is an expansion in the overall size of the economy, and an increase in total employment from E_0 to E_1.

In the dynamic model, the demand curve shifts from D_0 to D_1, because the presence of immigrants leads to increased demand for goods and services, i.e., immigrants eat in restaurants, buy groceries, drive cars, buy and rent homes, etc. This increased demand for goods and services, in turn, increases the demand for labor and returns the wage rate to W_0. As a result, the economy is expanded from the trapezoid under the D_0 curve to the left of E_0 to the larger trapezoid under the D_1 curve to the left of E_2. In this model, aggregate income to employees is increased to the rectangle bounded by W_0-E_2 from the much smaller rectangle bounded by W_0-E_0, and returns to owners of capital and labor increase from the triangle below the D_0 curve and above the wage line W_0 to the triangle below the D_1 curve and above the wage line W_0. This provides an overall increase in the size of the economy that exceeds that shown by the static model, and a larger increase in employment from E_0 to E_2.

APPENDIX B

FOREIGN-BORN AND NATIVE-BORN LABOR FORCE, 2004

Educational Attainment	Native Born		Foreign Born	
Age 25 and Older	*(Thousands)*		*(Thousands)*	
No High-School Diploma	7,001	6.6%	5,428	29.0%
High School Diploma	33,050	31.2%	4,531	24.2%
Some College	20,414	19.3%	1,946	10.4%
Two-Year Degree	10,870	10.3%	1,133	6.1%
Four-Year Degree	22,609	21.4%	3,441	18.4%
Masters Degree	8,487	8.0%	1,369	7.3%
Ph.D. or Professional Degree	3,397	3.2%	846	4.5%

Source: Immigration Policy Center tabulations of March 2004 Current Population Survey data.

Race/Ethnicity	Native Born		Foreign Born	
Age 16 and Older	*(Thousands)*		*(Thousands)*	
Non-Hispanic White	98,920	79%	4,282	20%
Non-Hispanic Black	14,355	11%	1,731	8%
Non-Hispanic Asian	1,455	1%	4,738	22%
Hispanic	8,833	7%	10,439	49%

Source: Bureau of Labor Statistics, http://www.bls.gov/news.release/forbrn.t01.htm.

Race/Ethnicity and Education	Less than HS Diploma	HS Diploma, No College	Some College	Four-Year Degree or More
Foreign-Born, Age 25 and Older	*(Thousands)*	*(Thousands)*	*(Thousands)*	*(Thousands)*
Non-Hispanic White	298	981	811	1,814
Non-Hispanic Black	220	495	364	487
Non-Hispanic Asian	390	862	727	2,394
Hispanic	4,422	2,318	1,147	997
Asian Share	9%	20%	17%	55%
Hispanic Share	50%	26%	13%	11%
Native-Born, Age 25 and Older				
Non-Hispanic White	4,546	25,719	24,536	29,797
Non-Hispanic Black	1,228	4,400	3,768	2,554
Non-Hispanic Asian	55	174	259	640
Hispanic	1,131	2,251	2,075	1,207
Asian Share	5%	15%	23%	57%
Hispanic Share	17%	34%	31%	18%

Source: Bureau of Labor Statistics, http://www.bls.gov/news.release/fprnrm/t04.htm.

APPENDIX C

BLS PROJECTIONS OF GROWTH IN OUTPUT AND EMPLOYMENT, SELECTED INDUSTRIES, 2002-2012

	Output Growth	Employment		
Industry	**Annual %**	**2002 (Thousands)**	**2012 (Thousands)**	**2002–12 % Growth**
Employment Services	5	3,249	5,012	54
Doctor Offices*	4	3,190	4,419	39
Food Services and Drinking Places	2	8,412	9,749	16
Construction	2	6,732	7,745	15

Source: Michael W. Horrigan, "Employment projections to 2012: concepts and context," *Monthly Labor Review* 127(2), February 2004, p. 11-12.

*Doctor' offices are offices of health practitioners.

APPENDIX D

MAJOR BLS DEMOGRAPHIC TRENDS AND ASSUMPTIONS, 1982–2012

	1982	1992	2002	2012
Population (Millions)	**232**	**255**	**288**	**315**
Population, Age 16 and Older	*172*	*193*	*218*	*242*
Labor Force	110	128	145	162
Not in Labor Force	62	65	73	80
Lf/pop Ratio	48%	50%	50%	52%
Lf/pop>15 Ratio	64%	66%	67%	67%
Payroll Employment*	90	109	130	152
Unemployment Rate	9.7%	7.5%	5.8%	5.2%
		Labor Force (Millions)**		
Hispanic	7	11	18	24
White Non-Hispanic	90	99	103	106

Source: Betty W. Su, "The U.S. economy to 2012: signs of growth," *Monthly Labor Review* 127(2), February 2004, p. 35; Mitra Toossi, "Labor force projections to 2012: the graying of the U.S. workforce," *Monthly Labor Review* 127(2), February 2004, p.36.

*Payroll employment is non-farm.

**Other Non-Hispanic workers are Black and Asian.

APPENDIX E

U.S. POPULATION AND LABOR FORCE PARTICIPATION, 1982, 1992, 2002, 2012

Population, Age 16 and older	1982	1992	2002	2012
	(Millions)	*(Millions)*	*(Millions)*	*(Millions)*
Total	*172*	*193*	*218*	*242*
Men	82	92	105	117
Women	91	101	113	125
Hispanic Men	5	9	13	17
Hispanic Women	5	8	13	17
Non-Hispanic White Men	66	71	75	79
Non-Hispanic White Women	73	77	81	83
	Labor Force Participation Rates			
All Workers	64	66	67	67
Men	77	76	74	73
Women	53	58	60	62
Hispanic Men	80	81	80	79
Hispanic Women	48	53	58	59
Non-Hispanic White Men	77	76	74	72
Non-Hispanic White Women	53	58	60	59
Hypothetical—More or Fewer Workers				
If White Men had Hispanic LFPR	1.5	3.3	4.8	5.2
If Hispanic Men had White LFPRs	-0.1	-0.4	-0.8	-1.1

Source: Mitra Toossi, "Labor force projections to 2012: the graying of the U.S. workforce," *Monthly Labor Review* 127(2), February 2004, p. 44-45.

APPENDIX F

U.S. LABOR FORCE AGE 16 AND OLDER BY RACE AND ETHNICITY: 1982, 1992, 2002, 2012

	1982	1992	2002	2012	2002-12 change
	(Millions)	*(Millions)*	*(Millions)*	*(Millions)*	*(Millions)*
*Total**	*110*	*128*	*145*	*162*	*17*
Men	62	70	78	85	8
Women	48	58	67	77	10
Hispanic Men	4	7	11	14	3
Hispanic Women	2	4	7	10	3
Non-Hispanic White Men	51	54	55	57	2
Non-Hispanic White Women	39	45	48	49	1

Source: Mitra Toossi, "Labor force projections to 2012: the graying of the U.S. workforce," *Monthly Labor Review* 127(2), February 2004, p.50 (2000 census weights).

*There are additional Black and Asian workers.

APPENDIX G

LABOR FORCE DYNAMICS, 2002-2012

	Entrants *(Millions)*	Leavers *(Millions)*	Stayers *(Millions)*	2012 *(Millions)*
All Workers	41	23	122	162
Hispanics	8	2	16	24
Hispanic Share	20%	9%	13%	15%

Source: Mitra Toossi, "Labor force projections to 2012: the graying of the U.S. workforce," *Monthly Labor Review* 127(2), February 2004, p. 53.

APPENDIX H

PERCENTAGE OF FOREIGN-BORN WORKERS BY SELECTED OCCUPATION, 2004

Persons 16 and older, annual averages *Occupations in **bold** are broader categories*	Foreign-Born Total	Foreign-Born Men	Foreign-Born Women
Farming, Fishing, and Forestry Occupations	38%	37%	39%
Building and Grounds Cleaning and Maintenance	33%	30%	38%
Construction and Extraction Occupations	23%	23%	12%
Production Occupations	23%	21%	27%
Food Preparation and Serving Related Occupations	21%	29%	15%
Natural Resources, Construction, and Maintenance	21%	20%	20%
Service Occupations	20%	23%	18%
Production, Transportation, and Material Moving	20%	18%	24%
Transportation and Material Moving Occupations	16%	16%	18%
Personal Care and Service Occupations	16%	17%	16%
Healthcare Support Occupations	16%	20%	16%
Installation, Maintenance, and Repair Occupations	13%	13%	12%
Professional and Related Occupations	12%	14%	10%
Sales and Related Occupations	12%	12%	11%
Management, Professional, and Related Occupations	11%	12%	10%
Sales and Office Occupations	10%	13%	9%
Office and Administrative Support Occupations	10%	14%	8%
Community and Social Services Occupations	8%	10%	9%
Education, Training, and Library Occupations	8%	12%	7%
Protective Service Occupations	7%	7%	5%
Legal Occupations	7%	5%	9%
Total Employed For All Occupations	*15%*	*16%*	*12%*

Source: U.S. Department of Labor, http://www.bls.gov/news.release/forbrn.t04.htm.

ABOUT THE IPC...

The mission of the Immigration Policy Center (IPC) is to raise the level of informed awareness about the effects of immigration nationally, regionally and locally by providing policymakers, academics, the media, and the general public with access to accurate information on the role of immigrants and immigration policy in all aspects of American life.

ABOUT THE FOUNDATION...

The American Immigration Law Foundation (AILF) is a 501(c)(3) non-profit organization dedicated to increasing public understanding of immigration law and policy and the value of immigration to American society; to promoting public service and excellence in the practice of immigration law; and to advancing fundamental fairness and due process under the law for immigrants.

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